National Institute for Health and Care Excellence

FINAL

Rehabilitation after traumatic injury

B.1 Physical interventions for people with complex rehabilitations needs after traumatic injury

NICE guideline NG211

Evidence review underpinning recommendations 1.1.4, 1.1.6, 1.1.8 to 1.1.12, 1.2.6, 1.2.8, 1.2.13 to 1.2.15, 1.5.1 to 1.5.5, 1.5.9, 1.5.10, 1.10.5, 1.10.11, 1.11.1 to 1.11.52, 1.15.24 and a research recommendation in the NICE guideline

January 2022

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These evidence reviews were developed by the National Guideline Alliance which is a part of the Royal College of Obstetricians and Gynaecologists

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The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

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ISBN: 978-1-4731-4398-2

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Summary of review questions covered in this report

This evidence report contains information on 2 reviews:

B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Physical interventions for people with complex rehabilitation needs after traumatic injury

Review question

This evidence report contains information on 2 reviews relating to physical interventions for complex rehabilitation needs after traumatic injury:

B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Introduction

For people admitted to hospital after trauma, the main effect is on a person's physical functioning due to direct impact of injuries on the body's structure and function, which limit a person's ability to move and care for themselves without additional help or support. Rehabilitation aims to restore function through exercises, the application of interventions and coaching of techniques with people to reach their goals and recover as much function as possible as soon as possible after injury.

Areas of physical function that can form barriers to successful rehabilitation include problems with mobility balance and gait, including loss of the ability to move one's limbs, to sit and stand independently, to walk and to perform daily care tasks using one's arms and hands. Pain, cognition, fatigue and maintenance of good hydration and nutrition all impact on physical progress and the ability to progress with rehabilitation. Because reduced physical function also impacts a person's emotional and psychological well-being, physical rehabilitation is not carried out in isolation and should be coordinated with psychological rehabilitation, psychosocial factors and adjustment of home environments. A coordinated individualised multidisciplinary approach to each person's problems using a range of interventions is required to provide successful rehabilitation. This is a holistic process working towards individualised goals for return of function. This process can evolve as a person goes through their rehabilitation journey if their needs and goals change.

During a person's recovery from injury their rehabilitation needs may change at different stages of recovery (for example, removal of restrictions of weight bearing or cast immobilisation or at the point of return to community activities and work). The impact of these changes on physical function need to be assessed and appropriate therapy support provided. The impact of other medical conditions and further surgery and readmissions to hospital also need to be considered.

Summary of the protocol

See Table 1 and Table 2 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review in the adult and children and young people populations, respectively.

Table 1: Summary of the adult protocol (PICO table)

Population	Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital.
Intervention	Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with

	mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (for example, toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following: • Exercise class /Reconditioning/Cardiovascular/Fitness training • Strengthening, balance, proprioception, vestibular rehabilitation/training • Splinting/orthotic • Gait re-education • Early weight bearing to mobilize (sitting or standing) • Manual therapy (soft tissue massage/release, joint mobilization) • Hydrotherapy • Scar, swelling and oedema management (elevation, compression, soft tissue massage, creams, hydrated, desensitization, laser therapy, hand therapy) • Anti-gravity treadmill training • Nutrition support (for example, supplements, dietetics, optimising calorie intake, gastrostomy, PEG RIG, NG feeding, swallowing therapy, early feeding plans, patient education, dysphagia)
Comparison	1) Standard rehabilitation care (as defined above) 2) Studies that employ the same intervention program as listed under 'interventions' but vary it in terms of any of the following: • Frequency • Intensity • Timing
Outcome	Critical • Patient and families and carers' acceptability (any direct measure) • Changes in mobility (any measure) • Upper limb function (for example, ARMA, DASH) Important • Return to training or work • Pain (VAS, any measure) • Overall quality of life (for example, EURO-QoL 5D 3L, SF-12, SF-36, SF-6D, SFMA) • Changes in activity of daily living (for example, Barthel ADL index, COPM, EADL-Test, FIMFAM, GAS, Katz, OARS, PAT, PSMS,)

ADL: Activities of daily living; ARMA: Arm Activity Measure; COPM: Canadian Occupational Performance Measure; DASH: Disabilities of the Arm, Shoulder and Hand; EADL: Extended activities of daily living; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FIMFAM: Functional Independence Measure and Functional Assessment Measure; GAS: Goal Attainment Scaling; NG: Nasogastric; OARS: Older Americans Resources and Services; PAT: Performance ADL test; PEG: Percutaneous endoscopic gastrostomy; PHQ-9: 9 item Patient Health Questionnaire; PSMS: Physical Self-maintenance Scale; RIG: Radiologically inserted gastrostomy; SCIM: Spinal Cord Independence Measure; SF-12: 12 item Short-Form Survey; SF-36: 36 item Short-Form Survey; SF-6D: 6-dimension short-form: VAS: Visual Analogue Scale

Table 2: Summary of the children and young people protocol (PICO table)

Population	Children and young people (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital.

Intervention	Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (for example, toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following: • Exercise class /Reconditioning/Cardiovascular/Fitness training • Strengthening, balance, proprioception, vestibular rehabilitation/training • Splinting/orthotic • Gait re-education • Early weight bearing to mobilize (sitting or standing) • Manual therapy (soft tissue massage/release, joint mobilization) • Hydrotherapy • Scar, swelling and oedema management (i.e. elevation, compression, soft tissue massage, creams, hydrated, desensitization, laser therapy, hand therapy) • Anti-gravity treadmill training • Nutrition support (for example, supplements, dietetics, optimising calorie intake, gastrostomy, PEG RIG, NG feeding, swallowing therapy, early feeding plans, patient education, dysphagia) • Play therapy
Comparison	1) Standard rehabilitation care (as defined above) 2) Studies that employ the same intervention program as listed under 'interventions' but vary it in terms of any of the following: • Frequency • Intensity • Timing
Outcome	**Critical** • Patient and families and carers' acceptability (any direct measure; if not reported, but patient satisfaction is, this will be reported instead) • Changes in mobility (WeeFIM, any measure) • Upper limb function (for example, ARMA, DASH) *[Babies only:* • *Alberta Infant Motor Scale (AIMS; pre-term to 19 months)* • *Bayley Assessment (1 to 42 months)]* **Important** • Return to nursery, education, training or work • Pain (VAS, any measure) • Overall quality of life including quality of sleep (for example, CHQ-CF-80, CHQ-PF-50, EURO-QoL 5D 3L Y, PEDS-QL, SCIM, SF-6D, SF-36, SF-12, TARN) • Changes in activity of daily living (for example, Barthel ADL index, COPM, EADL-Test, FIMFAM, GAS, Katz, OARS, PAT, PSMS)

ADL: Activities of daily living; ARMA: Arm activity measure; CHQ-CF-80: 80 item child health questionnaire; CHQ PF-50: 50 item child health questionnaire, parent completed; COPM: Canadian occupational performance measure; DASH: Disabilities of the Arm, Shoulder and Hand; EADL: Extended activities of daily living; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FIMFAM: Functional independence measure and functional assessment measure; GAS: Goal attainment scaling; NG: Nasogastric; OARS: Older Americans resources and services; PAT: Performance ADL test; PEDS-QL: Paediatric quality of life inventory; PEG: Percutaneous endoscopic gastrostomy; PHQ-9: 9 item patient health questionnaire; PSMS: Physical self-maintenance scale; RIG: Radiologically inserted gastrostomy; SCIM: Spinal cord independence measure; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-form; TARN: Trauma audit and research network; VAS: Visual analogue scale; WeeFIM; Paediatric functional independence measure

For further details see the review protocol in appendix A.

Methods and process

This evidence review was developed using the methods and process described in Developing NICE guidelines: the manual. Methods specific to this review question are described in the review protocol in appendix A and in the methods chapter (Supplement 1).

Declarations of interest were recorded according to NICE's conflicts of interest policy.

Clinical evidence: Adults

Included studies

Early weight-bearing to mobilise

Four studies were included in this review regarding early weight-bearing interventions, all randomised controlled trials (RCTs: Dehghan 2016, Oldmeadow 2006, Sherrington 2003 and Taraldsen 2014). One study compared early weight-bearing with late weight-bearing in patients following unstable ankle fracture (Dehghan 2016). The remaining 3 studies investigated the effectiveness of early weight-bearing in hip fracture rehabilitation. One compared early ambulation plus standard rehabilitation with delayed ambulation plus standard rehabilitation (Oldmeadow 2006). Another investigated weight-bearing exercises plus standard rehabilitation compared to non-weight-bearing exercises plus standard rehabilitation (Sherrington 2003). The final study compared comprehensive geriatric care versus orthopaedic care (Taraldsen 2014).

Exercise class, reconditioning, cardiovascular, fitness training

Four studies were included in this review regarding aerobic interventions, all randomised controlled trials (RCTs: Akkurk 2017, Mendelsohn 2008, Resnick 2007 and Sherrington 1997). One study compared the effectiveness of aerobic exercise plus standard rehabilitation versus standard rehabilitation alone in SCI rehabilitation (Akkurk 2017). The remaining 3 studies investigated the use of exercise interventions in hip fracture rehabilitation. One compared upper-body exercise training plus standard rehabilitation with standard rehabilitation (Mendelsohn 2008). Another study compared a Stairstep exercise programme with standard rehabilitation (Resnick 2007). The last study investigated the effectiveness of 1 month of step exercises versus a control group (Sherrington 1997).

Gait re-education

Four studies (5 articles) were included in this review regarding gait re-education interventions. Three were randomised controlled trials (RCTs: Dobkin 2006, Lucareli 2011 and Moseley 2009) and 1 was a prospective cohort study (Rigot 2018). Two RCTs compared the effectiveness of body-weight supported gait training with over ground gait training in SCI rehabilitation (Dobkin 2006 and Lucareli 2011). The third study was an prospective cohort study comparing gait training with no gait training, also in SCI rehabilitation (Rigot 2018). The final RCT investigated the outcomes of a high intensity gait re-education programme with standard care in hip fracture rehabilitation (Moseley 2009).

Manual therapy

Six studies were included in this review regarding manual therapies for rehabilitation, all randomised controlled trials (RCTs: Cho 2014, Faqih 2019, Harvey 2000, Harvey 2003, Harvey 2009 and Jansen 2018). One study investigated the effectiveness of massage plus standard care compared to standard care only in burn rehabilitation. Three studies investigated the use of stretching programmes in SCI when compared to no stretching (Harvey 2000, Harvey 2003 and Harvey 2009). Two studies investigated manual therapy in

complex fracture rehabilitation – 1 compared early versus late use of a muscle energy technique (Faqih 2019) and 1 investigated active controlled motion plus physiotherapy with physiotherapy only in unstable fracture rehabilitation (Jansen 2018).

Nutritional support

Five studies were included in this review regarding nutritional supplementation, all randomised controlled trials (RCTs: Aquilani 2019, Harwood 2004, Niitsu 2016, Norouzi Javidan 2014 and Renerts 2019). One study investigated the effectiveness of standard rehabilitation plus essential amino acid supplementation compared to rehabilitation only in hip fracture rehabilitation (Aquilani 2019). One study investigated vitamin D supplementation compared to no treatment in hip fracture rehabilitation (Harwood 2004). Another study compared standard rehabilitation plus whey protein supplementation with standard rehabilitation only in hip fracture rehabilitation (Niitsu 2016). Another study investigated the effects of omega-3 supplementation versus a placebo treatment in SCI rehabilitation (Norouzi Javidan 2014). Finally, a 4-arm RCT investigated the effects of a home exercise programme versus no home exercise programme (Renerts 2019).

Scar, swelling and oedema management

Three studies were included in this review regarding scar, swelling and oedema management (Ebid 2017, Li-Tsang 2010 and Rohner-Spangler 2014). All were randomised controlled trials (RCTs). One study investigated the effect of laser therapy when compared to placebo laser therapy in adult patients with burn injuries (Ebid 2017). Another 4-armed RCT investigated the effect of pressure garments therapy, silicone gel sheeting or a combination of the 2 when compared to massage only in adult patients with burn injuries (Li-Tsang 2010). The final study was a 3-arm RCT comparing either a compression bandage or an intermittent compression therapy protocol with ice and elevation in adult patients with ankle fractures (Rohner-Spengler, 2014).

Splinting and orthotics

Four studies were included in this review regarding splinting and orthotic interventions, all randomised controlled trials (RCTs: Bailey 2014, Choi 2011, Jang 2015 and Shamji 2014). Two studies investigated the use of orthotics in thoracolumbar burst fractures without neurological deficit injuries: 1 study compared thoracolumbosacral orthoses (TCSO) to immediate mobilisation (Bailey 2014) and another study compared TCSO to encouragement of ambulation (Shamji 2014). Two studies investigated the effectiveness of splinting and orthotics in burn injury patients: 1 study compared metacarpophalangeal orthoses (MCPO) to no orthoses (Choi 2011) and 1 study compared the use of a shoulder splint to no splint (Jang 2015).

Strengthening, balance, proprioception, vestibular rehabilitation and training

Sixteen studies employing strengthening interventions were included in this review, 1 retrospective cohort study (Kasuga 2019) and 15 randomised controlled trials (RCTs: Binder 2004, Calthorpe 2014, Glinsky 2008, Hauer 2001, Kronborg 2017, Liu 2019, Monticone 2018, Rau 2007, Renerts 2019, Singh 2012, Suwanpasu 2014, Sylliaas 2011, Sylliaas 2012, Xiao 2018 and Yigiter 2002).

The majority of studies (9) investigated physical interventions for hip fracture rehabilitation. One study investigated the effect of extended physical therapy plus exercise therapy compared to a home exercise training programme (Binder 2004). One study investigated the effect of a self-exercise programme plus standard rehabilitation versus standard rehabilitation only (Kasuga 2019). One study compared the effects of physiotherapy plus strength training with physiotherapy (Kronborg 2017), while another study compared a balancing exercise programme with standard physiotherapy (Monticone 2018). Another RCT

investigated the effects of a home exercise programme versus no home exercise programme (Renerts 2019). Another study compared high intensity progressive resistance training with standard care (Singh 2012), while another compared a physical activity enhancing programme plus standard care with standard care alone (Suwanpasu 2014). The final 2 studies of this group investigated the effects of an exercise programme compared to no exercise programme, 1 with sessions once per week (Sylliaas 2012) and the other with sessions twice per week (Sylliaas 2011).

Two studies investigated physical interventions in SCI rehabilitation. One study compared progressive resistance training plus routine care with routine care only in SCI rehabilitation (Glinsky 2008). The other study investigated the effect of a core training programme performed on an unstable surface versus the same programme performed on a stable surface in SCI rehabilitation (Liu 2019).

Two studies investigated physical interventions in rehabilitation after amputation. One compared a strengthening training programme with usual care in transtibial amputees who had recently been fitted with an orthosis (Rau 2007). Another compared proprioceptive neuromuscular facilitation to traditional prosthetic training in transfemoral amputees fitted with prostheses (Yigiter 2002).

Of the remaining studies, 1 study compared physiotherapy plus gym sessions plus mobility sessions with physiotherapy only in general traumatic injury rehabilitation (Calthorpe 2014). Another study investigated the effects of physiotherapy plus strengthening exercises compared to physiotherapy plus motor exercises in adult's recently experiencing injurious falls (Hauer 2001). The final study compared the effects of computer-assisted rehabilitation therapy with standard rehabilitation alone in patients undergoing rehabilitation following traumatic hand injury (Xiao 2018).

The included studies are summarised in Table 3.

See the literature search strategy in appendix B and study selection flow chart in appendix C.

Expert witness

One important area of research highlighted during scoping was the success the military has had with intensive rehabilitation after complex traumatic injury for conflict personnel suffering complex trauma during conflict. This intensity of rehabilitation is not currently offered in the NHS. The committee agreed with this and thought that it was important to explore what could be recommended for NHS patients.

This review only located 1 study comparing different intensities of rehabilitation that was judged to be suitable for exploratory economic analysis (Monticone 2018). However, the committee argued that as the study was conducted in elderly hip fracture patients, the results were not generalizable to the general trauma population.

Due to this, the committee decided to invite an expert witness from the Defence Medical Rehabilitation Centre, the tertiary level military rehabilitation unit in the UK. The testimony covered intensive rehabilitation programmes: components, setting, timings and cost-effectiveness.

A copy of the expert testimony form is provided in appendix M.

Excluded studies

Studies not included in this review are listed, and reasons for their exclusion are provided in appendix K.

Summary of studies included in the evidence review

Summaries of the studies that were included in this review are presented in Table 3. A summary of the expert witness testimony can be found above in the Clinical evidence: Adults section.

Table 3: Summary of included studies

Study	Population	Intervention[a]	Comparison[a]	Outcomes
Early weight-bearing to mobilise				
Dehghan 2016 RCT Canada	N = 110 Unstable ankle fracture Age in years [Mean (SD)]: • Early weight-bearing = 41.7 (15.1) • Late weight-bearing = 42.1 (15.4) Gender (M/F): • Early weight-bearing (N) = 32/24 • Late weight-bearing (N) = 27/27 Time since injury [Mean (SD)]: • Early weight-bearing (days): 7.0 (4.1) • Late weight-bearing (days): 6.2 (4.3)	<u>Early weight-bearing</u> Surgical fixation of unstable ankle fracture using open reduction internal fixation before the ankle was immobilised using a below knee posterior plaster slab and told not to weight-bear on the affected ankle. A boot orthosis was fitted at the 2-week post-operative visit and participants were instructed to fully weight-bear as tolerated. Participants performed range of motion exercises 4 x per day. At the 6-week post-operative visit, patients were told to reduce wearing the orthosis over the next 2-4 weeks.	<u>Late weight-bearing</u> Surgical fixation of unstable ankle fracture using open reduction internal fixation before the ankle was immobilised using a below knee posterior plaster slab and told not to weight-bear on the affected ankle. A below knee fibreglass cast was fitted at 2-week post-operative visit and participants were told not to weight-bear for additional 4 weeks (totalling 6 weeks' immobilisation). The cast was removed at the 6 week post-operative visit before beginning full weight-bearing using a boot orthosis. Participants were instructed to reduce wearing the orthosis over the next 2-4 weeks.	**Critical** • Changes in mobility (at 6 weeks; 3 months; 6 months; 12 months) **Important** • Return to work (at 6 weeks; 3 months; 6 months; 12 months)
Oldmeadow 2006 RCT Australia	N = 60 Hip fracture Age in years [Mean (SD)]: • Early ambulation =	<u>Early ambulation + standard rehabilitation</u> Participants received routine medical and nursing care post-surgery and a physiotherapy	<u>Delayed ambulation + standard rehabilitation</u> Participants received routine medical and nursing care post-surgery and	**Critical** • Changes in mobility (at day 7) **Important** • Changes in ADL (at day 7)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	78.8 (2.14) • Delayed ambulation = 80.0 (2.08) Gender (M/F): • Early ambulation (N) = 8/21 • Delayed ambulation (N) = 11/20 Time since injury [Mean (range)]: • Early ambulation (hours) = 58.67 (8.5-181) • Delayed ambulation = 54.74 (6-264)	gait re-training programme was performed once per day for 7 days. Participants were assisted by physiotherapist to ambulate as soon as possible, either post-operative day 1 or 2.	a physiotherapy gait re-training programme was performed once per day for 7 days. Participants were assisted by physiotherapist to ambulate between day 3 to 4 post-operation.	
Sherrington 2003 RCT Australia	N = 80 Hip fracture Age in years [Mean (SD)]: • Weight-bearing exercise = 81.0 (7.0) • Non weight-bearing exercise = 81.1 (8.3) Gender (M/F): • Weight-bearing exercise (N) = 14/27 • Non weight-bearing exercise (N) = 12/27 Time since injury [Mean (SD)]: • Weight-bearing exercise (days) = 19.2 (22.8) • Non weight-bearing exercise = 17.4 (8.5)	<u>Weight-bearing exercise + standard rehabilitation</u> Standard rehabilitation care plus a series of exercises performed each weekday in a weight-bearing position. These consisted of sit-to-stand, lateral step-up, forward step-up-and-over, forward foot taps and stepping grids. Difficulty was increased throughout the intervention period by decreasing support offered, increasing repetitions, increasing the height of blocks and increasing range of exercise.	<u>Non-weight-bearing exercise + standard rehabilitation</u> Standard rehabilitation care plus a series of exercises performed each weekday in a supine position. These consisted of hip abduction, hip flexion, hip/knee flexion/extension, end of range knee flexion and ankle dorsiflexion/plantarflexion. Difficulty was increased throughout the intervention period by increasing repetitions and increasing range of exercise.	**Critical** • Changes in mobility (at 2 weeks) **Important** • None
Taraldsen 2014	N = 397	<u>Comprehensive</u>	<u>Orthopaedic care</u>	**Critical**

Study	Population	Intervention[a]	Comparison[a]	Outcomes
RCT Norway	Hip fracture Age in years [Mean (SD)]: • Comprehensive geriatric care = 83.1 (5.8) • Orthopaedic care = 83.0 (6.3) Gender (M/F): • Comprehensive geriatric care (%) = 28.6/71.4 • Orthopaedic care (%) = 21.8/78.2 Time since injury: not reported.	<u>geriatric care</u> A multi-disciplinary treatment plan with particular focus applied to co-morbidity management, pain relief, hydration, oxygenation, nutrition and early mobilisation. Participants were assisted with mobilisation as early day 1 post-operation as long as there were no contra-indications and progressed through the mobilisation plan depending on individual ability. Weight-bearing was emphasised.	Standard care delivered on the orthopaedic ward, including conventional in-patient physiotherapy.	• Changes in mobility (at day1-3; day 4; day 5) **Important** • None
Exercise class, reconditioning, cardiovascular and fitness training				
Akkurt 2017 RCT Turkey	N = 40 SCI Age in years [Median (IQR)]: • Aerobic exercise = 33 (15-42) • Standard rehabilitation = 37 (19-62) Gender (M/F): • Aerobic exercise (N) = 16/1 • Standard rehabilitation (N) = 13/3 Time since injury [Median (min-max)]: • Aerobic exercise (months) = 15 (2-144)	<u>Aerobic exercise + standard rehabilitation</u> Standard rehabilitation exercises plus aerobic exercise sessions using arm-crank ergometer for 1.5 hours per week for 12 weeks (totalling 156 sessions).	<u>Standard rehabilitation</u> Twice a day, 5 x per week standard rehabilitation sessions for 12 weeks (totalling 120 sessions). Exercises consisted of range of motion exercises, strengthening exercises, and balance exercises. Locomotor training also included if possible.	**Critical** • None **Important** • Overall quality of life (at 6 weeks; 12 weeks) • Changes in ADL (at 6 weeks; 12 weeks)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	• Standard rehabilitation (months) = 15 (3-120)			
Mendelsohn 2008 RCT Canada	N = 20 Hip fracture Age in years [Mean (SD)]: • Upper-body exercise training = 80.3 (7.4) • Standard rehabilitation = 81.1 (7.2) Gender (M/F): not reported Time since injury [Mean (SD)]: • Upper-body exercise training (days) = 5.3 (1.5) • Standard rehabilitation (days) = 4.9 (2.2)	Upper-body exercise training + standard rehabilitation Standard rehabilitation plus 3 endurance exercise sessions per week x 4 weeks.	Standard rehabilitation 5 intensive rehabilitation sessions per week, lasting about 45 minutes each x 4 weeks. Sessions included physical therapy, occupational therapy, range of motion, flexibility, strengthening and gait re-training.	**Critical** • Changes in mobility (at 4 weeks) **Important** • Changes in ADL (at 4 weeks)
Resnick 2007 RCT USA	N = 102 Hip fracture Age in years [Mean (SD)]: • Exercise only = 82.4 (7.9) • Standard rehabilitation = 79.7 (6.7) Gender (M/F): not reported but inclusion criteria states female. Time since injury: not reported.	Exercise sessions 3 x 30 minutes aerobic exercise sessions using Stairstep plus 2 x 30 minutes strengthening sessions per week focusing on main muscle groups relevant to hip fracture recovery and stretching exercises.	Standard rehabilitation As prescribed by Medicare guidelines, including inpatient physical and occupational therapy.	**Critical** • Changes in mobility (at 2 months; 6 months; 12 months) **Important** • None
Sherrington 1997 RCT	N = 42 Hip fracture	Step exercise 1 month stepping exercise using a telephone book at	Control group No details reported.	**Critical** • Changes in mobility (time

Study	Population	Intervention[a]	Comparison[a]	Outcomes
Australia	Age in years [Mean (SD)]: • Step exercise = 80.0 (8.1) • Control = 77.1 (8.2) Gender (M/F): • Step exercise (N) = 8/13 • Control (N) = 1/20 Time since injury: maximum of 9 months prior.	varying heights and intensity. Participants had to complete at least 1 session per day.		point not reported) **Important** • None
Gait re-education				
Alexeeva 2011 RCT USA	N=35 SCI Age in years (range): • BWSGT on fixed track: 21-61 • BWSGT on treadmill: 19 -63 • Standard care: 22-63 Time since injury in years (range): • BWSGT on fixed track: 1-37 • BWSGT on treadmill: 1-12 • Standard care: 1.2-25 Type of SCI (complete/incomplete): Not reported	<u>Body weight supported gait training on a fixed track</u> 3 x sessions/ week (maximum of 1 hour) for 13 weeks. Sessions consisted of 30% body-weight support on fixed track, walking at a self-selected pace. <u>Body weight supported gait training on a treadmill</u> 3 x sessions/ week (maximum of 1 hour) for 13 weeks. 30% body-weight support on treadmill, walking at a self-selected pace.	<u>Standard care</u> Individualised physiotherapy sessions focusing on gait, balance and functional activity. 3 x sessions/ week (maximum of 1 hour) for 13 weeks.	**Critical** • Patient acceptability (at 13 weeks; 17 weeks) **Important** • Overall quality of life (at 13 weeks; 17 weeks)
Dobkin 2006 RCT USA	N = 146 SCI Age in years [Median (range)]:	<u>Body-weight supported treadmill training</u> 12 weeks of standard inpatient and outpatient therapy from	<u>Over ground gait training</u> 12 weeks of standard inpatient and outpatient therapy from rehabilitation	**Critical** • Changes in mobility (at 6 months) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	• Body-weight supported treadmill training = ○ ASIA level B+C: 26 (16-68) ○ ASIA level C+D: 36 (17-69) • Over ground gait training = ○ ASIA level B+C: 24 (16-61) ○ ASIA level C+D: 23 (17-61) Gender (M/F): • Body-weight supported treadmill training (%) = ○ ASIA level B+C: 85/15; ○ ASIA level C+D: 83/17 • Over ground gait training (%) = ○ ASIA level B+C: 74/26 ○ ASIA level C+D: 70/30 Time since injury: within 56 days.	rehabilitation centre plus body-weight supported treadmill training using a climbing harness for vertical displacement. These sessions lasted for 1-hour maximum x 5 sessions per week (minimum of 45 and maximum of 60 sessions), consisting of a structured programme of stretching and body-weight supported step training. Difficulty was increased by increasing length of sessions as well as increasing the treadmill speed and decreasing the weight-support.	centre plus over ground gait training sessions. These sessions lasted for 1-hour maximum x 5 sessions per week (minimum of 45 and maximum of 60 sessions), consisting of a structured programme of stretching and gait training using parallel bars, assistive devices, braces or assistance from 1-2 therapists. Difficulty was increased by increasing length of sessions.	
Dobkin 2007 RCT USA	See Dobkin 2006	See Dobkin 2006	See Dobkin 2006	**Critical** • Changes in mobility (at 6 weeks; 12 weeks) **Important** • None
Lucareli 2011 RCT Brazil	N = 30 SCI Age in years [Mean (95%CI)]: • Body-weight supported gait training = 31.4 (24.2-34.6)	Body-weight supported gait training 30 x 30-minute semi-weekly body-weight supported gait-training sessions on a treadmill. Each session began with	Over ground gait training 30 x 30 minute semi-weekly over ground gait-training sessions. Each session began with passive stretching and passive	**Critical** • Changes in mobility (at 12 weeks) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	• Over ground gait training = 31.6 (24.8-38.4) Gender (M/F): • Body-weight supported gait training (N) = 7/5 • Over ground gait training (N) = 7/5 Time since injury in years [Mean (95%)]: • Body-weight supported gait training (months) = 9.9 (9.2-10.5) • Over ground gait training (months) = 9.8 (9.1-10.4)	passive stretching and passive mobilisation of hip, knee and ankle joints for 5 minutes. The patient was then positioned on the treadmill using the weight support (initially beginning with 40% off-loading body-weight and reduced by 10% every 10 sessions) while maintaining a participant selected velocity.	mobilisation of hip, knee and ankle joints for 5 minutes. The participant then performed over ground gait training. All of the patient's weight was placed on the ground but parallel bars were available for support if needed.	
Moseley 2009 RCT Australia	N = 160 Hip fracture Age in years [Mean (SD)]: • HIGH intensity gait re-education = 84 (8) • Standard care = 84 (7) Gender (M/F): • HIGH intensity gait re-education = 15/65 • Standard care = 15/65 Time since injury [Median (IQR)]: • HIGH intensity gait re-education (days) = 14 (9-21) • Standard care	<u>High intensity gait re-education</u> Usual post-operative mobilisation and rehabilitation care plus 2 x fully weight bearing exercise sessions per day for a total of 60 minutes, for 16 weeks. 5 weight bearing exercises were performed along with walking exercises (using body-weight supported treadmill if still inpatients or a walking programme after discharge). Difficulty was increased by reducing support from hands, increasing block height, decreasing chair height and	<u>Standard care</u> Usual post-operative mobilisation and rehabilitation care plus 30-minutes' partial weight bearing exercise sessions per day, for 4 weeks. Sessions consisted of 5 exercises that were performed sitting or lying down, and a small amount of walking using parallel bars or walking aids. Difficulty was increased by increasing repetitions and resistance.	**Critical** • Changes in mobility (at 4 weeks; 16 weeks) **Important** • Pain (at 4 weeks; 16 weeks) • Overall quality of life (at 4 weeks; 16 weeks) • Changes in ADL (at 4 weeks; 16 weeks)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	(days) = 12 (9-19)	increasing the number of repetitions.		
Rigot 2018 Prospective cohort study USA	N = 747 SCI Age in years [Median (IQR)]: • Gait training = 43.0 (25.0-56.0) • No gait training = 20.0 (22.0-44.0) Gender (M/F): • Gait training (N) = 514/84 • Control (N) = 250/67 Time since injury: not reported.	<u>Gait training</u> Measured as the amount of time performing ambulation training (both gait training and pre-gait training), independent of surface, equipment, mechanical assistance or manual assistance.	<u>No gait training</u> No further details reported.	**Critical** • Changes in mobility (at discharge; 1 year) **Important** • Pain (at 1 year) • Overall quality of life (at 1 year)
Manual therapy				
Cho 2014 RCT South Korea	N = 160 Burn injury Age in years [Mean (SD)]: • Massage + standard care = 46.06 (8.63) • Standard care = 47.21 (8.22) Gender (M/F): • Massage + standard care (N) = 61/15 • Standard care (N) = 50/20 Time since injury [Mean (SD)]: • Massage + standard care (days) = 148.77 (56.85) • Standard care (days) = 156.47 (56.48)	<u>Massage + standard care</u> Standard care plus 30 minute massage sessions 3 x per week. Sessions consisted of massage of each affected area with Rosakalm® cream, moisturising Emu oil and Physiogel® lotion by specialised burn rehabilitation massage therapists.	<u>Standard care</u> Range of motion exercises, silicone gel application, pressure therapy and intralesional corticosteroid injection. Whitening cream, anti-redness cream and moisturising cream were also applied.	**Critical** • None **Important** • Pain (at discharge)
Faqih 2019	N = 30	<u>Early muscle energy technique</u>	<u>Delayed muscle energy technique</u>	**Critical** • Upper limb

Study	Population	Intervention[a]	Comparison[a]	Outcomes
RCT India	Elbow fracture Age in years: not reported. Gender: not reported. Time since injury: not reported.	(MET) 2 x home exercise programme per day plus MET started immediately after removal of immobilisation (3 weeks)> MET was given by a trained physiotherapist 6 days' x week for 3 weeks and involved 8-10 repetitions of post-isometric relaxation and/or inhibition for 5-7 seconds. MET resistance was set at 20% of isometric contraction. Per day, participants also received 10 repetitions x 2 sets of active flexion and extensions while lying down, 10 repetitions x 2 sets active assisted flexion and extension with a wand, 10 repetitions x 2 sets exercises for wrist flexion, extension, protonation, supination and shoulder flexion, extension, abduction, adduction and rotation.	(MET) 2 x home exercise programme per day plus MET as per the intervention group but MET was started 1 week later (week 4), after immobilisation was removed.	function (at 3 weeks) • Changes in mobility (at 3 weeks) **Important** • Pain (at 3 weeks)
Harvey 2000 RCT Australia	N = 28 ankles SCI *Characteristics only reported for all patients, not split by intervention group*	Ankle stretching The experimental ankle was constantly stretched for 30 minute sessions, 5-7 x per week for 4 weeks (totalling 20-28 sessions). A	No ankle stretching The control ankle received no stretches during the study period. No further details reported.	**Critical** • Changes in mobility (at 2 weeks; 4 weeks; 5 weeks) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	Age in years [Mean (SD)]: 36 (16) Gender (M/F): 14/0 Time since injury [Mean (SD)]: 4 (2.7) months	specialised machine rotated the ankle was rotated into dorsiflexion at a constant torque of 7.5Nm. Participants received no other manual therapy or stretches during the study period.		
Harvey 2003 RCT Australia	N = 32 SCI *Characteristics only reported for all patients, not split by intervention group* Age in years [Mean (SD)]: 33 (15) Gender (M/F): not reported Time since injury [Mean (SD)]: 3 (1) months	<u>Hamstring stretching</u> The experimental hamstrings were constantly stretched for 30 minute sessions, 5 x per week for 4 weeks (totalling 20 sessions), rotating the ankle into dorsiflexion with the knee extended. A specifically designed device was used to ensure the hamstrings were stretched at a constant pressure of 30 Nm. Participants received no other manual therapy or stretches during the study period.	<u>No hamstring stretching</u> The control hip received no stretches during the study period. No further details reported.	**Critical** • Changes in mobility (at 4 weeks) **Important** • None
Harvey 2009 RCT Australia	N = 40 SCI *Characteristics only reported for all patients, not split by intervention group* Age in years [Median (IQR)]: 39 (34-44)	<u>Ankle passive movement</u> Twice per day the experimental ankle was passively stretched by carers twice a day for 10 minutes, 5 times per week for 6 months (totalling 260 sessions). Carers received training and written	<u>No ankle passive movement</u> The control ankle received no passive movements or stretches. No further details reported.	**Critical** • Changes in mobility (at 6 months) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	Gender (M/F): 17/3 Time since injury [Median (IQR)]: 8 (4-14) months	instructions for how to administer the stretches and participants were routinely visited to ensure the stretched were performed correctly. No further details reported.		
Jansen 2018 RCT Germany	N = 50 Unstable ankle fractures Age in years [Mean (range)]: • Active controlled motion + physiotherapy = 46 (22-73) • Physiotherapy only = 53 (22-73) Gender (M/F): • Active controlled motion + physiotherapy (N) = 14/11 • Physiotherapy only (N) = 13/11 Time since injury [Mean (range)]: • Active controlled motion + physiotherapy (days) = 8.9 (0-16) • Physiotherapy only (days) = 7.4 (0-20)	<u>Active controlled motion + physiotherapy</u> Physiotherapy as per control group plus active controlled motion (ACM). ACM was started 2-5 days' post-operation using Camoped© device after participants received education from a trained physiotherapist. Participants were advised to use this device for 20 minutes per day, continuing after discharge from hospital, for a total of 6 weeks from operation.	<u>Physiotherapy only</u> 20 minute physiotherapy sessions per day, starting on 1st post-operative day. Sessions focused on mobilisation using crutches and maintaining partial weight-bearing. After discharge, 20 minute outpatient physiotherapy sessions were continued at 2-3 x per week for 6 weeks, focusing on oedema management and range of motion.	**Critical** • Changes in mobility (at 6 weeks; 12 weeks) **Important** • Return to work (at 6 weeks)
Nutritional support				
Aquilani 2019 RCT Italy	N = 83 Hip fracture Age in years	<u>Essential amino acids + standard rehabilitation</u> Standard rehabilitation as described in	<u>Placebo + standard rehabilitation</u> Standard rehabilitation was 2 x 40-50 minute	**Critical** • Changes in mobility (at discharge) **Important**

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	[Mean (SD)]: • Rehabilitation + essential amino acids = 79.6 (8.0) • Rehabilitation + placebo = 82.0 (6.3) Gender (M/F): • Rehabilitation + essential amino acids (N) = 12/16 • Rehabilitation + placebo (N) = 10/18 Time since injury: not reported.	control group + 2 x 4g packets of essential amino acid supplements per day.	rehabilitation sessions per day, 5 days per week which included passive-assisted active mobilisation, isotonic and isometric strengthening exercises gait-training. Placebo intervention was 2 x 4g packets isocaloric maltodextrin per day.	• None
Harwood 2004 RCT UK	N = 150 Hip fracture Age in years [Mean (range)]: • Injected vitamin D = 80 (67-91) • Injected vitamin D + oral calcium = 81(67-92) • Oral vitamin D + oral calcium = 83 (67-92) • Control = 81 (73-92) Gender: not reported. Time since injury: not reported.	<u>Injected vitamin D</u> 1 x single injection of 300,000 IU Vitamin D_2. No further details reported. <u>Injected vitamin D + oral calcium</u> 1 x single injection of 300,000 IU Vitamin D_2 + 1 x oral calcium carbonate tablet twice per day (total 1 g elemental calcium daily). No further details provided. <u>Oral vitamin D + oral calcium</u> 2 x combined oral tablets totalling 800 IU cholecalciferol and 1g elemental calcium per day. No further details reported.	<u>No treatment</u> No further details reported.	**Critical** • Changes in mobility (at 12 months) **Important** • None
Niitsu 2016 RCT	N = 38 Hip fracture	<u>Whey protein + standard</u> rehabilitation 2 weeks x	<u>Standard rehabilitation</u> Consisted mainly of sit-to-stand	**Critical** • Changes in mobility (at day 14)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
Japan	Age in years [Mean (SD)]: • Whey protein + rehabilitation = 80.5 (7.6) • Rehabilitation only = 78.8 (8.6) Gender (M/F): • Whey protein + rehabilitation (N) = all female • Rehabilitation only (N) = all female Time since injury: not reported	standard rehabilitation + 42g whey protein supplement taken before and after rehabilitation sessions. If no rehabilitation occurred, supplement was taken throughout the day.	exercises and gait exercises. Participants were allowed the use of a handrail walker or cane, and physiotherapist assistance if needed.	**Important** • Pain (at day 7; day 14)
Norouzi Javidan 2014 RCT Iran	N = 110 SCI Age in years [Mean (SD)]: • Omega-3 = 51.5 (13.43) • Placebo = 54.12 (11.76) Gender (M/F): • Omega-3 (N) = 44/10 • Placebo (N) = 41/9 Time since injury [Mean (SD)]: • Omega-3 (years) = 8.96 (5.44) • Placebo (years) = 9.56 (7.20)	Omega-3 supplements 2 x omega-3 capsules containing docosahexanoic and eicosapentaenoic acid, taken twice per day. No specific advice was given regarding food intake or diet modification. No further details reported.	Placebo 2 x placebo capsules twice per day. No specific advice was given regarding food intake or diet modification. No further details reported.	**Critical** • Changes in mobility (at 14 months) **Important** • Changes in ADL (at 14 months)
Renerts 2019 Secondary analysis of RCT Switzerland	N = 173 Hip fracture Age in years [Mean (SD)]: • High Vit D = 834(7.2) • Low Vit D = 85.1(6.5)	High Vit D 2000IU Vitamin D and 30 minutes of physiotherapy per day.	Low Vit D 800IU Vitamin D and 30 minutes of physiotherapy per day.	**Critical** • None **Important** • Overall quality of life (at 6 months; 12 months)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	Gender (M/F): • High Vit D (N) = 9/87 • Low Vit D (N) = 17/69 Time since injury: not reported			
Scar, swelling and oedema management				
Ebid 2017 RCT Saudi Arabia	N = 49 Burn injury Age in years [Mean (SD)]: • Active laser group = 30.25 (12.05) • Placebo laser group = 32.45 (11.21) Gender (M/F): • Active laser group (N) = 16/9 • Placebo laser group (N) = 15/11 TBSA [Mean (SD)]: • Active laser group (%) = 19.33(6.40) • Placebo laser group (%) = 20.45(7.55)	<u>Active laser therapy</u> 3 x sessions of pulsed Nd:YAG laser to forearm and hand per week for 6 weeks (totalling 18 sessions). Total time of high intensive laser therapy session = 15 minutes.	<u>Placebo laser therapy</u> 3 x sessions of placebo laser to hand per week for 6 weeks (totalling 18 sessions). Total time of placebo laser therapy session = 15 minutes.	**Critical** • None **Important** • Pain (at 6 weeks; 12 weeks) • Overall quality of life (at 6 weeks; 12 weeks)
Li-Tsang 2010 RCT China	N = 104 Burn injury *Characteristics only reported for all patients, not split by intervention group.* Age in years [Mean (SD)]: 21.8(18.7)	<u>Pressure garment therapy + massage</u> Patients were instructed to wear a tailor-made padded pressure garment and received 15 minutes' scar massage every day. No further details reported. <u>Silicone gel</u>	<u>Massage only</u> 15 min massage of scar with lanolin daily. No further details reported.	**Critical** • None **Important** • Pain (at 2 months; 4 months; 6 months; 7 months)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	Gender [N (M/F)]: 63/41 TBSA: not reported	<u>sheeting + massage</u> Silicone gel sheet applied to the wound for 24 hours a day (unless bathing) and received 15 minutes' scar massage every day. No further details reported. <u>Pressure garment + silicone gel sheeting + massage</u> Silicone gel sheet was inserted underneath the padded pressure garment for 24 hours a day (both as described above) and participants received 15 minutes' scar massage every day. No further details reported.		
Rohner-Spengler 2014 RCT Switzerland	N = 67 Ankle fracture *Characteristics and baseline data are reported separately for pre-operatively included and post-operatively included participants.* Age in years [Median (range)]: • Pre-operatively included ○ Compression bandage group = 35 (19-59) ○ Intermittent compression group = 26 (21-58)	<u>Compression bandage group</u> Standard treatment plus ankle elevation for 24 hours and multilayer compression bandage. The bandage was worn for 22 hours of compression, 1 hour bandage removal and 1 hour bandage reapplication. Participants received no cold application. Intermittent impulse compression Standard treatment plus 1 second of 130 mmHg pressure, every 20 seconds. If	<u>Elevation and ice packs</u> Standard treatment plus ankle elevation for 24 hours and 4 x 20 minute minimum ice gel packs daily. No compression was applied. No further details reported.	**Critical** • Patient acceptability (at 12 weeks; 1 year) • Changes in mobility (at 6 weeks) **Important** • Pain (at 6 weeks)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	○ Elevation and ice group = 46 (22-65) • Post-operatively included ○ Compression bandage group = 37 (19-59) ○ Intermittent compression group = 44 (21-64) ○ Elevation and ice group = 40 (19-65) Gender (M/F): • Pre-operatively included ○ Compression bandage group (N) = 11/5 ○ Intermittent compression group (N) = 8/3 ○ Elevation and ice group (N) = 11/8 • Post-operatively included ○ Compression bandage group (N) = 13/7 ○ Intermittent compression group (N) = 10/3 ○ Elevation and ice group (N) = 13/9 Time since injury: not reported.	possible, this was for 24 hours but a minimum duration of mean 8 hours a day (SD +/- 2 hours) and at least 2 consecutive hours per session. Participants received no cold application and no additional compression.		
Samhan 2019 RCT Egypt	N = 50 Burn injury Age in years [Mean (SD)]: • Low-energy	<u>Low-energy extracorporeal shockwave therapy</u> Standard physical therapy plus 1 session/week of shockwave	<u>Placebo shockwave therapy</u> Standard therapy plus plus 1 session/week of shockwave therapy for 4	• **Critical** ○ None • **Important** ○ Pain (at 4 weeks)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	extracorporeal shockwave therapy = 35.18 (10.23) • Placebo shockwave therapy = 32.78 (10.15) Time since injury in days [Mean (SD)]: • Low-energy extracorporeal shockwave therapy = 42.50 (5.19) • Placebo shockwave therapy = 39.87 (8.07) Total burn surface area [Mean (SD)]: • Low-energy extracorporeal shockwave therapy (%) = 18.54 (4.52) • Placebo shockwave therapy (%) = 19.56 (4.32)	therapy for 4 weeks. 1000-2000 shocks per session and not exceeding 10 minutes. Intensity = 100shocks/cm^2, energy flux density = 0.05–0.20mJ/mm^2, frequency = 4Hz.	weeks. Parameters same as intervention group but without any energy output.	
Splinting and orthotics				
Bailey 2014 RCT Canada	N = 96 Thoracolumbar burst fracture without neurological deficit Age in years [Mean (SD)]: • Thoracolumbosacral orthosis = 40.5 (14.8) • Immediate mobilisation =39.8 (15.3) Gender (M/F): • Thoracolumbosacral orthosis	<u>Thoracolumbosacral orthosis</u> Hip flexion precautions and lifting restriction for first 8 weeks. Then received outpatient rehabilitation for 3 months plus thoracolumbosacral orthosis to be worn at all times for 10 weeks.	<u>Immediate mobilisation</u> Immediate mobilisation, as tolerated and supervised by physiotherapist, with restrictions to limit movement of trunk.	**Critical** • Patient acceptability (time point not reported) • Changes in mobility (time point not reported) **Important** • Pain (time point not reported) • Overall quality of life (time point not reported)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	(N) = 33/14 • Immediate mobilisation (N) = 34/15 Time since injury: not reported			
Choi 2011 RCT South Korea	N = 42 Burn injury Age in years [Mean (SD)]: • Metacarpophalangeal orthosis = 39.52 (11.2) • No orthosis = 43.28 (12.84) Gender (M/F): • Metacarpophalangeal orthosis (N) = 18/3 • No orthosis (N) = 18/3 Time since injury in days [Mean (SD)]: • Metacarpophalangeal orthosis = 105.62 (49.31) • No orthosis = 115.52 (50.99)	<u>Metacarpophalangeal orthosis</u> Standard rehabilitation plus modified dynamic metacarpophalangeal joint flexion orthoses. Worn for 8 weeks, 3 x 1 hour per day.	<u>No orthosis</u> Standard rehabilitation. No further details reported.	**Critical** • Upper limb function (at 8 weeks) **Important** • Overall quality of life (at 8 weeks) • Changes in ADL (at 8 weeks)
Jang 2015 RCT South Korea	N = 26 Burn injury Age in years [Mean (SD)]: • Shoulder splint = 43.5 (10.4) • No splint = 48.3 (6.9) Gender (M/F): • Shoulder splint (N) = 9/2 • No splint (N) = 10/3 Time since injury:	<u>Shoulder splint</u> Multi-axis shoulder abduction splint to be worn at all times plus 2 x 30 minute exercise programme per day.	<u>No splint</u> No splint plus 2 x 30 minute exercise programme per day.	**Critical** • Upper limb function (at 1 week; 2 weeks; 3 weeks; 4 weeks) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	not reported.			
Shamji 2014 RCT Canada	N = 23 Thoracolumbar burst fracture without neurological deficit Age in years [Median (IQR)]: • Thoracolumbosacral orthosis = 37 (not reported) • Ambulation encouragement = 43 (not reported) Gender (M/F): • Thoracolumbosacral orthosis (N) = 10/2 • Ambulation encouragement (N) = 4/7 Time since injury: not reported.	Customised thoracolumbosacral orthosis To be worn for 3 months when out of bed.	Ambulation encouragement Initial period of immobilisation followed by encouragement of ambulation after 24 hours.	**Critical** • Changes in mobility (at 6 months) **Important** • Pain (at 6 months) • Overall quality of life (at 6 months)
Shuai 2016 RCT China	N=36 SCI Age in years [Mean (SD)]: • Orthosis + functional training: 33.9 (11.1) • Standard care: 37.3 (10.2) Time since injury in days [mean (SD)]: • Orthosis + functional training: 25.00 (4.52) • Standard care: 23.00 (6.29) Type of SCI (complete/incomp	Paraplegic gait orthosis + functional training + standard care Standard care as per the control group, plus 2x training sessions/day for 30-40 mins using n individualised paraplegic gait orthosis based on the level of SCI.	Standard care 1x session/day for 3-4 hours. This included maintenance of joint range of motion, residual muscle strength training, standing training, balance training, and functional electrical stimulation.	**Critical** • None **Important** • Changes in activity of daily living (at 3 months)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	lete): Not reported			
Strengthening, balance, proprioception, vestibular rehabilitation and training				
Binder 2004 RCT USA	N = 90 Hip fracture Age in years [Mean (SD)]: • Extended physical therapy + exercise therapy = 80 (7) • Home exercise training = 81 (8) Gender (M/F): • Extended physical therapy + exercise therapy (N) = 13/33 • Home exercise training (N) = 10/34 Time since injury [Mean (SD)]: • Extended physical therapy + exercise therapy (days) = 99 (36) • Home exercise training (days) = 103 (30)	<u>Extended physical therapy + exercise therapy</u> 3 times per week for 6 months. This was divided into 2 phases, lasting about 3 months each. Phase 1 included 45-90 minute small-group exercise sessions and used 22 exercises to increase flexibility, balance, co-ordination, speed and entire body strength. Number of repetitions and intensity were increased during the study if needed and aerobic sessions included if safe to do so. Phase 2 consisted of shortened version of phase 1 exercises and aerobic training but added progressive resistance training. Strengthening exercises include knee extension, knee flexion, seated bench press, seated row, leg press and biceps curl. Participants had to complete 36 sessions per phase (72 total).	<u>Home exercise training</u> Low-intensity exercise programme including 9 of the 22 exercises used in phase 1 that focus on flexibility. Participants attended 1 hour training session and told to perform exercises at least 3 times per week. A 10 minute telephone call was made to each participant every week to control for the increased social contact of the physical therapy intervention.	**Critical** • Changes in mobility (at 3 months; 6 months; time point not reported) **Important** • Changes in ADL (at 3 months; 6 months)
Calthorpe 2014 RCT	N = 90 General traumatic injury	<u>Physiotherapy + gym session + mobility</u> As the control group + 2 extra	<u>Physiotherapy only</u> 7 x 30-min sessions per week of tailored	**Critical** • Patient acceptability (time point not reported)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
Australia	Age in years [Mean (SD)]: • Physiotherapy + gym session + mobility = 58 (22.2) • Control = 54.4 (20.4) Gender (M/F): • Physiotherapy + gym session + mobility (N) = 25/18 • Control (N) = 29/15 Time since injury: not reported.	treatments per day: 30-minute ward gym session performing a supervised tailored exercise program tailored to the individual. This included standing, balance and strength exercises, stretches and walking. Ward mobility aimed at improving the functional level compared previous physiotherapy sessions.	physiotherapy sessions. These included bed- and chair-based limb strengthening exercises, chest physiotherapy and gait retraining with the aim of regaining independence in order to discharge to home or inpatient rehabilitation.	• Changes in mobility (at day 3; day 5; 6 months) **Important** • Pain (at 6 months) • Overall quality of life (at 6 months) • Changes in ADL (at 6 months)
Glinsky 2008 RCT Australia	N = 32 SCI Age in years [Mean (SD)]: • Progressive resistance training + routine care = 37 (16) • Routine care = 47 (20) Gender (M/F): • Progressive resistance training + routine care (N) = 12/3 • Routine care (N) = 15/1 Time since injury [Median (IQR)]: • Progressive resistance training + routine care (years) = 1 (3.7) • Routine care (years) = 0.4	<u>Progressive resistance training + routine care</u> Routine care and an 8-week progressive resistance training on 1 wrist, 3 x per week. This consisted of 3 sets of 10 repetition maximum of one wrist extensor or flexor muscles, using a device specifically designed to allow full range of movement in patients with severe wrist weakness. Weight was increased as needed throughout the intervention.	<u>Routine care</u> Physiotherapy and occupational therapy. No further details reported.	**Critical** • Patient acceptability (at 8 weeks) **Important** • Changes in ADL (at 8 weeks)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	(0.9)			
Hauer 2001 RCT Germany	N = 57 Injurious falls Age in years [Mean (SD)]: • Physiotherapy + strengthening exercises = 82.2 (4.1) • Physiotherapy + motor exercises = 82.1 (4.8) Gender (M/F): • Physiotherapy + strengthening exercises = all female • Physiotherapy + motor exercises = all female Time since injury: within 3 months for all patients.	<u>Physiotherapy + strengthening exercises</u> Resistance training: 3 x 90 minutes' group sessions per week for 12 weeks. These sessions consisted of high-intensity progressive resistance training of functionally relevant muscle groups, including knee extensions, hip extensions and hip abduction exercises. Progressive functional-balance training: 3 x 45-minute group sessions per week for 12 weeks, after the resistance training sessions. These consisted of basic activity training which progressed in difficulty throughout the intervention. Balance training was also performed. Physiotherapy consisted of 2 x 25 minutes' sessions per week as per control group.	<u>Physiotherapy + motor exercises</u> 3 x 1-hour group meetings per weeks to perform motor placebo activities. Physiotherapy included 2 x 25 minute session per week that focused on massaging, stretching and heat/ice application but not strength and balancing training.	**Critical** • Upper limb function (at intervention completion; 3 months follow-up) • Changes in mobility (at intervention completion; 3 months' follow-up) **Important** • Changes in ADL (at intervention completion; 3 months follow-up)
Kasuga 2019 Retrospective cohort study Japan	N = 375 Hip fracture Age in years [Mean (SD)]: • Self-exercise programme + standard rehabilitation =	<u>Self-exercise programme + standard rehabilitation</u> Self-exercise varied between participating hospitals but generally focused on standing training, balance	<u>Standard rehabilitation</u> Standard rehabilitation varied between participating hospitals but generally included 20-24 minutes of physical therapy	**Critical** • Changes in mobility (at discharge) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	82.7(8.3) • Standard rehabilitation = 85.6 (6.9) Gender (M/F): • Self-exercise programme + standard rehabilitation (N) = 23/123 • Standard rehabilitation (N) = 40/189 Time since injury: not reported.	training and gait training. No further details reported.	every weekday focusing on gait training and exercises related to activities of daily living. The programme was designed to include muscle-strengthening exercises, standing training, balance training and ambulation. No further details reported.	
Kronborg 2017 RCT Denmark	N = 90 Hip fracture Age in years [Mean (SD)]: • Physiotherapy with strength training = 79.8 (7.7) • Physiotherapy only = 79.3 (7.5) Gender (M/F): • Physiotherapy with strength training (N) = 19/26 • Physiotherapy only (N) = 12/33 Time since injury: not reported.	<u>Physiotherapy + strength training</u> Physiotherapy as described in control group plus daily progressive knee-extension strength training between post-operative days 2-8. Sessions consisted of 3 x 10 repetitions at high intensity which progressively increased throughout the session sets.	<u>Physiotherapy only</u> 1±2 sessions per day of routine physiotherapy. These consisted of basic mobility and exercise therapy exercises targeting lower extremities. Difficulty was increased throughout the study period. Additional exercises aimed at regaining physical pre-fracture activity were also undertaken. Participants were allowed to use walking aids as needed.	**Critical** • Changes in mobility (at intervention completion) **Important** • None
Liu 2019 RCT China	N = 40 SCI Age in years [Mean (SD)]: • Unstable core training = 43 (15.422) • Stable core training = 46 (13.675)	<u>Unstable core training</u> Participants completed 5 x core stability sessions per week for 12 weeks, consisting of a variety of exercises performed while lying and sitting down on an unstable surface (mobility sling	<u>Stable core training</u> Participants completed 5 x core stability sessions per week for 12 weeks, consisting a variety of exercises performed while lying and sitting down on a stable surface (table). Participants also	**Critical** • Changes in mobility (at 12 weeks) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	Gender (M/F): • Unstable core training (N) = 11/3 • Stable core training (N) = 11/4 Time since injury [Mean (SD)]: • Unstable core training (months) = 8.21 (1.528) • Stable core training (months) = 8.20 (1.656)	and physio-ball). Participants also received residual extremity muscle strengthening exercises and task-specific body-weight supported treadmill training sessions 5 x per week for the 12 weeks.	received residual extremity muscle strengthening exercises and task-specific body-weight supported treadmill training sessions 5 x per week for the 12 weeks.	
Monticone 2018 RCT Italy	N = 52 Hip fracture Age in years [Mean (SD)]: • Balancing exercises = 77.2 (6.6) • Standard physiotherapy = 77.7 (7.5) Gender (M/F): • Balancing exercises (N) = 7/19 • Standard physiotherapy (N) = 8/18 Time since injury [Mean (SD)]: • Balancing exercises (days) = 7.9 (2.1) • Standard physiotherapy (days) = 7.6 (2.5)	<u>Balancing exercises</u> 5 x 90 minute individually performed balancing sessions per week for 3 weeks. Sessions involved balance task-specific proprioceptive balancing exercises and walking on a rectilinear trajectory with or without. Exercises designed to replicate every day activities such as climbing stairs or avoiding obstacles were also included. All participants received walking training and an ergonomic advice booklet.	<u>Standard physiotherapy</u> 5 x 90 minute general physiotherapy exercise sessions per week for 3 weeks. Sessions involved open kinetic chain exercises aimed at improving the range of hip motion, increasing hip and lower limb muscle strength, and maintaining the length and elasticity of thigh tissues. All participants received walking training and an ergonomic advice booklet.	**Critical** • Changes in mobility (at 3 weeks; 12 months) **Important** • Pain (at 3 weeks; 12 months) • Changes in ADL (at 3 weeks; 12 months) • Overall quality of life (3 weeks; 12 months)
Rau 2007 RCT Myanmar	N= 58 Amputation Age in years [Mean (SD)]:	<u>Strengthening training programme</u> 1 hour standardised individual	<u>Usual care</u> Consisted mainly of walking under supervision for a maximum of 3 days for	**Critical** • Changes in mobility (at intervention completion) **Important**

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	• Strengthening training programme = 36.93 (10.90) • Usual care = 35.24 (7.99) Gender (M/F): • Strengthening training programme (N) = 29/0 • Usual care (N) = 29/0 Time since amputation [Mean (SD)]: • Strengthening training programme (years) = 11.3 (8) • Usual care (years) = 9.6 (5)	intensive training which included lower limb strengthening exercises, coordination tasks, corrected walking, obstacle management and functional training. The maximal post-fitting training period was 3 days for transtibial amputees and 5-7 days for transfemoral amputees.	transtibial amputees and 5-7 days for transfemoral amputees. No further details reported.	• None
Renerts 2019 Secondary analysis of RCT Switzerland	N = 173 Hip fracture Age in years [Mean (SD)]: • Home exercise = 834(7.2) • No home exercise = 85.1(6.5) Gender (M/F): • Home exercise (N) = 9/87 • No home exercise (N) = 17/69 Time since injury: not reported	<u>Home exercise</u> Vitamin D and exercise as per control group plus an extra 30 minutes for home exercise instruction per day. These sessions consisted of balance, strength and mobility components. No further details reported.	<u>No home exercise</u> 400IU Vitamin D and 500mg of calcium 2 x per day and 30 minutes per day of physiotherapy. No further details reported.	**Critical** • None **Important** • Overall quality of life (at 6 months; 12 months)
Singh 2012 RCT Australia	N = 124 Hip fracture Age in years [Mean (SD)]	<u>High intensity progressive resistance training (HIPFIT)</u> 2 x HIPFIT sessions per week for 12	<u>Standard care</u> Included orthogeriatric care, rehabilitation service, physiotherapy	**Critical** • Changes in mobility (12 months) **Important** • Changes in

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	• HIPFIT = 80.1 (10.1) • Standard care = 78.4 (9.0) Gender (M/F): • HIPFIT (N) = 19/42 • Standard care (N) = 20/42 Time since injury: not reported	months. Weight-lifting began after standard physiotherapy ended (roughly 6-8 weeks after fracture). Participants received a phone call and a home visit per month from their trainer, averaging to 80 exercise sessions, 10 home visits and 10 phone calls over the year. No further details reported.	and other health services if needed. No further details reported.	ADL (at 12 months)
Suwanpasu 2014 RCT Thailand	N = 46 Hip fracture Age in years [Mean (SD)]: • Physical activity enhancing programme = 77.61 (7.88) • Standard care = 72.9 (8.36) • Gender (M/F): Physical activity enhancing programme (N) = 5/18 • Standard care = 16/7 Time since injury in years: not reported	<u>Physical activity enhancing programme + standard care</u> Physical training with self-efficacy consisting of 4 phases. The 3rd phase involved structural exercises and practising daily-life activity exercises every day of the week. No further details reported.	<u>Standard care</u> Standard care plus participants received a physical activity booklet and written information for hip fracture at intervention completion. No further details reported.	**Critical** • Changes in mobility (at 6 weeks) **Important** • None
Sylliaas 2011 RCT Norway	N = 150 Hip fracture Age in years [Mean (SD)]: • Exercise programme = 82.1 (6.5) • No exercise programme =	<u>Twice per week exercise programme</u> Starting 3 months after fracture and lasting 3 more months. 2 x 45-60 minute exercise sessions per week which included standing knee flexion,	<u>No exercise programme</u> Participants asked to maintain their current lifestyle. No restrictions were placed on their exercise activities.	**Critical** • Changes in mobility (at 3 months) **Important** • Changes in ADL (at 3 months) • Overall quality of life (at 3 months)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	82.9 (5.8) Gender (M/F): • Exercise programme (N) = 15/85 • No exercise programme (N) = 60/40 Time since injury: within 3 months for all participants.	lunges, sitting knee extension and leg extension. The difficulty was increased throughout the intervention as needed. Patients also completed a home-based training program 1 x per week, consisting of standing knee flexion and lunge exercises, using additional weights of from 0.5-12 kg. Patients were also advised to walk about for 30 mins daily if they were able to.		
Sylliaas 2012 RCT Norway	N = 95 Hip fracture Age in years [Mean (SD)]: • Exercise programme = 82.4 (6.5) • No exercise programme = 82.2 (5.1) Gender (M/F): • Exercise programme (N) = 9/39 • No exercise programme (N) = 9/38 Time since injury: within 12 weeks of operation for all participants.	<u>Once per week exercise</u> programme Starting 6 months after fracture and lasting 3 more months. 1 x 45-60 minute exercise sessions per week which included standing knee flexion, lunges, sitting knee extension and leg extension. The difficulty was increased throughout the intervention as needed. Patients also completed a home-based training program 1 x per week, consisting of standing knee flexion and lunge exercises, using additional weights of from 0.5-12 kg. Patients were also advised to	<u>No exercise programme</u> Participants asked to maintain their current lifestyle. No restrictions were placed on their exercise activities.	**Critical** • Changes in mobility (at 3 months) **Important** • Changes in ADL (at 3 months) • Overall quality of life (at 3 months)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
		walk about for 30 mins daily if they were able to.		
Xiao 2018 RCT China	N = 56 Traumatic hand injury Age in years [Mean (SD)]: • Computer-assisted rehabilitation therapy = 33.44 (13.23) • Standard rehabilitation = 33.50 (12.07) Gender (M/F): • Computer-assisted rehabilitation therapy (N) = 14/12 • Standard rehabilitation (N) = 17/8 Time since injury [Mean (SD)]: • Computer-assisted rehabilitation therapy (days) = 51.25 (15.21) • Standard rehabilitation (days) = 46.50 (13.71)	<u>Computer-assisted rehabilitation therapy</u> 60 minute sessions given 2 x per weekday over 4 weeks given twice daily on weekdays over 4 weeks (totalling 40 sessions). Each session consisted of 40 minutes of physical modalities exercises and range of motion exercises plus 20 minutes of computer-assisted wrist/hand strengthening rehabilitation exercises.	<u>Standard rehabilitation</u> 60 minute sessions given 2 x per weekday over 4 weeks given twice daily on weekdays over 4 weeks (totalling 40 sessions). Each session included 40 minutes of physical modalities exercises and range of motion exercises plus 20 minutes of conventional wrist/hand strengthening exercises.	**Critical** • Upper limb function (at 4 weeks) **Important** • None
Yigiter 2002 RCT Turkey	N = 50 Amputation Age in years [Mean (SD)]: • Proprioceptive neuromuscular facilitation = 28.16 (7.24) • Traditional prosthetic training = 28.18 (6.48)	<u>Proprioceptive neuromuscular facilitation</u> All participants received transfemoral orthoses and basic training for 1 day before intervention period. Proprioceptive neuromuscular facilitation training included 10 x 30 minutes	<u>Traditional prosthetic training</u> All participants received transfemoral orthoses and basic training for 1 day before intervention period. Traditional training included 10 x 30 minute daily sessions involving weight-shifting, dynamic	**Critical** • Changes in mobility (at intervention completion) **Important** • None

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	Gender (M/F): • Proprioceptive neuromuscular facilitation (N) = 25/0 • Traditional prosthetic training (N) = 25/0 Time since injury [Mean (SD)]: Not reported, but time since amputation = 7.20 (0.76) months (all participants)	daily sessions lasting 30 minute daily sessions involving weight-shifting, dynamic balancing activities, static balancing exercises with physiotherapist giving resistance in antagonistic direction, stool stepping, braiding, gait exercises and climbing the stairs. During these tasks, approximation was applied to the weight-bearing side together with resistance given by therapist in order to promote the advancement of the other limb.	balancing activities, stool stepping, braiding, gait exercises and climbing stairs.	
Yildirim 2016 RCT Turkey	N = 26 SCI Age in years [Mean (SD)]: • Circuit resistance training + standard rehabilitation = 29.6 (8.5) • Standard rehabilitation only = 31.9 (12.0) Time since injury: Not reported. Level of injury (T5-T10/T10-L4): • Circuit resistance training + standard rehabilitation	<u>Circuit resistance training + standard rehabilitation</u> Standard rehabilitation as per control group plus circuit resistance training sessions 60 minutes/day sessions, 5 per week for 6 weeks. Exercises were targeted to elbow and shoulder muscles.	<u>Standard rehabilitation only</u> Rehabilitation sessions for 60 minutes/day sessions, 5 per week for 6 weeks.	**Critical** • Upper body functioning (at 6 weeks) **Important** • Overall QoL (at 6 weeks) • Changes in ADL (at 6 weeks)

Study	Population	Intervention[a]	Comparison[a]	Outcomes
	(N) = 7/6 • Standard rehabilitation only (N) =7/6			

ADL: Activities of daily living; ASIA: American Spinal Injury Association; CI: Confidence interval; EQ-5D(-3L): EuroQol 5 dimensions (and 3 levels); F: Female; g: Grams; IQR: Interquartile range; IU: International units; M: Male; mg: milligrams; N: Number; RCT: Randomised controlled trial; SCI: Spinal cord injury; SD: Standard deviation; T: Thoracic; TBSA: Total burn surface area
(a) For full details about the intervention/comparison, please see the evidence tables in Appendix D

See the full evidence tables in appendix D. No meta-analysis was conducted (and so there are no forest plots in appendix E).

Results and quality assessment of clinical outcomes included in the evidence review

Summary of the evidence

Included studies

No meta-analyses were performed as the interventions or outcomes were either not sufficiently similar to allow them to be combined or they were not reported by more than one study.

Evidence was identified for all the the pre-defined outcomes.

No evidence was found regarding the following pre-defined interventions:

- Hydrotherapy
- Anti-gravity treadmill training

See Table 4 for a summary of the results of the studies identified for the adult population. For full details (including effect estimates), refer to the relevant GRADE tables in appendix F.

Table 4: Summary of results

Study	Trauma	Comparison	Outcomes		GRADE Table
Early weight-bearing to mobilise					
Dehghan 2016	Unstable ankle fracture	Early weight-bearing with ambulation versus delayed weight-bearing with ambulation	Clinically important – favouring early ambulation	Changes in mobility • Total ankle dorsiflexion/plantar flexion: 6 weeks post-operation (intervention completion) * *(very low quality)* • Olerud/Molander ankle function: 6 weeks post-operation (intervention completion) * *(very low quality)* Return to work • Number of participants returned to work: 6 weeks' post-operation (intervention completion) *(very low quality)*; 3 months (6 weeks follow-up) *(very low quality)*; 6 months post-operation *(low quality)*; 12 months post-operation *(low quality)* Overall quality of life	Table 11 and Table 12

Study	Trauma	Comparison	Outcomes		GRADE Table
				• SF-36 Physical component score: 6 weeks post-operation (intervention completion) * *(very low quality)*; 12 months post-operation* *(very low quality)* • SF-36 Mental component score: 6 weeks post-operation (intervention completion)* *(very low quality)*	
			Clinically important – favouring delayed ambulation	None identified.	
			Not clinically important	Changes in mobility • Total ankle dorsiflexion/plantar flexion: 3 months (6 weeks follow-up) *(very low quality)*; 6 months' post-operation *(very low quality)*; 12 months post-operation *(very low quality)* • Olerud/Molander ankle function: 3 months (6 weeks follow-up) *(very low quality)*; 6 months' post-operation *(very low quality)*; 12 months post-operation *(very low quality)* Return to work • Total days off work: time point not reported *(very low quality)* Overall quality of life • SF-36 Physical component score: 3 months (6 weeks follow-up) *(very low quality)*; 6 months' post-operation *(very low quality)* • SF-36 Mental component score: 3 months (6 weeks follow-up) *(very low quality)*; 6 months post-operation *(very low quality)*; 12 months post-operation *(very low quality)*	
Oldmeadow 2006	Hip fracture	Early ambulation with weight-bearing versus delayed ambulation with weight-bearing	Clinically important – favouring early ambulation	Changes in mobility • Distance walked (m): Day 7 post-operation (intervention completion) * *(very low quality)* Changes in ADL • Number of participants able to transfer 1 step: Day 7 post-operation (intervention completion) *(low quality)*	Table 13 and Table 14
			Clinically important – favouring delayed	Changes in ADL • Number of participants able to negotiate 1 step: Day 7 post-operation (intervention	

Study	Trauma	Comparison	Outcomes		GRADE Table
			ambulation	completion) *(low quality)*	
			Not clinically important	None identified.	
Sherrington 2003	Hip fracture	Weight-bearing versus non weight-bearing	Clinically important – favouring weight-bearing	Changes in mobility • Lateral step up, affected leg: 2 weeks (intervention completion) (*low quality*) • Became able to do lateral step, affected leg: 2 weeks (intervention completion) (*very low quality*) • Participants able to walk 6m with 2 sticks: 2 weeks (intervention completion) *(low quality)*	Table 15
			Clinically important – favouring non weight-bearing	None identified.	
			Not clinically important	Changes in mobility • Step test, affected leg (repetitions): 2 weeks (intervention completion) *(very low quality)* • Step test, non-affected leg (repetitions): 2 weeks (intervention completion) *(very low quality)* • Velocity (m/sec): 2 weeks (intervention completion) *(very low quality)* • Cadence (steps/min): 2 weeks (intervention completion) *(very low quality)* • Step length, affected leg (cm): 2 weeks (intervention completion) *(very low quality)* • Step length, non-affected leg: 2 weeks (intervention completion) *(very low quality)* • Time to stand (sec): 2 weeks (intervention completion) *(very low quality)* • Time to sit up (sec): 2 weeks (intervention completion) *(very low quality)* • PPME: 2 weeks (intervention completion) *(very low quality)* • Lateral step up, non-affected leg: 2 weeks (intervention completion) *(very low quality)* • Became able to do lateral step up, non-affected leg: 2 weeks	

Study	Trauma	Comparison	Outcomes		GRADE Table
				(intervention completion) *(very low quality)* • Participants unable to walk 6m: 2 weeks (intervention completion) *(very low quality)* • Participants able to walk 6m with frame: 2 weeks (intervention completion) *(very low quality)* • Participants able to walk 6m with 1 stick or no aid: 2 weeks (intervention completion) *(very low quality)*	
Taraldsen 2014	Hip fracture	Comprehensive geriatric care (including early weight-bearing) versus orthopaedic care	Clinically important – favouring comprehensive geriatric care	None identified.	Table 16
			Clinically important – favouring orthopaedic care	None identified.	
			Not clinically important	Changes in mobility • Upright time (min): day 4 post-operation *(very low quality)*; during night *(very low quality)*; during day *(very low quality)*; during afternoon *(very low quality)*; during evening *(very low quality)* • Number of upright events: day 4 post-operation *(very low quality)* • CAS: day 1-3 post-operation *(very low quality)* • SPPB: day 5 post-operation *(very low quality)*	
Exercise class, reconditioning, cardiovascular fitness training					
Akkurk 2017	SCI	Aerobic exercise + standard rehabilitation versus standard rehabilitation only	Clinically important – favouring aerobic exercise	None identified.	Table 17
			Clinically important – favouring standard rehabilitation only	None identified.	
			Not clinically important	Overall quality of life • WHOQOL-Bref-Tr physical domain: 6 weeks (during intervention) *(very low quality)*; 12 weeks (intervention	

Study	Trauma	Comparison	Outcomes		GRADE Table
				completion) *(very low quality)* • WHOQOL-Bref-Tr psychological domain: 6 weeks (during intervention) *(very low quality)*; 12 weeks (Intervention completion) *(very low quality)* Changes in ADL • FIM: 6 weeks (during intervention) *(very low quality)*; 12 weeks (intervention completion) *(very low quality)*	
Mendelsohn 2008	Hip fracture	Upper-body exercise training + standard rehabilitation versus standard rehabilitation only	Clinically important – favouring upper-body exercise	Changes in mobility: • TUG (sec): 4 weeks (intervention completion) *(very low quality)* • 2MWT (m): 4 weeks (intervention completion) *(low quality)* • 10MWT (m): 4 weeks (intervention completion) *(very low quality)*	Table 18
			Clinically important – favouring standard rehabilitation only	None identified.	
			Not clinically important	Changes in ADL • FIM: 4 weeks (intervention completion) *(very low quality)*	
Resnick 2007	Hip fracture	Exercise sessions versus standard rehabilitation	Clinically important – favouring exercise sessions	Changes in mobility: • YPAS-E: 6 months (during intervention) *(low quality)*; 12 months (intervention completion) *(moderate quality)*	Table 19
			Clinically important – favouring standard rehabilitation	None identified.	
			Not clinically important	Changes in mobility • SAM: 12 months (intervention completion) *(low quality)* ǂ • YPAS-E: 2 months (during intervention) *(very low quality)*	
Sherrington 1997	Hip fracture	Step exercise versus control	Clinically important – favouring step exercise	None identified.	Table 20
			Clinically important – favouring	None identified.	

Study	Trauma	Comparison	Outcomes		GRADE Table
			control		
			Not clinically important	Changes in mobility • Velocity: intervention completion (time point not reported) *(very low quality)* • Cadence: intervention completion (time point not reported) *(very low quality)*	
Gait re-education					
Alexeeva 2011	SCI	Body weight supported gait training on a fixed track versus standard care	Clinically important – favouring gait training on fixed track	Overall quality of life • SF-36 Energy score: 17 weeks (4 weeks follow-up) (very low quality)	Table 21
			Clinically important – favouring standard care		
			Not clinically important	Patient acceptability • Satisfaction with Abilities and Well-Being scale: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* Overall quality of life • SF-36 General health perception score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* • SF-36 Energy score: 13 weeks (intervention completion*) (very low quality)* • SF-36 Mental health perception score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* • SF-36 General health perception score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)*	
		Body weight supported gait training on a treadmill versus standard care	Clinically important – favouring gait training on a treadmill	None identified.	Table 22
			Clinically important – favouring standard	None identified.	

Study	Trauma	Comparison	Outcomes		GRADE Table
			care		
			Not clinically important	Patient acceptability • Satisfaction with Abilities and Well-Being scale: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* Overall quality of life • SF-36 General health perception score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* • SF-36 Energy score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* • SF-36 Mental health perception score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)* • SF-36 General health perception score: 13 weeks (intervention completion) *(very low quality)*; 17 weeks (4 weeks follow-up) *(very low quality)*	
Dobkin 2006	SCI	Body-weight supported treadmill training versus over ground gait training	Clinically important – favouring body-weight supported treadmill training	None identified.	Table 23
			Clinically important – favouring over ground gait training	None identified.	
			Not clinically important	Changes in mobility • FIM-L score in ASIA B + C patients: 6 months (3 months follow-up) *(very low quality)* • FIM-L score in UMN ASIA C + D patients able to walk at 6 months: 6 months (3 months follow-up) *(very low quality)* • Velocity in ASIA C + D (UMN and LMN) patients (m/sec): 6 months (3 months follow-up) *(very low quality)* • Velocity in ASIA C + D (UMN) patients (m/sec): 6 months (3 months follow-up) *(very low*	

Study	Trauma	Comparison	Outcomes		GRADE Table
				quality) • Velocity in ASIA C + D (UMN) patients able to walk at 6 months (m/sec): 6 months (3 months follow-up) *(very low quality)* • Distance walked in ASIA C + D (UMN) patients able to walk at 6 months (m): 6 months (3 months follow-up) *(very low quality)* • LEMS score in ASIA C + D (UMN) patients able to walk at 6 months: 6 months (3 months follow-up) *(very low quality)* • WISCI score in ASIA C + D (UMN) patients able to walk at 6 months: 6 months (3 months follow-up) *(very low quality)*	
Dobkin 2007	SCI	Body-weight supported treadmill training versus over ground gait training	Clinically important – favouring body-weight supported treadmill training	None identified.	Table 24
			Clinically important – favouring over ground gait training	Changes in mobility • FIM-L score in ASIA C + D patients: 12 weeks (intervention completion) *(very low quality)*	
			Not clinically important	Changes in mobility • FIM-L score in ASIA B patients: 6 weeks (during intervention) *(low quality)*; 12 weeks (intervention completion) *(very low quality)* • LEMS score in ASIA B patients: 6 weeks (during intervention) *(low quality)*; 12 weeks (intervention completion) *(very low quality)* • Walking distance in ASIA B patients (m): 12 weeks (intervention completion) *(very low quality)* • FIM-L score in ASIA C + D patients: 6 weeks (during intervention) *(very low quality)* • Velocity in ASIA C + D patients (m/sec): 6 weeks (during intervention) *(very low quality)*; 12 weeks (intervention completion) *(low quality)* • LEMS score in ASIA C + D	

Study	Trauma	Comparison	Outcomes		GRADE Table
				patients: 6 weeks (during intervention) *(low quality)*; 12 weeks (intervention completion) *(low quality)* • Walking distance in ASIA C + D patients (m): 12 weeks (intervention completion) *(low quality)*	
Lucareli 2011	SCI	Body-weight supported treadmill training versus over ground gait training	Clinically important – favouring body-weight supported treadmill training	Changes in mobility • Percentage stance of whole gait cycle (sec): 12 weeks (intervention completion) *(moderate quality)* • Percentage swing of whole gait cycle (sec): 12 weeks (intervention completion) *(moderate quality)* • Step length (cm): 12 weeks (intervention completion) *(moderate quality)* • Distance walked (m): 12 weeks (intervention completion) *(moderate quality)* • Cadence (step/min): 12 weeks (intervention completion) *(moderate quality)* • Maximum dorsiflexion during stance: 12 weeks (intervention completion) *(moderate quality)*; gain during intervention *(moderate quality)* • Maximum hip extension during stance: 12 weeks (intervention completion) *(moderate quality)*; gain during intervention *(moderate quality)*	Table 25
			Clinically important – favouring over ground gait training	Changes in mobility • Duration of gait cycle (sec): 12 weeks (intervention completion) *(moderate quality)*	
			Not clinically important	Changes in mobility • Velocity (m/sec): 12 weeks (intervention completion) *(low quality)* • Maximum hip flexion during gait cycle: 12 weeks (intervention completion) *(moderate quality)*; gain during intervention *(moderate quality)* • Maximum knee extension during stance: 12 weeks (intervention completion) *(moderate quality)*; gain during intervention *(moderate quality)*	

Study	Trauma	Comparison	Outcomes		GRADE Table
Moseley 2009	Hip fracture	High intensity gait re-education sessions versus standard care	Clinically important – favouring HIGH intensity gait re-education sessions	Changes in mobility • Sit-to-stand (repetitions): 4 weeks (during intervention) *(low quality)*	Table 26 and Table 27
			Clinically important – favouring standard care	None identified.	
			Not clinically important	Changes in mobility • Participants able to walk unaided: 4 weeks (during intervention) *(very low quality)*; 16 weeks (intervention completion) *(very low quality)* • Participants reporting good mobility: 4 weeks (during intervention) *(very low quality)*; 16 weeks (intervention completion) *(low quality)* • Participants who fell during study: 16 weeks (intervention completion) *(very low quality)* • Modified Falls Efficacy Scale: 4 weeks (during intervention) *(moderate quality)*; 16 weeks (intervention completion) *(moderate quality)* • Velocity (m/sec): 4 weeks (during intervention) *(low quality)*; 16 weeks (intervention completion) *(low quality)* • PPME: 4 weeks (during intervention) *(low quality)*; 16 weeks (intervention completion) *(moderate quality)* • Sit-to-stand (repetitions): 16 weeks (intervention completion) *(low quality)* • Step test, affected leg: 4 weeks (during intervention) *(moderate quality)*; 16 weeks (intervention completion) *(low quality)* Pain • Participants reporting no/slight pain): 4 weeks (during intervention) *(very low quality)*; 16 weeks (intervention completion) *(low quality)* Overall quality of life • EQ-5D score: 4 weeks (during intervention) *(moderate quality)*;	

Study	Trauma	Comparison	Outcomes		GRADE Table
				16 weeks (intervention completion) *(moderate quality)* Changes in ADL • Barthel Index: 4 weeks (during intervention) *(very low quality)*; 16 weeks (intervention completion) *(very low quality)*	
Rigot 2018	SCI	Gait training versus no gait training	Clinically important – favouring gait training	Changes in mobility • Number of patients walking at discharge *(low quality)*	Table 28 and Table 29
			Clinically important – favouring no gait training	Changes in mobility • CHART Physical intervention: 1 year after discharge* *(low quality)* • CHART-Mobility: 1 year after discharge* *(low quality)*	
			Not clinically important	Pain • Usual pain: 1 year after discharge *(low quality)* Overall quality of life • Diener Satisfaction with Life scale: 1 year after discharge *(very low quality)*	
Manual therapy					
Cho 2014	Burn	Massage + standard care versus standard care only	Clinically important – favouring massage + standard care	Pain • VAS: At discharge *(moderate quality)*	Table 30
			Clinically important – favouring standard care only	None identified.	
			Not clinically important	None identified.	
Faqih 2019	Elbow fracture	Early muscle energy technique versus delayed muscle energy technique	Clinically important – favouring early muscle energy technique	Changes in mobility • Elbow flexion: 3 weeks (intervention completion) *(low quality)* • Elbow extension: 3 weeks (intervention completion) *(low quality)*	Table 31
			Clinically important – favouring delayed muscle energy technique	Upper limb function • DASH: 3 weeks (intervention completion) *(low quality)* § Pain • VAS: 3 weeks (intervention completion) *(low quality)*§	

Study	Trauma	Comparison	Outcomes		GRADE Table
			Not clinically important	None identified.	
Harvey 2000	SCI	Ankle stretching versus no ankle stretching	Clinically important – favouring ankle stretching	None identified.	Table 32
			Clinically important – favouring no ankle stretching	None identified.	
			Not clinically important	Changes in mobility • Ankle mobility with no torque, knee extended: 2 weeks (during intervention) *(low quality)*; 4 weeks (intervention completion) *(low quality)*; 5 weeks (1 week follow-up) *(moderate quality)* • Ankle mobility with no torque, knee flexed: 2 weeks (during intervention) *(moderate quality)*; 4 weeks (intervention completion) *(moderate quality)*; 5 weeks (1 week follow-up) *(moderate quality)* • Ankle mobility with 10nm torque, knee extended: 2 weeks (during intervention) *(moderate quality)*; 4 weeks (intervention completion) *(moderate quality)*; 5 weeks (1 week follow-up) *(moderate quality)* • Ankle mobility with 10nm torque, knee flexed: 2 weeks (during intervention) *(low quality)*; 4 weeks (intervention completion) *(moderate quality)*; 5 weeks (1 week follow-up) *(moderate quality)*	
Harvey 2003	SCI	Hamstring stretching versus no hamstring stretching	Clinically important – favouring hamstring stretching	None identified.	Table 33
			Clinically important – favouring no hamstring stretching	None identified.	
			Not clinically important	Changes in mobility • Hip flexion: 4 weeks (intervention completion) *(very low quality)*	

Study	Trauma	Comparison	Outcomes		GRADE Table
Harvey 2009	SCI	Ankle passive movement versus no ankle passive movement	Clinically important – favouring ankle passive movement	None identified.	Table 34
			Clinically important – favouring no ankle passive movement	None identified.	
			Not clinically important	Changes in mobility • Ankle dorsiflexion (with 2 nm torque): 6 months (intervention completion) *(low quality)* • Ankle dorsiflexion (with 3nm torque): 6 months (intervention completion) *(low quality)* • Ankle dorsiflexion (with 5nm torque): 6 months (intervention completion) *(low quality)* • Ankle dorsiflexion (with 7nm torque): 6 months (intervention completion) *(low quality)* • Ankle dorsiflexion (with 8nm torque): 6 months (intervention completion) *(low quality)* • Ankle dorsiflexion (with 10nm torque): 6 months (intervention completion) *(very low quality)* • Ankle dorsiflexion (with 12nm torque): 6 months (intervention completion) *(low quality)*	
Jansen 2018	Unstable ankle fracture	Active controlled motion + physiotherapy versus physiotherapy only	Clinically important – favouring active controlled motion + physiotherapy	Changes in mobility • Ankle range of motion: 6 weeks (intervention completion) *(very low quality)* • Subtalar range of motion: 12 weeks (6 weeks follow-up) *(low quality)* • VAS for foot and ankle: 6 weeks (intervention completion) *(low quality)*; 12 weeks (6 weeks follow-up) *(low quality)* • Philip score: 12 weeks (6 weeks follow-up) *(very low quality)* • Mazur score: 6 weeks (intervention completion) *(very low quality)*; 12 weeks (6 weeks follow-up) *(very low quality)* • AOFAS score: 12 weeks (6 weeks follow-up) *(very low quality)* Return to work	Table 35 and Table 36

Study	Trauma	Comparison	Outcomes		GRADE Table
				• Weeks taken to return: 6 weeks *(very low quality)**	
			Clinically important – favouring physiotherapy only	None identified.	
			Not clinically important	Changes in mobility • Ankle range of motion: 12 weeks (6 weeks follow-up) *(very low quality)* • Subtalar range of motion: 6 weeks (intervention completion) *(very low quality)* • Philips score: 6 weeks (intervention completion) *(very low quality)* • AOFAS score: 6 weeks (intervention completion) *(very low quality)*	
Nutritional support					
Aquilani 2019	Hip fracture	Rehabilitation + essential amino acid versus rehabilitation + placebo	Clinically important – favouring essential amino acids	Changes in mobility • 6MWT: Gain during intervention *(very low quality)*	Table 37
			Clinically important – favouring placebo	None identified.	
			Not clinically important	Changes in mobility • 6MWT: at discharge *(very low quality)*	
Harwood 2004	Hip fracture	Vitamin D supplementation versus no treatment	Clinically important – favouring Vitamin D	None identified.	Table 38
			Clinically important – favouring no treatment	None identified.	
			Not clinically important	Changes in mobility • Experience of falls (12 months follow-up) *(very low quality)*	
Niitsu 2016	Hip fracture	Whey protein + standard rehabilitation versus standard rehabilitation only	Clinically important – favouring whey protein	Changes in mobility • Barthel Index Walking score: day 14 (intervention completion) (very low quality)*	Table 39 and Table 40
			Clinically important – favouring	None identified.	

Study	Trauma	Comparison	Outcomes		GRADE Table
			rehabilitation only		
			Not clinically important	Changes in mobility • Barthel Index Stair score: day 14 (intervention completion) *(very low quality)* Pain • VAS at rest: day 7 (during intervention) *(very low quality)*; day 14 (intervention completion) *(very low quality)* • VAS in motion: day 7 (during intervention) *(very low quality)*; day 14 (intervention completion) *(very low quality)*	
Norouzi Javidan 2014	SCI	Omega-3 supplementation versus placebo	Clinically important – favouring omega-3	None identified.	Table 41
			Clinically important – favouring placebo	None identified.	
			Not clinically important	Changes in mobility • FIM+FAM Motor sub-score: 14 months' follow-up *(low quality)* • FIM+FAM Locomotion sub-score: 14 months' follow-up *(low quality)* Changes in ADL • FIM+FAM total score: 14 months' follow-up *(low quality)* • FIM+FAM Cognitive sub-score: 14 months' follow-up *(very low quality)* • FIM+FAM Psychosocial sub-score: 14 months' follow-up *(low quality)* • FIM+FAM Communication sub-score: 14 months' follow-up *(moderate quality)* • FIM+FAM Self-care sub-score: 14 months follow-up *(low quality)*	
Renerts 2019	Hip fracture	High vitamin D versus low vitamin D supplementation	Clinically important – favouring high Vit D	None identified.	Table 42
			Clinically important – favouring low Vit D	None identified.	
			Not clinically	Overall quality of life • Changes in EQ-5D-3L index	

Study	Trauma	Comparison	Outcomes		GRADE Table
			important	value: between baseline and 6 months *(very low quality)*; between 6 months and 12 months *(very low quality)*; between baseline and 12 months *(very low quality)*	
Scar, swelling and oedema management					
Ebid 2017	Burn	Active laser therapy versus placebo laser therapy	Clinically important - favouring active laser therapy	Overall quality of life • mDLQI: 6 weeks (intervention completion) *(low quality)*; 12 weeks (6 weeks follow-up) *(moderate quality)* Pain • VAS: 6 weeks (intervention completion) *(low quality)*; 12 weeks (6 weeks follow-up) *(low quality)*	Table 43
			Clinically important - favouring placebo laser therapy	None identified.	
			Not clinically important	None identified.	
Li-Tsang 2010	Burn	Pressure garment therapy + massage versus massage only	Clinically important favouring pressure garment therapy	Pain • VAS: 2 months (during intervention) *(very low quality)*	Table 44
			Clinically important favouring massage only	None identified.	
			Not clinically important	Pain • VAS: 4 months (during intervention) *(very low quality)*; 6 months (intervention completion) *(very low quality)*; 7 months (1 month follow-up) *(very low quality)*	
		Silicone gel sheeting + massage versus massage only	Clinically important - favouring silicone gel sheeting	Pain • VAS: 7 months (1 month follow-up) *(very low quality)*	Table 45
			Clinically important – favouring massage only	None identified.	
			Not	Pain	

Study	Trauma	Comparison	Outcomes		GRADE Table
			clinically important	• VAS: 2 months (during intervention) *(very low quality)*; 4 months (during intervention) *(very low quality)*; 6 months (intervention completion) *(very low quality)*	
		Pressure garment therapy + silicone gel sheeting + massage versus massage	Clinically important - favouring pressure garment + silicone gel sheeting	None identified.	Table 46
			Clinically important – favouring massage only	None identified.	
			Not clinically important	Pain • VAS: 2 months (during intervention) *(very low quality)*; 4 months (during intervention) *(very low quality)*; 6 months (intervention completion) *(very low quality)*; 7 months (1 month follow-up) *(very low quality)*	
Rohner-Spengler 2014	Ankle fracture	Compression bandage versus ice and elevation	Clinically important favouring compression bandage	None identified.	Table 47
			Clinically important - favouring ice and elevation	None identified.	
			Not clinically important	Patient acceptability • VAS: 12 weeks (6 weeks follow-up) *(very low quality)*; 1 year *(very low quality)* Changes in mobility • Plantar flexion: 6 weeks (intervention completion) *(very low quality)* • Dorsiflexion: 6 weeks (intervention completion) *(very low quality)* Pain • VAS: 6 weeks (intervention completion) *(very low quality)*	
		Intermittent compression versus ice and elevation	Clinically important - favouring intermittent compressio	None identified.	Table 48

Study	Trauma	Comparison	Outcomes		GRADE Table
			n		
			Clinically important - favouring ice and elevation	None identified.	
			Not clinically important	Patient acceptability • VAS: 12 weeks (6 weeks follow-up) *(very low quality)*; 1 year *(very low quality)* Changes in mobility • Plantar flexion: 6 weeks (intervention completion) *(very low quality)* • Dorsiflexion: 6 weeks (intervention completion) *(very low quality)* Pain • VAS: 6 weeks (intervention completion) *(very low quality)*	
Samhan 2019	Burn injury	Low-energy extracorporeal shockwave therapy versus placebo shockwave therapy	Clinically important – favouring low-energy extracorporeal shockwave therapy	None identified.	Table 49
			Clinically important – favouring placebo shockwave therapy	None identified.	
			Not clinically important	Pain • Numerical Rating Scale: 4 weeks (intervention completion)* *(very low quality)*	
Splinting and orthotics					
Bailey 2014	Thoracolumbar burst fracture without neurological deficit	Thoracolumbosacral orthosis versus immediate mobilisation	Clinically important - favouring thoracolumbosacral orthosis	Patient acceptability • Satisfaction with treatment score: average at all follow-up time points *(high quality)* Changes in mobility • Roland Morris Disability Questionnaire: average at all follow-up time points *(high quality)* Quality of life • SF-36 Physical component score: average at all follow-up time points *(high quality)* • SF-36 Mental component score: average at all follow-up time	Table 50

Study	Trauma	Comparison	Outcomes		GRADE Table
				points *(high quality)* Pain • VAS: average at all follow-up time points *(high quality)*	
			Clinically important - favouring immediate mobilisation	None identified.	
			Non clinically important	None identified.	
Choi 2011	Burn injury	Metacarpophalangeal orthosis verses no orthosis	Clinically important - favouring metacarpophalangeal orthosis	Upper limb function: • Dominant hand writing: 8 weeks (intervention completion) *(low quality)* • MHOQ: 8 weeks (intervention completion) *(very low quality)*	Table 51
			Clinically important - favouring no orthosis	None identified.	
			Non clinically important	Patient acceptability • MHOQ Aesthetics score: 8 weeks (intervention completion) *(very low quality)* • MHOQ Satisfaction score: 8 weeks (intervention completion) *(very low quality)* Upper limb function • Grip strength of right hand: 8 weeks (intervention completion) *(very low quality)* • Grip strength of left hand: 8 weeks (intervention completion) *(very low quality)* Overall quality of life • BSHQ: 8 weeks (intervention completion) *(very low quality)* Changes in ADL • FIM: 8 weeks (intervention completion) *(very low quality)* • MHOQ ADL score: 8 weeks (intervention completion) *(very low quality)* Pain • MHOQ Pain score: 8 weeks (intervention completion) *(very low quality)*	
Jang 2015	Burn injury	Shoulder splint versus no splint	Clinically important - favouring shoulder	None identified.	Table 52

Study	Trauma	Comparison	Outcomes		GRADE Table
			splint		
			Clinically important - favouring no splint	None identified.	
			Non clinically important	Upper limb function: • Shoulder abduction angle: 1 week *(low quality)*; 2 weeks *(very low quality)*; 3 weeks *(very low quality)*; 4 weeks *(low quality)*. • Shoulder flexion angle: 1 week *(low quality)*; 2 weeks *(low quality)*; 3 weeks *(low quality)*; 4 weeks *(low quality)*. • Shoulder external rotation angle: 1 week *(very low quality)*; 2 weeks *(very low quality)*; 3 weeks *(very low quality)*; 4 weeks *(very low quality)*.	
Shamji 2014	Thoracolumbar burst fracture without neurological deficit	Customised thoracolumbosacral orthosis versus ambulation encouragement	Clinically important - favouring customised thoracolumbosacral orthosis	None identified.	Table 53
			Clinically important - favouring ambulation encouragement	None identified.	
			Non clinically important	Changes in mobility • Oswestry Disability Index: 6 months' follow-up *(very low quality)* Overall quality of life • SF-36 Physical component score: 6 months' follow-up *(very low quality)* • SF-36 Mental component score: 6 months' follow-up *(very low quality)* Pain • VAS: 6 months follow-up *(very low quality)*	
Shuai 2016	SCI	Paraplegic gait orthosis + functional training versus Standard care	Clinically important – favouring paraplegic gait orthosis + functional training	Changes in ADL • modified Barthel Index: at 3 months follow-up *(moderate quality)*	Table 54

Study	Trauma	Comparison	Outcomes		GRADE Table
			Clinically important – favouring standard care	None identified.	
			Not clinically important	None identified.	
Strengthening, balance, proprioception, vestibular rehabilitation and training					
Binder 2004	Hip fracture	Extended physical therapy + exercise therapy versus home exercise training	Clinically important – favouring extended physical therapy + exercise therapy	Changes in mobility • Modified Physical Performance Test: 6 months (intervention completion) *(low quality)* • Number of participants not using assistive device for gait if required at baseline: time point not reported *(low quality)*	Table 55
			Clinically important – favouring home exercise	None identified.	
			Not clinically important	Changes in mobility • Modified Physical Performance Test: 3 months (during intervention) *(low quality)* Changes in ADL • Functional Status Questionnaire: 3 months (during intervention) *(low quality)*; 6 months (intervention completion) *(low quality)* • Instrumental ADL: 3 months (during intervention) *(low quality)*; 6 months (intervention completion) *(low quality)* • Basic ADL: 3 months (during intervention) *(low quality)*; 6 months (intervention completion) *(low quality)*	
Calthorpe 2014	General traumatic injury	Physiotherapy + gym session + mobility versus physiotherapy only	Clinically important – favouring physiotherapy + gym sessions + mobility	Patient acceptability • Satisfaction with treatment: time point not reported *(very low quality)* Changes in mobility • Modified Iowa Level of Assistance score: day 5 *(very low quality)* • Number of participants reporting problems in mobility domain on EQ-5D: 6 months *(very low quality)*	Table 56 and Table 57
			Clinically important –	None identified.	

Study	Trauma	Comparison	Outcomes		GRADE Table
			favouring physiotherapy only		
			Not clinically important	Changes in mobility • Modified Iowa Level of Assistance score: day 3 *(very low quality)* Pain • Number of participants reporting problems in pain/discomfort domain on EQ-5D: 6 months *(very low quality)* Overall quality of life • Glasgow Outcome Scale-Extended: 6 months *(very low quality)* • SF-12 Physical component: 6 months *(very low quality)* • SF-12 Mental component: 6 months *(very low quality)* Changes in ADL • Number of participants reporting problems in self-care domain on EQ-5D: 6 months *(very low quality)* • Number of participants reporting problems in usual activity domain on EQ-5D: 6 months *(very low quality)*	
Glinsky 2008	SCI	Progressive resistance training + routine care versus routine care only	Clinically important – favouring progressive resistance training + routine care	None identified.	Table 58
			Clinically important – favouring routine care only	None identified.	
			Not clinically important	Patient acceptability • COPM participant perception satisfaction: 8 weeks (intervention completion) *(low quality)*; gain during intervention *(low quality)* Changes in ADL • COPM participant perceptions: 8 weeks (intervention completion) *(low quality)*; gain during intervention *(low quality)*	
Hauer	Injurious	Physiotherap	Clinically	Changes in mobility:	Table 59

Study	Trauma	Comparison	Outcomes		GRADE Table
2001	falls	y + strengthening exercises versus physiotherapy + motor exercises	important – favouring physiotherapy + strengthening exercises	• TUG (sec): intervention completion *(low quality)* • Chair-rise time (sec): intervention completion *(moderate quality)*; 3 months follow up *(low quality)* • Stair flight (cm): intervention completion *(low quality)*; 3 months follow up *(low quality)* • Physical/sports activity: intervention completion *(moderate quality)*; 3 months follow up *(low quality)* • Total physical activity: intervention completion *(moderate quality)*; 3 months follow up *(low quality)* Changes in ADL • Tinetti POMA: intervention completion *(low quality)*; 3 months follow up *(low quality)*	
			Clinically important – favouring physiotherapy + motor exercises	None identified.	
			Not clinically important	Upper limb function • Hand grip strength (kilo Pascal): intervention completion *(low quality)*; 3 months follow up *(low quality)* Changes in mobility • TUG (sec): 3 months follow up *(low quality)* • Velocity (m/sec): intervention completion *(moderate quality)*; 3 months follow up *(moderate quality)* • Maximal box step (cm): intervention completion; *(low quality)* 3 months follow up *(low quality)* • Incidence of falls: 3 months follow up *(low quality)* Changes in ADL • Barthel ADL Index: intervention completion *(low quality)*; 3 months follow up *(low quality)* • Lawton Instrumental ADL Index: intervention completion *(low quality)*; 3 months follow up *(low quality)*	
Kasuga	Hip	Self-exercise	Clinically	Changes in mobility	Table 60

Study	Trauma	Comparison	Outcomes		GRADE Table
2019	fracture	programme + standard rehabilitation versus standard rehabilitation only	important – favouring self-exercise programme + standard rehabilitation	• FIM-M: at discharge *(low quality)*; gain during intervention *(very low quality)*	
			Clinically important – favouring standard rehabilitation only	None identified.	
			Not clinically important	None identified.	
Kronborg 2017	Hip fracture	Physiotherapy + strength training versus physiotherapy only	Clinically important – favouring physiotherapy + strength training	*None identified.*	Table 61
			Clinically important – favouring physiotherapy only	None identified.	
			Not clinically important	Changes in mobility • TUG (sec): intervention completion *(high quality)*; gain during intervention *(high quality)*	
Liu 2019	SCI	Unstable core training versus stable core training	Clinically important – favouring unstable core training	None identified.	Table 62
			Clinically important – favouring stable core training	None identified.	
			Not clinically important	Changes in mobility • Stride length (units not reported): 12 weeks (intervention completion) *(very low quality)* • Cadence (units not reported): 12 weeks (intervention completion) *(low quality)* • Comfortable walking speed (units not reported): 12 weeks (intervention completion) *(very low quality)*	

Study	Trauma	Comparison	Outcomes		GRADE Table
Monticone 2018	Hip fracture	Balancing exercises versus standard physiotherapy	Clinically important – favouring balancing exercises	Changes in mobility • WOMAC physical sub-score: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)* • WOMAC stiffness sub-score: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)* Pain • WOMAC pain sub-score: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)* • SF-36 Bodily pain: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)* • Current pain intensity: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)* Overall quality of life • SF-36 physical function domain: 3 weeks (intervention completion) *(low quality)*; 12 months follow up *(moderate quality)* • SF-36 physical role domain: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(low quality)* • SF-36 general health domain: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)* • SF-36 mental health domain: 12 months follow up *(low quality)* Changes in ADL • FIM: 3 weeks (intervention completion) *(moderate quality)*; 12 months follow up *(moderate quality)*	Table 63
			Clinically important – favouring standard physiotherapy	None identified.	
			Not clinically important	Overall quality of life • SF-36 mental health domain: 3 weeks (intervention completion) *(low quality)*	
Rau 2007	Amputation	Strengthening training	Clinically important –	Changes in mobility • 2MWT (m): intervention	Table 64

Study	Trauma	Comparison	Outcomes		GRADE Table
		programme versus usual care	favouring strengthening training programme	completion *(very low quality)* • Improvement in walking speed (m/min): intervention completion *(very low quality)*	
			Clinically important – favouring usual care	None identified.	
			Not clinically important	Changes in mobility • Locomotor Capability Index: intervention completion *(very low quality)* • TUG (sec): intervention completion *(very low quality)*	
Renerts 2019	Hip fracture	Home exercise versus no home exercise	Clinically important – favouring home exercise	None identified.	Table 65
			Clinically important – favouring no home exercise	None identified.	
			Not clinically important	Overall quality of life • Changes in EQ-5D-3L index value: between baseline and 6 months *(very low quality)*; between 6 months and 12 months *(very low quality)*; between baseline and 12 months *(very low quality)*	
Singh 2012	Hip fracture	HIPFIT (High intensity progressive resistance training) versus standard care in hip fracture rehabilitation	Clinically important – favouring HIPFIT	None identified.	Table 66 and Table 67
			Clinically important – favouring standard care	None identified.	
			Not clinically important	Changes in mobility • Use of assistive devices: 12 months follow up *(low quality)* Changes in ADL • ALSAR: 12 months follow up *(low quality)* • NHANES: 12 months follow up *(moderate quality)* • FIM: 12 months follow up *(very low quality)* • Katz ADL: 12 months follow up *(very low quality)*	
Suwanpas	Hip	Physical	Clinically	Changes in mobility	Table 68

Study	Trauma	Comparison	Outcomes		GRADE Table
u 2014	fracture	activity enhancing programme (PEP) + standard care versus standard care only	important – favouring PEP + standard care	• International Physical Activity Questionnaire: 6 weeks (intervention completion) *(low quality)*	
			Clinically important – favouring standard care	None identified.	
			Not clinically important	None identified.	
Sylliaas 2011	Hip fracture	Twice per week exercise programme versus no exercise programme	Clinically important – favouring exercise programme	Changes in mobility • Sit-to-stand (sec): 3 months (intervention completion) *(moderate quality)* • 6MWT (m): 3 months (intervention completion) *(low quality)* • TUG (sec): 3 months (intervention completion) *(low quality)* • Step height (cm): 3 months (intervention completion) *(low quality)* Changes in ADL • Nottingham Extended ADL: 3 months (intervention completion) *(low quality)*	Table 69
			Clinically important – favouring no exercise programme	None identified.	
			Not clinically important	Changes in mobility • Maximum velocity (m/sec): 3 months (intervention completion) *(low quality)* Overall quality of life • SF-12 Physical component score: 3 months (intervention completion) *(moderate quality)* • SF-12 Mental component score: 3 months (intervention completion) *(low quality)*	
Sylliaas 2012	Hip fracture	Once per week exercise programme versus no exercise programme	Clinically important – favouring exercise programme	Changes in mobility • Sit-to-stand (sec): 3 months (intervention completion) *(moderate quality)* • 6MWT (m): 3 months (intervention completion) *(moderate quality)* • TUG (sec): 3 months	Table 70

Study	Trauma	Comparison	Outcomes		GRADE Table
				(intervention completion) *(moderate quality)* Overall quality of life • SF-12 Physical component score: 3 months (intervention completion) *(moderate quality)* • SF-12 Mental component score: 3 months (intervention completion) *(low quality)*	
			Clinically important – favouring no exercise programme	None identified.	
			Not clinically important	Changes in mobility • Maximum velocity (m/sec): 3 months (intervention completion) *(very low quality)* • Step height (cm): 3 months (intervention completion) *(moderate quality)* Changes in ADL • Nottingham Extended ADL: 3 months (intervention completion) *(moderate quality)*	
Xiao 2018	Traumatic hand injury	Computer-assisted rehabilitation therapy versus standard rehabilitation	Clinically important – favouring computer-assisted rehabilitation therapy	Upper limb function • Hand grip strength (kg): gain during intervention *(low quality)* • 2-point pinch strength (kg): 4 weeks (intervention completion) *(very low quality)*; gain during intervention *(low quality)* • Upper extremity function index: gain during intervention *(low quality)*	Table 71
			Clinically important – favouring standard rehabilitation	None identified.	
			Not clinically important	Upper limb function • Hand motion (degrees): 4 weeks (intervention completion) *(very low quality)*; gain during intervention *(low quality)* • Hand grip strength (kg): 4 weeks (intervention completion) *(very low quality)* • Upper extremity function index: 4 weeks (intervention completion) *(very low quality)*	
Yigiter 2002	Amputation	Proprioceptive	Clinically important –	Changes in mobility • Percentage weight bearing:	Table 72

Study	Trauma	Comparison	Outcomes		GRADE Table
		neuromuscular facilitation versus traditional prosthetic training	favouring proprioceptive neuromuscular facilitation	intervention completion *(low quality)*; gain during intervention *(very low quality)* • Stride length (cm): gain during intervention *(low quality)* • Sound side step length (cm): intervention completion *(very low quality)*; gain during intervention *(low quality)* • Comfortable gait cadence (steps/min): intervention completion *(very low quality)*; gain during intervention *(very low quality)* • Fast gait cadence (steps/min): intervention completion *(very low quality)*; gain during intervention *(low quality)* • Velocity (cm/sec): gain during intervention *(very low quality)*	
			Clinically important – favouring traditional prosthetic training	None identified.	
			Not clinically important	Changes in mobility • Stride length (cm): intervention completion *(very low quality)* • Amputated side step length (cm): intervention completion *(very low quality)*; gain during intervention *(very low quality)* • Velocity (cm/sec): intervention completion *(very low quality)*	
Yildirim 2016	SCI	Circuit reisitance training + standard rehabilitation versis standard rehabilitation only	Clinically important – favouring circuit resistance training + standard rehabilitation	Upper limb function • Total work/Body weight (J/kg), left side, 60/sec, flexion *(moderate quality)* • Total work/Body weight (J/kg), right side, 180/sec, flexion *(low quality)* • Total work/Body weight (J/kg), right side, 60/sec, flexion *(low quality)* • Peak torque/Body weight (Nm/kg), left side, 60/sec, flexion *(low quality)* • Peak torque/Body weight (Nm/kg), right side, 180/sec, flexion *(moderate quality)*	Table 73
			Clinically important – favouring standard	None identified.	

Study	Trauma	Comparison	Outcomes		GRADE Table
			rehabilitation only		
			Not clinically important	Upper limb functioning • Total work/Body weight (J/kg), left side, 180/sec, extension *(very low quality)* • Total work/Body weight (J/kg), left side, 180/sec, flexion *(low quality)* • Total work/Body weight (J/kg), left side, 60/sec, extension *(low quality)* • Total work/Body weight (J/kg), right side, 180/sec, extension *(very low quality)* • Total work/Body weight (J/kg), right side, 60/sec, extension *(low quality)* • Peak torque/Body weight (Nm/kg), left side, 180/sec, extension *(very low quality)* • Peak torque/Body weight (Nm/kg), left side, 180/sec, flexion *(low quality)* • Peak torque/Body weight (Nm/kg), left side, 60/sec, extension *(low quality)* • Peak torque/Body weight (Nm/kg), right side, 180/sec, extension *(very low quality)* • Peak torque/Body weight (Nm/kg), right side, 60/sec, extension *(very low quality)* • Peak torque/Body weight (Nm/kg), right side, 60/sec, flexion *(low quality)* Overall quality of life • QoL scale: 6 weeks (intervention completion) (low quality) Changes in ADL • Total FIM score: 6 weeks (intervention completion) (low quality)	

2MWT: 2 minute walk test; 6MWT: 6 minute walk test; 10MWT: 10 minute walk test; ADL: Activities of daily living; ALSAR: Assessment of Living Skills and Resources; AOFAS: American Orthopaedic Foot and Ankle score; ASIA: American Spinal Injury Association; BSHQ: Burn Specific Health Questionnaire; CAS: Cumulative ambulation score; CHART: Craig Handicap Assessment and Reporting Technique; cm: centimetre; COPM: Canadian Occupational Performance Measure; DASH: Disabilities of the Arm, Shoulder and Hand; EQ-5D: EuroQol, 5 domains; FIM: Functional Independence Measure; FIM+FAM: Functional Independence Measure + Functional Assessment Measure; FIM-L: Functional Independence Measure locomotion sub-score; FIM-M: Functional Independence Measure motor sub-score; kg: kilogram; LEMS: Lower Extremity Motor scale; m: metre; MHOQ: Michigan Hand Outcomes Questionnaire; min: minutes; mDLQI: Modified Dermatology Life Quality Index; NHANES: National Health and Nutrition Examination Survey; nm; Newton-metres; POMA: Performance Orientated Mobility Assessment; PPME: Physical Performance and Mobility Examination; SAM: Step Activity Measure; SBBB: Short Physical Performance Battery; sec: Seconds; SF-12: 12 item short form survey; SF-36: 36-item short form survey; TUG: Timed Up and Go test; UMN: Upper motor neurone; VAS: Visual analogue score; WHOQOL-Bref-Tr: WHO abbreviated Quality of life scale [Turkish language]; WISCI: Walking Index in

Spinal Cord Injury; WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index; YPAS-E: Yale Physical Activity Survey exercise sub-score
** This outcome measure was reported as statistically significant according to the analysis performed by the authors. Clinical importance was not mentioned.*
‡ It should be noted that, in contrast to our findings, the analysis performed by the study authors concluded that this result was significantly higher (better) in the intervention group (p=0.03, Wald statistics)
§ The authors of this paper have interpreted higher DASH and VAS scores as better function and better pain respectively. However, when used as validated, both measurement tools report that lower values are better. This is how we have interpreted the results, meaning our conclusions differ from that of the authors.

Expert witness evidence

Due to the lack of evidence identified throughout the guideline on intensive rehabilitation, the committee invited an expert witness from the military. This expert winess gave evidence regarding how intensive rehabilitation is provided at the Defence and National Rehabilitation Centre (DMRC).

The DMRC is a military tertiary rehabilitation facility, receiving patients via 3 different pathways:

1. Military casualties are initially transferred to the trauma centre at Queen Elizabeth Hospital, Birmingham before being transferred to the DMRC
2. Civilians with traumatic injuries and neurological conditions (for example, stroke or multiple sclerosis) are referred directly from the NHS
3. Civilians with musculoskeletal conditions are referred through primary care rehabilitation facility or regional rehabilitation unit via the military primary care chain

Military personnel can be admitted from all over the world, making once a week or occasional inputs unrealistic. An intensive model of care delivery is essential at DMRC. It operates 2 streams:

Residential stream: The residential programme consists of injuries to lower limbs, spines and upper quadrant injury, and specialist disorders (for example, cardiac and post viral). Rehabilitation is provided in 3 week blocks. Pre-COVID-19 this was fully residential. Since COVID-19 restrictions, it consists of 1 week remote education sessions followed by a 2 week residential element. This can be repeated as needed but rarely goes beyond 2 admissions. The education sessions are standardised throughout the DMRC and are on a variety of topics.

Inpatient stream: The inpatient programme consists of neurorehabilitation and complex trauma patients. The neurorehabilitation programme is similar to the NHS programme, with 4-6 weeks' admissions. Periods back home are also incorporated into this, to allow for tissue adaptation and recovery. They also allow patients to gain 'real world' experiences, helping to identify rehabilitation goals going forward. Towards the end of the programme, there are often significant gaps between treatment which can be used to incorporate a graduated return to work programmes.

Rehabilitation and intensity

Rehabilitation is provided through a DMRC consultant-led multidisciplinary team. The core clinical team consist of specialist surgeons, rehabilitation and subject matter expert (SME) consultants, physiotherapists, occupational therapists, exercise rehabilitation instructors and social workers. Additional support is provided by pain management teams, mental health practitioners, prosthetic specialists, orthotic specialists (including podiatry), vocational staff, speech and language therapists, dieticians and social workers. This multidisciplinary coordination allows for complex case discussions and coordinated intervention planning. By acting as the team lead, the DMRC consultants can co-ordinate various inputs – a key role to the success of the patient pathway.

For rehabilitation to be effective it should comply to the same rules of drug prescription. This is not static. Rehabilitation is most effective when the right input is prescribed at the right time, at the right frequency and 'dose' for the right length of time. This is different for each individual, and therefore intensive rehabilitation will differ between people. The DMRC uses patient goals to define input duration. While it is not open ended, there isn't a standard time limit. Patients can stay longer than the 6 weeks if healthcare professionals feel it is needed, and this flexibility can increase the likelihood of a successful return to work. Evidence shows that intensive rehabilitation can benefit most people (except for post-viral patients or patients with chronic conditions), and there is no evidence of harm in people after traumatic injury.

Differences between military model and NHS

The DMRC is funded as an occupational healthcare system, with the aim of ensuring individuals return to full fitness and can return to work in a role within the military. If that is not possible, the next goal is to ensure patients are rehabilitated to their maximum potential, minimising the impact on quality of life and future career prospects outside of the military. Therefore, it is resourced with those goals in mind. The applicability to the NHS is decreased when factoring in the amount of trained healthcare professionals and concentrated resources needed to provide a holistic approach. Discharge from NHS rehabilitation services tends to be resource driven and time dependent, rather than outcome-based as at the DMRC.

Another difference is the population being served. DMRC tends to treat a younger population with less comorbidities. Military professionals are used to training in a group environment and generally thrive on a group rehabilitation approach. Military patients are still being paid while receiving rehabilitation and their attendance is seen as part of their job. Additionally, they are actively encouraged by their employer to participate as fully as possible. Finally, it should be considered whether civilian patients will be willing to spend a prolonged period away from home to receive intensive residential rehabilitation.

Keys to success

There are 6 areas that are the 'keys to success' in delivering rehabilitation:

1. Coordinated tertiary level care delivery with all relevant specialists;
2. A care model delivery which is matched to the circumstances of the patient population;
3. Timing and nature of rehabilitation and treatment that is matched to tissue pathology;
4. A holistic approach to rehabilitation to maximise success (i.e. not just exercise based or a single disease-specific input);
5. Real world goal identification accompanied by periodic reviews;
6. Coordinating with occupational health elements to maximise return to work rates.

Clinical evidence: Children and young people

Included studies

Three studies were included for this review, all RCTs in children with traumatic burn injuries (Cucuzzo 2001, Ebid 2014 and Ebid 2017). Two of these studies investigated the effect of strengthening exercises on rehabilitation in paediatric burn patients: 1 study compared an inpatient exercise programme with outpatient therapy (Cucuzzo 2001) while the other study compared home exercise plus isokinetic training with home exercise only (Ebid 2014). The final study investigated the effect of Vitamin D supplementation plus isokinetic training plus standard care compared with a placebo supplement plus isokinetic training plus standard care in paediatric burn patients (Ebid 2017).

The included studies are summarised in Table 5.

See the literature search strategy in appendix B and study selection flow chart in appendix C.

Excluded studies

Studies not included in this review are listed, and reasons for their exclusion are provided in appendix K.

Summary of studies included in the evidence review

Summaries of the studies that were included in this review are presented in Table 3.

Table 5: Summary of included studies

Study	Population	Intervention[a]	Control[a]	Outcomes
Cucuzzo 2001 RCT USA	N = 21 Burn injury Age in years [Mean (SD)]: • Inpatient exercise = 11.9 (1.2) • Outpatient therapy = 9.2 (1.4) Gender (M/F): • Total (N) = 8/3 TBSA: • Inpatient exercise (%) = 62.0 (4.6) • Outpatient therapy (%) = 57.1 (4.2)	Inpatient exercise 12-week comprehensive rehabilitation and wellness programme conducted at hospital at 3 sessions per week (totalling 36 sessions).	Outpatient therapy Participants referred to outpatient therapy centres near their home, focusing on the relief of scar contractures and wound care. No quantifiable exercise component.	**Critical** • Changes in mobility (at 3 months) **Important** • None
Ebid 2014 RCT Saudi Arabia	N = 37 Burn injury Age in years [Mean (SD)]: • Home exercise + isokinetic training = 13.46 (1.18) • Home exercise only = 13.6 (1.12) Gender (M/F): • Home exercise + isokinetic training (N) = 10/6 • Home exercise only (N) = 11/6 TBSA [mean (SD)]: • Home exercise + isokinetic training	Home exercise + isokinetic training Routine home-based physical therapy programme + 12-week isokinetic training programme using Biodex system at 3 sessions per week (totalling 36 sessions).	Home exercise only Routine home-based physical therapy programme.	**Critical** • Changes in mobility (at 12 weeks) **Important** • None

Study	Population	Intervention[a]	Control[a]	Outcomes
	(%) = 42.06 (3.08) • Home exercise only (%) = 42.4 (3.13)			
Ebid 2017 RCT Saudi Arabia	N = 32 Burn injury Age in years [Mean (SD)]: • Vitamin D = 13.80 (1.47) • Isokinetic training = 13.11 (1.45) Gender (M/F): • Vitamin D (N) = 10/7 • Isokinetic training (N) = 11/6 TBSA [mean (SD)]: • Vitamin D (%) = 24 (3.1) • Isokinetic training (%) = 26 (2.8)	<u>Vitamin D + isokinetic training + standard care</u> Standard care + isokinetic training as described in control group + oral 1000 IU Vitamin D3 per day.	<u>Placebo + isokinetic training + standard care</u> Routine physical therapy programme + 12-week Isokinetic training programme using Biodex system at 3 sessions per week. Oral placebo pill given once per day in place of Vitamin D3.	**Critical** • Changes in mobility (at 12 weeks) **Important** • None

F: Female; IU: International units; M: Male; N: Number; RCT: Randomised controlled trial; SD: Standard deviation; TBSA: Total burn surface area
(a) For full details about the intervention/comparison, please see the evidence tables in Appendix D

See the full evidence tables in appendix D. No meta-analysis was conducted (and so there are no forest plots in appendix E).

Results and quality assessment of clinical outcomes included in the evidence review

Summary of the evidence

No meta-analyses were performed as the interventions or outcomes were either not sufficiently similar to allow them to be combined or they were not reported by more than one study.

Of the pre-defined outcomes, evidence was only found for changes in mobility. No evidence was found for the following: patient and families and carers' acceptability; upper limb function; return to nursery, education, training or work; pain; overall quality of life; and changes in activity of daily living.

No evidence was found regarding the following pre-defined interventions:

- Exercise class, reconditioning, cardiovascular, fitness training
- Splinting and/or orthotics
- Gait re-education
- Early weight bearing to mobilize
- Manual therapy
- Hydrotherapy
- Scar, swelling and oedema management

- Anti-gravity treadmill training
- Play therapy

See Table 6 for a summary of the results of the studies identified in the children and young people population for this review. For full details (including effect estimates), refer to the relevant GRADE tables in appendix F.

Table 6: Summary of results

Study	Trauma	Comparison	Outcomes		GRADE table
Cucuzzo 2001	Burn injury	Inpatient exercise versus outpatient therapy	Clinically important – favouring inpatient exercise	Changes in mobility • Change in distance walked (m): 3 months (intervention completion) *(moderate quality)*	Table 74
			Clinically important – favouring outpatient therapy	None identified.	
			Not clinically important	None identified.	
Ebid 2014		Home exercise + isokinetic training versus home exercise only	Clinically important – favouring home exercise + isokinetic training	Change in mobility • Stride length (cm): 12 weeks (intervention completion) *(moderate quality)* • Step length (cm): 12 weeks (intervention completion) *(moderate quality)* • Velocity (cm/sec): 12 weeks (intervention completion) *(moderate quality)* • Cadence (step/min): 12 weeks (intervention completion) *(moderate quality)*	Table 75
			Clinically important – favouring home exercise only	None identified.	
			Not clinically important	None identified.	
Ebid 2017		Vitamin D + isokinetic training + standard care versus placebo + isokinetic training + standard care	Clinically important – favouring Vitamin D + isokinetic training + standard care	Change in mobility • Stride length (cm): 12 weeks (intervention completion) *(moderate quality)* • Step length (cm): 12 weeks (intervention completion) *(moderate quality)* • Velocity (cm/sec): 12 weeks (intervention completion) *(moderate quality)* • Cadence (step/min): 12 weeks (intervention completion) *(moderate quality)*	Table 76

Study	Trauma	Comparison	Outcomes		GRADE table
			Clinically important – favouring placebo + isokinetic training + standard care	None identified.	
			Not clinically important	None identified.	

cm: centimetre; m: metre; min: minute; sec: second

Economic evidence

Included studies

A systematic review of the economic literature was conducted but no economic studies were identified which were applicable to this review question. A single economic search was undertaken for adult, and children and young people reviews. Please see the study selection flow chart in appendix G.

Excluded studies

No studies were identified which were applicable to this review question.

Summary of studies included in the economic evidence review

No economic evidence was identified which was applicable to this review question.

Economic model

Economic modelling

A simple exploratory decision-analytical model was developed to assess intensive rehabilitation's relative cost-effectiveness for adults with complex rehabilitation needs. The rationale for economic modelling, the methodology adopted, the results and the conclusions from this economic analysis are described in Appendix J. This section provides a summary of the methods employed and the results of the economic analysis.

Overview of methods

A decision-analytic model in the form of a simple decision-tree was constructed to evaluate intensive rehabilitation's relative cost-effectiveness over 3 years. The guideline systematic literature review did not identify relevant clinical data. However, the committee explained that intensive rehabilitation would be administered over a shorter duration, and any benefits would start accruing quicker. The economic analysis attempted to quantify this.

The committee explained that an intensive rehabilitation package would comprise a mixture of services, e.g. physiotherapy, occupation therapy, psychological support, orthotics, group exercise classes, access to a gym for independent exercise, and access to facilities to practise activities of daily living. The committee provided costings for a few intensive rehabilitation packages, and these examples were used as a basis for the modelling. The analysis compared an outpatient and an intensive inpatient rehabilitation programme delivered in addition to standard care over 3 weeks with standard care rehabilitation

delivered over 12 months. The study population comprised adults with a complex traumatic injury.

The outcome was the number of quality-adjusted life-years (QALYs) gained (i.e. due to benefits accruing quicker following an intensive rehabilitation). The perspective was that of NHS and PSS. Due to the lack of suitable data, the analysis included only costs associated with providing intensive rehabilitation. The costings were based on the data provided by the committee. Due to an exploratory nature of the analysis, only a deterministic analysis was undertaken, where data were analysed as point estimates and results were presented in the form of incremental cost-effectiveness ratios (ICERs) following the principles of incremental analysis.

As part of the sensitivity analyses, various assumptions were made about the effectiveness and timing of intensive rehabilitation, health-related quality of life scores, and relevance of carer costs.

Findings of the economic analysis

The economic analysis results indicated that intensive rehabilitation could be cost-effective (i.e. result in an incremental cost-effectiveness ratio of <£20,000 per additional QALY gained), mainly if it was delivered early in an individual's rehabilitation journey and an outpatient setting.

Strengths and limitations

The economic analysis estimated the potential cost-effectiveness of intensive rehabilitation. There was no effectiveness data, and this was based on the committee expert opinion. Health-related quality of life scores was from one small study and may not capture changes observed following intensive rehabilitation. However, a sensitivity analysis was undertaken where the analysis used different health-related quality of life scores. The costings were based on a specialist intensive musculoskeletal rehabilitation service and police intensive physical rehabilitation service. It is unclear how generalizable these services are to practice across trauma units. Nevertheless, it indicates the potential cost-effectiveness of such an approach to rehabilitating people with a complex traumatic injury.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

When selecting the critical and important outcomes to examine, the committee decided to highlight outcomes that are sufficiently generalisable to be applicable to the whole population with complex rehabilitation needs after trauma, which is a large and heterogeneous population to cover.

As such, acceptability of intervention, changes in mobility and upper limb function were prioritised as the critical outcomes to investigate. Changes in mobility and upper limb function were included as the committee considered that one of the main rehabilitation aims of people after traumatic injury would be to regain their previous level of physical functioning. Due to their inability to self-report and the lack of validated measurement tools available, 2 early childhood-specific outcomes (the Alberta Infant Motor Scale and Bayley Assessment scores) were also included as critical outcomes for babies with complex rehabilitation needs following trauma. Acceptability was also included as a critical outcome as how acceptable people find the rehabilitation intervention is likely to have a large impact in their compliance

Return to education/work, changes in activities of daily living, pain and quality of life were considered to be important outcomes. The committee selected return to education or work as

well as changes in activity of daily living as important outcomes as these measure the level of functional independence of the patient after traumatic injury. Overall quality of life was selected as an important outcome because, although it is an indirect measure of rehabilitation effectivenesss, the committee discussed that the desire to return to previous quality of life is a common goal for people undergoing rehabilitation after traumatic injury. Pain was also selected as an important outcome as it plays a pivotal role in patients' compliance with rehabilitation programmes and critically affects quality of life and the ability to undertake activities of daily living.

The quality of the evidence

The quality of each RCT was appraised using the Cochrane Risk of Bias tool for randomised studies Version 2. The quality of each non-randomised controlled study was appraised using Risk of Bias In Non-randomised Studies of Interventions (ROBINS-I).

The overall quality of evidence was assessed using GRADE methodology and was judged as being high to very low quality. The majority of evidence for the adult population was of very low or low quality. However, all of the evidence identified in children and young people was moderate quality. The main reason for downgrading the evidence was due to concerns about the risk of bias of included studies (for example, lack of blinding or poor reporting of randomisation procedures), imprecision in the effect estimates, and indirectness of included studies (for example, multi-component rehabilitation programmes that only include elements of protocol interventions). For further details, see Table 4 and Table 6 in the summary of evidence section.

Benefits and harms

Initial assessment and early interventions for people with complex rehabilitation needs

No evidence was identified for very early, acute physical rehabilitation interventions after traumatic injury (for example, in the immediate days following trauma). Therefore, all recommendations in this section were made by the committee using their experience and expertise.

The committee discussed that physical function assessment and treatment at the early, acute stage after traumatic injury should be undertaken because gaps in care during this time period can lead to complications in later rehabilitation stages.

The committee discussed that the acute treatment stage of traumatic injury includes input from many different healthcare disciplines, in order to ensure that all of a person's injuries and medical needs are treated. However, they highlighted that it was important to minimise rehabilitation delays as much as possible. This was supported by evidence from the inpatient coordination review (D.1) that showed the minimising delays led to better rehabilitation outcomes. Rehabilitation should be a high priority and begin as soon as patients are assessed as being ready and able to engage with decisions about their rehabilitation care because in the experience of the committee, this is associated with better outcomes than starting rehabilitation later because it prevents further deconditioning and loss of function. For people who lack capacity to engage in rehabilitation decision-making, the committee signposted the NICE guideline on decision making and mental capacity which can be used as a guide to ensure that people are supported to make decisions for themselves when they have the mental capacity to do so or, where they lack the mental capacity to make specific decisions, they remain at the centre of the decision-making process.

Assessment of physical functioning and injuries should be carried out as soon as possible after traumatic injury, to determine what therapies would be best suited to a person's rehabilitation. This will ensure that physical functioning is maintained as much as possible because muscle mass and physical fitness can quickly decline after traumatic injury, and it

will also prevent complications further along the rehabilitation pathway, by for example, using chest physiotherapy to treat weak respiratory muscles. To facilitate engagement in rehabilitation, it is also important to determine if people need to be provided with equipment to encourage movement (for example, crutches or wheelchairs) or protect the injury during rehabilitation (for example, splints or orthoses).

The committee discussed assessment for nutritional support after traumatic injury. Nutrition after traumatic injury is an important area for several reasons. In general, people will require an increased caloric intake to promote wound healing and for people to participate fully in rehabilitation exercises. However, many people find themselves unwilling to eat due to parallel clinical reasons (for example, loss of appetite, constipation, past history of anorexia). Conversely, obesity is a common hindrance for engagement with rehabilitation exercises and weight-loss might be appropriate for overweight individuals. The committee recommended healthcare professionals obtain a full dietary history and a person's risk of malnutrition (for example, Malnutrition Universal Screening Tool (MUST) for adults or Screening Tool for the Assessment of Malnutrition in Paediatrics (STAMP) score in children and young people under 16 years old), in order to identify possible complications during rehabilitation. They highlighted that it is also important to assess swallowing function during the initial assessment, as this will determine the safest way to deliver nutrition and hydration. Healthcare professionals should continue to monitor a person's nutritional intake and weight, making changes to nutritional support and rehabilitation plans as necessary. If nutrition and hydration complications persist, a referral to a specialist dietician may be needed for further advice and treatment. Further information can be found in recommendation 1.11.45 and the NICE guideline on nutrition support for adults.

Multidisciplinary team rehabilitation needs assessment

The committee used their experience and expertise to agree that information on a person's pre-injury activities should be gathered as soon as people are able to engage in the rehabilitation needs assessment. This should include usual activities of daily living (including mobility and other physical activities), hobbies and interests. This is to help the rehabilitation multi-disciplinary team to determine an individual's pre-injury level of physical fitness and functioning, which will then be used to inform the rehabilitation plan. This recommendation was strengthened using evidence from the accessing rehabilitation services review (D.3).

The committee also discussed the negative impact of traumatic injury on sexual function (for example, decreased libido or pain). In their experience, this is often not adequately addressed by rehabilitation professionals, and the people undergoing rehabilitation may feel embarrassed to raise the matter themselves. If not treated, this can have a large impact on someone's quality of life. The committee therefore recommended that sexual functioning be included in assessment and review discussions. Specialist advice may need to be sought for certain issues (for example, cognitive-genital dissociation).

Assessing physical functioning

No evidence was identified for assessment of physical functioning. Therefore, all recommendations in this section were made by the committee using their experience and expertise.

When a person's physical functioning is assessed, it needs to be a comprehensive and multi-disciplinary assessment of both current and pre-injury levels so that healthcare professionals have a complete picture of how the injury has impacted a person's physical functioning, and thereby also an understanding of possible rehabilitation goals. A comprehensive neuromusculoskeletal assessment (including range of movement and mobility) also need to be performed as part of the physical needs assessment. The committee discussed that specialist assessment might be needed to determine appropriate splints and orthoses. Splints and orthoses can be used to protect injuries during the rehabilitation process.

However, the restricted mobility that they cause will also need to be factored into the rehabilitation plan, as certain rehabilitation exercises will no longer be possible. External fixation may also require specialist advice, as the position of external fixators can prevent standard splints fitting properly. Nerve injury and sensory loss should also be referred for specialist assessment due to the complexity of treatment and rehabilitation. The committee discussed that it is important to assess people for any factors or conditions that might affect their ability to participate in rehabilitation, as this will inform which rehabilitation exercises are most appropriate to include in their rehabilitation plan going forward and what adjustments might need to be made (for example, neurovestibular disorders or newly acquired vision or hearing loss). If there is a possibility of a person having neurovestibular disorders, they should be assessed for balance and coordination, as this might require further treatment. If indicated, people should be referred to specialist services. Further guidance can be found in the NICE guideline on hearing loss in adults. It should be noted that children's physical functioning will still be developing at the time of injury, and therefore previous development attainment should be ascertained (for example, continence skills).

General principles for rehabilitation programmes

The committee discussed an important part of the expert witness testimony relating to the keys to success noted for delivering effective rehabilitation. In their experience, all of the 6 aspects were relevant and they used their expertise and evidence from the rehabilitation support and needs evidence review (D.4) to expand and modify these to suit the rehabilitation patients within the NHS. Using the 'holistic approach' bullet point, they agreed that rehabilitation should be as holistic as possible to receive the best result. Combining this with the co-ordinated tertiary level care delivery with all relevant specialists' aspect, the committee recommended that the best way of achieving this is employing a multidisciplinary approach within a rehabilitation package. Rehabilitation programmes should also have access to a variety of specialist healthcare services. People undergoing rehabilitation may face multiple other complex issues alongside their rehabilitation, which may need referral to specialist services (for example, fertility after trauma). These specialised services will not be needed by all patients and do not need to be included in the core multidisciplinary team, but access should be provided. Another aspect of success that feeds into this is 'co-ordinated with occupational health elements to maximise return to work success'. The expert witness stressed that rehabilitation programmes should include 'real-world goal identification', focused on return to work outcomes and activities of daily life. The committee discussed the importance of rehabilitation goals in the rehabilitation plan and has made several recommendations on the subject (see setting rehabilitation goals to inform a rehabilitation plan). However, they agreed that it should be a consideration when designing a rehabilitation package. The committee discussed 'timing and nature of input matched to tissue pathology', expanding it to rehabilitation should be delivered at the right time with the right frequency, intensity and duration for the person. This also allows healthcare professionals flexibility to provide a rehabilitation programme best suited to their patient, rather than a prescriptive recommendation (for example, including a short and intensive rehabilitation component at a key time point rather than weekly sessions over a long period). Finally, although not included in the keys to success, the committee wished to highlight the importance of including educational materials in order to help prepare people for the process of rehabilitation. The expert witness described that, as part of the COVID-19 changes, the Defence Medical Rehabilitation Centre has recently switched to a partially-virtual rehabilitation delivery, with 1 week of their 3 week block now being remote learning using standardised learning materials. The committee discussed the testimony that this has not led to an impact on rehabilitation outcomes, and that this is supported by several qualitative themes in the coordination reviews.

Intensive rehabilitation

Evidence was searched for on the effectiveness of higher intensity rehabilitation programmes on rehabilitation outcomes after traumatic injury. Only 1 study was identified comparing different intensities of rehabilitation packages that was judged to be suitable for exploratory economic analysis. This RCT compared a balancing exercise programme with standard physiotherapy in patients with hip fractures. However, due to the fact that only a single study was identified, the specific needs of the hip fracture population and the older age of the included participants, this evidence was not considered sufficient to make recommendations on rehabilitation intensity. The committee therefore invited a military expert witness to give evidence on the provision of intensive rehabilitation after traumatic injury. They discussed this in combination with the exploratory economic analysis (see below). The committee agreed with the expert testimony that rehabilitation is most effective when the right input is prescribed at the right time, at the right frequency and 'dose' for the right length of time. This is different for each individual and will depend on a number of different factors in addition to their actual rehabilitation needs, including their physical, emotional and psychological state. Due to the potential resource impact and the fact that not everyone will benefit from intensive rehabilitation, the committee recommended for healthcare professionals to consider offering people an intensive rehabilitation programme. This should be offered to people where it is likely to have a significant impact on functioning (for example, people who would be more likely to return to work with intensive rehabilitation), at the most appropriate time for an individual. An example of 3 weeks was given to align with the exploratory economic analysis and the evidence provided by the expert witness. However, the committee agreed that this duration should be determined by individual patient goals.

The expert witness described 'keys to success' when delivering effective rehabilitation. The committee combined this testimony with their own experience and expertise to recommend several considerations when offering intensive rehabilitation programmes. Education and learning materials will help to prepare people for upcoming periods of intensive rehabilitation. The committee agreed with this, having made several other recommendations throughout the guideline emphasising communication and keeping people informed of their rehabilitation journey. Intensive rehabilitation may benefit from including rest days (for example, at the weekend), in order to allow people to recover and review progress. The committee agreed that rest days were important, but discussed that weekday only provision could force rehabilitation services to change their service provision, increasing waiting lists and delays in rehabilitation. They therefore recommended that weekend rest days be considered, as this tends to fit better with people's lifestyle. The committee highlighted the importance of communication throughout intensive rehabilitation, ensuring that people undergoing rehabilitation are well-informed of their rehabilitation and other healthcare professionals are kept up-to-date on rehabilitation progress and goals.

The committee discussed that, although they were able to use expert witness testimony and their own experience to recommend considering offering intensive rehabilitation, they were unable to issue definite recommendations due to a lack of quantitative evidence and potential resource implications. Therefore, they made a research recommendation in both the adult population and children and young people populations. By conducting research in this area, it is hoped that a more definitive NICE guidance on intensive rehabilitation can be issued in future updates of this guideline. The committee thought it was important to emphasise that research be carried out in both populations, as there may be differences in the long-term functional and economic outcomes between them.

Guided self-management rehabilitation programme

The expert witness described a recent development in their centre, where residential rehabilitation is now preceded by a 1 week online education programme. This allows people to prepare for periods of intensive rehabilitation, giving them time to identify any further information they might want. Additionally, it also means that the residential portion has been

shortened by a week, which means people have to spend less time away from home and it is less costly while the same level of input is still maintained. This has not been in effect long enough for the expert witness to present data but initial experiences have been positive. The committee discussed that this evidence is supported by evidence in the psychological interventions review (B.3), as well as qualitative themes from the coordination reviews (D.1, D.2, D.3 and D.4) such as flexibility, delivering rehabilitation at home and technology. The committee discussed the benefits of including a self-managed component to rehabilitation programmes for increasing flexibility of rehabilitation around daily life, but were concerned that these may be used to replace face-to-face sessions. Additionally, not everyone will be comfortable with a self-managed rehabilitation programme. Therefore, the committee recommended considering using a self-management programme to supplement supervised sessions and regular reviews with rehabilitation healthcare professionals and practitioners. These review appointments with rehabilitation services will allow progress to be monitored by healthcare professionals, for people undergoing rehabilitation to ask any questions that they have (for example, how to correctly perform a certain exercise), and for any changes to be made to the rehabilitation programme if needed. The committee also included a research recommendation to investigate the effectiveness of a self-management intervention for rehabilitation after traumatic injury in order for stronger recommendations to be made in future updates (included in evidence report B.3). The committee discussed the education aspect of a self-managed rehabilitation programme that was mentioned in the expert witness testimony. There were concerns about the unknown resource impact of providing online education, as no economic evidence was identified for this intervention. The committee agreed that this would be resource intensive at the start, in order to develop the materials, but that it should not continue after the initial stage. However, taking ito account this potential resource impact and lack of effectiveness evidence identified, the committee recommended rehabilitation services to consider providing online educational materials alongside the guided self-management rehabilitation, to support implementation. The committee further highlighted that not everyone will have access to the internet (and therefore these education materials), but that this should not affect their ability to access these materials. In these cases, healthcare professionals should explore other methods of providing the same education. The committee used their experience and expertise to recommend a range of topics that people undergoing rehabilitation after traumatic injury commonly ask about where standardised information and educational materials can be useful.

However, the committee highlighted that children, young people and vulnerable adults may need additional support from healthcare professionals to develop (for example, advantages and disadvantages of certain options may need to be explained multiple times to ensure they are understood) and deliver (for example, a larger amount of monitoring appointments included in the delivery plan) an appropriate self-management programme. The additional time needed for these people should be factored in to the rehabilitation plan.

Monitoring progress

No evidence was identified for the most effective methods of monitoring a person's progress after starting rehabilitation. Therefore, the following recommendation was made by the committee using their experience and expertise.

The committee discussed and agreed that monitoring a person's progress throughout rehabilitation was very important, and that this should be standardised by using a validated instrument. This allows a clinician to chart progress and highlight possible rehabilitation barriers, using a stable measurement throughout to prevent artificial variation. Therefore, they recommended that patient- and clinician- reported outcomes be used to monitor a person's rehabilitation progress. They discussed that different outcome measurements are suitable for different populations, injuries and rehabilitation goals and therefore did not recommend specific tools for healthcare professionals to use. Paediatric experts on the committee recommended using a measurement tool containing both child and parent reported sections, as children might not be able to answer all questions and parents may

have to supplement some areas. Other measures including relatives and/or carers should be used if more appropriate to children and young people's circumstances.

Commissioning and organisation

The expert witness detailed their current residential intensive rehabilitation programme, which they have been running for a number of years with good rehabilitation outcomes. The committee discussed the caveats that the expert witness had highlighted regarding offering such an intensive rehabilitation programme to the whole population. Specifically, they were concerned about the applicability of offering intensive rehabilitation to the general population as the Defence Medical Rehabilitation Centre tends to treat young, fit and otherwise healthy patients. They also discussed the resource impact of recommending a programme that is so different from current practice in the NHS. However, they were aware that, if targeted correctly, intensive rehabilitation can increase the effectiveness of rehabilitation and lead to better outcomes for some people. They therefore decided to recommend the possibility of commissioning intensive rehabilitation programmes to enhance existing rehabilitation pathways, rather than commissioning them for everyone with rehabilitation needs after traumatic injury. This allows commissioners the flexibility to consider their local population and the appropriateness of offering intensive rehabilitation.

The expert witness discussed the beneficial impact of group rehabilitation sessions on delivering effective rehabilitation at a reduced cost. In their experience, group rehabilitation sessions provide motivation and peer support for participants, increasing engagement in the rehabilitation process. Based on their own knowledge and experience, the committee agreed with both of these opinions. However, they also discussed that this beneficial effect is not seen by everyone. Some patients might compare their progress with their peers and become discouraged if they are not achieving what they feel they should be. The committee discussed the military background of the expert witness, and the fact that people in that vocation are used to group exercises, which other people might not be. The committee recommended that this style of rehabilitation delivery be considered, but that it might not be suitable for every person undergoing rehabilitation after traumatic injury.

Physical rehabilitation early interventions and principles

The committee discussed the importance of highlighting principles of early physical rehabilitation, which should be considered for all people after traumatic injury. There was no evidence identified, and so the committee used their own experience and expertise to make the recommendations. The committee agreed that individualised rehabilitation exercises should begin as soon as possible after traumatic injury. People can lose function very quickly when not weight-bearing, and early commencement of individualised exercises will help to prevent this, and prepare people for future rehabilitation. Pain is often a very big barrier to starting and continuing rehabilitation. The committee discussed the importance of providing people with adequate pain medication to complete rehabilitation exercises comfortably. They also highlighted that certain groups of people will need to be proactively supported to take analgesia as appropriate (for example, people with cognitive impairment may not understand the instruction or some people could be worried about the addictive properties of certain medications). Pain assessment scales should also be chosen that are appropriate to the individual and their ability to report pain reliably (for example, developmental age or presence of communication difficulties).

Healthcare professionals should use their own expertise and experience to determine the most effective intensity of rehabilitation for a person after traumatic injury (for example, otherwise healthy and physically fit people may benefit from a higher frequency of rehabilitation sessions per week). This should not be static, and may change throughout an individual's rehabilitation journey.

Maintaining a person's range of movement is vital for patient able to achieve functional tasks (for example, walking or climbing stairs). Range of movement can quickly decrease after traumatic injury (for example, due to pain or restricted weight-bearing), leading to soft tissue contraction. In turn, this can cause physical impairment which will prolong rehabilitation. Splints and orthoses can be used both to maintain range of movement and to protect an injured area from further damage during rehabilitation and allowing optimal healing. For these reasons, the committee recommended providing splints and orthoses to maintain range of movement after traumatic injury (for example, ankle-foot orthosis in nerve injuries affecting muscles required for ankle dorsiflexion) and protect injuries (for example, knee braces).

The committee discussed that poorly managed low blood pressure can lead to further injury, and possible delays in rehabilitation. Therefore, the committee agreed that healthcare professionals need to monitor people for hypotensive symptoms when starting rehabilitation. Prophylactic treatment can also be used to minimise adverse effects of low blood pressure (for example, thromboembolic stockings, hydration, medication review).

Traumatic injury can greatly affect voice quality, speech intelligibility and swallowing difficulties, either as a direct result of injuries (for example, facial trauma or loss of dentition) or healthcare interventions (for example, intubation). In order to ensure people receive the most effective treatment and rehabilitation (both exercises and communication), the committee recommended that early referral to appropriate healthcare professionals is considered (for example, maxillofacial surgeons for facial trauma or speech or ear, nose and throat services for voice problems caused by intubation).

The committee discussed the importance of individuals retaining as much independence as possible when receiving rehabilitation, especially as inpatients. When people are admitted after traumatic injury, most of their everyday tasks are being done for them by healthcare staff. However, many may be able to still complete some activities of daily living if they are given the opportunity. Occupational therapists would be able to help with promoting independence while an inpatient, so the committee recommended referral if appropriate.

Early weight-bearing

The review found 4 studies investigating early weight-bearing in rehabilitation after traumatic injury. One study examined early weight-bearing with ambulation in unstable ankle fractures, and the other 3 examined early weight-bearing after hip fracture. The committee discussed the evidence, noting the mixture of outcome measures reporting a clinically important difference favouring early weight-bearing with the outcome measures reporting no clinically important difference. They noted that the quality of evidence was all low or very low, and was only presented for 2 trauma populations (people with unstable ankle fractures and people with hip fractures). Additionally, 1 of the interventions (comprehensive geriatric care) was a multi-component programme which only included early weight-bearing as a component. Because of this, the committee were not convinced that the results were generalizable to the whole trauma population and mostly did not use the evidence to make recommendations. They decided to make general recommendations substantially informed by their experience and expertise, but guided by the evidence if available. This has been discussed where appropriate. They highlighted that differences between people and injuries make it difficult to issue blanket recommendations.

Low to very low quality evidence of at least 1 clinically important difference in mobility measurements between early weight-bearing versus delayed weight-bearing groups was reported by 3 out of 4 studies. In the committee's experience and in line with current practice, weight-bearing should be encouraged as soon as possible for patients, in order to encourage mobility and maintain postural reflexes, muscle mass, strength and function. The committee also agreed that a targeted weight-bearing exercise programme should be started for people with lower limb injuries, in order to not only improve function, but also with the aim to

progress the person's ability to perform weight-bearing tasks such as mobility, ability to move from sitting to standing, and ability to lateral step. The committee agreed that all of these functions are necessary for people to be discharged home and for independence in their daily lives once back into the community.

The committee discussed the importance of communication between surgical and rehabilitation teams regarding weight-bearing status after surgery. Patients returning from surgery often have a non-weight-bearing order in place, but the rationale behind this is less often communicated (for example, non-weight-bearing for a limited period of time to aid immediate healing). This results in patients being left on bed rest for longer than they may need, preventing weight-bearing from commencing, which in turn may lead to less optimal outcomes.

Paediatric experts on the committee recommended that play therapy should be included as an important component of any weight-bearing interventions for children and young people. This can either be as part of a formal rehabilitation programme or incorporated into usual play activities if appropriate. The committee discussed the importance of allowing children and young people to retain aspects of normal life where possible.

Aerobic and strengthening exercises

Due to the similarities in the interventions identified for 'Exercise class, reconditioning, cardiovascular or fitness training' and 'Strengthening, balance, proprioception, vestibular rehabilitation or training', the committee discussed evidence from both these sections and developed recommendations together.

The review found 4 studies investigating aerobic exercise interventions in rehabilitation after traumatic injury, all in the adult population. One study examined aerobic exercise in spinal cord injury, and the other 3 examined aerobic exercise programmes after hip fracture. The committee were concerned about the low to very low quality of evidence, the mixture of results with some outcomes found to clinically importantly favour aerobic exercises while for other outcomes no differences were observed between the intervention groups, and the fact that only 2 trauma populations are covered (hip fracture and spinal cord injury).

The review found 19 studies investigating strengthening exercises. 17 of these were found in the adult population: 9 studies examined strengthening exercises after hip fracture; 1 study examined strengthening exercises after general trauma; 3 studies examined strengthening exercises after SCI; 1 study examined strengthening exercises after injurious falls; 2 studies examined strengthening exercises after amputation; and 1 study examined strengthening exercises after traumatic hand injury. The remaining 2 studies investigated strengthening exercises after burn injury in children and young people. Although there was a wide range of traumatic injuries covered, the committee raised concerns about the quality of the evidence as the majority was very low or low quality. The committee discussed the heterogeneity of the interventions presented, which made identifying effective components difficult. Additionally, the results showed a mixture of results, with some outcomes clinically importantly favouring strengthening programmes while other outcomes did not differ between the groups.

Because of the above considerations, the committee were not convinced that the results were generalizable to the whole trauma population and mostly did not use the evidence to make recommendations. They decided to make general recommendations substantially informed by their experience and expertise, but guided by the evidence if available. This has been discussed where appropriate. They highlighted that differences between people and injuries make it difficult to issue blanket recommendations.

The committee recommended starting a tailored exercise programme as soon as possible after traumatic injury, to prevent deconditioning, enable the person to meet the physical demands of their subsequent rehabilitation and their desired mobility needs for work,

education and leisure. The exercise programme will also improve respiratory function, and that way help prevent atelectasis which is a common complication of trauma and surgery. This programme should be started irrespective of age (for example, older people should not have aerobic exercise withheld due to perceived lack of physical fitness), rehabilitation stage or combination of injuries, although the committee acknowledged that each of these considerations will require modifications to an exercise programme (for example, people whose lower limb mobility has been affected after trauma can be offered upper body or seated exercises). The committee used their expertise and experience to suggest components of this exercise programme, including general aerobic fitness, strengthening exercises and balancing exercises. These exercises should be tailored to a person's rehabilitation and goals (and incorporated into usual play activities for children) in order to increase engagement and adherence to the programme and increase rehabilitation outcomes.

In order to ensure that aerobic and physical fitness is maintained throughout the rehabilitation pathway, a continued element of aerobic exercise should be considered when agreeing a rehabilitation plan because building and maintaining this fitness will help the person fully engage in other aspects of their rehabilitation and facilitate their return to pre-injury activities of daily living and function. However, as every traumatic injury and person in different, the committee did not specify any further. This should also be offered once a person has been discharged home. Participation and progress should be reviewed regularly in order to ensure that exercises are still appropriate to a person's circumstances and benefiting rehabilitation outcomes.

Gait training and re-education

The review found 5 studies (reported in 6 papers) investigating gait training and re-education in rehabilitation after traumatic injury. One study examined gait training and re-education after hip fracture, and the remaining 4 examined gait training and re-education after SCI. The committee discussed the evidence presented, noting the mixture of outcome measures reporting a clinically important difference favouring gait training or re-education with the outcome measures reporting no clinically important difference in 3 of the studies. This evidence was judged to be low to very low quality. One study investigated body-weight supported treadmill training versus over ground gait training and found clinically important differences favouring body-weight supported treadmill training in 7 measures of mobility after a 12-week intervention. However, this is not current practice and requires settings to have certain equipment which could have a resource impact. Due to the fact that these results were only supported by 1 small study in the spinal cord injury population, the committee did not think these results would be generalizable to the whole traumatic injury population and did not make recommendations based on this evidence.

Due to the low quality of evidence, the committee did not use the evidence to make recommendations. They decided to make general recommendations informed by their experience and expertise. They highlighted that differences between people and injuries make it difficult to issue blanket recommendations.

The committee highlighted the need to start physiotherapy as soon as possible after traumatic injury, even for people who are unable to weight-bear. Prolonged periods of immobility can rapidly decrease a person's physical fitness and muscle tone. An exercise programme for people who are unable to weight-bear will minimise these affects, as well as prepare them for gait training when possible. Once weight-bearing can begin, a gait re-education programme should be started in order to restore gait patterns and reduce the impacts of non-weight-bearing on physical functioning. Passive stretched and range of movement exercises should be included in this to maintain joint mobility.

Manual therapies and maintaining joint range of movement

The review identified 6 studies investigating manual therapies in rehabilitation after traumatic injury. One study examined massage after burn injury and 2 examined manual therapy after fracture (early muscle energy technique after elbow fracture and active controlled motion after unstable ankle fracture. The remaining 3 RCTs examined manual therapy interventions after SCI (1 investigated passive ankle movement, 1 investigated ankle stretching and the last investigated hamstring stretching). The committee discussed the evidence, noting the mixture of outcome measures reporting a clinically important difference favouring manual therapy with the outcome measures reporting no clinically important difference or even a clinically important difference favouring no manual therapy. Additionally, the majority of measures were very low to low quality. Because of this, the committee mostly did not use the evidence to make recommendations. They decided to make general recommendations substantially informed by their experience and expertise, but guided by the evidence if available. This has been discussed where appropriate. They highlighted that differences between people and injuries make it difficult to issue blanket recommendations.

The committee agreed on the importance of maintaining joint range of movement after traumatic injury, as prolonged periods of immobility can cause soft tissue contraction around joints, limiting movement. This will impact on a person's ability to perform both rehabilitation exercises and activities of daily living. To prevent this, the committee recommended using a programme of passive, active assisted or active range of movement exercises. The committee specified a range of exercises to be inclusive, regardless of a person's level of physical functioning, while still encouraging independence.

Controlled motion devices can also be used in people who are unable to engage in range of movement exercises independently, as they allow smaller graduation of independence. One RCT was identified investigating active controlled motion and physiotherapy versus physiotherapy alone in unstable ankle fracture. This study reported clinically importantly better mobility measures (5 out of 6 measured in the study) in the intervention group at 6 weeks follow up after intervention completion. Rates of return to work was also clinically importantly better in the intervention group at intervention completion. However, while ankle range of motion was clinically importantly better in the group receiving active controlled motion at intervention completion, this was not sustained at 6 weeks follow-up. The committee noted that, while controlled motion devices are present in most acute wards, they are not in all. Due to the poor quality evidence, the conflicting evidence of sustained benefits, and potential resource implications of rehabilitation settings having to procure these devices, the committee recommended that these devices should be considered but are not mandatory.

The committee discussed the evidence regarding stretching interventions. Two studies investigated the effectiveness of stretching on mobility in the SCI population (1 investigated ankle stretching and the other hamstring stretches). No clinically important differences was found between groups for changes in mobility and evidence was judged to be mainly low quality. However, the committee agreed that there is no evidence of harm or targeted stretching and it represents current practice in most patients. However, this might not be suitable for everyone or all types of injuries and so the committee recommended considering providing targeted stretching to also assist range of movement programmes.

Splinting and orthotics

The review found 5 studies investigating the use of splinting or orthotics in rehabilitation after traumatic injury. Two examined orthoses after thoracolumbar burst fracture without neurological deficit, 2 examined splinting and orthotics after burn injury. The remaining RCT investigated paraplegic gait orthosis and function training after SCI.

The committee discussed the conflicting evidence presented between the 2 studies investigating the use of thoracolumbosacral orthosis (TLSO) after thoracolumbar burst

fracture without neurological deficit. One study reported very low quality evidence of no clinically important difference in activities of daily living, quality of life or pain between people receiving TLSO and those receiving ambulation encouragement. However, the other study found high quality evidence of clinically important differences favouring TLSO in patient acceptability, changes in mobility, quality of life and pain. The committee disagreed with the results of this study, noting that the study participants were all young and otherwise healthy individuals. While TLSO can be beneficial to some people, geriatric specialists on the committee mentioned that there can be significant adverse effects in this population, leading to longer hospital stays and poorer rehabilitation outcomes. The committee therefore did not use this evidence to make recommendations, and highlighted that healthcare professionals should be aware of potential complications for certain populations. Due to the evidence contradicting the committee's experience and expertise so dramatically, the committee decided to make a research recommendation and to recommend that if spinal orthoses are used and adverse effects develop that affect rehabilitation performance, the surgical team should be consulted to see if any other treatment options are possible.

Two of the remaining studies reported very low to low quality evidence on upper limb function, patient acceptability, changes in activities of daily living, quality of life and pain in people receiving metacarpophalangeal orthosis and shoulder splints in the burn injury population,. With the exception of 2 measures of upper limb functioning, none of the outcomes showed any clinically important differences between groups. As burn injury treatment can be difficult to extrapolate evidence to other traumatic injury populations, the committee were not convinced that the results were generalizable to the whole trauma population and did not use the evidence to make recommendations.

The committee discussed the many benefits of using splints and orthoses to maintain range of movement around joints and to protect injured areas from further damage during rehabilitation. This was supported by evidence from the remaining RCT, which investigated paraplegic gait orthoses plus functional training in people with SCI. This study reported clinically important increased changes in ADL at 3 months follow-up, which was judged to be moderate quality evidence. The committee recommended providing splints and orthoses to maintain range of movement after traumatic injury (for example, ankle-foot orthosis in nerve injuries affecting muscles required for ankle dorsiflexion) and protect injuries (for example, knee braces). However, they are also associated with complications such as pressure sores and nerve injury. The committee recommended that splint usage should be gradually commenced and reviewed at least once a day (for example, during donning and doffing) to ensure that complications are not developing and that usage is still appropriate. The risk of splinting or orthoses causing skin damage is increased in people with reduced cutaneous sensation (because people cannot feel symptoms of skin damage) or in people who have recently had skin grafts or flaps (as these areas of skin are very fragile). Therefore, the committee recommended that skin condition is well monitored in these individuals and advice is sought from tissue viability service or plastic surgery specialists (depending on healthcare setting) if indicated. Due to the possible complications that accompany orthoses and splints, the committee also recommended that people receive education in how to wear them, when to wear them, and side effects that will require assistance from healthcare professionals. This information should also be given to families and carers if appropriate.

The committee agreed that specific examples of splints should be considered for certain injuries. Early loss of ankle range of movement is common in lower limb fractures and/or nerve injuries, due to muscle shortening if not managed with an exercise programme and appropriate orthosis (for example, dorsi-wedge in a moon boot or ankle-foot orthosis). This can lead to pain, physical impairment and prolonged rehabilitation. However, this might not be appropriate for everyone so the committee highlighted that this intervention should be considered but is not mandatory. People with external fixators for lower limb fractures are also at risk of rapid muscle shortening. However, due to the position of the external fixator, standard splints often do not fit and people may require specialised splinting instead. People with upper limb injuries often need hand and finger splinting to maintain range of movement.

However, due to the differences in hand shape and size between individuals, bespoke splints will need to be made for these to be effective. Hand injuries can be complex and may require a referral to hand therapy specialists.

Splints should be positioned with consideration given the impact on future functioning of joints and may need specialist input. An example that the committee highlighted was people with higher level cervical spinal injury, where wrist extension splinting may not be advisable. These people will find their fingers naturally curling up with time. In other types of spinal cord injury, splinting would be used to correct this but this would be at the expense of shortened tendons. People with mid-spinal incomplete SCI use these shortened tendons to their advantage later on in rehabilitation, to develop a tenodesis grasp (opening and closing hands by using wrist movements). This expands the amount of activities of daily living they can perform (for example, holding objects or operating self-propelled wheelchairs). If their hands were splinted early in recovery, this adaptation would be lost.

Management of swelling and oedema, and scars

The review identified 4 studies investigating the management of swelling and oedema or scar management after traumatic injury. One RCT investigated the use of compression for swelling after ankle fracture, and 2 RCTs examining laser therapy for scar management after burn injuries. The remaining RCT was a 4-arm trial investigating combinations of presure garment therapy, silicon gel sheeting and massage after burn injury

The committee discussed the evidence presented for swelling and oedema management after ankle fracture. No clinically important differences in patient acceptability, changes in mobility or pain were reported for either constant compression bandage or intermittent compression versus ice and elevation. The committee noted that the evidence was very low quality, only identified in 1 specific trauma population, and that the results disagreed with their own clinical experience and expertise. Because of this, the committee were not convinced that the results were generalizable to the whole trauma population and did not use the evidence to make recommendations. They decided to make general recommendations informed by their experience and expertise.

The committee discussed that swelling after any type of injury is very common. People should expect a certain level of swelling and oedema and they should be reassured that this is a normal response. However, the committee agreed that people should be educated in how to monitor their swelling, what symptoms to note and when to seek medical advice. This will allow for early detection of possible medical complications which, if left untreated, can affect rehabilitation progress. After trauma and surgery, patients are often sedentary for long period of time, which leads to a high risk of developing deep vein thrombosis (a life-threatening condition). The committee agreed that unexpected swelling should be investigated, and alternative causes be ruled out.

The committee recommended starting a programme of circulation exercises and elevation to both prevent and reduce swelling and oedema after traumatic injury. There is equipment available to do this even if people are in a sitting or lying position (for example, elevating leg rests for wheelchairs). Additionally, the committee recommended for healthcare professionals to consider using compression bandaging to prevent and reduce swelling and oedema. However, effective limb wrapping using compression bandages requires a certain level of training and should be done under specialist supervision (for example, hand therapy). If appropriate, a specialist may train a family member or carer to provide bandaging after people are discharged, with the specialist providing oversight and an ongoing review of the bandaging technique.

The committee discussed the evidence presented for scar management interventions for rehabilitation after traumatic injury. One study investigated the use of laser therapy versus a placebo laser treatment, reporting a clinically important better quality of life (moderate to low quality evidence) and decreased pain (low quality evidence) in adults receiving active laser

treatment compared to the placebo treatment. The other study investigating the use of laser therapy versus placebo laser treatment did not find a clinically important difference in pain measurements between groups (very low quality evidence). The committee discussed this conflicting evidence of effectiveness, noting that laser treatment is not current practice for scar management and that it would expensive for healthcare services to implement any recommendations in this area. The other study was a 4-arm trial, investigating combinations of pressure garment therapy, silicone gel sheeting and massage therapy versus massage therapy only in adults with burn injuries. The committee discussed that no clinically important differences in the only reported outcome (pain) were found between groups for the majority of time points, and that all the evidence was of very low quality evidence. The study also only investigated the interventions in 1 trauma population and, as noted, reported only 1 outcome of interest which was not a critical outcome.

The committee discussed that burn injury has a very different rehabilitation pathway compared to other traumatic injuries, and therefore they were not convinced that the results were generalizable to the whole trauma population. Because of this, the conflicting effectiveness evidence and potential resource impact, the committee did not use the evidence to make recommendations and made general recommendations informed by their experience and expertise.

The committee discussed the psychological impact of scarring on people after traumatic injury, which can lead to a poorer body image. The committee recommended desensitising people to their scarring in order to increase their acceptance of the injury and increase engagement in treatment (for example, being able to perform massage therapy on oneself). However, the committee highlighted that for some people this may not be enough and agreed that people should be referred to psychological services for additional treatment or support groups for peer support if scarring has a significant psychological impact on them.

Paediatric experts on the committee raised the issue of performing painful scar management techniques away from hospital beds, in order to keep this as a safe space. This is important for children and young people, as it allows them a secure area to rest and socialise, which is not associated with unpleasant sensations or memories.

The committee noted that unpleasant sensations (for example, pain and itchiness) in the area of wounds or skin injuries are normal after a traumatic injury, but recognised that people do not necessarily know is. They therefore recommended reassuring people that unpleasant sensations are normal for scars and skin injuries, and that they are not necessarily indicative of additional clinical problems. These may change throughout the recovery period (for example, increase in itchiness as wounds heal). General scar management information should be given to people (for example, keeping the wound out of direct sunlight for at least 1 year). This will prevent deterioration in skin integrity, maintain tissue mobility and increase wound healing. The committee also recommended that, once healthcare professionals have deemed that a scar has appropriately healed, a massage programme is started. This will help to desensitise the area further and maintain range of movement in the affected limb. Maintaining range of movement is important both for activities of daily living and performing rehabilitation exercises. Due to the complexity of scar management and treatment, general rehabilitation services often do not have the expertise or equipment to manage and treat people with problematic scars (for example, hypertrophic scars or contracture across the joint). In these cases, healthcare professionals should consider referral for further specialist advice and treatment.

Nutritional supplementation

There were 5 studies investigating the use of nutritional supplementation in rehabilitation after traumatic injury. Four investigated additional nutrition after hip fracture, with the remaining study investigating nutritional supplements after spinal cord injury. The majority of evidence was low to very low quality, and outcome measures reported were not clinically

important. The committee discussed that, while 2 of the studies did report clinically important changes in mobility, evidence was of very low quality and the studies also reported conflicting mobility measures with some showing no clinically important differences. Because of this, the committee were not convinced that the results were generalizable to the whole trauma population and did not use the evidence to make recommendations. They decided to make general recommendations informed by their experience and expertise.

The committee discussed the importance of maintaining adequate nutrition after traumatic injury. The inflammatory response after trauma causes the body to become catabolic, a process whereby muscle is broken down to provide energy for healing. This results in people losing significant muscle mass, weight and strength for a long period after trauma. This will affect the ability of a person to perform and engage in rehabilitation exercises. Due to the complexity of nutritional needs and weight management after traumatic injury, the committee recommended that a dietician specialising in trauma care should assess people after traumatic injury and be involved in maintaining a person's nutritional supply (for example, via nasogastric tube or total parenteral nutrition). Food and drink intake should continue to be monitored, in order for people to maintain their weight despite the increased caloric needs of healing. The committee highlighted several conditions that might affect weight maintenance, and for these people, the results of nutrition and weight monitoring should be checked against the dietary plan, with amendments made as necessary. Specifically, people with multiple injury, gastrointestinal health issues, severe kidney impairment or fragility fracture may have different nutritional needs, which should be overseen by the specialist dietician. Further advice can be found in the NICE guidelines on nutritional support for adults and vitamin D supplementation for specific populations.

The committee discussed protecting people from unsafe swallowing and aspiration after traumatic injury, which can lead to choking or pneumonia. Therefore, the committee recommended an appropriately trained healthcare professional carrying out a swallowing assessment. Some committee members reported that, in their settings, this would be a speech and language therapist, which is not a 7 day-per-week service. In order to prevent patients being left nil by mouth for prolonged periods of time (for example, over weekends), the committee recommended that this happens as soon as possible to minimise dehydration and discomfort. This committee also stressed that, in settings where this assessment is not available immediately, hydration and nutrition can and should be maintained by non-oral means.

Throughout this review, the committee identified several areas that either did not identify any evidence or only identified very low or low quality evidence. They discussed that these areas might benefit from research recommendations. However, they are aware that only a certain number of research recommendations can be selected. Therefore, they chose the area where they feel additional research would have the most impact, allowing stronger recommendations to be made in future guidelines. They prioritised rehabilitation intensity, and made 2 research recommendations (1 in the adult population and 1 in the children and young people). Any other potential research recommendations, while still important gaps in evidence to rectify, were not prioritised.

Cost effectiveness and resource use

There was no existing economic evidence for this review.

The exploratory economic analysis indicated that intensive rehabilitation could potentially be cost-effective, i.e. result in an incremental cost-effectiveness ratio of <£20,000 per additional QALY gained, mainly if it was delivered early in an individual's rehabilitation journey and an outpatient setting. The analysis made some strong assumptions. It assumed that it takes 60 weeks for people receiving standard care rehabilitation to achieve the same health-related quality of life as people in the intensive rehabilitation group achieve in 3 weeks. The committee was of a view that these individuals have severe injuries and complex needs and

that such changes are realistic. An example would be when an individual is in a wheelchair when an intensive rehabilitation programme is initiated and comes out walking / running and ready to return to work. The committee explained that intensive rehabilitation could achieve this in 3 weeks if it is timed at the right time. The committee explained that individual with standard care physiotherapy is actually lingering at the baseline or only a very slightly higher quality of life level for months. The committee acknowledged the exploratory nature of the analysis. However, combined with the expert testimony and emerging evidence from military, the committee believed that there was a case for an intensive rehabilitation programme. The committee discussed that the timing would need be targeted to achieve the most effective outcomes, e.g. when an individual is planning to return to work, potentially improving its cost-effectiveness when considering a wider perspective. The committee also noted that such programmes are already available for some patient groups, e.g. amputees. The committee was of a view that this recommendation might require expansion of admission criteria and a new model of working for some services, i.e. service redesign rather than completely new resources. It was also explained that only people with the most severe and complex needs would be eligible for intensive rehabilitation and that there would be no substantial resource impact due to these recommendations. It was envisaged that this should be delivered by one tertiary service provided for the region, e.g. major trauma centre for their trauma network.

The committee agreed that initiating physical rehabilitation as soon as possible is not an issue. Generally, hospitals will have experienced nursing staff when physiotherapists are not there, e.g. weekends. This is standard practice for most services.

The committee noted that ensuring adequate analgesia and monitoring pain is guided by the clinical need. It facilitates engagement with rehabilitation and is standard practice across the services.The committee discussed that there might be more referrals to occupational therapy to facilitate independence with activities of daily living. However, occupational therapists are already available in these settings, and this recommendation should not have a significant resource impact or be difficult to implement. Also, this may mean that people will be able to complete some tasks themselves, which will take the pressure away from practitioners who generally do everything for them.

The committee agreed that the recommendation on aerobics exercises in older adults would not have a resource impact. It is about changing the mentality of physiotherapists that the elderly and frail are eligible for such therapies. These individuals will be working with physiotherapist anyway, and it is only about the kind of exercises to consider.

The home exercise programme involves putting the programme together, and people will be doing this at home on their own. It’s current practice and will not have a resource impact.

Recommendations on gait re-education programme should be standard practice in most hospitals. However, in some hospitals, physiotherapists don’t get people into their physiotherapy practise until they can fully weight bear. This recommendation is about changing the mind set of physiotherapists, i.e. physiotherapists can work with people before they are allowed to weight bear fully.

Controlled motion devices are currently used mainly in an inpatient setting. These are more commonly used with a knee injury. A different piece of kit would be required for another kind of injury, e.g. shoulder. The committee explained that these devices are optional (e.g. the use will be guided by a clinical judgement), with a continuous passive motion machine costing between £1,000-£2,000. These devices are rarely used, i.e. 1 in 100 people. Where it is used, it would make a significant difference. The committee was of the view that some hospitals may have to acquire new devices; however, since they are used frequently and once acquired could be re-used on multiple people, the recommendations are not expected to have a resource impact on services.

Splinting and orthotics are commonly used. Specialised splinting is also widely used, with some services having nurse and physiotherapists specialising in this. All these are low-cost interventions.

Bespoke thermoplastic splints are easily and cheaply done. The use of circulation exercises, compression bandages, and massage therapy for scar tissue is standard.

The committee discussed self-management rehabilitation programmes. It was explained that some health professional time would be spent putting this together with a patient. It was noted that there might be costs for trusts that do not want to share their materials on freely available online video sharing platforms, i.e. they would need to have their own server. However, once this material is created, it could be used on many people making individual patient costs negligible. The committee explained that there might be some costs associated with adopting these materials to different settings. It was also noted that these materials could be used prior to an intensive rehabilitation programme. The use of guided self-management rehabilitation programmes may reduce face to face time as people may be more prepared and informed of their rehabilitation. The committee also noted that this could potentially be done at a national level, e.g. rather than different centres producing their similar self-management rehabilitation programmes with a lot of effort, there could be one central national resource that would be more efficient and cost-effective.

Rehabilitation that includes play therapy is standard in children and young people, and would not incur additional resources to services. The committee was of a view that play therapy reduces children's anxieties, improves their engagement, improves rehabilitation outcomes, and therefore, would represent value for money.

Recommendations supported by this evidence review

This evidence review supports recommendations 1.1.4, 1.1.6, 1.1.8 to 1.1.12, 1.2.6, 1.2.8, 1.2.13 to 1.2.15, 1.5.1 to 1.5.5, 1.5.9, 1.5.10, 1.10.5, 1.10.11, 1.11.1 to 1.11.52, 1.15.24 and a research recommendation in the NICE guideline.

References

Evidence for adults

Akkurt 2017

Akkurt, Halil, Karapolat, Hale U., Kirazli, Yesim, Kose, Timur, The effects of upper extremity aerobic exercise in patients with spinal cord injury: a randomized controlled study, European Journal of Physical and Rehabilitation Medicine, 53, 219-227, 2017

Alexeeva 2011

Alexeeva N, Sames C, Jacobs PL, Hobday L, Distasio MM, Mitchell SA, Calancie B. Comparison of training methods to improve walking in persons with chronic spinal cord injury: a randomized clinical trial. J Spinal Cord Med. 2011;34(4):362-79

Aquilani 2019

Aquilani, R., Zuccarelli Ginetto, C., Rutili, C., Pisano, P., Pasini, E., Baldissarro, E., Verri, M., Boschi, F., Supplemented amino acids may enhance the walking recovery of elderly subjects after hip fracture surgery, Aging Clinical and Experimental Research, 31, 157-160, 2019

Bailey 2014

Bailey, C. S., Urquhart, J. C., Dvorak, M. F., Nadeau, M., Boyd, M. C., Thomas, K. C., Kwon, B. K., Gurr, K. R., Bailey, S. I., Fisher, C. G., Orthosis versus no orthosis for the treatment of thoracolumbar burst fractures without neurologic injury: a multicenter prospective randomized equivalence trial, Spine Journal, 14, 2557-2564, 2014

Binder 2004

Binder, Ellen F., Brown, Marybeth, Sinacore, David R., Steger-May, Karen, Yarasheski, Kevin E., Schechtman, Kenneth B., Effects of extended outpatient rehabilitation after hip fracture: a randomized controlled trial, JAMA, 292, 837-46, 2004

Calthorpe 2014

Calthorpe, Sara, Barber, Elizabeth A., Holland, Anne E., Kimmel, Lara, Webb, Melissa J., Hodgson, Carol, Gruen, Russell L., An intensive physiotherapy program improves mobility for trauma patients, The journal of trauma and acute care surgery, 76, 101-6, 2014

Cho 2014

Cho, Yoon Soo, Jeon, Jong Hyun, Hong, Aram, Yang, Hyeong Tae, Yim, Haejun, Cho, Yong Suk, Kim, Do-Hern, Hur, Jun, Kim, Jong Hyun, Chun, Wook, Lee, Boung Chul, Seo, Cheong Hoon, The effect of burn rehabilitation massage therapy on hypertrophic scar after burn: a randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 40, 1513-20, 2014

Choi 2011

Choi, Ji Soo, Mun, Jeong Hyeon, Lee, Ju Youn, Jeon, Jong Hyun, Jung, Yun Jae, Seo, Cheong Hoon, Jang, Ki Un, Effects of modified dynamic metacarpophalangeal joint flexion orthoses after hand burn, Annals of rehabilitation medicine, 35, 880-6, 2011

Dehghan 2016

Dehghan, Niloofar, McKee, Michael D., Jenkinson, Richard J., Schemitsch, Emil H., Stas, Venessa, Nauth, Aaron, Hall, Jeremy A., Stephen, David J., Kreder, Hans J., Early Weight-bearing and Range of Motion Versus Non-Weight-bearing and Immobilization After Open

Reduction and Internal Fixation of Unstable Ankle Fractures: A Randomized Controlled Trial, Journal of Orthopaedic Trauma, 30, 345-52, 2016

Dobkin 2006

Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006

Dobkin, B., Barbeau, H., Deforge, D., Ditunno, J., Elashoff, R., Apple, D., Basso, M., Behrman, A., Harkema, S., Saulino, M., Scott, M., Spinal Cord Injury Locomotor Trial, Group, The evolution of walking-related outcomes over the first 12 weeks of rehabilitation for incomplete traumatic spinal cord injury: the multicenter randomized Spinal Cord Injury Locomotor Trial, Neurorehabilitation and Neural Repair, 21, 25-35, 2007

Ebid 2017

Ebid, A. A., Ibrahim, A. R., Omar, M. T., El Baky, A. M. A., Long-term effects of pulsed high-intensity laser therapy in the treatment of post-burn pruritus: a double-blind, placebo-controlled, randomized study, Lasers in Medical Science, 32, 693-701, 2017

Faqih 2019

Faqih, A. I., Bedekar, N., Shyam, A., Sancheti, P., Effects of muscle energy technique on pain, range of motion and function in patients with post-surgical elbow stiffness: A randomized controlled trial, Hong Kong Physiotherapy Journal, 39, 25-33, 2019

Glinsky 2008

Glinsky, Joanne, Harvey, Lisa, Korten, Monique, Drury, Craig, Chee, Shane, Gandevia, Simon C., Short-term progressive resistance exercise may not be effective at increasing wrist strength in people with tetraplegia: a randomised controlled trial, The Australian journal of physiotherapy, 54, 103-8, 2008

Harvey 2000

Harvey, L. A., Batty, J., Crosbie, J., Poulter, S., Herbert, R. D., A randomized trial assessing the effects of 4 weeks of daily stretching on ankle mobility in patients with spinal cord injuries, Archives of physical medicine and rehabilitation, 81, 1340-7, 2000

Harvey 2003

Harvey, Lisa A., Byak, Adrian J., Ostrovskaya, Marsha, Glinsky, Joanne, Katte, Lyndall, Herbert, Robert D., Randomised trial of the effects of four weeks of daily stretch on extensibility of hamstring muscles in people with spinal cord injuries, The Australian journal of physiotherapy, 49, 176-81, 2003

Harvey 2009

Harvey, L. A., Herbert, R. D., Glinsky, J., Moseley, A. M., Bowden, J., Effects of 6 months of regular passive movements on ankle joint mobility in people with spinal cord injury: a randomized controlled trial, Spinal Cord, 47, 62-6, 2009

Harwood 2004

Harwood, R. H., Sahota, O., Gaynor, K., Masud, T., Hosking, D. J., A randomised, controlled comparison of different calcium and vitamin D supplementation regimens in elderly women after hip fracture: The Nottingham Neck of Femur (NoNOF) study, Age and Ageing, 33, 45-51, 2004

Hauer 2001

Hauer, K., Rost, B., Rutschle, K., Opitz, H., Specht, N., Bartsch, P., Oster, P., Schlierf, G., Exercise training for rehabilitation and secondary prevention of falls in geriatric patients with a history of injurious falls, Journal of the American Geriatrics Society, 49, 10-20, 2001

Jang 2015

Jang, Ki Un, Choi, Ji Soo, Mun, Jeong Hyeon, Jeon, Jong Hyun, Seo, Cheong Hoon, Kim, Jong Hyeon, Multi-axis shoulder abduction splint in acute burn rehabilitation: a randomized controlled pilot trial, Clinical Rehabilitation, 29, 439-46, 2015

Jansen 2018

Jansen, H., Jordan, M., Frey, S., Hölscher-Doht, S., Meffert, R., Heintel, T., Active controlled motion in early rehabilitation improves outcome after ankle fractures: a randomized controlled trial, Clinical Rehabilitation, 32, 312-318, 2018

Kasuga 2019

Kasuga, S., Momosaki, R., Hasebe, K., Sawabe, M., Sawaguchi, A., Effectiveness of self-exercise on elderly patients after hip fracture: A retrospective cohort study, Journal of Medical Investigation, 66, 178-181, 2019

Kronborg 2017

Kronborg, Lise, Bandholm, Thomas, Palm, Henrik, Kehlet, Henrik, Kristensen, Morten Tange, Effectiveness of acute in-hospital physiotherapy with knee-extension strength training in reducing strength deficits in patients with a hip fracture: A randomised controlled trial, PLoS ONE, 12, e0179867, 2017

Li-Tsang 2010

Li-Tsang, Cecilia Wai Ping, Zheng, Yong Ping, Lau, Joy C. M., A randomized clinical trial to study the effect of silicone gel dressing and pressure therapy on posttraumatic hypertrophic scars, Journal of burn care & research : official publication of the American Burn Association, 31, 448-57, 2010

Liu 2019

Liu, Hongju, Li, Jianjun, Du, Liangjie, Yang, Mingliang, Yang, Degang, Li, Jun, Gao, Feng, Ma, Ke, Short-term effects of core stability training on the balance and ambulation function of individuals with chronic spinal cord injury: a pilot randomized controlled trial, Minerva Medica, 110, 216-223, 2019

Lucareli 2011

Lucareli, P. R., Lima, M. O., Lima, F. P. S., de Almeida, J. G., Brech, G. C., D'Andrea Greve, J. M., Gait analysis following treadmill training with body-weight support versus conventional physical therapy: a prospective randomized controlled single blind study, Spinal cord, 49, 1001-7, 2011

Mendelsohn 2008

Mendelsohn, Marissa E., Overend, Tom J., Connelly, Denise M., Petrella, Robert J., Improvement in aerobic fitness during rehabilitation after hip fracture, Archives of Physical Medicine and Rehabilitation, 89, 609-17, 2008

Monticone 2018

Monticone, Marco, Ambrosini, Emilia, Brunati, Roberto, Capone, Antonio, Pagliari, Giulia, Secci, Claudio, Zatti, Giovanni, Ferrante, Simona, How balance task-specific training contributes to improving physical function in older subjects undergoing rehabilitation following hip fracture: a randomized controlled trial, Clinical Rehabilitation, 32, 340-351, 2018

Moseley 2009

Moseley, Anne M., Sherrington, Catherine, Lord, Stephen R., Barraclough, Elizabeth, St George, Rebecca J., Cameron, Ian D., Mobility training after hip fracture: a randomised controlled trial, Age and ageing, 38, 74-80, 2009

Niitsu 2016

Niitsu, Masaya, Ichinose, Daisuke, Hirooka, Taku, Mitsutomi, Kazuhiko, Morimoto, Yoshitaka, Sarukawa, Junichiro, Nishikino, Shoichi, Yamauchi, Katsuya, Yamazaki, Kaoru, Effects of combination of whey protein intake and rehabilitation on muscle strength and daily movements in patients with hip fracture in the early postoperative period, Clinical nutrition (Edinburgh, Scotland), 35, 943-9, 2016

Norouzi Javidan 2014

Norouzi Javidan, A., Sabour, H., Latifi, S., Abrishamkar, M., Soltani, Z., Shidfar, F., Emami Razavi, H., Does consumption of polyunsaturated fatty acids influence on neurorehabilitation in traumatic spinal cord-injured individuals? a double-blinded clinical trial, Spinal Cord, 52, 378-382, 2014

Oldmeadow 2006

Oldmeadow, Leonie B., Edwards, Elton R., Kimmel, Lara A., Kipen, Eva, Robertson, Val J., Bailey, Michael J., No rest for the wounded: early ambulation after hip surgery accelerates recovery, ANZ Journal of Surgery, 76, 607-11, 2006

Rau 2007

Rau, B., Bonvin, F., de Bie, R., Short-term effect of physiotherapy rehabilitation on functional performance of lower limb amputees, Prosthetics and Orthotics International, 31, 258-70, 2007

Renerts 2019

Renerts, K., Fischer, K., Dawson-Hughes, B., Orav, E. J., Freystaetter, G., Simmen, H. P., Pape, H. C., Egli, A., Theiler, R., Bischoff-Ferrari, H. A., Effects of a simple home exercise program and vitamin D supplementation on health-related quality of life after a hip fracture: a randomized controlled trial, Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation, 28, 1377-1386, 2019

Resnick 2007

Resnick, Barbara, Orwig, Denise, Yu-Yahiro, Janet, Hawkes, William, Shardell, Michelle, Hebel, J. Richard, Zimmerman, Sheryl, Golden, Justine, Werner, Michele, Magaziner, Jay, Testing the effectiveness of the exercise plus program in older women post-hip fracture, Annals of behavioral medicine : a publication of the Society of Behavioral Medicine, 34, 67-76, 2007

Rigot 2018

Rigot, Stephanie, Worobey, Lynn, Boninger, Michael L., Gait Training in Acute Spinal Cord Injury Rehabilitation-Utilization and Outcomes Among Nonambulatory Individuals: Findings From the SCIRehab Project, Archives of Physical Medicine and Rehabilitation, 99, 1591-1598, 2018

Rohner-Spengler 2014

Rohner-Spengler, Manuela, Frotzler, Angela, Honigmann, Philipp, Babst, Reto, Effective Treatment of Posttraumatic and Postoperative Edema in Patients with Ankle and Hindfoot Fractures: A Randomized Controlled Trial Comparing Multilayer Compression Therapy and Intermittent Impulse Compression with the Standard Treatment with Ice, The Journal of bone and joint surgery. American volume, 96, 1263-1271, 2014

Samhan 2019

Samhan, Ahmed Fathy, Abdelhalim, Nermeen Mohamed, Impacts of low-energy extracorporeal shockwave therapy on pain, pruritus, and health-related quality of life in patients with burn: A randomized placebo-controlled study, Burns : journal of the International Society for Burn Injuries, 45, 1094-1101, 2019

Shamji 2014

Shamji, M. F., Roffey, D. M., Young, D. K., Reindl, R., Wai, E. K., A pilot evaluation of the role of bracing in stable thoracolumbar burst fractures without neurological deficit, Journal of Spinal Disorders and Techniques, 27, 370-375, 2014

Sherrington 1997

Sherrington, C., Lord, S. R., Home exercise to improve strength and walking velocity after hip fracture: a randomized controlled trial, Archives of physical medicine and rehabilitation, 78, 208-12, 1997

Sherrington 2003

Sherrington, Catherine, Lord, Stephen R., Herbert, Robert D., A randomised trial of weight-bearing versus non-weight-bearing exercise for improving physical ability in inpatients after hip fracture, The Australian journal of physiotherapy, 49, 15-22, 2003

Singh 2012

Singh, Nalin A., Quine, Susan, Clemson, Lindy M., Williams, Elodie J., Williamson, Dominique A., Stavrinos, Theodora M., Grady, Jodie N., Perry, Tania J., Lloyd, Bradley D., Smith, Emma U. R., Singh, Maria A. Fiatarone, Effects of high-intensity progressive resistance training and targeted multidisciplinary treatment of frailty on mortality and nursing home admissions after hip fracture: a randomized controlled trial, Journal of the American Medical Directors Association, 13, 24-30, 2012

Shuai 2016

Shuai L, Yu GH, Feng Z, Wang WS, Sun WM, Zhou L, Yan Y. Application of a paraplegic gait orthosis in thoracolumbar spinal cord injury. Neural Regen Res. 2016;11(12):1997-2003

Suwanpasu 2014

Suwanpasu, S., Aungsuroch, Y., Jitapanya, C., Post-surgical physical activity enhancing program for elderly patients after hip fracture: A randomized controlled trial, Asian Biomedicine, 8, 525-532, 2014

Sylliaas 2011

Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Progressive strength training in older patients after hip fracture: a randomised controlled trial, Age and Ageing, 40, 221-7, 2011

Sylliaas 2012

Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Prolonged strength training in older patients after hip fracture: a randomised controlled trial, Age and Ageing, 41, 206-12, 2012

Taraldsen 2014

Taraldsen, Kristin, Sletvold, Olav, Thingstad, Pernille, Saltvedt, Ingvild, Granat, Malcolm H., Lydersen, Stian, Helbostad, Jorunn L., Physical behavior and function early after hip fracture surgery in patients receiving comprehensive geriatric care or orthopedic care--a randomized controlled trial, The journals of gerontology. Series A, Biological sciences and medical sciences, 69, 338-45, 2014

Xiao 2018

Xiao, X., Huang, J., Chen, Z., Xia, X., Wang, S., Yang, Z., Effects of computer-assisted wrist/hand training on the improvement of hand function in traumatic hand injuries, International Journal of Clinical and Experimental Medicine, 11, 1208-1216, 2018

Yigiter 2002

Yigiter, K., Sener, G., Erbahceci, F., Bayar, K., Ulger, O. G., Akdogan, S., A comparison of traditional prosthetic training versus proprioceptive neuromuscular facilitation resistive gait training with trans-femoral amputees, Prosthetics and Orthotics International, 26, 213-7, 2002

Yildirim 2016

Yildirim, A., Sürücü, G. D., Karamercan, A., Gedik, D. E., Atci, N., Dülgeroğlu, D., Özgirgin, N., Short-term effects of upper extremity circuit resistance training on muscle strength and functional independence in patients with paraplegia, Journal of back and musculoskeletal rehabilitation, 29, 817-823, 2016

Evidence for children and young people

Cucuzzo 2001

Cucuzzo, N. A., Ferrando, A., Herndon, D. N., The effects of exercise programming vs traditional outpatient therapy in the rehabilitation of severely burned children, The Journal of burn care & rehabilitation, 22, 214-20, 2001

Ebid 2014

Ebid, Anwar Abdelgayed, El-Shamy, Shamekh Mohamed, Draz, Amira Hussin, Effect of isokinetic training on muscle strength, size and gait after healed pediatric burn: a randomized controlled study, Burns : journal of the International Society for Burn Injuries, 40, 97-105, 2014

Ebid 2017

Ebid, Anwar Abdelgayed, El-Shamy, Shamekh Mohamed, Amer, Maysa Abbas, Effect of vitamin D supplementation and isokinetic training on muscle strength, explosive strength, lean body mass and gait in severely burned children: A randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 43, 357-365, 2017

Appendices

Appendix A – Review protocol

Review protocol for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Table 7: Review protocol for physical rehabilitation interventions in adults

ID	Field	Content
0.	PROSPERO registration number	CRD42019135299
1.	Review title	Rehabilitation packages and programmes for adults
2.	Review question	2.1a: What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?
3.	Objective	To evaluate the effectiveness of physical rehabilitation interventions among adults with complex rehabilitation needs after traumatic injury
4.	Searches	The following databases will be searched: • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE Searches will be restricted by: • Date: 1995 onwards as there has been significant change in practice since then • English language • Human studies The full search strategies for MEDLINE database will be published in the final review.
5.	Condition or domain being studied	Complex rehabilitation needs resulting from traumatic injury 'Complex rehab needs' refers to 'multiple needs, and will always involve coordinated multidisciplinary input from 2 or more allied health professional disciplines, and also include the following: • Vocational or educational social support for the person to return to their pervious functional level,

ID	Field	Content
		including return to work, school or college • Emotional, psychological and psychosocial support • Equipment or adaptations • Ongoing recovery from injury that may change the person's rehabilitation needs (for example, restrictions of weight bearing, cast immobilisation in feature clinic)Further surgery and readmissions to hospital Traumatic injury is defined as 'traumatic injury as injury that requires admission to hospital at the time of injury.'
6	Population	Inclusion: Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital Exclusion: • Adults with complex rehabilitation needs resulting from traumatic brain injury (including anoxic brain injury, for example, drowning and strangulation) • Adults with traumatic injuries who do not have complex rehabilitation needs and/or do not require admission to hospital • Adults with complex rehabilitation needs resulting from traumatic injury who are admitted to the ICU
7	Intervention	Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following: • Exercise class /Reconditioning/Cardiovascular/Fitness training • Strengthening, balance, proprioception, vestibular rehabilitation/training • Splinting/orthotic • Gait re-education • Early weight bearing to mobilize (i.e., sitting or standing) • Manual therapy (soft tissue massage/release, joint mobilization) • Hydrotherapy • Scar, swelling and oedema management (i.e. elevation, compression, soft tissue massage, creams, hydrated, desensitization, laser therapy, hand therapy)

ID	Field	Content
		• Anti-gravity treadmill training • Nutrition support (eg supplements, dietetics, optimising calorie intake, gastrostomy, PEG RIG, NG feeding, swallowing therapy, early feeding plans, patient education, dysphagia) Exclusion: • Rehabilitation packages and programmes relating to traumatic brain injury, sight loss and hearing loss • Social care interventions (for example, home care or personal assistance) • Long-term care and rehabilitation packages for people with long-term care needs • Specific pain management interventions
8	Comparator/Reference standard/Confounding factors	1) Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils). 2) Studies that employ the same intervention program as listed under 'interventions' but vary it in terms of any of the following: • Frequency • Intensity • Timing
9	Types of study to be included	• Systematic review of RCTs • Randomised controlled trial If no RCT data are available for an intervention, evidence from the followings will be considered in order • Cluster-randomised trial • Systematic review of non-randomised studies • Comparative prospective cohort studies with N≥100 per treatment arm • Comparative retrospective cohort studies with N≥100 per treatment arm
10	Other exclusion criteria	Study design:

ID	Field	Content
		• Cross-over design • Case-controls • Cross-sectional • Case series and case reports • Audits Language: • Non-English Publication status: • Abstract only
11	Context	Settings - Inclusion: All inpatient, outpatient and community settings in which rehabilitation services following traumatic injury are provided Exclusion: • Accident and emergency departments • Critical care units • Prisons
12	Primary outcomes (critical outcomes)	Critical: • Patient acceptability (any direct measure) • Changes in mobility (any measure) • Upper limb function (DASH, ARMA) Timeframe for the follow-up will be 0 to18 months. This will be grouped into short-term (0 to 6 months) and long-term (> 6 to 18 months).
13	Secondary outcomes (important outcomes)	Important: • Return to work or education • Pain [e.g., VAS] • Overall quality of life [EURO-QoL 5D 3L, SF-36, SF-12, SF-6D, SFMA]

ID	Field	Content
		• Changes in activity of daily living (COPM, Barthel ADL index, Katz, PSMS, OARS, PAT, EADL-Test, GAS, FIMFAM) Timeframe for the follow-up will be 0 to18 months. This will be grouped into short-term (0 to 6 months) and long-term (>6 to 18 months).
14	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. 5% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4).
15	Risk of bias (quality) assessment	Risk of bias will be assessed using the appropriate checklist as described in Developing NICE guidelines: the manual.
16	Strategy for data synthesis	NGA STAR software will be used for generating bibliographies/citations, study sifting and data extraction. If pairwise meta-analyses are undertaken, they will be performed using Cochrane Review Manager (RevMan). 'GRADEpro' will be used to assess the quality of evidence for each outcome.
17	Analysis of sub-groups	No subgroups were specified for this question for stratification of the data, but if there is heterogeneity, we will look at the following subgroups to try to identify the source of it: • Upper limb / lower limb • People with pre-existing physical and/or mental health conditions (including substance misuse), physical and learning disability • Age below 65 years / age above 65 years • Frail / not frail • Vulnerable adults or those who require safeguarding
18	Type and method of review	Intervention
19	Language	English
20	Country	England
21	Anticipated or actual start date	23/10/2019

ID	Field	Content
22	Anticipated completion date	01/11/2020
23	Stage of review at time of this submission	Review stage / Started / Completed Preliminary searches ☑ ☑ Piloting of the study selection process ☑ ☑ Formal screening of search results against eligibility criteria ☑ ☑ Data extraction ☑ ☑ Risk of bias (quality) assessment ☑ ☑ Data analysis ☑ ☑
24	Named contact	National Guideline Alliance
25	Review team members	National Guideline Alliance
26	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.
27	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10105.

ID	Field	Content
29	Other registration details	-
30	Reference/URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=135299
31	Dissemination plans	
32	Keywords	
33	Details of existing review of same topic by same authors	
34	Current review status	
35	Additional information	
36	Details of final publication	www.nice.org.uk

ADL: Activities of daily living; ARMA: Arm Activity Measure; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; COPM: Canadian Occupational Performance Measure; DASH: Disabilities of the Arm, Shoulder and Hand; EADL: Extended activities of daily living; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FIMFAM: Functional Independence Measure and Functional Assessment Measure; GAS: Goal Attainment Scaling; GRADE: Grading of Recommendations Assessment, Development and Evaluation; NG: Nasogastric; NGA: National Guideline Alliance; NHS: National health service; NICE: National Institute for Health and Care Excellence; OARS: Older Americans Resources and Services; PAT: Performance ADL test; PEG: Percutaneous endoscopic gastrostomy; PHQ-9: 9 item Patient Health Questionnaire; PSMS: Physical Self-maintenance Scale; RCT: randomised controlled trial; RIG: Radiologically inserted gastrostomy; SCIM: Spinal Cord Independence Measure; SF-12: 12 item Short-Form Survey; SF-36: 36 item Short-Form Survey; SF-6D: 6-dimension short-form: VAS: Visual Analogue Scale

Review protocol for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Table 8: Review protocol for physical rehabilitation interventions in children and young people

ID	Field	Content
0.	PROSPERO registration number	CRD42019130144
1.	Review title	Rehabilitation packages and programmes for children and young people
2.	Review question	2.1b: What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?
3.	Objective	To evaluate the effectiveness of physical rehabilitation interventions among children and young people with complex rehabilitation needs after traumatic injury
4.	Searches	The following databases will be searched:

ID	Field	Content
		• Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE Searches will be restricted by: • Date: 1995 onwards as there has been significant change in practice since then • English language • Human studies The full search strategies for MEDLINE database will be published in the final review.
5.	Condition or domain being studied	Complex rehabilitation needs resulting from traumatic injury 'Complex rehab needs' refers to 'multiple needs, and will always involve coordinated multidisciplinary input from 2 or more allied health professional disciplines, and also include the following: • Vocational or educational social support for the person to return to their pervious functional level, including return to work, school or college • Emotional, psychological and psychosocial support • Equipment or adaptations • Ongoing recovery from injury that may change the person's rehabilitation needs (for example, restrictions of weight bearing, cast immobilisation in feature clinic) • Further surgery and readmissions to hospital Traumatic injury is defined as 'traumatic injury as injury that requires admission to hospital at the time of injury.'
6	Population	Inclusion: Children and young people (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital Exclusion: • Children and young people with complex rehabilitation needs resulting from traumatic brain injury (including anoxic brain injury, for example, drowning and strangulation) • Children and young people with traumatic injuries who do not have complex rehabilitation needs

ID	Field	Content
		and/or do not require admission to hospital • Children and young people with complex rehabilitation needs resulting from traumatic injury who are admitted to the PICU
7	Intervention	Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following: • Exercise class /Reconditioning/Cardiovascular/Fitness training • Strengthening, balance, proprioception, vestibular rehabilitation/training • Splinting/orthotic • Gait re-education • Early weight bearing to mobilize (i.e., sitting or standing) • Manual therapy (soft tissue massage/release, joint mobilization) • Hydrotherapy • Scar, swelling and oedema management (i.e. elevation, compression, soft tissue massage, creams, hydrated, desensitization, laser therapy, hand therapy) • Anti-gravity treadmill training • Nutrition support (eg supplements, dietetics, optimising calorie intake, gastrostomy, PEG RIG, NG feeding, swallowing therapy, early feeding plans, patient education, dysphagia) • Play therapy Exclusion: • Rehabilitation packages and programmes relating to traumatic brain injury, sight loss and hearing loss • Social care interventions (for example, home care or personal assistance) • Long-term care and rehabilitation packages for people with long-term care needs • Specific pain management interventions
8	Comparator/Reference standard/Confounding factors	1) Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils).

ID	Field	Content
		2) Studies that employ the same intervention program as listed under 'interventions' but vary it in terms of any of the following: • Frequency • Intensity • Timing
9	Types of study to be included	• Systematic review of RCTs • Randomised controlled trial If no RCT data are available for an intervention, evidence from the followings will be considered in order • Cluster-randomised trial • Systematic review of non-randomised studies • Comparative prospective cohort studies with N≥100 per treatment arm • Comparative retrospective cohort studies with N≥100 per treatment arm
10	Other exclusion criteria	Study design: • Cross-over design • Case-controls • Cross-sectional • Case series and case reports • Audits Language: • Non-English Publication status: • Abstract only
11	Context	Settings - Inclusion: • All inpatient, outpatient and community settings in which rehabilitation services following traumatic injury are provided

ID	Field	Content
		Exclusion: • Accident and emergency departments • Critical care units • Prisons
12	Primary outcomes (critical outcomes)	Critical: • Patient and families and carers' acceptability (any direct measure; if not reported, but patient satisfaction is, this will be reported instead) • Changes in mobility (WeeFIM, any measure) • Upper limb function (e.g., DASH, ARMA) Babies only: • Alberta Infant Motor Scale (AIMS; pre-term to 19 months. • Bayley Assessment (1 to 42 months) Timeframe for the follow-up will be 0 to 5 years. This will be grouped into short-term (0 to 6 months) and long-term (> 6 months to 5 years).
13	Secondary outcomes (important outcomes)	Important: • Return to nursery, education, training or work • Pain [VAS, any measure] • Overall quality of life including quality of sleep [e.g., CHQ-CF80, CHQ-PF-50, PEDS-QL, EURO-QoL 5D 3L Y, SF-36, SF-12, SF-6D, Tarn, SCIM]] • Changes in activity of daily living (e.g., COPM, Barthel ADL index, Katz, PSMS, OARS, PAT, EADL-Test, GAS, FIMFAM) Timeframe for the follow-up will be 0 to 5 years. This will be grouped into short-term (0 to 6 months) and long-term (> 6 months to 5 years).
14	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. 5% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4.

ID	Field	Content
15	Risk of bias (quality) assessment	Risk of bias will be assessed using the appropriate checklist as described in Developing NICE guidelines: the manual.
16	Strategy for data synthesis	NGA STAR software will be used for generating bibliographies/citations, study sifting and data extraction. If pairwise meta-analyses are undertaken, they will be performed using Cochrane Review Manager (RevMan). 'GRADEpro' will be used to assess the quality of evidence for each outcome.
17	Analysis of sub-groups	The following subgroups were specified for this question for stratification of the data: • Children and young people who are suspected of sustaining non-accidental injuries versus accidental injuries • Children and young people with parents known to social services versus not known • Children and young people with young (< 20 years at birth of child) parents versus not young (≥ 20 years at birth of child) • Children and young people with parents from deprived backgrounds versus not deprived backgrounds • Children and young people with parents who have mental health issues versus none If there is any further unexplained heterogeneity, we will look at the following subgroups to try to identify the source of it: • Upper limb / lower limb • Children and young people with pre-existing physical and/or mental health conditions (including substance misuse), physical and learning disability versus no pre-existing conditions • Children and young people whose parents are very involved in their rehabilitation/recovery (e.g., by staying overnight in hospital) versus not involved • Age (0-3 versus 4-7 versus 8-12 versus 13-17
18	Type and method of review	Intervention
19	Language	English
20	Country	England
21	Anticipated or actual start date	01/11/2019
22	Anticipated completion date	14/02/2020

ID	Field	Content
23	Stage of review at time of this submission	Review stage: Started / Completed Preliminary searches: ☑ / ☑ Piloting of the study selection process: ☑ / ☑ Formal screening of search results against eligibility criteria: ☑ / ☑ Data extraction: ☑ / ☑ Risk of bias (quality) assessment: ☑ / ☑ Data analysis: ☑ / ☑
24	Named contact	National Guideline Alliance
25	Review team members	National Guideline Alliance
26	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.
27	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10105
29	Other registration details	-
30	Reference/URL for published	https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=130144

ID	Field	Content
	protocol	
31	Dissemination plans	
32	Keywords	
33	Details of existing review of same topic by same authors	
34	Current review status	
35	Additional information	
36	Details of final publication	www.nice.org.uk

ADL: Activities of daily living; ARMA: Arm activity measure; CCTR: Cochrane Controlled Trials Register; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; CHQ-CF-80: 80 item child health questionnaire; CHQ PF-50: 50 item child health questionnaire, parent completed; COPM: Canadian occupational performance measure; DARE: Database of Abstracts of Reviews of Effects; DAS: Disability assessment schedule; DASH: Disabilities of the Arm, Shoulder and Hand; EADL: Extended activities of daily living; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FIMFAM: Functional independence measure and functional assessment measure; GAS: Goal attainment scaling; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HTA: Health Technology Assessment; ICU: intensive care unit; NG: Nasogastric; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; NIHR: National Institute for Health Research; OARS: Older Americans resources and services; PAT: Performance ADL test; PEDS-QL: Paediatric quality of life inventory; PEG: Percutaneous endoscopic gastrostomy; PHQ-9: 9 item patient health questionnaire; PSMS: Physical self-maintenance scale; RCT(s): randomised controlled trial(s); RIG: Radiologically inserted gastrostomy; RoB: risk of bias; SCIM: Spinal cord independence measure; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-form: VAS: Visual analogue scale; WeeFIM; Paediatric functional independence measure

Appendix B – Literature search strategies

Literature search strategies for review questions:

B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

A combined search was conducted for both review questions.

Note the searches for this review question were re-run on 13/11/2020 but with a randomized controlled trial search filter added. This was in order to capture any high level evidence published since the original search was run on 14/10/2019.

Review question search strategies

Databases: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

Date of last search: 14/10/2019

#	Searches
1	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
2	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
3	((hospitali?ed or hospitali?ation?) adj10 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
4	((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
5	(patient? adj5 trauma$).ti,ab.
6	(patient? adj3 (burn? or burned or fractur$)).ti,ab.
7	wound$ patient?.ti,ab.
8	injur$ patient?.ti,ab.
9	accident$ patient?.ti,ab.
10	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma$.ti.
11	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or

#	Searches
	"EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma$.ab. /freq=2
12	exp MULTIPLE TRAUMA/
13	TRAUMATOLOGY/
14	(trauma$ adj5 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
15	((complex$ or multiple or critical$) adj3 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
16	(trauma$ adj3 (severe or severely or major or multiple)).ti,ab.
17	((injur$ or wound$ or burn? or burned or fractur$) adj2 (severe or severely or major or multiple)).ti,ab.
18	((physical$ or body or bodily) adj3 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
19	(acute adj1 (injur$ or trauma$ or wound$ or burn? or burned or fractur$)).ti,ab.
20	(polytrauma? or poly-trauma?).ti,ab.
21	traumatolog$.ti,ab.
22	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (exp *"WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/))
23	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ti.
24	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ab. /freq=2
25	(accident? adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
26	(accident? adj3 (serious$ or severe or severely or major)).ti,ab.
27	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
28	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
29	*SPINAL CORD INJURIES/ or *SPINAL CORD COMPRESSION/
30	exp *THORACIC INJURIES/ or *ACUTE LUNG INJURY/
31	*PERIPHERAL NERVE INJURIES/ or exp *CRANIAL NERVE INJURIES/
32	exp *AMPUTATION/ or *AMPUTATION, TRAUMATIC/ or *AMPUTEES/ or *AMPUTATION STUMPS/ or *LIMB SALVAGE/
33	((spinal$ or spine? or chest? or thoracic$ or nerve?) adj3 injur$).ti.
34	((spinal$ or spine?) adj3 cord? adj3 compress$).ti.
35	((Flail$ or stove in) adj3 chest?).ti.
36	(rib? adj3 fractur$).ti.
37	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur$).ti.
38	(amputat$ or amputee?).ti.
39	(limb? adj3 (loss or losing or lost or salvag$ or re-construct$ or reconstruct$)).ti.
40	*HEAD INJURIES, CLOSED/ or *HEAD INJURIES, PENETRATING/
41	(head adj3 injur$).ti.
42	or/1-41
43	exp BRAIN INJURIES/
44	(brain adj3 injur$).ti,ab.
45	or/43-44

#	Searches
46	42 not 45
47	REHABILITATION/
48	rh.fs.
49	th.fs.
50	rehab$.ti,ab.
51	or/47-50
52	EXERCISE THERAPY/
53	RESISTANCE TRAINING/
54	PHYSICAL CONDITIONING, HUMAN/
55	HIGH-INTENSITY INTERVAL TRAINING/
56	EXERCISE/
57	SPORTS/
58	RUNNING/ not RUNNING/in [Injuries]
59	JOGGING/ not JOGGING/in [Injuries]
60	BICYCLING/ not BICYCLING/in [Injuries]
61	SWIMMING/ not SWIMMING/in [Injuries]
62	((cardio$ or aerobic$) adj5 (exercis$ or train$ or program$ or class or classes)).ti,ab.
63	((resist$ or strength$ or fitness) adj3 (exercis$ or train$ or program$ or class or classes)).ti,ab.
64	((sport$ or exercis$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skipping or aerobics or gym? or treadmill?) adj5 (train$ or program$ or class or classes)).ti,ab.
65	(elliptical train$ or cross train$ or circuit train$ or step train$).ti,ab.
66	((sport$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skip$ or aerobics or gym? or treadmill?) adj5 exercis$).ti,ab.
67	(recondition$ or re-condition$).ti,ab.
68	or/52-67
69	exp MUSCLE STRENGTH/
70	POSTURAL BALANCE/
71	PROPRIOCEPTION/
72	KINESTHESIA/
73	VESTIBULAR DISEASES/
74	VERTIGO/
75	DIZZINESS/
76	(strength$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
77	(balanc$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
78	(propriocept$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$ or technique? or facilitat$ or stimulat$)).ti,ab.
79	kin?esthe$.ti,ab.
80	((vestibular$ or vertigo or dizz$) adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
81	or/69-80
82	SPLINTS/
83	exp ORTHOTIC DEVICES/
84	splint$.ti,ab.
85	orthos?s.ti,ab.
86	orthotic?.ti,ab.
87	brace?.ti,ab.
88	or/82-87
89	(gait$ adj5 (rehab$ or train$ or retrain$ or educat$ or reeducat$ or strateg$)).ti,ab.
90	BODY WEIGHT/ and GAIT/
91	((weight$ or bodyweight$) adj5 support$ adj5 train$).ti,ab.
92	EXOSKELETON DEVICE/
93	exoskeleton?.ti,ab.
94	ROBOTICS/ and exp ORTHOTIC DEVICES/
95	(robot$ adj5 (orthotic? or orthos?s)).ti,ab.
96	(robot$ adj3 (device? or rehab$ or train$)).ti,ab.

#	Searches
97	(tilt$ adj3 table?).ti,ab.
98	ELECTRIC STIMULATION THERAPY/ and GAIT/
99	((neuro$ or function$) adj3 electrical$ adj3 stimulat$ adj5 gait$).ti,ab.
100	((FES or NMES) adj5 gait$).ti,ab.
101	or/89-100
102	WEIGHT-BEARING/ and TIME FACTORS/
103	(weight? adj3 (bear$ or load$) adj5 earl$).ti,ab.
104	(prosthe$ adj5 temporar$).ti,ab.
105	(earl$ adj3 walk$ adj3 aid?).ti,ab.
106	EWA.ti,ab.
107	(mobilit$ adj3 aid?).ti,ab.
108	PPAM?.ti,ab.
109	AMA.ti,ab.
110	femuret$.ti,ab.
111	BED REST/
112	(bed? adj3 rest$).ti,ab.
113	EARLY AMBULATION/
114	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 mobili$).ti,ab.
115	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 ambulation).ti,ab.
116	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 (sit or sits or sitting or stand? or standing or walk? or walking)).ti,ab.
117	IMMOBILIZATION/ae [Adverse Effects]
118	or/102-117
119	MUSCULOSKELETAL MANIPULATIONS/
120	THERAPY, SOFT TISSUE/
121	MASSAGE/
122	MUSCLE STRETCHING EXERCISES/
123	PLYOMETRIC EXERCISE/
124	EXERCISE MOVEMENT TECHNIQUES/
125	MOTION THERAPY, CONTINUOUS PASSIVE/
126	(manual adj3 therap$).ti,ab.
127	massag$.ti,ab.
128	(soft adj3 tissue? adj3 (releas$ or therap$ or rehab$)).ti,ab.
129	((exercise? or active$ or ballistic$ or dynamic$ or isometric$ or passive$ or relax$ or static$) adj3 stretch$).ti,ab.
130	(plyometric adj3 (exercis$ or train$ or program$ or class or classes or drill$)).ti,ab.
131	(joint? adj5 (mobili?ation or mobili?e or mobili?ing or manipulat$ or therap$ or rehab$)).ti,ab.
132	(range? adj3 mov$ adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
133	(continu$ adj3 passive$ adj3 (mov$ or motion?)).ti,ab.
134	CPM.ti,ab.
135	or/119-134
136	HYDROTHERAPY/
137	hydrotherap$.ti,ab.
138	((hydro or water or aqua$) adj3 therap$).ti,ab.
139	or/136-138
140	EDEMA/pc [Prevention & Control]
141	EDEMA/th [Therapy]
142	EDEMA/ and (PATIENT POSITIONING/ or BED REST/ or BANDAGES/ or COMPRESSION BANDAGES/ or STOCKINGS, COMPRESSION/ or INTERMITTENT PNEUMATIC COMPRESSION DEVICES/ or NEGATIVE-PRESSURE WOUND THERAPY/ or MASSAGE/ or MANUAL LYMPHATIC DRAINAGE/ or SKIN CREAM/ or OINTMENTS/ or FLUID THERAPY/ or REHYDRATION SOLUTIONS/ or LASER THERAPY/)
143	((oedema? or edema? or swell$ or scar$) adj5 (manag$ or therap$ or elevat$ or (bed? adj3

#	Searches
	rest$) or (leg? adj3 rais$) or (arm? adj3 rais$) or bandag$ or stocking? or compres$ or massag$ or manual lymphatic drain$ or cream? or ointment? or hydrat$ or rehydrat$ or (fluid? adj3 therap$) or desensiti$ or de-sensiti$ or (la?er? adj3 therap$) or (hand? adj3 therap$))).ti,ab.
144	or/140-143
145	HYPOGRAVITY/
146	hypograv$.ti,ab.
147	((antigravit$ or ((anti or low or reduc$) adj3 gravit$)) adj5 (treadmill? or running machine?)).ti,ab.
148	or/145-147
149	DIET THERAPY/
150	NUTRITION THERAPY/
151	DIETARY SUPPLEMENTS/
152	DIETETICS/
153	NUTRITIONAL REQUIREMENTS/
154	RECOMMENDED DIETARY ALLOWANCES/
155	ENERGY INTAKE/
156	NUTRITIONAL STATUS/
157	NUTRITIONAL SUPPORT/
158	ENTERAL NUTRITION/
159	GASTROSTOMY/
160	INTUBATION, GASTROINTESTINAL/
161	(PATIENT EDUCATION AS TOPIC/ or HEALTH EDUCATION/) and (exp DIET/ or exp EATING/ or exp FOOD/)
162	DEGLUTITION DISORDERS/
163	((nutrition$ or diet$ or food$) adj3 (support$ or therap$ or rehab$)).ti,ab.
164	((nutrition$ or diet$ or food$ or macronutrient? or macro-nutrient? or protein? or carbohydrate? or fat? or micronutrient? or micronutrient? or vitamin? or mineral? or phytochemical?) adj5 supplement$).ti,ab.
165	dietetic?.ti,ab.
166	((nutrition$ or diet$ or food$ or calori$ or energy) adj3 (requir$ or allow$ or intake? or status$)).ti,ab.
167	((enteral$ or tube?) adj3 (nutrition$ or feed$ or fed)).ti,ab.
168	gastrostom$.ti,ab.
169	PEG.ti,ab.
170	RIG.ti,ab.
171	((nasogastric$ or naso-gastric$ or NG or gastrointestinal$ or gastro-intestinal$) adj3 (nutrition$ or feed$ or fed or intubat$)).ti,ab.
172	((swallow$ or deglutition$) adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
173	((nutrition$ or diet$ or food$ or feed$) adj5 plan$).ti,ab.
174	((nutrition$ or diet$ or food$ or feed$) adj5 (educat$ or inform$ or advice or advis$ or leaflet? or handout?)).ti,ab.
175	dysphagia.ti,ab.
176	((swallow$ or deglutition$) adj5 disorder?).ti,ab.
177	or/149-176
178	PLAY THERAPY/
179	(play$ adj3 therap$).ti,ab.
180	or/178-179
181	(early adj5 (rehab$ or therap$ or manag$ or intervention?)).ti.
182	46 and 51 and 68
183	46 and 51 and 81
184	46 and 51 and 88
185	46 and 51 and 101
186	46 and 51 and 118
187	46 and 51 and 135
188	46 and 51 and 139

#	Searches
189	46 and 51 and 144
190	46 and 51 and 148
191	46 and 51 and 177
192	46 and 51 and 180
193	46 and 51 and 181
194	or/182-193
195	limit 194 to english language
196	limit 195 to yr="1995 -Current"
197	LETTER/
198	EDITORIAL/
199	NEWS/
200	exp HISTORICAL ARTICLE/
201	ANECDOTES AS TOPIC/
202	COMMENT/
203	CASE REPORT/
204	(letter or comment*).ti.
205	or/197-204
206	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
207	205 not 206
208	ANIMALS/ not HUMANS/
209	exp ANIMALS, LABORATORY/
210	exp ANIMAL EXPERIMENTATION/
211	exp MODELS, ANIMAL/
212	exp RODENTIA/
213	(rat or rats or mouse or mice).ti.
214	or/207-213
215	196 not 214

Databases: Embase; and Embase Classic

Date of last search: 14/10/2019

#	Searches
1	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
2	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
3	((hospitali?ed or hospitali?ation?) adj10 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
4	((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
5	(patient? adj5 trauma$).ti,ab.

#	Searches
6	(patient? adj3 (burn? or burned or fractur$)).ti,ab.
7	wound$ patient?.ti,ab.
8	injur$ patient?.ti,ab.
9	accident$ patient?.ti,ab.
10	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma$.ti.
11	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma$.ab. /freq=2
12	MULTIPLE TRAUMA/
13	TRAUMATOLOGY/
14	(trauma$ adj5 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
15	((complex$ or multiple or critical$) adj3 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
16	(trauma$ adj3 (severe or severely or major or multiple)).ti,ab.
17	((injur$ or wound$ or burn? or burned or fractur$) adj2 (severe or severely or major or multiple)).ti,ab.
18	((physical$ or body or bodily) adj3 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
19	(acute adj1 (injur$ or trauma$ or wound$ or burn? or burned or fractur$)).ti,ab.
20	(polytrauma? or poly-trauma?).ti,ab.
21	traumatolog$.ti,ab.
22	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/))
23	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ti.
24	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ab. /freq=2
25	(accident? adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
26	(accident? adj3 (serious$ or severe or severely or major)).ti,ab.
27	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
28	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
29	*SPINAL CORD INJURY/ or *SPINAL CORD COMPRESSION/
30	exp *THORAX INJURY/ or *ACUTE LUNG INJURY/ or exp *RIB FRACTURE/

#	Searches
31	exp *NERVE INJURY/
32	exp *AMPUTATION/ or *AMPUTEE/ or *LIMB SALVAGE/
33	((spinal$ or spine? or chest? or thoracic$ or nerve?) adj3 injur$).ti.
34	((spinal$ or spine?) adj3 cord? adj3 compress$).ti.
35	((Flail$ or stove in) adj3 chest?).ti.
36	(rib? adj3 fractur$).ti.
37	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur$).ti.
38	(amputat$ or amputee?).ti.
39	(limb? adj3 (loss or losing or lost or salvag$ or re-construct$ or reconstruct$)).ti.
40	*HEAD INJURY/
41	(head adj3 injur$).ti.
42	or/1-41
43	exp BRAIN INJURY/
44	(brain adj3 injur$).ti,ab.
45	or/43-44
46	42 not 45
47	REHABILITATION/
48	rh.fs.
49	th.fs.
50	rehab$.ti,ab.
51	or/47-50
52	KINESIOTHERAPY/
53	ARM EXERCISE/
54	LEG EXERCISE/
55	RESISTANCE TRAINING/
56	*EXERCISE/
57	HIGH INTENSITY INTERVAL TRAINING/
58	AEROBIC EXERCISE/
59	*SPORT/
60	RUNNING/
61	JOGGING/
62	CYCLING/
63	SWIMMING/
64	((cardio$ or aerobic$) adj5 (exercis$ or train$ or program$ or class or classes)).ti,ab.
65	((resist$ or strength$ or fitness) adj3 (exercis$ or train$ or program$ or class or classes)).ti,ab.
66	((sport$ or exercis$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skipping or aerobics or gym? or treadmill?) adj5 (train$ or program$ or class or classes)).ti,ab.
67	(elliptical train$ or cross train$ or circuit train$ or step train$).ti,ab.
68	((sport$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skip$ or aerobics or gym? or treadmill?) adj5 exercis$).ti,ab.
69	(recondition$ or re-condition$).ti,ab.
70	or/52-69
71	MUSCLE TRAINING/
72	MUSCLE EXERCISE/
73	*MUSCLE STRENGTH/
74	*BODY EQUILIBRIUM/
75	PROPRIOCEPTION/
76	KINESTHESIA/
77	VESTIBULAR DISORDER/
78	*VERTIGO/
79	*DIZZINESS/
80	(strength$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
81	(balanc$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
82	(propriocept$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$ or

#	Searches
	technique? or facilitat$ or stimulat$)).ti,ab.
83	kin?esthe$.ti,ab.
84	((vestibular$ or vertigo or dizz$) adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
85	or/71-84
86	exp *ORTHOSIS/
87	splint$.ti,ab.
88	orthos?s.ti,ab.
89	orthotic?.ti,ab.
90	brace?.ti,ab.
91	or/86-90
92	(gait$ adj5 (rehab$ or train$ or retrain$ or educat$ or reeducat$ or strateg$)).ti,ab.
93	BODY WEIGHT/ and GAIT/
94	((weight$ or bodyweight$) adj5 support$ adj5 train$).ti,ab.
95	exp "EXOSKELETON (REHABILITATION)"/
96	exoskeleton?.ti,ab.
97	ROBOTICS/ and exp ORTHOSIS/
98	(robot$ adj5 (orthotic? or orthos?s)).ti,ab.
99	(robot$ adj3 (device? or rehab$ or train$)).ti,ab.
100	(tilt$ adj3 table?).ti,ab.
101	(ELECTROTHERAPY/ or *NERVE STIMULATION/ or NEUROMUSCULAR ELECTRICAL STIMULATION/ or FUNCTIONAL ELECTRICAL STIMULATION/) and GAIT/
102	((neuro$ or function$) adj3 electrical$ adj3 stimulat$ adj5 gait$).ti,ab.
103	((FES or NMES) adj5 gait$).ti,ab.
104	or/92-103
105	WEIGHT BEARING/ and TIME FACTOR/
106	(weight? adj3 (bear$ or load$) adj5 earl$).ti,ab.
107	(prosthe$ adj5 temporar$).ti,ab.
108	(earl$ adj3 walk$ adj3 aid?).ti,ab.
109	EWA.ti,ab.
110	(mobilit$ adj3 aid?).ti,ab.
111	PPAM?.ti,ab.
112	AMA.ti,ab.
113	femuret$.ti,ab.
114	BED REST/
115	(bed? adj3 rest$).ti,ab.
116	MOBILIZATION/
117	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 mobili$).ti,ab.
118	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 ambulation).ti,ab.
119	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 (sit or sits or sitting or stand? or standing or walk? or walking)).ti,ab.
120	or/105-119
121	MUSCULOSKELETAL MANIPULATION/
122	SOFT TISSUE THERAPY/
123	MASSAGE/
124	STRETCHING EXERCISE/
125	PLYOMETRICS/
126	MOVEMENT THERAPY/
127	JOINT MOBILIZATION/
128	(manual adj3 therap$).ti,ab.
129	massag$.ti,ab.
130	(soft adj3 tissue? adj3 (releas$ or therap$ or rehab$)).ti,ab.
131	((exercise? or active$ or ballistic$ or dynamic$ or isometric$ or passive$ or relax$ or static$) adj3 stretch$).ti,ab.

#	Searches
132	(plyometric adj3 (exercis$ or train$ or program$ or class or classes or drill$)).ti,ab.
133	(joint? adj5 (mobili?ation or mobili?e or mobili?ing or manipulat$ or therap$ or rehab$)).ti,ab.
134	(range? adj3 mov$ adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
135	(continu$ adj3 passive$ adj3 (mov$ or motion?)).ti,ab.
136	CPM.ti,ab.
137	or/121-136
138	HYDROTHERAPY/
139	hydrotherap$.ti,ab.
140	((hydro or water or aqua$) adj3 therap$).ti,ab.
141	or/138-140
142	exp EDEMA/pc [Prevention]
143	exp EDEMA/th [Therapy]
144	exp EDEMA/ and (PATIENT POSITIONING/ or BED REST/ or BANDAGE/ or COMPRESSION BANDAGES/ or COMPRESSION STOCKINGS/ or INTERMITTENT PNEUMATIC COMPRESSION DEVICE/ or VACUUM ASSISTED CLOSURE/ or MASSAGE/ or MANUAL LYMPHATIC DRAINAGE/ or SKIN CREAM/ or OINTMENT/ or FLUID THERAPY/ or exp REHYDRATION/ or ORAL REHYDRATION SOLUTION/ or LOW LEVEL LASER THERAPY/)
145	((oedema? or edema? or swell$ or scar$) adj5 (manag$ or therap$ or elevat$ or (bed? adj3 rest$) or (leg? adj3 rais$) or (arm? adj3 rais$) or bandag$ or stocking? or compres$ or massag$ or manual lymphatic drain$ or cream? or ointment? or hydrat$ or rehydrat$ or (fluid? adj3 therap$) or desensiti$ or de-sensiti$ or (la?er? adj3 therap$) or (hand? adj3 therap$))).ti,ab.
146	or/142-145
147	MICROGRAVITY/
148	hypograv$.ti,ab.
149	((antigravit$ or ((anti or low or reduc$) adj3 gravit$)) adj5 (treadmill? or running machine?)).ti,ab.
150	or/147-149
151	DIET THERAPY/
152	DIETARY SUPPLEMENT/
153	DIET SUPPLEMENTATION/
154	MINERAL SUPPLEMENTATION/
155	VITAMIN SUPPLEMENTATION/
156	DIETETICS/
157	NUTRITIONAL REQUIREMENT/
158	DIETARY REFERENCE INTAKE/
159	CALORIC INTAKE/
160	NUTRITIONAL STATUS/
161	*NUTRITIONAL SUPPORT/
162	*ENTERIC FEEDING/
163	GASTROSTOMY/
164	PERCUTANEOUS ENDOSCOPIC GASTROSTOMY/
165	DIGESTIVE TRACT INTUBATION/
166	NOSE FEEDING/
167	(PATIENT EDUCATION/ or HEALTH EDUCATION/) and (NUTRITION/ or exp DIET/ or EATING/ or exp FOOD/)
168	*DYSPHAGIA/
169	((nutrition$ or diet$ or food$) adj3 (support$ or therap$ or rehab$)).ti,ab.
170	((nutrition$ or diet$ or food$ or macronutrient? or macro-nutrient? or protein? or carbohydrate? or fat? or micronutrient? or micronutrient? or vitamin? or mineral? or phytochemical?) adj5 supplement$).ti,ab.
171	dietetic?.ti,ab.
172	((nutrition$ or diet$ or food$ or calori$ or energy) adj3 (requir$ or allow$ or intake? or status$)).ti,ab.
173	((enteral$ or tube?) adj3 (nutrition$ or feed$ or fed)).ti,ab.
174	gastrostom$.ti,ab.

#	Searches
175	PEG.ti,ab.
176	RIG.ti,ab.
177	((nasogastric$ or naso-gastric$ or NG or gastrointestinal$ or gastro-intestinal$) adj3 (nutrition$ or feed$ or fed or intubat$)).ti,ab.
178	((swallow$ or deglutition$) adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
179	((nutrition$ or diet$ or food$ or feed$) adj5 plan$).ti,ab.
180	((nutrition$ or diet$ or food$ or feed$) adj5 (educat$ or inform$ or advice or advis$ or leaflet? or handout?)).ti,ab.
181	dysphagia.ti,ab.
182	((swallow$ or deglutition$) adj5 disorder?).ti,ab.
183	or/151-182
184	PLAY THERAPY/
185	(play$ adj3 therap$).ti,ab.
186	or/184-185
187	(early adj5 (rehab$ or therap$ or manag$ or intervention?)).ti.
188	46 and 51 and 70
189	46 and 51 and 85
190	46 and 51 and 91
191	46 and 51 and 104
192	46 and 51 and 120
193	46 and 51 and 137
194	46 and 51 and 141
195	46 and 51 and 146
196	46 and 51 and 150
197	46 and 51 and 183
198	46 and 51 and 186
199	46 and 51 and 187
200	or/188-199
201	limit 200 to english language
202	limit 201 to yr="1995 -Current"
203	letter.pt. or LETTER/
204	note.pt.
205	editorial.pt.
206	CASE REPORT/ or CASE STUDY/
207	(letter or comment*).ti.
208	or/203-207
209	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
210	208 not 209
211	ANIMAL/ not HUMAN/
212	NONHUMAN/
213	exp ANIMAL EXPERIMENT/
214	exp EXPERIMENTAL ANIMAL/
215	ANIMAL MODEL/
216	exp RODENT/
217	(rat or rats or mouse or mice).ti.
218	or/210-217
219	202 not 218

Databases: Cochrane Central Register of Controlled Trials; and Cochrane Database of Systematic Reviews

Date of last search: 14/10/2019

#	Searches
#1	([mh "WOUNDS AND INJURIES"] not ([mh ^ASPHYXIA] or [mh ^"BATTERED CHILD SYNDROME"] or [mh "BIRTH INJURIES"] or [mh "BITES AND STINGS"] or [mh DROWNING] or [mh ^"EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC

#	Searches
	MATERIALS"] or [mh ^FROSTBITE] or [mh "HEAT STRESS DISORDERS"] or [mh "RADIATION INJURIES"] or [mh ^RETROPNEUMOPERITONEUM] or [mh ^"SURGICAL WOUND"]))
#2	([mh ^HOSPITALIZATION] or [mh ^"PATIENT ADMISSION"] or [mh ^"ADOLESCENT, HOSPITALIZED"] or [mh ^"CHILD, HOSPITALIZED"] or [mh HOSPITALS] or [mh "EMERGENCY SERVICE, HOSPITAL"] or [mh "INTENSIVE CARE UNITS"] or [mh ^"REHABILITATION CENTERS"])
#3	#1 and #2
#4	(hospitalised or hospitalized or hospitalistion* or hospitaliztion* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*))):ti,ab
#5	#1 and #4
#6	((hospitalised or hospitalized or hospitalistion* or hospitaliztion*) near/10 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#7	((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*) near/5 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#8	(patient* near/5 trauma*):ti,ab
#9	(patient* near/3 (burn* or burned or fractur*)):ti,ab
#10	"wound* patient*":ti,ab
#11	"injur* patient*":ti,ab
#12	"accident* patient*":ti,ab
#13	trauma*:ti,ab
#14	#1 and #13
#15	[mh "MULTIPLE TRAUMA"]
#16	[mh ^TRAUMATOLOGY]
#17	(trauma* near/5 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#18	((complex* or multiple or critical*) near/3 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#19	(trauma* near/3 (severe or severely or major or multiple)):ti,ab
#20	((injur* or wound* or burn* or burned or fractur*) near/2 (severe or severely or major or multiple)):ti,ab
#21	((physical* or body or bodily) near/3 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#22	(acute near/1 (injur* or trauma* or wound* or burn* or burned or fractur*)):ti,ab
#23	(polytrauma* or poly-trauma*):ti,ab
#24	traumatolog*:ti,ab
#25	([mh ^ACCIDENTS] or [mh ^"ACCIDENTAL FALLS"] or [mh ^"ACCIDENTS, HOME"] or [mh ^"ACCIDENTS, OCCUPATIONAL"] or [mh ^"ACCIDENTS, TRAFFIC"])
#26	#1 and #25
#27	(injur* or wound* or trauma* or burn* or burned or fractur*):ti,ab
#28	#25 and #27
#29	(accident* near/5 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#30	(accident* near/3 (serious* or severe or severely or major)):ti,ab
#31	#2 and #25
#32	(hospitalised or hospitalized or hospitalistion* or hospitaliztion* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or intensive care or ICU* or PICU* or NICU* or department* or centre* or center*))):ti,ab
#33	#25 and #32
#34	[mh ^"SPINAL CORD INJURIES"] or [mh ^"SPINAL CORD COMPRESSION"]
#35	[mh "THORACIC INJURIES"] or [mh ^"ACUTE LUNG INJURY"]
#36	[mh ^"PERIPHERAL NERVE INJURIES"] or [mh "CRANIAL NERVE INJURIES"]
#37	[mh AMPUTATION] or [mh ^"AMPUTATION, TRAUMATIC"] or [mh ^AMPUTEES] or [mh ^"AMPUTATION STUMPS"] or [mh ^"LIMB SALVAGE"]
#38	((spinal* or spine* or chest* or thoracic* or nerve*) near/3 injur*):ti
#39	((spinal* or spine*) near/3 cord* near/3 compress*):ti
#40	((Flail* or stove in) near/3 chest*):ti
#41	(rib* near/3 fractur*):ti

#	Searches
#42	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) near/3 plexus near/3 injur*):ti
#43	(amputat* or amputee*):ti
#44	(limb* near/3 (loss or losing or lost or salvag* or re-construct* or reconstruct*)):ti
#45	[mh ^"HEAD INJURIES, CLOSED"] or [mh ^"HEAD INJURIES, PENETRATING"]
#46	(head near/3 injur*):ti
#47	#3 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #26 or #28 or #29 or #30 or #31 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43 or #44 or #45 or #46
#48	[mh "BRAIN INJURIES"]
#49	(brain near/3 injur*):ti,ab
#50	#48 or #49
#51	#47 not #50
#52	[mh ^REHABILITATION]
#53	MeSH descriptor: [] explode all trees and with qualifier(s): [rehabilitation - RH]
#54	MeSH descriptor: [] explode all trees and with qualifier(s): [therapy - TH]
#55	rehab*:ti,ab
#56	#52 or #53 or #54 or #55
#57	[mh ^"EXERCISE THERAPY"]
#58	[mh ^"RESISTANCE TRAINING"]
#59	[mh ^"PHYSICAL CONDITIONING, HUMAN"]
#60	[mh ^"HIGH-INTENSITY INTERVAL TRAINING"]
#61	[mh ^EXERCISE]
#62	[mh ^SPORTS]
#63	[mh ^RUNNING]
#64	[mh ^JOGGING]
#65	[mh ^BICYCLING]
#66	[mh ^SWIMMING]
#67	((cardio* or aerobic*) near/5 (exercis* or train* or program* or class or classes)):ti,ab
#68	((resist* or strength* or fitness) near/3 (exercis* or train* or program* or class or classes)):ti,ab
#69	((sport* or exercis* or run* or jog* or bicycl* or cycle* or cycling or swim* or row* or rowing or skipping or aerobics or gym* or treadmill*) near/5 (train* or program* or class or classes)):ti,ab
#70	("elliptical train*" or "cross train*" or "circuit train*" or "step train*"):ti,ab
#71	((sport* or run* or jog* or bicycl* or cycle* or cycling or swim* or row* or rowing or skip* or aerobics or gym* or treadmill*) near/5 exercis*):ti,ab
#72	(recondition* or re-condition*):ti,ab
#73	#57 or #58 or #59 or #60 or #61 or #62 or #63 or #64 or #65 or #66 or #67 or #68 or #69 or #70 or #71 or #72
#74	[mh "MUSCLE STRENGTH"]
#75	[mh ^"POSTURAL BALANCE"]
#76	[mh ^PROPRIOCEPTION]
#77	[mh ^KINESTHESIA]
#78	[mh ^"VESTIBULAR DISEASES"]
#79	[mh ^VERTIGO]
#80	[mh ^DIZZINESS]
#81	(strength* near/5 (exercis* or train* or program* or class or classes or rehab*)):ti,ab
#82	(balanc* near/5 (exercis* or train* or program* or class or classes or rehab*)):ti,ab
#83	(propriocept* near/5 (exercis* or train* or program* or class or classes or rehab* or technique* or facilitat* or stimulat*)):ti,ab
#84	(kinaesthe* or kinesthe*):ti,ab
#85	((vestibular* or vertigo or dizz*) near/5 (exercis* or train* or program* or class or classes or rehab*)):ti,ab
#86	#74 or #75 or #76 or #77 or #78 or #79 or #80 or #81 or #82 or #83 or #84 or #85
#87	[mh ^SPLINTS]
#88	[mh "ORTHOTIC DEVICES"]

#	Searches
#89	splint*:ti,ab
#90	(orthosis or orthoses):ti,ab
#91	orthotic*:ti,ab
#92	brace*:ti,ab
#93	#87 or #88 or #89 or #90 or #91 or #92
#94	(gait* near/5 (rehab* or train* or retrain* or educat* or reeducat* or strateg*)):ti,ab
#95	[mh ^"BODY WEIGHT"] and [mh ^GAIT]
#96	((weight* or bodyweight*) near/5 support* near/5 train*):ti,ab
#97	[mh ^"EXOSKELETON DEVICE"]
#98	exoskeleton*:ti,ab
#99	[mh ^ROBOTICS] and [mh "ORTHOTIC DEVICES"]
#100	(robot* near/5 (orthotic* or orthosis or orthoses)):ti,ab
#101	(robot* near/3 (device* or rehab* or train*)):ti,ab
#102	(tilt* near/3 table*):ti,ab
#103	[mh ^"ELECTRIC STIMULATION THERAPY"] and [mh ^GAIT]
#104	((neuro* or function*) near/3 electrical* near/3 stimulat* near/5 gait*):ti,ab
#105	((FES or NMES) near/5 gait*):ti,ab
#106	#94 or #95 or #96 or #97 or #98 or #99 or #100 or #101 or #102 or #103 or #104 or #105
#107	[mh ^"WEIGHT-BEARING"] and [mh ^"TIME FACTORS"]
#108	(weight* near/3 (bear* or load*) near/5 earl*):ti,ab
#109	(prosthe* near/5 temporar*):ti,ab
#110	(earl* near/3 walk* near/3 aid*):ti,ab
#111	EWA:ti,ab
#112	(mobilit* near/3 aid*):ti,ab
#113	PPAM*:ti,ab
#114	AMA:ti,ab
#115	femuret*:ti,ab
#116	[mh ^"BED REST"]
#117	(bed* near/3 rest*):ti,ab
#118	[mh ^"EARLY AMBULATION"]
#119	((initiat* or start* or introduc* or begin* or began* or commenc* or timing or early or earlier or prompt* or progressiv*) near/5 mobili*):ti,ab
#120	((initiat* or start* or introduc* or begin* or began* or commenc* or timing or early or earlier or prompt* or progressiv*) near/5 ambulation):ti,ab
#121	((initiat* or start* or introduc* or begin* or began* or commenc* or timing or early or earlier or prompt* or progressiv*) near/5 (sit or sits or sitting or stand* or standing or walk* or walking)):ti,ab
#122	[mh ^IMMOBILIZATION/ae]
#123	#107 or #108 or #109 or #110 or #111 or #112 or #113 or #114 or #115 or #116 or #117 or #118 or #119 or #120 or #121 or #122
#124	[mh ^"MUSCULOSKELETAL MANIPULATIONS"]
#125	[mh ^"THERAPY, SOFT TISSUE"]
#126	[mh ^MASSAGE]
#127	[mh ^"MUSCLE STRETCHING EXERCISES"]
#128	[mh ^"PLYOMETRIC EXERCISE"]
#129	[mh ^"EXERCISE MOVEMENT TECHNIQUES"]
#130	[mh ^"MOTION THERAPY, CONTINUOUS PASSIVE"]
#131	(manual near/3 therap*):ti,ab
#132	massag*:ti,ab
#133	(soft near/3 tissue* near/3 (releas* or therap* or rehab*)):ti,ab
#134	((exercise* or active* or ballistic* or dynamic* or isometric* or passive* or relax* or static*) near/3 stretch*):ti,ab
#135	(plyometric near/3 (exercis* or train* or program* or class or classes or drill*)):ti,ab
#136	(joint* near/5 (mobili* or manipulat* or therap* or rehab*)):ti,ab
#137	(range* near/3 mov* near/5 (exercis* or train* or retrain* or educat* or reeducat* or program* or strateg* or therap* or rehab*)):ti,ab
#138	(continu* near/3 passive* near/3 (mov* or motion*)):ti,ab

#	Searches
#139	CPM:ti,ab
#140	#124 or #125 or #126 or #127 or #128 or #129 or #130 or #131 or #132 or #133 or #134 or #135 or #136 or #137 or #138 or #139
#141	[mh ^HYDROTHERAPY]
#142	hydrotherap*:ti,ab
#143	((hydro or water or aqua*) near/3 therap*):ti,ab
#144	#141 or #142 or #143
#145	[mh ^EDEMA/pc]
#146	[mh ^EDEMA/th]
#147	[mh ^EDEMA] and ([mh ^"PATIENT POSITIONING"] or [mh ^"BED REST"] or [mh ^BANDAGES] or [mh ^"COMPRESSION BANDAGES"] or [mh ^"STOCKINGS, COMPRESSION"] or [mh ^"INTERMITTENT PNEUMATIC COMPRESSION DEVICES"] or [mh ^"NEGATIVE-PRESSURE WOUND THERAPY"] or [mh ^MASSAGE] or [mh ^"MANUAL LYMPHATIC DRAINAGE"] or [mh ^"SKIN CREAM"] or [mh ^OINTMENTS] or [mh ^"FLUID THERAPY"] or [mh ^"REHYDRATION SOLUTIONS"] or [mh ^"LASER THERAPY"])
#148	((oedema* or edema* or swell* or scar*) near/5 (manag* or therap* or elevat* or (bed* near/3 rest*) or (leg* near/3 rais*) or (arm* near/3 rais*) or bandag* or stocking* or compres* or massag* or "manual lymphatic drain*" or cream* or ointment* or hydrat* or rehydrat* or (fluid* near/3 therap*) or desensiti* or de-sensiti* or ((laser* Or lazer*) near/3 therap*) or (hand* near/3 therap*))):ti,ab
#149	#145 or #146 or #147 or #148
#150	[mh ^HYPOGRAVITY]
#151	hypograv*:ti,ab
#152	((antigravit* or ((anti or low or reduc*) near/3 gravit*)) near/5 (treadmill* or "running machine*")):ti,ab
#153	#150 or #151 or #152
#154	[mh ^"DIET THERAPY"]
#155	[mh ^"NUTRITION THERAPY"]
#156	[mh ^"DIETARY SUPPLEMENTS"]
#157	[mh ^DIETETICS]
#158	[mh ^"NUTRITIONAL REQUIREMENTS"]
#159	[mh ^"RECOMMENDED DIETARY ALLOWANCES"]
#160	[mh ^"ENERGY INTAKE"]
#161	[mh ^"NUTRITIONAL STATUS"]
#162	[mh ^"NUTRITIONAL SUPPORT"]
#163	[mh ^"ENTERAL NUTRITION"]
#164	[mh ^GASTROSTOMY]
#165	[mh ^"INTUBATION, GASTROINTESTINAL"]
#166	([mh ^"PATIENT EDUCATION AS TOPIC"] or [mh ^"HEALTH EDUCATION"]) and ([mh DIET] or [mh EATING] or [mh FOOD])
#167	[mh ^"DEGLUTITION DISORDERS"]
#168	((nutrition* or diet* or food*) near/3 (support* or therap* or rehab*)):ti,ab
#169	((nutrition* or diet* or food* or macronutrient* or macro-nutrient* or protein* or carbohydrate* or fat* or micronutrient* or micronutrient* or vitamin* or mineral* or phytochemical*) near/5 supplement*):ti,ab
#170	dietetic*:ti,ab
#171	((nutrition* or diet* or food* or calori* or energy) near/3 (requir* or allow* or intake* or status*)):ti,ab
#172	((enteral* or tube*) near/3 (nutrition* or feed* or fed)):ti,ab
#173	gastrostom*:ti,ab
#174	PEG:ti,ab
#175	RIG:ti,ab
#176	((nasogastric* or naso-gastric* or NG or gastrointestinal* or gastro-intestinal*) near/3 (nutrition* or feed* or fed or intubat*)):ti,ab
#177	((swallow* or deglutition*) near/5 (exercis* or train* or retrain* or educat* or reeducat* or program* or strateg* or therap* or rehab*)):ti,ab
#178	((nutrition* or diet* or food* or feed*) near/5 plan*):ti,ab

#	Searches
#179	((nutrition* or diet* or food* or feed*) near/5 (educat* or inform* or advice or advis* or leaflet* or handout*)):ti,ab
#180	dysphagia:ti,ab
#181	((swallow* or deglutition*) near/5 disorder*):ti,ab
#182	#154 or #155 or #156 or #157 or #158 or #159 or #160 or #161 or #162 or #163 or #164 or #165 or #166 or #167 or #168 or #169 or #170 or #171 or #172 or #173 or #174 or #175 or #176 or #177 or #178 or #179 or #180 or #181
#183	[mh ^"PLAY THERAPY"]
#184	(play* near/3 therap*):ti,ab
#185	#183 or #184
#186	(early near/5 (rehab* or therap* or manag* or intervention*)):ti
#187	#51 and #56 and #73
#188	#51 and #56 and #86
#189	#51 and #56 and #93
#190	#51 and #56 and #106
#191	#51 and #56 and #123
#192	#51 and #56 and #140
#193	#51 and #56 and #144
#194	#51 and #56 and #149
#195	#51 and #56 and #153
#196	#51 and #56 and #182
#197	#51 and #56 and #185
#198	#51 and #56 and #186
#199	#187 or #188 or #189 or #190 or #191 or #192 or #193 or #194 or #195 or #196 or #197 or #198
#200	#187 or #188 or #189 or #190 or #191 or #192 or #193 or #194 or #195 or #196 or #197 or #198 with Cochrane Library publication date Between Jan 1995 and Oct 2019, in Cochrane Reviews
#201	#187 or #188 or #189 or #190 or #191 or #192 or #193 or #194 or #195 or #196 or #197 or #198 with Publication Year from 1995 to 2019, in Trials

Health economics search strategies

Databases: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

Date of last search: 18/10/2019

#	Searches
1	ECONOMICS/
2	VALUE OF LIFE/
3	exp "COSTS AND COST ANALYSIS"/
4	exp ECONOMICS, HOSPITAL/
5	exp ECONOMICS, MEDICAL/
6	exp RESOURCE ALLOCATION/
7	ECONOMICS, NURSING/
8	ECONOMICS, PHARMACEUTICAL/
9	exp "FEES AND CHARGES"/
10	exp BUDGETS/
11	budget*.ti,ab.
12	cost*.ti,ab.
13	(economic* or pharmaco?economic*).ti,ab.
14	(price* or pricing*).ti,ab.
15	(financ* or fee or fees or expenditure* or saving*).ti,ab.
16	(value adj2 (money or monetary)).ti,ab.
17	resourc* allocat*.ti,ab.
18	(fund or funds or funding* or funded).ti,ab.
19	(ration or rations or rationing* or rationed).ti,ab.

#	Searches
20	ec.fs.
21	or/1-20
22	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
23	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
24	((hospitali?ed or hospitali?ation?) adj10 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
25	((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
26	(patient? adj5 trauma$).ti,ab.
27	(patient? adj3 (burn? or burned or fractur$)).ti,ab.
28	wound$ patient?.ti,ab.
29	injur$ patient?.ti,ab.
30	accident$ patient?.ti,ab.
31	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma$.ti.
32	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma$.ab. /freq=2
33	exp MULTIPLE TRAUMA/
34	TRAUMATOLOGY/
35	(trauma$ adj5 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
36	((complex$ or multiple or critical$) adj3 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
37	(trauma$ adj3 (severe or severely or major or multiple)).ti,ab.
38	((injur$ or wound$ or burn? or burned or fractur$) adj2 (severe or severely or major or multiple)).ti,ab.
39	((physical$ or body or bodily) adj3 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
40	(acute adj1 (injur$ or trauma$ or wound$ or burn? or burned or fractur$)).ti,ab.
41	(polytrauma? or poly-trauma?).ti,ab.
42	traumatolog$.ti,ab.
43	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (exp *"WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/))
44	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ti.

#	Searches
45	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ab. /freq=2
46	(accident? adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
47	(accident? adj3 (serious$ or severe or severely or major)).ti,ab.
48	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
49	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
50	*SPINAL CORD INJURIES/ or *SPINAL CORD COMPRESSION/
51	exp *THORACIC INJURIES/ or *ACUTE LUNG INJURY/
52	*PERIPHERAL NERVE INJURIES/ or exp *CRANIAL NERVE INJURIES/
53	exp *AMPUTATION/ or *AMPUTATION, TRAUMATIC/ or *AMPUTEES/ or *AMPUTATION STUMPS/ or *LIMB SALVAGE/
54	((spinal$ or spine? or chest? or thoracic$ or nerve?) adj3 injur$).ti.
55	((spinal$ or spine?) adj3 cord? adj3 compress$).ti.
56	((Flail$ or stove in) adj3 chest?).ti.
57	(rib? adj3 fractur$).ti.
58	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur$).ti.
59	(amputat$ or amputee?).ti.
60	(limb? adj3 (loss or losing or lost or salvag$ or re-construct$ or reconstruct$)).ti.
61	*HEAD INJURIES, CLOSED/ or *HEAD INJURIES, PENETRATING/
62	(head adj3 injur$).ti.
63	or/22-62
64	exp BRAIN INJURIES/
65	(brain adj3 injur$).ti,ab.
66	or/64-65
67	63 not 66
68	REHABILITATION/
69	rh.fs.
70	th.fs.
71	rehab$.ti,ab.
72	or/68-71
73	EXERCISE THERAPY/
74	RESISTANCE TRAINING/
75	PHYSICAL CONDITIONING, HUMAN/
76	HIGH-INTENSITY INTERVAL TRAINING/
77	EXERCISE/
78	SPORTS/
79	RUNNING/ not RUNNING/in [Injuries]
80	JOGGING/ not JOGGING/in [Injuries]
81	BICYCLING/ not BICYCLING/in [Injuries]
82	SWIMMING/ not SWIMMING/in [Injuries]
83	((cardio$ or aerobic$) adj5 (exercis$ or train$ or program$ or class or classes)).ti,ab.
84	((resist$ or strength$ or fitness) adj3 (exercis$ or train$ or program$ or class or classes)).ti,ab.
85	((sport$ or exercis$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skipping or aerobics or gym? or treadmill?) adj5 (train$ or program$ or class or classes)).ti,ab.
86	(elliptical train$ or cross train$ or circuit train$ or step train$).ti,ab.
87	((sport$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skip$ or aerobics or gym? or treadmill?) adj5 exercis$).ti,ab.

#	Searches
88	(recondition$ or re-condition$).ti,ab.
89	or/73-88
90	exp MUSCLE STRENGTH/
91	POSTURAL BALANCE/
92	PROPRIOCEPTION/
93	KINESTHESIA/
94	VESTIBULAR DISEASES/
95	VERTIGO/
96	DIZZINESS/
97	(strength$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
98	(balanc$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
99	(propriocept$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$ or technique? or facilitat$ or stimulat$)).ti,ab.
100	kin?esthe$.ti,ab.
101	((vestibular$ or vertigo or dizz$) adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
102	or/90-101
103	SPLINTS/
104	exp ORTHOTIC DEVICES/
105	splint$.ti,ab.
106	orthos?s.ti,ab.
107	orthotic?.ti,ab.
108	brace?.ti,ab.
109	or/103-108
110	(gait$ adj5 (rehab$ or train$ or retrain$ or educat$ or reeducat$ or strateg$)).ti,ab.
111	BODY WEIGHT/ and GAIT/
112	((weight$ or bodyweight$) adj5 support$ adj5 train$).ti,ab.
113	EXOSKELETON DEVICE/
114	exoskeleton?.ti,ab.
115	ROBOTICS/ and exp ORTHOTIC DEVICES/
116	(robot$ adj5 (orthotic? or orthos?s)).ti,ab.
117	(robot$ adj3 (device? or rehab$ or train$)).ti,ab.
118	(tilt$ adj3 table?).ti,ab.
119	ELECTRIC STIMULATION THERAPY/ and GAIT/
120	((neuro$ or function$) adj3 electrical$ adj3 stimulat$ adj5 gait$).ti,ab.
121	((FES or NMES) adj5 gait$).ti,ab.
122	or/110-121
123	WEIGHT-BEARING/ and TIME FACTORS/
124	(weight? adj3 (bear$ or load$) adj5 earl$).ti,ab.
125	(prosthe$ adj5 temporar$).ti,ab.
126	(earl$ adj3 walk$ adj3 aid?).ti,ab.
127	EWA.ti,ab.
128	(mobilit$ adj3 aid?).ti,ab.
129	PPAM?.ti,ab.
130	AMA.ti,ab.
131	femuret$.ti,ab.
132	BED REST/
133	(bed? adj3 rest$).ti,ab.
134	EARLY AMBULATION/
135	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 mobili$).ti,ab.
136	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 ambulation).ti,ab.
137	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 (sit or sits or sitting or stand? or standing or walk? or walking)).ti,ab.
138	IMMOBILIZATION/ae [Adverse Effects]

#	Searches
139	or/123-138
140	MUSCULOSKELETAL MANIPULATIONS/
141	THERAPY, SOFT TISSUE/
142	MASSAGE/
143	MUSCLE STRETCHING EXERCISES/
144	PLYOMETRIC EXERCISE/
145	EXERCISE MOVEMENT TECHNIQUES/
146	MOTION THERAPY, CONTINUOUS PASSIVE/
147	(manual adj3 therap$).ti,ab.
148	massag$.ti,ab.
149	(soft adj3 tissue? adj3 (releas$ or therap$ or rehab$)).ti,ab.
150	((exercise? or active$ or ballistic$ or dynamic$ or isometric$ or passive$ or relax$ or static$) adj3 stretch$).ti,ab.
151	(plyometric adj3 (exercis$ or train$ or program$ or class or classes or drill$)).ti,ab.
152	(joint? adj5 (mobili?ation or mobili?e or mobili?ing or manipulat$ or therap$ or rehab$)).ti,ab.
153	(range? adj3 mov$ adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
154	(continu$ adj3 passive$ adj3 (mov$ or motion?)).ti,ab.
155	CPM.ti,ab.
156	or/140-155
157	HYDROTHERAPY/
158	hydrotherap$.ti,ab.
159	((hydro or water or aqua$) adj3 therap$).ti,ab.
160	or/157-159
161	EDEMA/pc [Prevention & Control]
162	EDEMA/th [Therapy]
163	EDEMA/ and (PATIENT POSITIONING/ or BED REST/ or BANDAGES/ or COMPRESSION BANDAGES/ or STOCKINGS, COMPRESSION/ or INTERMITTENT PNEUMATIC COMPRESSION DEVICES/ or NEGATIVE-PRESSURE WOUND THERAPY/ or MASSAGE/ or MANUAL LYMPHATIC DRAINAGE/ or SKIN CREAM/ or OINTMENTS/ or FLUID THERAPY/ or REHYDRATION SOLUTIONS/ or LASER THERAPY/)
164	((oedema? or edema? or swell$ or scar$) adj5 (manag$ or therap$ or elevat$ or (bed? adj3 rest$) or (leg? adj3 rais$) or (arm? adj3 rais$) or bandag$ or stocking? or compres$ or massag$ or manual lymphatic drain$ or cream? or ointment? or hydrat$ or rehydrat$ or (fluid? adj3 therap$) or desensiti$ or de-sensiti$ or (la?er? adj3 therap$) or (hand? adj3 therap$))).ti,ab.
165	or/161-164
166	HYPOGRAVITY/
167	hypograv$.ti,ab.
168	((antigravit$ or ((anti or low or reduc$) adj3 gravit$)) adj5 (treadmill? or running machine?)).ti,ab.
169	or/166-168
170	DIET THERAPY/
171	NUTRITION THERAPY/
172	DIETARY SUPPLEMENTS/
173	DIETETICS/
174	NUTRITIONAL REQUIREMENTS/
175	RECOMMENDED DIETARY ALLOWANCES/
176	ENERGY INTAKE/
177	NUTRITIONAL STATUS/
178	NUTRITIONAL SUPPORT/
179	ENTERAL NUTRITION/
180	GASTROSTOMY/
181	INTUBATION, GASTROINTESTINAL/
182	(PATIENT EDUCATION AS TOPIC/ or HEALTH EDUCATION/) and (exp DIET/ or exp EATING/ or exp FOOD/)
183	DEGLUTITION DISORDERS/

#	Searches
184	((nutrition$ or diet$ or food$) adj3 (support$ or therap$ or rehab$)).ti,ab.
185	((nutrition$ or diet$ or food$ or macronutrient? or macro-nutrient? or protein? or carbohydrate? or fat? or micronutrient? or micronutrient? or vitamin? or mineral? or phytochemical?) adj5 supplement$).ti,ab.
186	dietetic?.ti,ab.
187	((nutrition$ or diet$ or food$ or calori$ or energy) adj3 (requir$ or allow$ or intake? or status$)).ti,ab.
188	((enteral$ or tube?) adj3 (nutrition$ or feed$ or fed)).ti,ab.
189	gastrostom$.ti,ab.
190	PEG.ti,ab.
191	RIG.ti,ab.
192	((nasogastric$ or naso-gastric$ or NG or gastrointestinal$ or gastro-intestinal$) adj3 (nutrition$ or feed$ or fed or intubat$)).ti,ab.
193	((swallow$ or deglutition$) adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
194	((nutrition$ or diet$ or food$ or feed$) adj5 plan$).ti,ab.
195	((nutrition$ or diet$ or food$ or feed$) adj5 (educat$ or inform$ or advice or advis$ or leaflet? or handout?)).ti,ab.
196	dysphagia.ti,ab.
197	((swallow$ or deglutition$) adj5 disorder?).ti,ab.
198	or/170-197
199	PLAY THERAPY/
200	(play$ adj3 therap$).ti,ab.
201	or/199-200
202	(early adj5 (rehab$ or therap$ or manag$ or intervention?)).ti.
203	67 and 72 and 89
204	67 and 72 and 102
205	67 and 72 and 109
206	67 and 72 and 122
207	67 and 72 and 139
208	67 and 72 and 156
209	67 and 72 and 160
210	67 and 72 and 165
211	67 and 72 and 169
212	67 and 72 and 198
213	67 and 72 and 201
214	67 and 72 and 202
215	or/203-214
216	limit 215 to english language
217	limit 216 to yr="1995 -Current"
218	LETTER/
219	EDITORIAL/
220	NEWS/
221	exp HISTORICAL ARTICLE/
222	ANECDOTES AS TOPIC/
223	COMMENT/
224	CASE REPORT/
225	(letter or comment*).ti.
226	or/218-225
227	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
228	226 not 227
229	ANIMALS/ not HUMANS/
230	exp ANIMALS, LABORATORY/
231	exp ANIMAL EXPERIMENTATION/
232	exp MODELS, ANIMAL/
233	exp RODENTIA/
234	(rat or rats or mouse or mice).ti.

#	Searches
235	or/228-234
236	217 not 235
237	21 and 236

Databases: Embase; and Embase Classic

Date of last search: 18/10/2019

#	Searches
1	HEALTH ECONOMICS/
2	exp ECONOMIC EVALUATION/
3	exp HEALTH CARE COST/
4	exp FEE/
5	BUDGET/
6	FUNDING/
7	RESOURCE ALLOCATION/
8	budget*.ti,ab.
9	cost*.ti,ab.
10	(economic* or pharmaco?economic*).ti,ab.
11	(price* or pricing*).ti,ab.
12	(financ* or fee or fees or expenditure* or saving*).ti,ab.
13	(value adj2 (money or monetary)).ti,ab.
14	resourc* allocat*.ti,ab.
15	(fund or funds or funding* or funded).ti,ab.
16	(ration or rations or rationing* or rationed).ti,ab.
17	or/1-16
18	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
19	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
20	((hospitali?ed or hospitali?ation?) adj10 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
21	((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$ or accident?)).ti,ab.
22	(patient? adj5 trauma$).ti,ab.
23	(patient? adj3 (burn? or burned or fractur$)).ti,ab.
24	wound$ patient?.ti,ab.
25	injur$ patient?.ti,ab.
26	accident$ patient?.ti,ab.
27	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE

#	Searches
	MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma$.ti.
28	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma$.ab. /freq=2
29	MULTIPLE TRAUMA/
30	TRAUMATOLOGY/
31	(trauma$ adj5 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
32	((complex$ or multiple or critical$) adj3 (injur$ or wound$ or burn? or burned or fractur$)).ti,ab.
33	(trauma$ adj3 (severe or severely or major or multiple)).ti,ab.
34	((injur$ or wound$ or burn? or burned or fractur$) adj2 (severe or severely or major or multiple)).ti,ab.
35	((physical$ or body or bodily) adj3 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
36	(acute adj1 (injur$ or trauma$ or wound$ or burn? or burned or fractur$)).ti,ab.
37	(polytrauma? or poly-trauma?).ti,ab.
38	traumatolog$.ti,ab.
39	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/))
40	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ti.
41	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur$ or wound? or trauma$ or burn? or burned or fractur$).ab. /freq=2
42	(accident? adj5 (injur$ or wound$ or trauma$ or burn? or burned or fractur$)).ti,ab.
43	(accident? adj3 (serious$ or severe or severely or major)).ti,ab.
44	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
45	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (hospitali?ed or hospitali?tion? or ((admi$ or stay? or stayed or treat$ or present$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
46	*SPINAL CORD INJURY/ or *SPINAL CORD COMPRESSION/
47	exp *THORAX INJURY/ or *ACUTE LUNG INJURY/ or exp *RIB FRACTURE/
48	exp *NERVE INJURY/
49	exp *AMPUTATION/ or *AMPUTEE/ or *LIMB SALVAGE/
50	((spinal$ or spine? or chest? or thoracic$ or nerve?) adj3 injur$).ti.
51	((spinal$ or spine?) adj3 cord? adj3 compress$).ti.
52	((Flail$ or stove in) adj3 chest?).ti.
53	(rib? adj3 fractur$).ti.
54	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3

#	Searches
	injur$).ti.
55	(amputat$ or amputee?).ti.
56	(limb? adj3 (loss or losing or lost or salvag$ or re-construct$ or reconstruct$)).ti.
57	*HEAD INJURY/
58	(head adj3 injur$).ti.
59	or/18-58
60	exp BRAIN INJURY/
61	(brain adj3 injur$).ti,ab.
62	or/60-61
63	59 not 62
64	REHABILITATION/
65	rh.fs.
66	th.fs.
67	rehab$.ti,ab.
68	or/64-67
69	KINESIOTHERAPY/
70	ARM EXERCISE/
71	LEG EXERCISE/
72	RESISTANCE TRAINING/
73	*EXERCISE/
74	HIGH INTENSITY INTERVAL TRAINING/
75	AEROBIC EXERCISE/
76	*SPORT/
77	RUNNING/
78	JOGGING/
79	CYCLING/
80	SWIMMING/
81	((cardio$ or aerobic$) adj5 (exercis$ or train$ or program$ or class or classes)).ti,ab.
82	((resist$ or strength$ or fitness) adj3 (exercis$ or train$ or program$ or class or classes)).ti,ab.
83	((sport$ or exercis$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skipping or aerobics or gym? or treadmill?) adj5 (train$ or program$ or class or classes)).ti,ab.
84	(elliptical train$ or cross train$ or circuit train$ or step train$).ti,ab.
85	((sport$ or run$ or jog$ or bicycl$ or cycle? or cycling or swim$ or row? or rowing or skip$ or aerobics or gym? or treadmill?) adj5 exercis$).ti,ab.
86	(recondition$ or re-condition$).ti,ab.
87	or/69-86
88	MUSCLE TRAINING/
89	MUSCLE EXERCISE/
90	*MUSCLE STRENGTH/
91	*BODY EQUILIBRIUM/
92	PROPRIOCEPTION/
93	KINESTHESIA/
94	VESTIBULAR DISORDER/
95	*VERTIGO/
96	*DIZZINESS/
97	(strength$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
98	(balanc$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
99	(propriocept$ adj5 (exercis$ or train$ or program$ or class or classes or rehab$ or technique? or facilitat$ or stimulat$)).ti,ab.
100	kin?esthe$.ti,ab.
101	((vestibular$ or vertigo or dizz$) adj5 (exercis$ or train$ or program$ or class or classes or rehab$)).ti,ab.
102	or/88-101
103	exp *ORTHOSIS/
104	splint$.ti,ab.

#	Searches
105	orthos?s.ti,ab.
106	orthotic?.ti,ab.
107	brace?.ti,ab.
108	or/103-107
109	(gait$ adj5 (rehab$ or train$ or retrain$ or educat$ or reeducat$ or strateg$)).ti,ab.
110	BODY WEIGHT/ and GAIT/
111	((weight$ or bodyweight$) adj5 support$ adj5 train$).ti,ab.
112	exp "EXOSKELETON (REHABILITATION)"/
113	exoskeleton?.ti,ab.
114	ROBOTICS/ and exp ORTHOSIS/
115	(robot$ adj5 (orthotic? or orthos?s)).ti,ab.
116	(robot$ adj3 (device? or rehab$ or train$)).ti,ab.
117	(tilt$ adj3 table?).ti,ab.
118	(ELECTROTHERAPY/ or *NERVE STIMULATION/ or NEUROMUSCULAR ELECTRICAL STIMULATION/ or FUNCTIONAL ELECTRICAL STIMULATION/) and GAIT/
119	((neuro$ or function$) adj3 electrical$ adj3 stimulat$ adj5 gait$).ti,ab.
120	((FES or NMES) adj5 gait$).ti,ab.
121	or/109-120
122	WEIGHT BEARING/ and TIME FACTOR/
123	(weight? adj3 (bear$ or load$) adj5 earl$).ti,ab.
124	(prosthe$ adj5 temporar$).ti,ab.
125	(earl$ adj3 walk$ adj3 aid?).ti,ab.
126	EWA.ti,ab.
127	(mobilit$ adj3 aid?).ti,ab.
128	PPAM?.ti,ab.
129	AMA.ti,ab.
130	femuret$.ti,ab.
131	BED REST/
132	(bed? adj3 rest$).ti,ab.
133	MOBILIZATION/
134	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 mobili$).ti,ab.
135	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 ambulation).ti,ab.
136	((initiat$ or start$ or introduc$ or begin$ or began$ or commenc$ or timing or early or earlier or prompt$ or progressiv$) adj5 (sit or sits or sitting or stand? or standing or walk? or walking)).ti,ab.
137	or/122-136
138	MUSCULOSKELETAL MANIPULATION/
139	SOFT TISSUE THERAPY/
140	MASSAGE/
141	STRETCHING EXERCISE/
142	PLYOMETRICS/
143	MOVEMENT THERAPY/
144	JOINT MOBILIZATION/
145	(manual adj3 therap$).ti,ab.
146	massag$.ti,ab.
147	(soft adj3 tissue? adj3 (releas$ or therap$ or rehab$)).ti,ab.
148	((exercise? or active$ or ballistic$ or dynamic$ or isometric$ or passive$ or relax$ or static$) adj3 stretch$).ti,ab.
149	(plyometric adj3 (exercis$ or train$ or program$ or class or classes or drill$)).ti,ab.
150	(joint? adj5 (mobili?ation or mobili?e or mobili?ing or manipulat$ or therap$ or rehab$)).ti,ab.
151	(range? adj3 mov$ adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
152	(continu$ adj3 passive$ adj3 (mov$ or motion?)).ti,ab.
153	CPM.ti,ab.
154	or/138-153

#	Searches
155	HYDROTHERAPY/
156	hydrotherap$.ti,ab.
157	((hydro or water or aqua$) adj3 therap$).ti,ab.
158	or/155-157
159	exp EDEMA/pc [Prevention]
160	exp EDEMA/th [Therapy]
161	exp EDEMA/ and (PATIENT POSITIONING/ or BED REST/ or BANDAGE/ or COMPRESSION BANDAGES/ or COMPRESSION STOCKINGS/ or INTERMITTENT PNEUMATIC COMPRESSION DEVICE/ or VACUUM ASSISTED CLOSURE/ or MASSAGE/ or MANUAL LYMPHATIC DRAINAGE/ or SKIN CREAM/ or OINTMENT/ or FLUID THERAPY/ or exp REHYDRATION/ or ORAL REHYDRATION SOLUTION/ or LOW LEVEL LASER THERAPY/)
162	((oedema? or edema? or swell$ or scar$) adj5 (manag$ or therap$ or elevat$ or (bed? adj3 rest$) or (leg? adj3 rais$) or (arm? adj3 rais$) or bandag$ or stocking? or compres$ or massag$ or manual lymphatic drain$ or cream? or ointment? or hydrat$ or rehydrat$ or (fluid? adj3 therap$) or desensiti$ or de-sensiti$ or (la?er? adj3 therap$) or (hand? adj3 therap$))).ti,ab.
163	or/159-162
164	MICROGRAVITY/
165	hypograv$.ti,ab.
166	((antigravit$ or ((anti or low or reduc$) adj3 gravit$)) adj5 (treadmill? or running machine?)).ti,ab.
167	or/164-166
168	DIET THERAPY/
169	DIETARY SUPPLEMENT/
170	DIET SUPPLEMENTATION/
171	MINERAL SUPPLEMENTATION/
172	VITAMIN SUPPLEMENTATION/
173	DIETETICS/
174	NUTRITIONAL REQUIREMENT/
175	DIETARY REFERENCE INTAKE/
176	CALORIC INTAKE/
177	NUTRITIONAL STATUS/
178	*NUTRITIONAL SUPPORT/
179	*ENTERIC FEEDING/
180	GASTROSTOMY/
181	PERCUTANEOUS ENDOSCOPIC GASTROSTOMY/
182	DIGESTIVE TRACT INTUBATION/
183	NOSE FEEDING/
184	(PATIENT EDUCATION/ or HEALTH EDUCATION/) and (NUTRITION/ or exp DIET/ or EATING/ or exp FOOD/)
185	*DYSPHAGIA/
186	((nutrition$ or diet$ or food$) adj3 (support$ or therap$ or rehab$)).ti,ab.
187	((nutrition$ or diet$ or food$ or macronutrient? or macro-nutrient? or protein? or carbohydrate? or fat? or micronutrient? or micronutrient? or vitamin? or mineral? or phytochemical?) adj5 supplement$).ti,ab.
188	dietetic?.ti,ab.
189	((nutrition$ or diet$ or food$ or calori$ or energy) adj3 (requir$ or allow$ or intake? or status$)).ti,ab.
190	((enteral$ or tube?) adj3 (nutrition$ or feed$ or fed)).ti,ab.
191	gastrostom$.ti,ab.
192	PEG.ti,ab.
193	RIG.ti,ab.
194	((nasogastric$ or naso-gastric$ or NG or gastrointestinal$ or gastro-intestinal$) adj3 (nutrition$ or feed$ or fed or intubat$)).ti,ab.
195	((swallow$ or deglutition$) adj5 (exercis$ or train$ or retrain$ or educat$ or reeducat$ or program$ or strateg$ or therap$ or rehab$)).ti,ab.
196	((nutrition$ or diet$ or food$ or feed$) adj5 plan$).ti,ab.

#	Searches
197	((nutrition$ or diet$ or food$ or feed$) adj5 (educat$ or inform$ or advice or advis$ or leaflet? or handout?)).ti,ab.
198	dysphagia.ti,ab.
199	((swallow$ or deglutition$) adj5 disorder?).ti,ab.
200	or/168-199
201	PLAY THERAPY/
202	(play$ adj3 therap$).ti,ab.
203	or/201-202
204	(early adj5 (rehab$ or therap$ or manag$ or intervention?)).ti.
205	63 and 68 and 87
206	63 and 68 and 102
207	63 and 68 and 108
208	63 and 68 and 121
209	63 and 68 and 137
210	63 and 68 and 154
211	63 and 68 and 158
212	63 and 68 and 163
213	63 and 68 and 167
214	63 and 68 and 200
215	63 and 68 and 203
216	63 and 68 and 204
217	or/205-216
218	limit 217 to english language
219	limit 218 to yr="1995 -Current"
220	letter.pt. or LETTER/
221	note.pt.
222	editorial.pt.
223	CASE REPORT/ or CASE STUDY/
224	(letter or comment*).ti.
225	or/220-224
226	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
227	225 not 226
228	ANIMAL/ not HUMAN/
229	NONHUMAN/
230	exp ANIMAL EXPERIMENT/
231	exp EXPERIMENTAL ANIMAL/
232	ANIMAL MODEL/
233	exp RODENT/
234	(rat or rats or mouse or mice).ti.
235	or/227-234
236	219 not 235
237	17 and 236

Database: Cochrane Central Register of Controlled Trials

Date of last search: 18/10/2019

#	Searches
#1	MeSH descriptor: [Economics] this term only
#2	MeSH descriptor: [Value of Life] this term only
#3	MeSH descriptor: [Costs and Cost Analysis] explode all trees
#4	MeSH descriptor: [Economics, Hospital] explode all trees
#5	MeSH descriptor: [Economics, Medical] explode all trees
#6	MeSH descriptor: [Resource Allocation] explode all trees
#7	MeSH descriptor: [Economics, Nursing] this term only
#8	MeSH descriptor: [Economics, Pharmaceutical] this term only
#9	MeSH descriptor: [Fees and Charges] explode all trees
#10	MeSH descriptor: [Budgets] explode all trees

#	Searches
#11	budget*:ti,ab
#12	cost*:ti,ab
#13	(economic* or pharmaco?economic*):ti,ab
#14	(price* or pricing*):ti,ab
#15	(financ* or fee or fees or expenditure* or saving*):ti,ab
#16	(value near/2 (money or monetary)):ti,ab
#17	resourc* allocat*:ti,ab
#18	(fund or funds or funding* or funded):ti,ab
#19	(ration or rations or rationing* or rationed) .ti,ab.
#20	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19
#21	([mh "WOUNDS AND INJURIES"] not ([mh ^ASPHYXIA] or [mh ^"BATTERED CHILD SYNDROME"] or [mh "BIRTH INJURIES"] or [mh "BITES AND STINGS"] or [mh DROWNING] or [mh ^"EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"] or [mh ^FROSTBITE] or [mh "HEAT STRESS DISORDERS"] or [mh "RADIATION INJURIES"] or [mh ^RETROPNEUMOPERITONEUM] or [mh ^"SURGICAL WOUND"]))
#22	([mh ^HOSPITALIZATION] or [mh ^"PATIENT ADMISSION"] or [mh ^"ADOLESCENT, HOSPITALIZED"] or [mh ^"CHILD, HOSPITALIZED"] or [mh HOSPITALS] or [mh "EMERGENCY SERVICE, HOSPITAL"] or [mh "INTENSIVE CARE UNITS"] or [mh ^"REHABILITATION CENTERS"])
#23	#21 and #22
#24	(hospitalised or hospitalized or hospitalistion* or hospitaliztion* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*))):ti,ab
#25	#21 and #24
#26	((hospitalised or hospitalized or hospitalistion* or hospitaliztion*) near/10 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#27	((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*) near/5 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#28	(patient* near/5 trauma*):ti,ab
#29	(patient* near/3 (burn* or burned or fractur*)):ti,ab
#30	"wound* patient*":ti,ab
#31	"injur* patient*":ti,ab
#32	"accident* patient*":ti,ab
#33	trauma*:ti,ab
#34	#21 and #33
#35	[mh "MULTIPLE TRAUMA"]
#36	[mh ^TRAUMATOLOGY]
#37	(trauma* near/5 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#38	((complex* or multiple or critical*) near/3 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#39	(trauma* near/3 (severe or severely or major or multiple)):ti,ab
#40	((injur* or wound* or burn* or burned or fractur*) near/2 (severe or severely or major or multiple)):ti,ab
#41	((physical* or body or bodily) near/3 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#42	(acute near/1 (injur* or trauma* or wound* or burn* or burned or fractur*)):ti,ab
#43	(polytrauma* or poly-trauma*):ti,ab
#44	traumatolog*:ti,ab
#45	([mh ^ACCIDENTS] or [mh ^"ACCIDENTAL FALLS"] or [mh ^"ACCIDENTS, HOME"] or [mh ^"ACCIDENTS, OCCUPATIONAL"] or [mh ^"ACCIDENTS, TRAFFIC"])
#46	#21 and #45
#47	(injur* or wound* or trauma* or burn* or burned or fractur*):ti,ab
#48	#45 and #47
#49	(accident* near/5 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#50	(accident* near/3 (serious* or severe or severely or major)):ti,ab

#	Searches
#51	#22 and #45
#52	(hospitalised or hospitalized or hospitalistion* or hospitaliztion* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or intensive care or ICU* or PICU* or NICU* or department* or centre* or center*))):ti,ab
#53	#45 and #52
#54	[mh ^"SPINAL CORD INJURIES"] or [mh ^"SPINAL CORD COMPRESSION"]
#55	[mh "THORACIC INJURIES"] or [mh ^"ACUTE LUNG INJURY"]
#56	[mh ^"PERIPHERAL NERVE INJURIES"] or [mh "CRANIAL NERVE INJURIES"]
#57	[mh AMPUTATION] or [mh ^"AMPUTATION, TRAUMATIC"] or [mh ^AMPUTEES] or [mh ^"AMPUTATION STUMPS"] or [mh ^"LIMB SALVAGE"]
#58	((spinal* or spine* or chest* or thoracic* or nerve*) near/3 injur*):ti
#59	((spinal* or spine*) near/3 cord* near/3 compress*):ti
#60	((Flail* or stove in) near/3 chest*):ti
#61	(rib* near/3 fractur*):ti
#62	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) near/3 plexus near/3 injur*):ti
#63	(amputat* or amputee*):ti
#64	(limb* near/3 (loss or losing or lost or salvag* or re-construct* or reconstruct*)):ti
#65	[mh ^"HEAD INJURIES, CLOSED"] or [mh ^"HEAD INJURIES, PENETRATING"]
#66	(head near/3 injur*):ti
#67	#23 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43 or #44 or #46 or #48 or #49 or #50 or #51 or #53 or #54 or #55 or #56 or #57 or #58 or #59 or #60 or #61 or #62 or #63 or #64 or #65 or #66
#68	[mh "BRAIN INJURIES"]
#69	(brain near/3 injur*):ti,ab
#70	#68 or #69
#71	#67 not #70
#72	[mh ^REHABILITATION]
#73	MeSH descriptor: [] explode all trees and with qualifier(s): [rehabilitation - RH]
#74	MeSH descriptor: [] explode all trees and with qualifier(s): [therapy - TH]
#75	rehab*:ti,ab
#76	#72 or #73 or #74 or #75
#77	[mh ^"EXERCISE THERAPY"]
#78	[mh ^"RESISTANCE TRAINING"]
#79	[mh ^"PHYSICAL CONDITIONING, HUMAN"]
#80	[mh ^"HIGH-INTENSITY INTERVAL TRAINING"]
#81	[mh ^EXERCISE]
#82	[mh ^SPORTS]
#83	[mh ^RUNNING]
#84	[mh ^JOGGING]
#85	[mh ^BICYCLING]
#86	[mh ^SWIMMING]
#87	((cardio* or aerobic*) near/5 (exercis* or train* or program* or class or classes)):ti,ab
#88	((resist* or strength* or fitness) near/3 (exercis* or train* or program* or class or classes)):ti,ab
#89	((sport* or exercis* or run* or jog* or bicycl* or cycle* or cycling or swim* or row* or rowing or skipping or aerobics or gym* or treadmill*) near/5 (train* or program* or class or classes)):ti,ab
#90	("elliptical train*" or "cross train*" or "circuit train*" or "step train*"):ti,ab
#91	((sport* or run* or jog* or bicycl* or cycle* or cycling or swim* or row* or rowing or skip* or aerobics or gym* or treadmill*) near/5 exercis*):ti,ab
#92	(recondition* or re-condition*):ti,ab
#93	#77 or #78 or #79 or #80 or #81 or #82 or #83 or #84 or #85 or #86 or #87 or #88 or #89 or #90 or #91 or #92
#94	[mh "MUSCLE STRENGTH"]
#95	[mh ^"POSTURAL BALANCE"]
#96	[mh ^PROPRIOCEPTION]

#	Searches
#97	[mh ^KINESTHESIA]
#98	[mh ^"VESTIBULAR DISEASES"]
#99	[mh ^VERTIGO]
#100	[mh ^DIZZINESS]
#101	(strength* near/5 (exercis* or train* or program* or class or classes or rehab*)):ti,ab
#102	(balanc* near/5 (exercis* or train* or program* or class or classes or rehab*)):ti,ab
#103	(propriocept* near/5 (exercis* or train* or program* or class or classes or rehab* or technique* or facilitat* or stimulat*)):ti,ab
#104	(kinaesthe* or kinesthe*):ti,ab
#105	((vestibular* or vertigo or dizz*) near/5 (exercis* or train* or program* or class or classes or rehab*)):ti,ab
#106	#94 or #95 or #96 or #97 or #98 or #99 or #100 or #101 or #102 or #103 or #104 or #105
#107	[mh ^SPLINTS]
#108	[mh "ORTHOTIC DEVICES"]
#109	splint*:ti,ab
#110	(orthosis or orthoses):ti,ab
#111	orthotic*:ti,ab
#112	brace*:ti,ab
#113	#107 or #108 or #109 or #110 or #111 or #112
#114	(gait* near/5 (rehab* or train* or retrain* or educat* or reeducat* or strateg*)):ti,ab
#115	[mh ^"BODY WEIGHT"] and [mh ^GAIT]
#116	((weight* or bodyweight*) near/5 support* near/5 train*):ti,ab
#117	[mh ^"EXOSKELETON DEVICE"]
#118	exoskeleton*:ti,ab
#119	[mh ^ROBOTICS] and [mh "ORTHOTIC DEVICES"]
#120	(robot* near/5 (orthotic* or orthosis or orthoses)):ti,ab
#121	(robot* near/3 (device* or rehab* or train*)):ti,ab
#122	(tilt* near/3 table*):ti,ab
#123	[mh ^"ELECTRIC STIMULATION THERAPY"] and [mh ^GAIT]
#124	((neuro* or function*) near/3 electrical* near/3 stimulat* near/5 gait*):ti,ab
#125	((FES or NMES) near/5 gait*):ti,ab
#126	#114 or #115 or #116 or #117 or #118 or #119 or #120 or #121 or #122 or #123 or #124 or #125
#127	[mh ^"WEIGHT-BEARING"] and [mh ^"TIME FACTORS"]
#128	(weight* near/3 (bear* or load*) near/5 earl*):ti,ab
#129	(prosthe* near/5 temporar*):ti,ab
#130	(earl* near/3 walk* near/3 aid*):ti,ab
#131	EWA:ti,ab
#132	(mobilit* near/3 aid*):ti,ab
#133	PPAM*:ti,ab
#134	AMA:ti,ab
#135	femuret*:ti,ab
#136	[mh ^"BED REST"]
#137	(bed* near/3 rest*):ti,ab
#138	[mh ^"EARLY AMBULATION"]
#139	((initiat* or start* or introduc* or begin* or began* or commenc* or timing or early or earlier or prompt* or progressiv*) near/5 mobili*):ti,ab
#140	((initiat* or start* or introduc* or begin* or began* or commenc* or timing or early or earlier or prompt* or progressiv*) near/5 ambulation):ti,ab
#141	((initiat* or start* or introduc* or begin* or began* or commenc* or timing or early or earlier or prompt* or progressiv*) near/5 (sit or sits or sitting or stand* or standing or walk* or walking)):ti,ab
#142	[mh ^IMMOBILIZATION/ae]
#143	#127 or #128 or #129 or #130 or #131 or #132 or #133 or #134 or #135 or #136 or #137 or #138 or #139 or #140 or #141 or #142
#144	[mh ^"MUSCULOSKELETAL MANIPULATIONS"]
#145	[mh ^"THERAPY, SOFT TISSUE"]

#	Searches
#146	[mh ^MASSAGE]
#147	[mh ^"MUSCLE STRETCHING EXERCISES"]
#148	[mh ^"PLYOMETRIC EXERCISE"]
#149	[mh ^"EXERCISE MOVEMENT TECHNIQUES"]
#150	[mh ^"MOTION THERAPY, CONTINUOUS PASSIVE"]
#151	(manual near/3 therap*):ti,ab
#152	massag*:ti,ab
#153	(soft near/3 tissue* near/3 (releas* or therap* or rehab*)):ti,ab
#154	((exercise* or active* or ballistic* or dynamic* or isometric* or passive* or relax* or static*) near/3 stretch*):ti,ab
#155	(plyometric near/3 (exercis* or train* or program* or class or classes or drill*)):ti,ab
#156	(joint* near/5 (mobili* or manipulat* or therap* or rehab*)):ti,ab
#157	(range* near/3 mov* near/5 (exercis* or train* or retrain* or educat* or reeducat* or program* or strateg* or therap* or rehab*)):ti,ab
#158	(continu* near/3 passive* near/3 (mov* or motion*)):ti,ab
#159	CPM:ti,ab
#160	#144 or #145 or #146 or #147 or #148 or #149 or #150 or #151 or #152 or #153 or #154 or #155 or #156 or #157 or #158 or #159
#161	[mh ^HYDROTHERAPY]
#162	hydrotherap*:ti,ab
#163	((hydro or water or aqua*) near/3 therap*):ti,ab
#164	#161 or #162 or #163
#165	[mh ^EDEMA/pc]
#166	[mh ^EDEMA/th]
#167	[mh ^EDEMA] and ([mh ^"PATIENT POSITIONING"] or [mh ^"BED REST"] or [mh ^BANDAGES] or [mh ^"COMPRESSION BANDAGES"] or [mh ^"STOCKINGS, COMPRESSION"] or [mh ^"INTERMITTENT PNEUMATIC COMPRESSION DEVICES"] or [mh ^"NEGATIVE-PRESSURE WOUND THERAPY"] or [mh ^MASSAGE] or [mh ^"MANUAL LYMPHATIC DRAINAGE"] or [mh ^"SKIN CREAM"] or [mh ^OINTMENTS] or [mh ^"FLUID THERAPY"] or [mh ^"REHYDRATION SOLUTIONS"] or [mh ^"LASER THERAPY"])
#168	((oedema* or edema* or swell* or scar*) near/5 (manag* or therap* or elevat* or (bed* near/3 rest*) or (leg* near/3 rais*) or (arm* near/3 rais*) or bandag* or stocking* or compres* or massag* or "manual lymphatic drain*" or cream* or ointment* or hydrat* or rehydrat* or (fluid* near/3 therap*) or desensiti* or de-sensiti* or ((laser* Or lazer*) near/3 therap*) or (hand* near/3 therap*))):ti,ab
#169	#165 or #166 or #167 or #168
#170	[mh ^HYPOGRAVITY]
#171	hypograv*:ti,ab
#172	((antigravit* or ((anti or low or reduc*) near/3 gravit*)) near/5 (treadmill* or "running machine*")):ti,ab
#173	#170 or #171 or #172
#174	[mh ^"DIET THERAPY"]
#175	[mh ^"NUTRITION THERAPY"]
#176	[mh ^"DIETARY SUPPLEMENTS"]
#177	[mh ^DIETETICS]
#178	[mh ^"NUTRITIONAL REQUIREMENTS"]
#179	[mh ^"RECOMMENDED DIETARY ALLOWANCES"]
#180	[mh ^"ENERGY INTAKE"]
#181	[mh ^"NUTRITIONAL STATUS"]
#182	[mh ^"NUTRITIONAL SUPPORT"]
#183	[mh ^"ENTERAL NUTRITION"]
#184	[mh ^GASTROSTOMY]
#185	[mh ^"INTUBATION, GASTROINTESTINAL"]
#186	([mh ^"PATIENT EDUCATION AS TOPIC"] or [mh ^"HEALTH EDUCATION"]) and ([mh DIET] or [mh EATING] or [mh FOOD])
#187	[mh ^"DEGLUTITION DISORDERS"]
#188	((nutrition* or diet* or food*) near/3 (support* or therap* or rehab*)):ti,ab

#	Searches
#189	((nutrition* or diet* or food* or macronutrient* or macro-nutrient* or protein* or carbohydrate* or fat* or micronutrient* or micronutrient* or vitamin* or mineral* or phytochemical*) near/5 supplement*):ti,ab
#190	dietetic*:ti,ab
#191	((nutrition* or diet* or food* or calori* or energy) near/3 (requir* or allow* or intake* or status*)):ti,ab
#192	((enteral* or tube*) near/3 (nutrition* or feed* or fed)):ti,ab
#193	gastrostom*:ti,ab
#194	PEG:ti,ab
#195	RIG:ti,ab
#196	((nasogastric* or naso-gastric* or NG or gastrointestinal* or gastro-intestinal*) near/3 (nutrition* or feed* or fed or intubat*)):ti,ab
#197	((swallow* or deglutition*) near/5 (exercis* or train* or retrain* or educat* or reeducat* or program* or strateg* or therap* or rehab*)):ti,ab
#198	((nutrition* or diet* or food* or feed*) near/5 plan*):ti,ab
#199	((nutrition* or diet* or food* or feed*) near/5 (educat* or inform* or advice or advis* or leaflet* or handout*)):ti,ab
#200	dysphagia:ti,ab
#201	((swallow* or deglutition*) near/5 disorder*):ti,ab
#202	#174 or #175 or #176 or #177 or #178 or #179 or #180 or #181 or #182 or #183 or #184 or #185 or #186 or #187 or #188 or #189 or #190 or #191 or #192 or #193 or #194 or #195 or #196 or #197 or #198 or #199 or #200 or #201
#203	[mh ^"PLAY THERAPY"]
#204	(play* near/3 therap*):ti,ab
#205	#203 or #204
#206	(early near/5 (rehab* or therap* or manag* or intervention*)):ti
#207	#71 and #76 and #93
#208	#71 and #76 and #106
#209	#71 and #76 and #113
#210	#71 and #76 and #126
#211	#71 and #76 and #143
#212	#71 and #76 and #160
#213	#71 and #76 and #164
#214	#71 and #76 and #169
#215	#71 and #76 and #173
#216	#71 and #76 and #202
#217	#71 and #76 and #205
#218	#71 and #76 and #206
#219	#207 or #208 or #209 or #210 or #211 or #212 or #213 or #214 or #215 or #216 or #217 or #218
#220	#207 or #208 or #209 or #210 or #211 or #212 or #213 or #214 or #215 or #216 or #217 or #218 with Publication Year from 1995 to 2019, in Trials
#221	#20 and #220

Appendix C – Clinical evidence study selection

Study selection for review questions:

B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

A combined search was conducted for both review questions.

Figure 1: Study selection flow chart: Adults

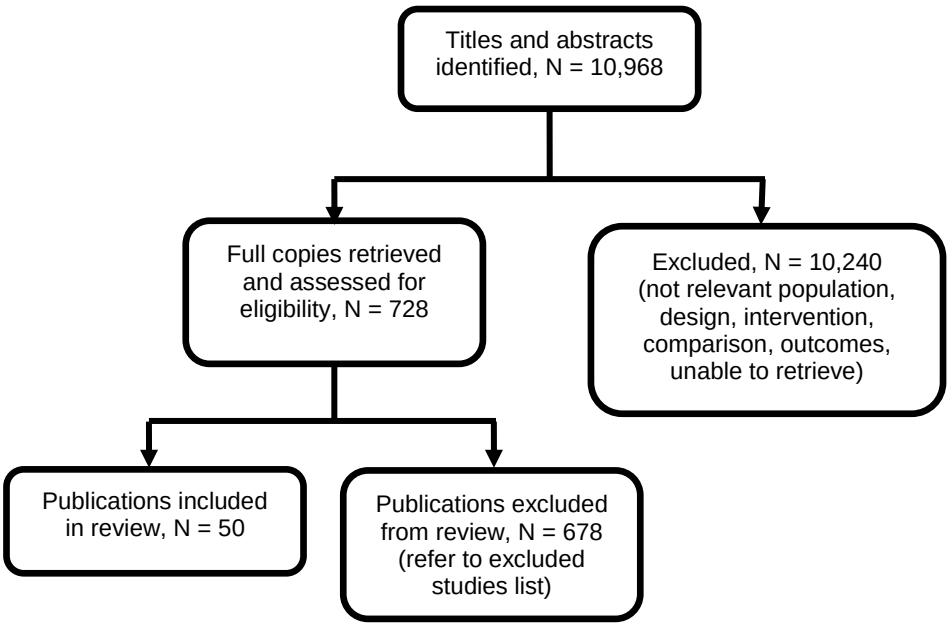
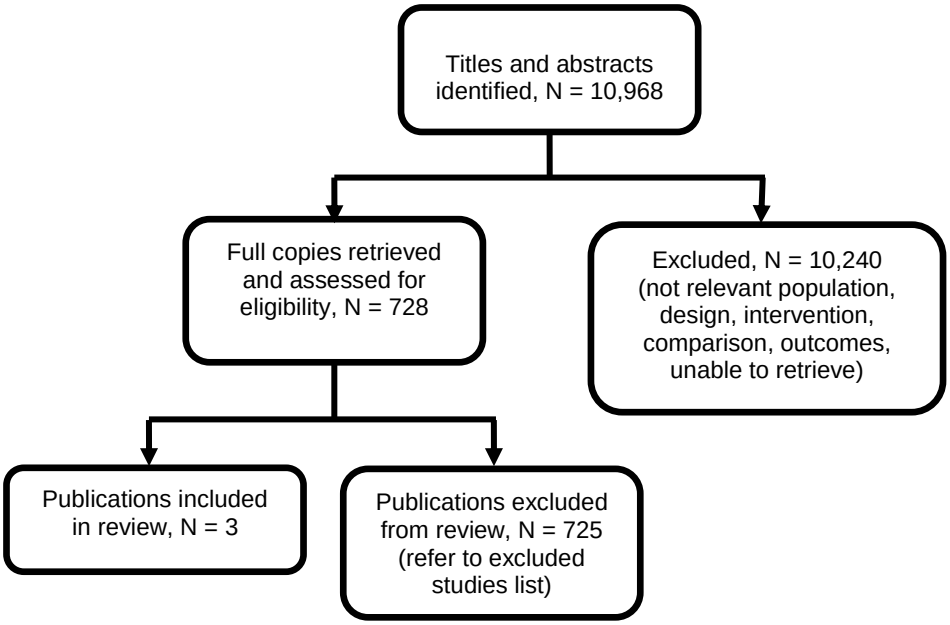


Figure 2: Study selection flow chart: Children and young people



Appendix D – Clinical evidence tables

Evidence tables for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Table 9: Evidence tables

Study details	Participants	Interventions	Outcomes and Results	Comments
Full citation Akkurt, Halil, Karapolat, Hale U., Kirazli, Yesim, Kose, Timur, The effects of upper extremity aerobic exercise in patients with spinal cord injury: a randomized controlled study, European Journal of Physical and Rehabilitation Medicine, 53, 219-227, 2017 **Ref Id** 1129290 **Country/ies where the study was carried out** Turkey **Study type** RCT **Aim of the study** To investigate the effectiveness of upper extremity exercises on the exercise capacity of patients	**Sample size** N = 40 (randomised) • Aerobic exercise + standard rehabilitation: 20 • Standard rehabilitation: 20 N = 33 (analysed) • Aerobic exercise + standard rehabilitation: 17 • Standard rehabilitation: 16 **Characteristics** Age in years [Median (IQR)]: • Aerobic exercise = 33 (15-42) • Standard rehabilitation = 37 (19-62) Gender (M/F): • Aerobic exercise (N) = 16/1 • Standard rehabilitation (N) = 13/3 Time since injury [Median (min-max)]:	**Interventions** • *Intervention group: Aerobic exercise + standard rehabilitation.* Standard rehabilitation exercises and aerobic exercise using arm-crank ergometer for 12 weeks. As described in standard rehabilitation plus 3 additional 30 mins (total 1.5 hours) exercise sessions per week (total 156 sessions). Additional sessions included lightly hard-moderately hard arm ergometer rowing and breathing exercises (pursed lips breathing, segmental breathing, diaphragmatic breathing, voluntary isocapnic hyperpnoea and air shifting. Air shifting was performed 2 times per day for 10 repetitions, 7 days per week). • *Control group: Standard rehabilitation.* Standard rehabilitation for 12 weeks,	**Results** *Quality of Life (measured using WHOQOL-Bref-Tr Physical domain) [median (range)]* Higher = better. Week 6 (during intervention): • Aerobic exercise (N=17): 11.4 (6.9-14.3) • Standard rehabilitation (N=16): 10.86 (8.6-13.7) • No significant difference between groups (p>0.05, Mann-Whitney U-test) Week 12 (intervention completion): • Aerobic exercise (N=17): 10.9 (7.4-13.1) • Standard rehabilitation (N=16): 10.9 (6.3-14.3) • No significant difference between groups (p>0.05, Mann-Whitney U-test)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI – Paper simply states that the subjects were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – No differences between groups at baseline. Risk of bias judgement: High risk. Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
with SCI. A secondary aim was to investigate the effect of this training programme on cardiopulmonary risk factors, metabolic syndrome, mental health, quality of life, and disability. **Study dates** Not reported. **Source of funding** Not reported.	• Aerobic exercise (months) = 15 (2-144) • Standard rehabilitation (months) = 15 (3-120) Injury cause: not reported Level of injury (ASIA Grade A/B/C/D): • Aerobic exercise (N) = 9/1/5/2 • Standard rehabilitation (N) = 10/0/5/1 **Inclusion criteria** Patients had to: • Be aged between 15-65 years old • Have traumatic cause of injury • Have a lesion level between C7-L5 • Be at least 1 month post-injury • Be spending less than 2 hours per week engaged in physically active training or outdoor mobility • Have received medical approval to engage in physical activity • Be able to read and understand Turkish **Exclusion criteria**	adapted for neurological levels and skills of each participant. Rehabilitation sessions were 2 times a day, 5 x per week for 12 weeks (total of 120 sessions). Exercises were performed in a variety of positions and consisted of: passive, assisted and active range of motion, upper-body and lower-body strengthening exercises (targeting pectorals, deltoids, triceps, biceps, latissimus dorsi, wrist flexors/extensors, torso flexors/extensors, quadriceps, hamstring and gastrocnemius), 1-rep maximum, core and balance exercises. If possible, locomotor training was also included (either with or without body support).	*Quality of Life (measured using WHOQOL-Bref-Tr Psychological domain) [median (range)]* Higher = better. Week 6 (during intervention): • Aerobic exercise (N=17): 13.3 (10.0-7.3) • Standard rehabilitation (N=16): 12.0 (7.3-14.7) • No significant difference between groups (p>0.05, Mann-Whitney U-test) Week 12 (intervention completion): • Aerobic exercise (N=17): 13.7 (5.0-17.0) • Standard rehabilitation (N=16): 12.7 (9.0-17.0) • No significant difference between groups (p>0.05, Mann-Whitney U-test) *Changes in ADL (measured using FIM score) [median (range)]* Higher = better. Week 6 (during intervention): • Aerobic exercise (N=17):	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement:

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Secondary health problems (including pressure sores, bladder infections, cardiovascular disease) • Medical conditions that prevent performing physical activity		63 (50-118) • Standard rehabilitation (N=16): 72 (56-94) • No significant difference between groups (p = 1.00, Mann-Whitney U-test) Week 12 (intervention completion): • Aerobic exercise (N=17): 62.5 (50-118) • Standard rehabilitation (N=16): 74 (56-119) • No significant difference between groups (p = 1.00, Mann-Whitney U-test)	Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 17/20 participants in intervention and 16/20 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI – No reasons given regarding loss to follow-up. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN – Similar drop-out rates between the groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
				groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI - Baseline assessors blinded but no mention of outcome assessors. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY - Both outcomes are subjective. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN - All participants underwent some form of rehabilitation. Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been

Study details	Participants	Interventions	Outcomes and Results	Comments
				selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias: High risk Other information None
Full citation Alexeeva, Natalia, Sames, Carol, Jacobs, Patrick L., Hobday, Lori, Distasio, Marcello M., Mitchell, Sarah A., Calancie, Blair, Comparison of training methods to improve walking in persons with chronic spinal cord injury: a randomized clinical trial, The journal of spinal cord medicine, 34, 362-79, 2011 **Ref Id** 1024500 **Country/ies where the study was carried out** USA **Study type**	**Sample size** N= 35 (randomised) • BWS on fixed track: 14 • BWS on treadmill: 9 • Control: 12 N= 35 (analysed) • BWS on fixed track: 14 • BWS on treadmill: 9 • Control: 12 **Characteristics** Age in years (range): • BWS on fixed track= 21-61 • BWS on treadmill= 19-63 • Control= 22-63 Gender (M/F): • BWS on fixed track (N): 12/2 • BWS on treadmill (N):	**Interventions** • All groups received training 3 days per week for 13 weeks, totalling 39 sessions. Sessions were for a maximum of one hour, to mimic a typical outpatient rehabilitation schedule. Subjects were instructed to walk at a self-selected pace, although they were allowed to modify pace and take rests if needed. • *Intervention:* body weight supported (BWS) ambulation using 30% BWS provided with a parachute-type harness, adjusted to be tight across the lower pelvis but loose about the thighs to allow	*Patient acceptability (measured using Satisfaction with Abilities and Well-Being Scale (SAWS) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 32.4 (7.6) • Treadmill BWS: 35.2 (8.7) • Control (physiotherapy): 29.0 (7.9) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 32.4 (6.4) • Treadmill BWS: 31.2 (7.8) • Control (physiotherapy):	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - simply described as random 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY – staff member not associated with the study, drew printed labels from a box 1.3 Did baseline differences between intervention groups suggest a problem with the

Study details	Participants	Interventions	Outcomes and Results	Comments
RCT **Aim of the study** This RCT aimed to compare two device-specific training interventions, body weight supported ambulation on a fixed track or body weight supported ambulation on a treadmill to comprehensive physical therapy in adults after spinal cord injury (SCI). **Study dates** Recruitment: Not reported **Source of funding** Supported by National Institute of Health, the State University of New York - Upstate Medical University, and Miami Project to Cure Paralysis - The University of Miami.	8/1 • Control (N): 10/2 Time since injury (range in years): • BWS on fixed track= 1-37 • BWS on treadmill= 1-12 • Control= 1.2-25 Level of injury (AIS grade range): • BWS on fixed track= all C-D • BWS on treadmill= all C-D • Control= all C-D **Inclusion criteria** Participants had to: • Be aged 16 to 70 years old • Have SCI at level of T10 (vertebral) or rostral • Be injured at least one year prior to enrolment • Have voluntary movement in at least one leg • Be able to rise from seated to standing with no more than moderate assistance and advance one leg • Agreed to maintain their current routine of medications and activity levels while training	for un-restricted hip flexion and extension. Amount of BWS was determined using either load cells attached to lifting bar (all treadmills and some fixed track participants) or force plates along the walking path (remaining fixed track participants). Duration of training, average heart rate and distance walked was recorded for each sessions. • BWS ambulation on fixed track: participants helped by an assistant without formal rehabilitation training. The assistant provided encouragement during training sessions but was told not to offer training-specific advice. • BWS ambulation on treadmill: suspension was accomplished by ceiling-mounted pulley system. Support rails on either side of the treadmill were removed to prevent subject unloaded through the arms but there were grab handles in place at the front of the machine for stabilisation if needed. • *Control:* Comprehensive physiotherapy sessions delivered by a licensed	31.4 (5.5) *Overall quality of life (measured using SF-36 General health perception score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 2.5 (0.7) • Treadmill BWS: 2.6 (1.1) • Control (physiotherapy): 2.8 (0.8) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 2.6 (1.0) • Treadmill BWS: 2.2 (1.36) • Control (physiotherapy): 2.9 (0.7) *Overall quality of life (measured using SF-36 Energy score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 10.8 (3.0) • Treadmill BWS: 10.9 (3.2) • Control (physiotherapy): 11.8 (2.9)	randomization process? PN – no statistical analysis presented but text states 'no differences' Risk-of-bias judgement Low risk Domain 2: Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*) 2.1. Were participants aware of their assigned intervention during the trial? PY - not possible to blind due to nature of intervention 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY - not possible to blind due to nature of intervention 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Medically cleared by study physician **Exclusion criteria** • Degenerative myelopathy, neoplasm or congenital spinal cord abnormalities • Prior gait training with BWS • Bi-lateral knee-ankle-foot orthoses needed for standing • Ability to run or jog	physical therapist. Programmes were individually designed for each subject and involved gait, balance, and functional activity modalities e.g. strengthening, stretching and aerobic exercises. Physical therapist kept detailed log of activity, along with average heart rate.	4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 14.7 (2.7) • Treadmill BWS: 9.8 (4.5) • Control (physiotherapy): 11.4 (2.7) *Overall quality of life (measured using SF-36 Mental health perception score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 8.0 (1.9) • Treadmill BWS: 8.7 (1.7) • Control (physiotherapy): 7.5 (1.6) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 7.7 (2.0) • Treadmill BWS: 7.0 (1.9) • Control (physiotherapy): 7.3 (1.7) *Overall quality of life (measured using SF-36 Fatigue score*) [mean (SD)]* After intervention completion (week 13): • Fixed track BWS: 24.6	effect of assignment to intervention? Y - ITT analysis 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			(2.5) • Treadmill BWS: 24.4 (3.2) • Control (physiotherapy): 24.6 (2.8) 4 weeks follow-up after intervention completion (week 17): • Fixed track BWS: 23.2 (3.9) • Treadmill BWS: 25.0 (3.7) • Control (physiotherapy): 23.6 (3.4) * Study authors report using measurements derived from corresponding SF-36 domains, but not all questions.	outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? No - assessors blinded to intervention group 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales,

Study details	Participants	Interventions	Outcomes and Results	Comments
				definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement Some concerns Overall risk of bias Risk-of-bias judgement Some concerns **Other information** None.
Full citation Aquilani, R., Zuccarelli Ginetto, C., Rutili, C., Pisano, P., Pasini, E., Baldissarro, E., Verri, M., Boschi, F., Supplemented amino acids may enhance the walking recovery of elderly subjects after hip fracture surgery, Aging Clinical and Experimental Research, 31, 157-160, 2019 **Ref Id** 1129324 **Country/ies where the study was carried out** Italy **Study type** RCT	**Sample size** N = 83 (randomised) • Rehabilitation + essential amino acids: 28 • Rehabilitation + placebo: 28 • Rehabilitation only: 27 N = 83 (analysed) • Rehabilitation + essential amino acids: 28 • Rehabilitation + placebo: 28 • Rehabilitation only: 27 (not included in data extraction after this point) **Characteristics** Age in years [Mean (SD)]: • Rehabilitation + essential amino acids = 79.6 (8.0) • Rehabilitation + placebo =	**Interventions** • *Intervention group: Essential amino acids + rehabilitation.* Standard rehabilitation as described in control group + 2 x 4g packets of essential amino acid supplements containing leucine, lysine, isoleucine, valine, threonine, cysteine, histidine, phenylalanine, methionine, tyrosine and tryptophan (for full details: Aminotrofic®, ErreKappa, Milan, Italy). Packets were given at 10:00 and 16:00, starting day after randomisation to discharge. • *Control group: Placebo + rehabilitation.* Standard rehabilitation consisted of 40-50 minute rehabilitation sessions x 2 per day, 5	**Results** *Changes in mobility (measured using 6MWT in m) [mean (SD)]* At baseline (at admission): • Essential amino acids + rehabilitation (N=28): 46.4 (44.1) • Placebo + rehabilitation (N=28): 72.2 (69.9) • No significant difference between groups (p > 0.05, Kruskal-Wallis test) At discharge (exact time not specified but mean 66 days after admission): • Essential amino acids + rehabilitation (N=28): 164.6 (108.1) • Placebo + rehabilitation	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Paper simply states that participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant differences between groups at baseline.

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To investigate 1. The effectiveness of an extensive rehabilitation programme on mobility and 2. The effectiveness of supplemented amino acids on the rate of mobility recovery, both in hip fracture patients. **Study dates** Not reported. **Source of funding** Not reported.	82.0 (6.3) Gender (M/F): • Rehabilitation + essential amino acids (N) = 12/16 • Rehabilitation + placebo (N) = 10/18 Time since injury: not reported. Injury cause: not reported. Location of fracture: not reported **Inclusion criteria** Not reported. **Exclusion criteria** • Not fully reported but examples include: ○ Heart failure ○ Musculo-skeletal disorders ○ Lung disease ○ Depression	days per week. Sessions consisted of passive-assisted active mobilisation, isotonic and isometric strengthening exercises and assisted gait training with walking sticks. Placebo intervention was 2 x 4g packets isocaloric maltodextrin. Packets were given at 10:00 and 16:00, starting day after randomisation to discharge.	(N=28): 145.8 (98.7) • Significance not reported Gain (discharge-admission): • Essential amino acids + rehabilitation (N=28): 118.2(100.3) • Placebo + rehabilitation (N=28): 73.6 (66.3) • Statistically significantly higher (better) in Rehabilitation + amino acid compared to rehabilitation + placebo (p=0.024, Kruskal-Wallis test). *% patients achieving minimal clinical significant different in 6MWT* Minimal Clinically important gain reported as +50m in paper. At discharge (exact time not specified but mean 66 days after admission): • Essential amino acids + rehabilitation (N=28): 75% • Placebo + rehabilitation (N=28): 46.4% • Standard rehabilitation (N=27): 66.7% • No significant difference between groups (p=0.075,	Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY - Intervention occurred until discharge rather than fixed time point and only mean discharge time from admission was reported for whole group. Some subjects may have had more exposure to intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NI - Mean time to discharge for whole group only reported. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? Y.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Chi-squared test)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
				4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN - Outcome measured at admission and discharge only. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - 6MWT objectively measured. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information Study also included a 3rd standard rehabilitation only arm but data not extracted.
Full citation Bailey, C. S., Urquhart, J. C., Dvorak, M. F., Nadeau, M., Boyd, M. C., Thomas, K. C., Kwon, B. K., Gurr, K. R., Bailey, S. I., Fisher, C. G., Orthosis versus no orthosis for the treatment of thoracolumbar burst fractures without neurologic injury: a multicenter prospective randomized equivalence trial, Spine Journal, 14, 2557-2564, 2014 **Ref Id** 1127368	**Sample size** N= 96 (randomised) • Thoracolumbosacral orthosis = 47 • Immediate mobilisation = 49 N= 96 (analysed) • Thoracolumbosacral orthosis = 47 • Immediate mobilisation = 49 **Characteristics** Age in years [Mean (SD)]: • Thoracolumbosacral	**Interventions** • *All groups:* Patients were placed under 90 degrees hip flexion precautions and a lifting/carrying restriction of 5 kg for the first 8 weeks, and received an outpatient rehabilitation program administered by physiotherapists, which was a simple graded functional program lasting 3 months and consisted of walking for the first 4 weeks and then isometric spine stabilization exercises progressing to isotonic exercises at 8	**Results** *Changes in mobility (Roland Morris Disability Questionnaire) [mean (SD)]* Scale 0 (best) – 24 (worst). At baseline: • Thoracolumbosacral orthosis: 17.2(5.0) • Immediate mobilisation: 18.1(5.4) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y Randomisation done using "a concealed, computer-generated, site-specific randomization list. The allocation was concealed from the recruiting surgeon before the randomization assignment." (p. 2558)

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out Canada **Study type** RCT **Aim of the study** "To determine whether TLSO is equivalent to no orthosis (NO) in the treatment of acute AO Type A3 thoracolumbar burst fractures with respect to their functional outcome at 3 months." (p. 2557) **Study dates** 2002-2009 **Source of funding** VHHSC Interdisciplinary Research Grant, Zimmer/University of British Columbia Research Fund, Hip Hip Hooray Research Grant and Aspen Medical	orthosis = 40.5 (14.8) • Immediate mobilisation =39.8 (15.3) Gender (M/F): • Thoracolumbosacral orthosis (N) = 33/14 • Immediate mobilisation (N) = 34/15 Time since injury: Not reported for each group, but patients were acute patients recruited within 3 days of injury. Injury cause: • Thoracolumbosacral orthosis = all traumatic • Immediate mobilisation (N) = all traumatic Level of injury (T11/T12/L1/L2/L3): • Thoracolumbosacral orthosis (N) = 2/9/21/12/3 • Immediate mobilisation (N) = 2/9/29/3/6 **Inclusion criteria** Patients had to: • Be aged 16-60 years old • Be neurologically intact • Have isolated AO-A3 burst	weeks. "At 9 weeks, all patients had occupation-specific rehabilitation incorporated into their program." (p. 2559) • *Intervention group: Thoracolumbosacral orthosis (TSLO).* TSLO preceded by strict bed rest. Mobilisation in the brace performed by a physiotherapist. The TLSO to be worn at all times, with the exception of when lying flat in bed, for a total of 10 weeks. Weaning off the brace to begin at 8 weeks. • *Control group: Immediate mobilisation.* As tolerated, performed by physiotherapist, "with restrictions to limit bending and rotating through their trunk. They were encouraged to return to normal activities after 8 weeks." (p. 2558)	months post-injury) • Thoracolumbosacral orthosis: 8.7 (0.7) • Immediate mobilisation: 9.8 (0.6) • Treatment effect (difference): 1.1 (-0.8 to 2.9) *Patient acceptability (measured using Satisfaction with treatment score) [mean (SD)]* Scale 1 (worst) – 7 (best). At baseline: • Thoracolumbosacral orthosis: 6.4 (1.0) • Immediate mobilisation: 6.0 (1.6) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 6.4 (0.1) • Immediate mobilisation: 6.2 (0.1) • Treatment effect (difference): -0.3 (-0.6 to 0.02) *Quality of life (measured*	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	fracture (vertebral body compression with retropulsion of the posterior vertebral body into the canal and excludes posterior element injury) between T10 and L3 • Have kyphotic deformity lower than 35° **Exclusion criteria** • Pathological or open fracture • Pregnancy • BMI > 40 (i.e., unable to wear a brace) • Dependent on drugs or alcohol • Mobilised with or without a brace before recruitment • History of injury or surgery to the thoracolumbar region • Unable to complete the outcome questionnaires		*using SF-36 Physical component score) [mean (SD)]* Higher = better. • At baseline: Thoracolumbosacral orthosis: 28.1 (11.2) • Immediate mobilisation: 30.1 (9.1) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 39.1 (1.1) • Immediate mobilisation: 36.6 (1.1) • Treatment effect (difference): -2.6 (-5.6 to 0.5) *Quality of life (measured using SF-36 Mental component score) [mean (SD)]* Higher = better. At baseline: • Thoracolumbosacral orthosis: 52.8 (2.8) • Immediate mobilisation:	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y Intention-to-treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concern Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			18.3 (13.1) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 52.2 (1.2) • Immediate mobilisation: 50.8 (1.2) • Treatment effect (difference): -2.1 (-5.5 to 1.3) *Pain (average weekly pain measured using VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). • At baseline: Thoracolumbosacral orthosis: 5.4 (2.6) • Immediate mobilisation: 6.0 (2.4) Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury) • Thoracolumbosacral orthosis: 2.7 (0.2) • Immediate mobilisation: 3.4 (0.3) • Treatment effect	4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "The outcome measures were assessed by a blinded evaluator in each centre who was not involved in the patients' care." (p. 2559) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan

Study details	Participants	Interventions	Outcomes and Results	Comments
			(difference): 0.6 (-0.03 to 1.3) When all of these outcomes were analysed at the different follow-up time points separately, they did not differ between the groups either. These data are available on figures.	that was finalized before unblinded outcome data were available for analysis? Y Outcomes and analysis time points corresponds to those in the protocol Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? N 5.3 ... multiple analyses of the data? N Risk-of-bias judgement: Low risk Overall risk of bias Low risk Other information None
Full citation Binder, Ellen F., Brown, Marybeth, Sinacore, David R., Steger-May, Karen, Yarasheski, Kevin E., Schechtman, Kenneth B., Effects of extended outpatient rehabilitation after hip fracture: a randomized controlled trial, JAMA, 292, 837-46, 2004 **Ref Id**	**Sample size** N= 90 (randomised) • Extended physical therapy + exercise therapy = 46 • Home exercise training: N = 44 N= 90 (analysed) • Extended physical therapy + exercise therapy = 46 • Home exercise training: N = 44	**Interventions** • *Intervention group: Extended physical therapy + exercise therapy.* Exercise sessions 3 times per week for 6 months. This was divided into 2 phases, lasting about 3 months each. Phase 1 Designed to prepare participants for progressive resistance training and reduce injuries. 45-90 minute exercise sessions	**Results** *Change in mobility (measured using Modified Physical Performance Test score) [mean (SD)]* Scale between 0 (worst) – 36 (best). 3 months (during intervention): • Physical therapy and	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Using computer-generated algorithm and block design. 1.2 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
1123000 **Country/ies where the study was carried out** USA **Study type** RCT **Aim of the study** To compare the effectiveness of a 6 month extended outpatient rehabilitation programme (including progressive resistance exercise training) with a low-intensity home exercise programme (focusing on flexibility) on measures of disability and physical performance in elderly patients with hip fracture. **Study dates** August 1998 - May 2003 **Source of funding** This study received funding from the National Institute of Aging, the Washington University General Clinical Research Center, the Washington University Clinical Nutrition Research Center and the Barnes	**Characteristics** Age in years [Mean (SD)]: • Extended physical therapy + exercise therapy = 80 (7) • Home exercise training = 81 (8) Gender (M/F): • Extended physical therapy + exercise therapy (N) = 13/33 • Home exercise training (N) = 10/34 Time since injury [Mean (SD)]: • Extended physical therapy + exercise therapy (days) = 99 (36) • Home exercise training (days) = 103 (30) Injury cause: not reported **Inclusion criteria** Participants had to: • Be at least 65 years old • Be living in the community upon discharge from physical therapy for hip fracture • Be able to attend a screening evaluation within 16 weeks of hip fracture	(depending on participant's tolerance) conducted in groups of 2-5 participants, with a physical therapist. These sessions used a programme of 22 exercises to increase flexibility, balance, co-ordination, speed and entire body strength. As the study progressed, when each participant was able to perform exercises easily, exercises were made harder by increasing the number of repetitions or by the physical therapist modifying the exercises. Additionally, the physical therapist ensured that exercises were suitably adapted to each participants physical impairment e.g. increased time spent on hip extensor/flexor flexibility of fractured leg. Participants also exercise on stationary bike/treadmill when it was safe to do so. These aerobic sessions started for a minimum of 5 minutes, progressing to a maximum of 15 minutes. Phase 2 Shortened version of phase 1 exercises and aerobic training, plus progressive resistance training added. One-	exercise training (N=44): 26.5 (6.3) • Home exercise (N=39): 23.7 (8.2) 6 months (intervention completion): • Physical therapy and exercise training (N=37): 29.0 (6.1) • Home exercise (N=43): 23.3 (7.4) • Significantly better in intervention group (p = 0.003, mixed model repeated-measures ANOVA) *Changes in mobility (measured as number of participants not using assistive device for gait if required at baseline) [N (%)]* Time point not reported: • Physical therapy and exercise training (N=33): 19(58) • Home exercise (N=35): 11 (31) • Significantly better in intervention group (p = 0.03, Chi-squared test) *Changes in ADL (measured using Functional Status*	sequence concealed until participants were enrolled and assigned to interventions? PY - No external organisation mentioned but randomisation occurred after baseline measurements taken. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistical difference between 2 groups at baseline. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN - Small deviations from the exercise intervention but reasons given are all

Study details	Participants	Interventions	Outcomes and Results	Comments
Jewish Hospital Foundation.	surgery • Have a modified Physical Performance Test score between 12-28 • Self-report difficulty of in need of assistance for at least 1 activity of daily living. **Exclusion criteria** • Pathological fracture • Bilateral femur fracture • Previous contralateral femur fracture • Inability to provide informed consent; Inability to walk at least 50 feet (with or without assistive devices) • Visual and/or hearing impairments that would interfere with a patients ability to follow directions or perform exercises safely • Cardiopulmonary disease or neuromuscular disease that would preclude participation in weight-bearing exercises • Conditions that would not be expected to improve with exercise training • Patient starting to take medication for either osteoporosis or hormone therapy within 12 months	repetition maximum voluntary strength measured for 6 different exercises, performed bilaterally on a Hoist weightlifting matching. Exercises were as follows: knee extension, knee flexion, seated bench press, seated row, leg press and biceps curl). Participants started at 6-8 repetitions at 65% of one-rep maximum weight, x1-2 sets. This increased to 8-12 repetitions at 85-100% of one-rep maximum, x2-3 sets. One-rep maximum weights were re-measured at 6 weeks. Participants had to complete 36 sessions per phase (72 total). Anyone who missed an exercise session were allowed to make it up (maximum of 9 sessions). • *Control group: Home exercise.* Low-intensity exercise that mimics standard care after surgical repair. Includes 9 of the 22 exercises used in phase 1 that focus on flexibility. Participants attended 1 hour training session and told to perform exercises at least 3 times per week. They could	*Questionnaire score) [mean (SD)]* Scale between 0 (best) – 36 (worst). 3 months (during intervention): • Physical therapy and exercise training (N=45): 26.3 (5.0) • Home exercise (N=41): 24.2 (5.5) 6 months (intervention completion): • Physical therapy and exercise training (N=40): 27.3 (5.7) • Home exercise (N=43): 24.8 (5.6) • Significantly better in intervention group (p=0.01, mixed model repeated-measures ANOVA) *Changes in ADL (measured using Instrumental ADL score) [mean (SD)]* Scale between 0 (worst) – 14 (best). 3 months (during intervention):	independent of intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 36/44 participants in intervention and 32/46 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N - Although

Study details	Participants	Interventions	Outcomes and Results	Comments
	of initial recruitment screening • Terminal illness with a life expectancy < 1 year.	perform more if they wanted, and could undertake other exercise e.g. swimming, walking but were not allowed to undertake weight-training exercises. Number of exercise sessions were recorded on a calendar that was returned at the end of every month. There was no progression of intensity or difficulty throughout the study. 1 exercise session per month was a group session at the exercise facility, to enhance adherence. A 10 minute telephone call was made to each participant every week to control for the increased social contact of the physical therapy intervention.	• Physical therapy and exercise training (N=45): 11.7 (2.3) • Home exercise (N=41): 11.0 (2.6) 6 months (intervention completion): • Physical therapy and exercise training (N=40): 11.9 (2.6) • Home exercise (N=43): 11.3 (2.5) • No significant difference between groups (p = 0.58, mixed model repeated-measures ANOVA) *Changes in ADL (measured using Basic ADL score) [mean (SD)]* Scale between 0 (worst) – 14 (best). 3 months (during intervention): • Physical therapy and exercise training (N=45): 13.1 (1.1) • Home exercise (N=41): 12.7 (1.3) 6 months (intervention completion):	imputation performed. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? N - Reason for withdrawal all noted as being unrelated to study. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Physical therapy and exercise training (N=41): 13.2 (1.2) • Home exercise (N=43): 12.8 (1.3) • No significant difference between groups (p=0.34, mixed model repeated-measures ANOVA)	outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Calthorpe, Sara, Barber,	**Sample size** N= 90 (randomised)	**Interventions** • *Intervention group:*	**Results**	Limitations Quality assessment: Risk of

Study details	Participants	Interventions	Outcomes and Results	Comments
Elizabeth A., Holland, Anne E., Kimmel, Lara, Webb, Melissa J., Hodgson, Carol, Gruen, Russell L., An intensive physiotherapy program improves mobility for trauma patients, The journal of trauma and acute care surgery, 76, 101-6, 2014 **Ref Id** 1127506 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** "to determine whether an intensive physiotherapy program resulted in improved inpatient mobility." (p. 101) **Study dates** 2011-2012 **Source of funding** "This trial was funded by the Sir Edmund Herring Memorial Scholarship, Royal Automobile Club of Victoria,	• Physiotherapy + gym session + mobility = 45 • Physiotherapy only = 45 N= 73-87 (analysed) • Physiotherapy + gym session + mobility = 34-43 • Physiotherapy only = 39-44 **Characteristics** Age in years [Mean (SD)]: • Physiotherapy + gym session + mobility = 58 (22.2) • Physiotherapy only = 54.4 (20.4) Gender (M/F): • Physiotherapy + gym session + mobility (N) = 25/18 • Physiotherapy only (N) = 29/15 Time since injury: not reported. Injury cause: • Physiotherapy + gym session + mobility = All appear to be traumatic • Physiotherapy only = All appear to be traumatic	*Physiotherapy + gym session + mobility.* As the control group + 2 additional treatments per day by an interventional physiotherapist: 1) 30-minute ward gym session doing a supervised exercise program tailored to the individual (e.g., standing, balance and strength exercises, stretches and walking); 2) ward mobility which aimed to improve the functional level compared with the previous physiotherapy treatment "(e.g., require less therapist assistance, progress from bed transfers to walking, increase walking distance). Patients located in the intensive care unit had the two additional mobility treatments on the ward, rather than in the gym." (p. 102) • *Control group: Physiotherapy only.* Tailored physiotherapy treatment program consisting of 30-min sessions 7 mornings per week involving ≥1 bed- and chair-based limb exercises (e.g., strength exercises such as static	*Patient acceptability (measured as satisfaction with treatment) [not satisfied/somewhat satisfied/satisfied/very satisfied]* Time point not reported: • Physiotherapy + gym session + mobility (N=41): 0/3/10/28 • Physiotherapy only (N=41): 0/2/23/16 • Significantly better in intervention group (p<0.01) For risk ratios presented in the GRADE tables, results have been dichotomised into patients reporting that they were very satisfied compare to any other reports (not satisfied/somewhat satisfied/satisfied) *Changes in mobility (measured using measured by modified Iowa Level of Assistance score) [median (IQR)]* Scale 0 (best) – 36 (worst). At Day 3: • Physiotherapy + gym session + mobility (N=43):	bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y (Randomisation using computer-generated program) 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y (concealed allocation using opaque envelopes) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? No Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N for the control

Study details	Participants	Interventions	Outcomes and Results	Comments
received by S.C. and E.A.B. For the remaining authors, no conflicts were declared. The Victorian State Trauma Registry (VSTR) is a Department of Health, State Government of Victoria and Transport Accident Commission-funded project. VOTOR is funded by the TAC via the Institute for Safety, Compensation and Recovery Research. R.L.G. is supported by a Practitioner Fellowship of the Australian National Health and Medical Research Council.C.H. is supported by an Early Career Research Fellowship from the Australian National Health and Medical Research Council." (p. 105)	Injury type (major trauma [ISS>15]/upper-limb fracture/lower-limb fracture/chest injury/spine injury/pelvic fracture/ICU admission): • Physiotherapy + gym session + mobility (N) = 16/14/15/18/21/3/12 • Physiotherapy only (N) = 18/9/16/22/28/7/10 **Inclusion criteria** Participants had to: • Be ≥18 years old • Admitted to the Alfred Hospital Trauma Unit • If had head injury, needed to pass the Westmead Post Traumatic Amnesia Score • Within 24 hours of initial mobilisation by physiotherapist • Be able to at least sit on the edge of bed with 2 physiotherapists helping **Exclusion criteria** • Unable to participate in therapy sessions secondary due to severe neurologic or cognitive impairment	quadriceps holds), chest physiotherapy (e.g., airway clearance and lung recruitment exercises), and gait retraining (e.g., gait aid practice, balance, walking, and endurance exercises) and has to aim of regaining independence in mobility with a view to achieve discharge to an appropriate destination (home or inpatient rehabilitation).	7 (1-15) • Physiotherapy only (N=44): 10 (4-19) • Significantly better in intervention group (p<0.02, ANOVA) • Pre-defined MID (8.5 points not exceeded) At Day 5: • Physiotherapy + gym session + mobility (N=43): 7.5 (2-15) • Physiotherapy only (N=44): 16 (4-24) • Significantly better in intervention group (p<0.04, ANOVA) • Pre-defined MID (8.5 points reached) *Changes in mobility (measured using number of participants reporting problems in mobility domain on EQ-5D) [N]* At 6 months following injury: • Physiotherapy + gym session + mobility (N=34): 14 • Physiotherapy only (N=39): 20 • Not significantly different	part of the treatment, but Y for the additional treatment in the intervention group 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Varied, in the intervention group data were

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Unable to walk due to non-weightbearing on lower limbs because of bilateral fractures Needing mobility assistance prior to accident, other than a gait aid • Residing in nursing home residents • Patients with SCI or burns to > 20% TBSA • No physical injuries • Discharged after first physiotherapy review • Unable to speak non-English		(p=0.39, ANOVA) *Quality of life (measured using Glasgow Outcome Scale-Extended) [median (IQR)]* Scale 0 (worst) – 8 (best). Part of 6-monthly routinely collected data (exact time point unclear): • Physiotherapy + gym session + mobility (N=34): 6 (3-7) • Physiotherapy only (N=39): 6 (5-6) • Not significantly different (p=0.65, ordinal logistics regression analysis) *Quality of life (measured using SF-12 Physical component score) [median (IQR)]* Scale 0 (worst) – 100 (best). Part of 6-monthly routinely collected data (exact time point unclear): • Physiotherapy + gym session + mobility (N=25): 36 (29-49) • Physiotherapy only	available for 41-43/45 participants and in the control group for 41-44/45 participants for the mobility and satisfaction outcomes. For QoL outcomes, the corresponding proportions were 25-34/45 and 32-39/45, respectively. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NI Risk-of-bias judgement: Some concerns for mobility and satisfaction; high risk for QoL Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=32): 33 (26-56) • Not significantly different (p=0.96, unclear which statistical test was used) *Quality of life (measured using SF-12 Mental component score) [median (IQR)]* Scale 0 (worst) – 100 (best). Part of 6-monthly routinely collected data (exact time point unclear): • Physiotherapy + gym session + mobility (N=25): 54 (37-58) • Physiotherapy only (N=32): 55 (50-58) • Not significantly different (p=0.37, unclear which statistical test was used) *Pain (measured using number of participants reporting problems in Pain or discomfort domain on EQ-5D) [N]* At 6 months following injury: • Physiotherapy + gym session + mobility (N=34): 17 • Physiotherapy only	assessors aware of the intervention received by study participants? N for mobility (measured by blinded physiotherapists on Days 3 and 5); NI for the other outcomes. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PY Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? N Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points)

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=39): 23 • Not significantly different (p=0.44, ANOVA) *Changes in ADL (measured using number of participants reporting problems in domain on EQ-5D) [N]* At 6 months following injury: • Self-care problems: ○ Physiotherapy + gym session + mobility (N=34): 10 ○ Physiotherapy only (N=39): 10 ○ Not significantly different (p=0.72, ANOVA) • Usual activities problems: ○ Physiotherapy + gym session + mobility (N=34): 12 ○ Physiotherapy only (N=39): 10 ○ Not significantly different (p=0.37, ANOVA)	within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement: Some concerns Overall risk of bias: Some concerns for mobility; high risk for satisfaction, QoL, pain and ADL Other information None
Full citation Cho, Yoon Soo, Jeon, Jong Hyun, Hong, Aram, Yang, Hyeong Tae, Yim, Haejun, Cho, Yong Suk, Kim, Do-Hern, Hur, Jun, Kim, Jong Hyun, Chun, Wook, Lee, Boung Chul, Seo, Cheong Hoon, The effect of burn rehabilitation massage	**Sample size** N= 160 (randomised) • Massage + standard care = 80 • Standard care = 80 N= 146 (analysed) • Massage + standard care = 76	**Interventions** • *Intervention group: Massage + standard care.* Standard care plus 30 minute rehabilitation burn massage sessions 3 times per week for each affected area. Massage was delivered by specialised	**Results** *Pain (measured using VAS score) [mean (SD)]* Range 0-10, better = lower At baseline: • Massage + standard care	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
therapy on hypertrophic scar after burn: a randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 40, 1513-20, 2014 **Ref Id** 1127557 **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** To investigate the effectiveness of burn massage therapy on hypertrophic scar burn outcomes. **Study dates** Not reported. **Source of funding** This study received funding from the Korean Health Technology R&D Project at Ministry of Health and Welfare.	• Standard care = 70 **Characteristics** Age in years [Mean (SD)]: • Massage + standard care = 46.06 (8.63) • Standard care = 47.21 (8.22) Gender (M/F): • Massage + standard care (N) = 61/15 • Standard care (N) = 50/20 Time since injury [Mean (SD)]: • Massage + standard care (days) = 148.77 (56.85) • Standard care (days) = 156.47 (56.48) Injury cause: not reported TBSA [mean(SD)]: • Massage + standard care (%) = 37.25 (18.60) • Standard care (%) = 35.64 (17.33) **Inclusion criteria** Patients had to be: • Admitted to study hospital • Undergoing rehabilitation of hypertrophic scars that developed after acute burn	burn rehabilitation massage therapists and consisted of application of Rosakalm® cream, moisturising Emu oil and Physiogel® lotion followed by effleurage, friction and petrissage massage. • *Control group: Standard care.* Range of motion exercises to prevent burn contracture, silicone gel application, pressure therapy, intralesional corticosteroid injection. Whitening cream, anti-redness cream and moisturising cream were also applied.	(N = 76): 5.63 (1.74) • Standard care (N = 70): 5.65 (1.48) • No difference between groups (p = 0.917, independent samples t-test) At discharge (specific time frame not reported): • Massage + standard care (N = 76): 3.02 (0.81) • Standard care (N = 70): 4.47 (1.34) • Adjusted difference: 1.36 (95% CI 0.69-2.02) • Significantly lower (better) in intervention group (p<0.001, ANCOVA, controlling variables not reported, no reported of controlling variables)	sequence random? Y - computer-generated random number table. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY - medical staff not involved in research. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - no significant differences between groups. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. 2.4. If Y/PY to 2.3: Were

Study details	Participants	Interventions	Outcomes and Results	Comments
	management (including skin grafts) **Exclusion criteria** Not reported.			these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - data available for 70/80 in control group and 76/80 in massage group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
				depend on its true value? NI. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN. Risk-of-bias judgement: Some concerns. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? PY - pain is self-assessed. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN. Risk-of-bias judgement: Some concerns. Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
				result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias Some concerns Other information None.
Full citation Choi, Ji Soo, Mun, Jeong Hyeon, Lee, Ju Youn, Jeon, Jong Hyun, Jung, Yun Jae, Seo, Cheong Hoon, Jang, Ki Un, Effects of modified dynamic metacarpophalangeal joint flexion orthoses after hand burn, Annals of rehabilitation	**Sample size** N= 42 (randomised) • Metacarpophalangeal orthosis = 21 • No orthosis = 21 N= 42 (analysed) • Metacarpophalangeal orthosis = 21	**Interventions** • *All groups:* “Both the control group and the orthotic group conducted the rest rehabilitation treatment equally, in addition to the application of orthoses.” (p. 881) No further details reported.	**Results** *Upper limb function (Grip strength of right hand, measured in kg) [mean (SD)]* Baseline: • Metacarpophalangeal orthosis: 4.9 (3.4)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
medicine, 35, 880-6, 2011 **Ref Id** 1125380 **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** Study aim “To assess the effectiveness of modified dynamic metacarpophalangeal (MCP) joint flexion orthoses for treatment of post-burn hand contractures.” (p. 880) **Study dates** 2009-2010 **Source of funding** Not reported	• No orthosis = 21 **Characteristics** Age in years [Mean (SD)]: • Metacarpophalangeal orthosis = 39.52 (11.2) • No orthosis = 43.28 (12.84) Gender (M/F): • Metacarpophalangeal orthosis (N) = 18/3 • No orthosis (N) = 18/3 Time since injury in days [Mean (SD)]: • Metacarpophalangeal orthosis = 105.62 (49.31) • No orthosis = 115.52 (50.99) Injury cause: • Metacarpophalangeal orthosis = all traumatic • No orthosis = all traumatic TBSA: • Metacarpophalangeal orthosis (%) = 27.57 (23.64) • No orthosis (%) = 24.47 (18.25) Hand burn surface area:	• *Intervention group: Modified dynamic metacarpophalangeal joint flexion orthoses.* Worn for 8 weeks, 3 x 1 hour/day. “The orthoses used for this study did not obstruct the movements of proximal interphalangeal joint or the wrist and applied continuous extension in the direction of flexion of the second through fifth metacarpophalageal joints. The orthotic on the back of the hand was modified so that it would fit the average hand size of Koreans and the quality of material was adjusted to suit the state of patients’. The iron structure supporting both sides of the hand was made to be able to properly withstand pulling forces, and at the end, there is a ring, and a rubber band with improved elasticity toward the shape of a burn patient’s hands and provides tension, with the dynamic correction force of joints being controlled by a change in the number of bands.” (p. 881) • *Control group: No orthoses.* No further details	• No orthosis: 4.6 (8.1) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 10.1 (8.5) • No orthosis: 9 (11.1) Difference: • Metacarpophalangeal orthosis: 5.2 (5.8) • No orthosis: 4.4 (4.4) *Upper limb function (Grip strength of left hand, measured in kg) [mean (SD)]* Baseline: • Metacarpophalangeal orthosis: 4.6 (7.6) • No orthosis: 4.4 (4.2) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 7.6 (5.4) • No orthosis: 8.1 (7.1) Difference: • Metacarpophalangeal orthosis: 3 (2.6) • No orthosis: 3.7 (3.8) *Upper limb function*	sequence random? NI 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? No Risk-of-bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI, but PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Metacarpophalangeal orthosis (%) = 3.62 (1.79) • No orthosis (%) = 3.95 (1.5) **Inclusion criteria** Patients had to: • Experience burns • Complete acute treatment in special burn centres for hand burns within 6 months of their injury • Be transferred to the rehabilitation medicine department • Have a flexion motion range of metacarpophalangeal joint < 61°. **Exclusion criteria** • 4th degree burns • Musculoskeletal diseases (including fractures, amputation, rheumatoid arthritis and degenerative joint disease) in the injured hand • Nerve diseases (including peripheral nerve disorder, cervical radiculopathy), Full-thickness skin injury • Injury to muscles and bone	reported.	*(Dominant hand writing measured using Jebsen-Taylor hand function test in sec) [mean(SD)]* Baseline: • Metacarpophalangeal orthosis: 17 (1.4) • No orthosis: 16.4 (3.2) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 8.9 (1.9) • No orthosis: 13.1 (2.6) Difference: • Metacarpophalangeal orthosis: -8.1 (2.8) • No orthosis: -3.3 (11.8) *Upper limb function (measured using Michigan Hand Outcomes Questionnaire) [mean (SD)]* Scale 0 (worst) – 100 (best). Baseline: • Metacarpophalangeal orthosis: 22.2 (17.3) • No orthosis: 23 (16) 8 weeks (intervention	have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NI Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? NI 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NI Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			completion): • Metacarpophalangeal orthosis: 46.2 (36.8) • No orthosis: 25 (8.6) Difference: • Metacarpophalangeal orthosis: 24 (29.7) • No orthosis: 2 (15.3) *Quality of life (measured using BSHQ score) [mean(SD)]* Higher = better. Baseline: • Metacarpophalangeal orthosis: 68.8 (23.7) • No orthosis: 63.2 (12.1) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 93 (19.8) • No orthosis: 85 (29.1) Difference: • Metacarpophalangeal orthosis: 24.2 (26.3) • No orthosis: 21.8 (25.1) *Changes in ADL (measured using FIM) [mean (SD)]*	4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? NI 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NI 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NI Risk-of-bias judgement: High risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being

Study details	Participants	Interventions	Outcomes and Results	Comments
			Scale 18-126, higher = better. Baseline: • Metacarpophalangeal orthosis: 98.4 (11.1) • No orthosis: 102.6 (8.7) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 104.4 (12) • No orthosis: 107.9 (8.3) Difference: • Metacarpophalangeal orthosis: 6 (3.3) • No orthosis: 5.3 (3.8) *Changes in ADL (measured using MHOQ ADL Score) [mean(SD)]* Scale 0 (worst) – 100 (best). Baseline: • Metacarpophalangeal orthosis: 21 (20.4) • No orthosis: 20 (27.6) 8 weeks (intervention completion): • Metacarpophalangeal	assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement High risk Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			orthosis: 36.6 (28.8) • No orthosis: 26.2 (49.2) Difference: • Metacarpophalangeal orthosis: 15.6 (21.8) • No orthosis: 6.2 (30.3) *Pain (measured using MHOQ Pain Score) [mean(SD)]* Scale 0 (best) – 100 (worst). Baseline: • Metacarpophalangeal orthosis: 62.2 (28.6) • No orthosis: 66 (26.1) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 58.7 (39.2) • No orthosis: 53.3 (24.6) Difference: • Metacarpophalangeal orthosis: -3.5 (40.5) • No orthosis: -12.7 (37) *Patient acceptability (measured using MHOQ Aesthetics Score) [mean(SD)]*	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Scale 0 (worst) – 100 (best). Baseline: • Metacarpophalangeal orthosis: 29.1 (15.6) • No orthosis: 28.1 (4.4) 8 weeks (intervention completion): • Metacarpophalangeal orthosis: 31.2 (47.3) • No orthosis: 31.2 (6.2) Difference: • Metacarpophalangeal orthosis: 2.1 (29) • No orthosis: 3.1 (4.6) *Patient acceptability (measured using MHOQ Satisfaction with hand function score) [mean(SD)]* Scale 0 (worst) – 100 (best). Baseline: • Metacarpophalangeal orthosis: 20.3 (17.7) • No orthosis: 18.3 (20.7) 8 weeks (intervention completion): • Metacarpophalangeal	

Study details	Participants	Interventions	Outcomes and Results	Comments
			orthosis: 35.2 (43.7) • No orthosis: 31.9 (4.8) Difference: • Metacarpophalangeal orthosis: 14.9 (28.4) • No orthosis: 13.6 (16.6)	
Full citation Dehghan, Niloofar, McKee, Michael D., Jenkinson, Richard J., Schemitsch, Emil H., Stas, Venessa, Nauth, Aaron, Hall, Jeremy A., Stephen, David J., Kreder, Hans J., Early Weight-bearing and Range of Motion Versus Non-Weight-bearing and Immobilization After Open Reduction and Internal Fixation of Unstable Ankle Fractures: A Randomized Controlled Trial, Journal of Orthopaedic Trauma, 30, 345-52, 2016 **Ref Id** 1127659 **Country/ies where the study was carried out** Canada **Study type** RCT	**Sample size** N = 110 (randomised) • Early weight-bearing = 56 • Late weight-bearing = 54 N = 107 (analysed) • Early weight-bearing = 53 • Late weight-bearing = 54 **Characteristics** Age in years [Mean (SD)]: • Early weight-bearing = 41.7(15.1) • Late weight-bearing = 42.1(15.4) Gender (M/F): • Early weight-bearing (N) = 32/24 • Late weight-bearing (N) = 27/27 Time since injury (reported as time to operation) [mean(SD)]: • Early weight-bearing	**Interventions** • *All groups:* Surgical fixation of unstable ankle fracture using open reduction internal fixation under standard protocol. Lateral malleolar fracture was fixed using a lag screw (if possible) along with plates and screws as needed. Medial malleolus fractures was fixed using 1-2 lag screws. Medial malleolar comminution and those with vertical fracture patterns were fixed with a tubular plate and buttress methodology. Syndesmosis was assessed during the operation and fixed if needed. All participants were immobilised using a below knee posterior plaster slab and told not to weight-bear on the affected ankle. The slab and surgical staples were removed at 2 week post-operative visit.	**Results** *Return to work (measured using number of participants returned to work at each time point)* NB: Only people who were employed (N=97) were included in this outcome measure. Baseline (2 weeks post-operation): • Early weight-bearing N=8/51 • Late weight-bearing N=15/46 • No significant difference between groups (p=0.05, Chi-squared test) 6 weeks post-operation (intervention completion): • Early weight-bearing N=23/49 • Late weight-bearing N=22/46	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Article simply states participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Study used concealed, sequentially numbered, opaque and sealed envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant differences between groups at baseline. Risk-of-bias judgement: Some concerns.

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To investigate the effectiveness of early weight-bearing and range of motion exercises with a non-weight-bearing and immobilisation programme after surgery for unstable ankle fractures. **Study dates** 2010-2014 **Source of funding** This study received funding from Sunnybrook Health Sciences Centre, University of Toronto, Orthopaedic Trauma Association, Physicians Services Incorporation, Canadian Orthopaedic Trauma Society and Canadian Orthopaedic Association.	(days): 7.0(4.1) • Late weight-bearing (days): 6.2(4.3) Injury cause: not reported Fracture type (Uni-malleolar/Bi-malleolar/Tri-malleolar): • Early weight-bearing (N) = 26/25/5 • Late weight-bearing (N) = 18/27/9 **Inclusion criteria** Participants had to: • Have unstable unilateral ankle fracture • Require surgical fixation (including isolated lateral malleolus fracture with talar shift, vertical shear medial malleolus fracture, bimalleolar fracture, tri-malleolar fracture not requiring posterior fragment fixation • Closed, grade I and grade II open fractures were considered for inclusion **Exclusion criteria** • Skeletal immaturity • Previous ipsilateral ankle surgery	• *Intervention group: Early weight-bearing.* Boot orthosis fitted at 2-week post-operative visit and participants were instructed to fully weight-bear as much as tolerated. Participants were told to remove the boot 4 x per day and perform range of motion exercises consisting of ankle dorsiflexion, plantar flexion, inversion and eversion exercise. Physiotherapists gave advice regarding weight-bearing and ankle exercises. Participants were instructed to stop wearing the orthosis (over the next 2-4 weeks) at the 6-week post-operative visit. • *Control group: Late weight-bearing.* Below knee fibreglass cast fitted at 2-week post-operative visit and were not allowed to weight-bear for additional 4 weeks (total of 6 weeks immobilisation). The cast was removed at the 6 week post-operative visit before beginning full weight-bearing using a boot orthosis. Range of motion exercises were also	• No significant difference between groups (p=0.99, Chi-squared test) 3 month post-operation (6 week follow-up): • Early weight-bearing N=38/49 • Late weight-bearing N=36/44 • No significant difference between groups (p=0.61, Chi-squared test) 6 months post-operation: • Early weight-bearing N=44/46 • Late weight-bearing N=40/43 • No significant difference between groups (p=0.59, Chi-squared test) 12 months post-operation: • Early weight-bearing N=49/50 • Late weight-bearing N=45/46 • No significant difference between groups (p=0.95, Chi-squared test) *Return to work (measured using total days off work) [Mean]*	Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - Paper states that participants were unblinded to allocation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - Paper states that investigators were unblinded to allocation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI - Study had no way of verifying compliance with intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Unable to walk before injury • Unable to comply with postoperative protocol • Medical comorbidity that doesn't allow surgery • Workers compensation patients • Polytrauma • Surgery > 14 days from time of injury • Grade III open fractures • Tibial plafond fractures • Syndesmotic injuries/fixation • Posterior malleolar fractures requiring fixation (typically 0.25% articular surface involved).	performed under advice from physiotherapist. Participants were instructed to gradually ween off the boot orthosis over the next 2-4 weeks.	Time point not reported: • Early weight-bearing (N=47): 51.2 • Late weight-bearing (N=43): 47.8 • No significant difference between groups (p=0.72, unclear which statistical test used) *Changes in mobility (measured using total ankle dorsiflexion/plantar flexion range of motion in degrees) [Mean (SD)]* Baseline (2 weeks post-operation): • Early weight-bearing (N=56): 19 (15) • Late weight-bearing (N=54): 15 (13) • (p=0.23, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 41 • Late weight-bearing (N=54): 29 • (p<0.0001, unclear which statistical test used)	treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Complete data available for 46/54 in late weight-bearing group and 46/56 in early weight-bearing group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN - Rates are balanced between groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			3 month post-operation (6 week follow-up): • Early weight-bearing (N=49): 49 • Late weight-bearing (N=51): 49 • No difference (p value not reported, unclear which statistical test used) 6 months post-operation: • Early weight-bearing (N=46): 56 • Late weight-bearing (N=46): 53 • No difference (p value not reported, unclear which statistical test used) 12 months post-operation: • Early weight-bearing (N=50): 60 • Late weight-bearing (N=52): 61 • No significant difference between groups (p value not reported, unclear which statistical test used) *Changes in mobility (measured using Olerud/Molander ankle functions scores) [Mean (SD)]*	4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Structured follow-up visits. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Paper states that investigators were unblinded to allocation. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Return to work and ankle mobility: N - Objective measurements. SF-36: PN - Structured and valid outcome questionnaire 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
			Higher = better. Baseline (2 weeks post-operation): • Early weight-bearing N=56: 22(18) • Late weight-bearing N=54: 23(18) • No significant difference between groups (p=0.78, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 45 • Late weight-bearing (N=54): 32 • Statistically higher (better) in intervention group (p=0.0007, unclear which statistical test used) 3 month post-operation (6 week follow-up): • Early weight-bearing (N=49): 62 • Late weight-bearing (N=51): 56 • No statistical difference between groups (p value not reported, unclear which statistical test used)	analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None.

Study details	Participants	Interventions	Outcomes and Results	Comments
			6 months post-operation: • Early weight-bearing (N=46): 77 • Late weight-bearing (N=46): 73 • No statistical difference between groups (p value not reported, unclear which statistical test used) 12 months post-operation: • Early weight-bearing (N=50): 89 • Late weight-bearing (N=52): 85 • No statistical difference between groups (p value not reported, unclear which statistical test used) *Overall quality of life (measured using SF-36 Physical component score) [Mean (SD)]* Higher = better. Baseline (2 weeks post-operation): • Early weight-bearing (N=56): 35 (12) • Late weight-bearing (N=54): 37 (14) • No statistical difference between groups (p value	

Study details	Participants	Interventions	Outcomes and Results	Comments
			not reported, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 51 • Late weight-bearing (N=54): 42 • Statistically higher (better) in intervention group (p=0.0008, unclear which statistical test used) 3 month post-operation (6 week follow-up): • Early weight-bearing (N=49): 66 • Late weight-bearing (N=51): 64 • No statistical difference between groups (p value not reported, unclear which statistical test used) 6 months post-operation: • Early weight-bearing (N=46): 79 • Late weight-bearing (N=46): 72 • No statistical difference between groups (p=0.07, unclear which statistical test used)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			12 months post-operation: • Early weight-bearing (N=50): 85 • Late weight-bearing (N=52): 79 • Significantly higher (better) in intervention group (p=0.04, unclear which statistical test used) *Overall quality of life (measured using SF-36 Mental component score) [Mean (SD)]* Higher – better. Baseline (2 weeks post-operation): • Early weight-bearing (N=56): 52 (20) • Late weight-bearing (N=54): 56 (19) • No statistical difference between groups (p=0.35, unclear which statistical test used) 6 weeks post-operation (intervention completion): • Early weight-bearing (N=53): 66 • Late weight-bearing (N=54): 54 • Significantly higher (better)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in intervention groups (p=0.0008, unclear which statistical test used) 3 month post-operation (6 week follow-up): • Early weight-bearing N=49: 74 • Late weight-bearing N=51: 73 • No statistical difference between groups (p value not reported, unclear which statistical test used) 6 months post-operation: • Early weight-bearing (N=46): 84 • Late weight-bearing (N=46): 79 • No statistical difference between groups (p=0.08, unclear which statistical test used) 12 months post-operation: • Early weight-bearing (N=50): 87 • Late weight-bearing (N=52): 83 • No statistical difference between groups (p=0.09, unclear which statistical test used)	
Full citation	**Sample size**	**Interventions**	**Results**	Limitations

Study details	Participants	Interventions	Outcomes and Results	Comments
Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006 **Ref Id** 1025251 **Country/ies where the study was carried out** USA **Study type** RCT **Aim of the study** To compare the effectiveness of body-weight supported gait training on a treadmill and additional over ground practice with defined over ground gait training in patients with incomplete spinal cord injury. **Study dates** June 2000 - January 2003	N=146 (randomised) • Body-weight supported treadmill training: 75 • Over ground gait training: 71 N= 117 (analysed) • Body-weight supported treadmill training: 58 • Over ground gait training: 59 **Characteristics** Age in years [Median (range)]: • Body-weight supported treadmill training = ○ ASIA level B+C: 26 (16-68) ○ ASIA level C+D: 36 (17-69) • Over ground gait training = ○ ASIA level B+C: 24 (16-61) ○ ASIA level C+D: 23 (17-61) Gender (M/F): • Body-weight supported treadmill training (%) = ○ ASIA level B+C: 85/15; ○ ASIA level C+D: 83/17 • Over ground gait training (%) =	• *Intervention group: Body-weight supported treadmill training.* Standard inpatient and outpatient therapy from rehabilitation centre + 12 weeks of body-weight supported treadmill training for maximum 1 hour x 5 sessions per week (minimum of 45 and maximum of 60 sessions). Each session began with stretching exercises for 10 minutes followed by body-weight supported step training on a treadmill for 20-30 minutes in 3-10 minute increments (depending on each participant's comfort level). Once subjects were able to, walking training was practiced for additional 10-20 minutes each session. Weight was supported using a climbing harness attached to an overhead lift to enable vertical displacement during ambulation. Weight support and treadmill speed was set >0.72 m/sec but aimed to be > 1.07 m/sec. Subjects were allowed to stop before 45 sessions if they attained 0.98 m/sec. During training, trainers concentrated on trunk and	*Changes in mobility (measured using FIM-L score in ASIA B + C patients) [median (IQR)]* Scale 0 – 7. At baseline: • Body-weight supported treadmill training (N=52): 1.0 (1-1) • Over ground gait training (N=57): 1.0 (1-1) • No significant difference between groups (p=0.47, Fisher test) At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=52): 6 (1-6) • Over ground gait training (N=57): 6 (2-6) • No significant difference between groups (p=0.39, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months measured using FIM-L) [median (IQR)]*	Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Simply stated random permuted block randomisation. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.2. Were carers and people delivering the interventions

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding This study received funding from NIH at the National Institute for Child Health and Human Development, La Foundation Quebequoise Sur La Moelle Epiniere and La Foundation Pour La Recherche ur La Moelle Epiniere.	○ ASIA level B+C: 74/26 ○ ASIA level C+D: 70/30 Time since injury: not reported but inclusion criteria states within 56 days. Injury cause: not reported but inclusion criteria states traumatic. Level of injury (Cervical/Thoracic/Lumbar SCI): • Body-weight supported treadmill training (%) = ○ ASIA level B+C: 67/19/14 ○ ASIA level C+D: 66/24/21 • Over ground gait-training (%) = ○ ASIA level B+C: 54/23/23 ○ ASIA level C+D: 55/0/0 **Inclusion criteria** Participants had to: • Be aged 16-70 years old • Be within 56 days of traumatic SCI injury and within 1 week of admission for rehabilitation • Have incomplete lesion between C4 on at least one side of the body to L3	lower extremity kinematics and limb loading as well as cutaneous and proprioceptive feedback, assisting participants to attain levels approaching those in healthy subjects. Task difficulty increased throughout training to maintain attention of subjects and to re-enforce skill acquisition. Participants were allowed to stand and walk as needed for other rehabilitation programmes and to perform ADL. Leg and trunk strengthening exercises were also allowed. • *Control group: Over ground gait training.* Standard inpatient and outpatient therapy from rehabilitation centre + 12 over ground gait training for maximum 1-hour x 5 sessions per week (minimum of 45 and maximum of 60 sessions). Each session began with stretching exercises for 10 minutes followed by a minimum of 30-minutes ambulation using parallel bars, assistive devices, braces or assistance from 1-2 therapists. Depending	Scale 0 – 7. At baseline: • Body-weight supported treadmill training (N=27): 1.0 (1-1) • Over ground gait training (N=18): 1.0 (1-1) • No significant difference between groups (p=0.44, Fisher's test) At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=27): 6 (6-7) • Over ground gait training (N=18): 6 (6-7) • No significant difference between groups (p=0.69, regression analysis) *Changes in mobility (measured using velocity in ASIA C + D (UMN and LMN) patients in m/sec) [median (IQR)]* At baseline: not reported. At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=35):	aware of participants' assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or

Study details	Participants	Interventions	Outcomes and Results	Comments
	on either side of the body • Be unable to ambulate over ground without moderate assistance at time of randomisation (defined as FIM locomotion score ≤ 3) • Have MMSE score ≥ 26 • Admitted for rehabilitation to 1 of 6 participating regional SCI centres **Exclusion criteria** • Symptomatic orthostatic hypotension or >30 mmHg blood pressure drop when using body-weight support apparatus • Spine stabilising device and surgeon advises body-weight supported training is not suitable • Contra-indication for weight-bearing on lower extremities • Pressure sore ≥ stage 2 and located where intervention could impact healing • Disease before SCI that led to exercise intolerance and limited ADL • Anti-spasticity medications • Premorbid major depression or psychosis, and if SCI was due to	on each participant's comfort level, this increased from 30 min to 45 min. If participants were unable to walk, they started at 30 minutes standing practice. Subjects were not allowed to use body-weight support devices or treadmills. Participants were allowed to stand and walk as needed for other rehabilitation programmes and to perform ADL. Leg and truck strengthening exercises were also allowed.	1.1 (0.8-1.4) • Over ground gait training (N=33): 1.0 (0.7-1.5) • Estimate = -0.06 • Standard error = 0.13 95% CI = -031-0.19 • No significant difference between groups (p=0.65, regression analysis) *Changes in mobility (in UMN ASIA C + D patients measured using velocity in m/sec) [median (IQR)]* At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=30): 1.0 (0.6-1.5) • Over ground gait training (N=25): 1.2 (0.9-1.7) • Estimate = -0.08 • Standard error = 0.16 • 95% CI = -0.40-0.22 • No significant difference between groups (p=0.58, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using velocity in m/sec) [median (IQR)]*	nearly all, participants randomized? N - Data available for 58/75 in intervention group and 59/71 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y - Reasons for drop out were given, with a few relating to the intensity of therapy. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? N - Paper states that no differences in drop out number of reasons between groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Follow up at 6 months. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
	suicide attempt • Unlikely to complete intervention or follow-up • Taking part in another research study		At baseline: not reported At 6 months (3 months after intervention completion) • Body-weight supported treadmill training (N=27): 1.1 (0.6-1.5) • Over ground gait training (N=18): 1.1 (0.4-1.7) • No significant difference between groups (p=0.98, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using distance in m) [median (IQR)]* At baseline: not reported. At 6 months (3 months after intervention completion) • Body-weight supported treadmill training (N=27): 312 (165-477) • Over ground gait training (N=18): 401 (366-483) • No significant difference between groups (p=0.27, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months,*	assessors aware of the intervention received by study participants? N - Outcome assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of

Study details	Participants	Interventions	Outcomes and Results	Comments
			measured using LEMS score) [median (IQR)] Scale 0 (worst) – 50 (best). At baseline: • Body-weight supported treadmill training (N=27): 22 (16-27) • Over ground gait training (N=18): 25 (15-27) • No significant difference between groups (p=0.85, Fisher's test) At 6 months (3 months after intervention completion): • Body-weight supported treadmill training (N=27): 45 (43-49) • Over ground gait training (N=18): 45 (36-49) • No significant difference between groups (p=0.45, regression analysis) *Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using Walking Index for SCI score) [median (IQR)]* Scale 0 (worst) – 20 (best).	the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: • Body-weight supported treadmill training (N=27): 0 (0-1) • Over ground gait training (N=18): 0 (0-1) • No significant difference between groups (p=0.30, Fisher's test) At 6 months (3 months after intervention completion) • Body-weight supported treadmill training (N=27): 18 (13-19) • Over ground gait training (N=18): 18 (13-19) • No significant difference between groups (p=0.69, regression analysis)	
Full citation Dobkin, B., Barbeau, H., Deforge, D., Ditunno, J., Elashoff, R., Apple, D., Basso, M., Behrman, A., Harkema, S., Saulino, M., Scott, M., Spinal Cord Injury Locomotor Trial, Group, The evolution of walking-related outcomes over the first 12 weeks of rehabilitation for incomplete traumatic spinal cord injury: the multicenter randomized Spinal Cord Injury Locomotor Trial, Neurorehabilitation and	Same study as Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006. See that study for full details.	• Same study as Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006. See that entry for full details.	**Results** *Changes in mobility (in participants with SCI level of ASIA B measured using FIM-L) [mean (SD)]* Scale 1 – 7. 6 weeks (during intervention): • Body-weight supported treadmill training (N=14): 1.07 (0.27) • Over ground gait training	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Simply stated random permuted block randomisation. 1.2 Was the allocation sequence concealed until participants were enrolled

Study details	Participants	Interventions	Outcomes and Results	Comments
Neural Repair, 21, 25-35, 2007 **Ref Id** 1125530			(N=17): 1.06 (0.24) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=13): 1.31 (1.11) • Over ground gait training (N=16): 1.94 (1.73) *Changes in mobility (in participants with SCI level of ASIA B measured using LEMS) [mean (SD)]* Scale 0 – 50. 6 weeks (during intervention): • Body-weight supported treadmill training (N=14): 4.1 (5.5) • Over ground gait training (N=16): 4.6 (6.5) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=13): 6.1 (8.6) • Over ground gait training: (N=16): 7.3 (10.3) *Changes in mobility (in participants with SCI level of*	and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY - Study states it is single blinded and outcome assessors are blind. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?

Study details	Participants	Interventions	Outcomes and Results	Comments
			ASIA B measured using walking distance in m) [mean (SD)] 12 weeks (intervention completion): • Body-weight supported treadmill training (N=9): 10.7 (32.0) • Over ground gait training (N=12): 16.4 (36.3) *Changes in mobility (in participants with SCI level of ASIA C + D measured using FIM-L) [mean (SD)]* Scale 1-7. 6 weeks (during intervention): • Body-weight supported treadmill training (N=39): 3.0 (2.1) • Over ground gait training (N=39): 3.9 (2.1) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=43): 4.7 (2.1) • Over ground gait training (N=40): 5.5 (1.4)	NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 65/75 in intervention group and 68/71 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y - Reasons for drop out were given, with a few relating to the intensity of therapy.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (in participants with SCI level of ASIA C + D measured using walking velocity in m/sec) [mean (SD)] 6 weeks (during intervention): • Body-weight supported treadmill training (N=21): 0.69 (0.40) • Over ground gait training (N=29): 0.51 (0.42) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=34): 0.85 (0.55) • Over ground gait training (N=37): 0.84 (0.54) *Changes in mobility (in participants with SCI level of ASIA C + D measured using LEMS) [mean (SD)]* Scale 0 – 50. 6 weeks (during intervention): • Body-weight supported treadmill training (N=40): 29.1 (14.2) • Over ground gait training	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN - Dobkin 2006 states that no differences in drop out number of reasons between groups. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Follow up at 6 months. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Outcome assessors with blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=39): 29.5 (11.5) 12 weeks (intervention completion): • Body-weight supported treadmill training (N=43): 34.7 (13.3) • Over ground gait training (N=40): 35.7 (11.3) *Changes in mobility (in participants with SCI level of ASIA C + D measured using walking distance in m) [mean (SD)]* 12 weeks (intervention completion): • Body-weight supported treadmill training (N=34): 247.7 (187.6) • Over ground gait training (N=36): 251.3 (203.7)	received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk **Other information** None
Full citation Ebid, A. A., Ibrahim, A. R., Omar, M. T., El Baky, A. M. A., Long-term effects of pulsed high-intensity laser therapy in the treatment of	**Sample size** N = 49 (randomised) • Active laser group: 24 • Placebo laser group: 25	**Interventions** • *All partipants:* Participants took 3 x 10mg cetirizine daily + 4 x 5 min massage of burn scar with coconut oil daily.	**Results** *Quality of life (Pruritus-related QoL measured using mDLQI) [mean(SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
post-burn pruritus: a double-blind, placebo-controlled, randomized study, Lasers in Medical Science, 32, 693-701, 2017 **Ref Id** 1129565 **Country/ies where the study was carried out** Saudi Arabia **Study type** RCT **Aim of the study** To investigate the long-term effects of pulsed high intensity laser therapy (HILT) on itching, pain, quality of life, anti-histamine intake and hand grip stength in burn patients. **Study dates** Not reported. **Source of funding** This study received no funding.	N = 49 (analysed) • Active laser group: 24 • Placebo laser group: 25 **Characteristics** Age in years [Mean (SD)]: • Active laser group = 30.25 (12.05) • Placebo laser group = 32.45 (11.21) Gender (M/F): • Active laser group (N) = 16/9 • Placebo laser group (N) = 15/11 Time since injury [Mean (SD)] • Active laser group (days) = 33.46(3.38) • Placebo laser group (days) = 34.67(2.45) Injury cause: not reported. TBSA [Mean (SD)]: • Active laser group (%) = 19.33(6.40) • Placebo laser group (%) = 20.45(7.55) **Inclusion criteria** Patients had to:	• *Intervention group: Active laser therapy to forearm and hand.* 3 x weekly sessions of pulsed Nd:YAG laser for 6 weeks (total of 18 sessions). Pulse emission = 1064nm, very high peak power, energy density = 510-1780 mJ/com, frequency = 10-40Hz (low), duration = 120-150 µm (brief), duty cycle ≅ 0.1%, probe diameter = 0.5 cm, spot size = 0.2cm2. Total energy dose = 3000J applied in 3 phases. The first phase was fast manual scanning in both transverse and longitudinal direction for 1300J (sub phases = 610, 710 and 810 mJ/cm2). Middle phase was applied to 16 spots on the itching area of forearm and hand (each point received 25 J, fluency = 610 mJ/cm2, duration = 14 sec, total of 400 J). Last phase comprised of slow manual scanning in both transverse and longitudinal direction for 1300J. Total time of high intensive laser therapy session = 15 minutes. • *Control group: Placebo*	Scale 0-21. Lower = better At baseline: • Active laser group (N=24): 10.3(4.9) • Placebo laser group (N=25): 9.5(4.8) • No significant difference between groups (p = 0.566, Mann-Whitney) 6 weeks from baseline (intervention completion): • Active laser group (N=24): 5.6(3.5) • Placebo laser group (N=25): 8.6(4.5) • Significantly better (lower) in the intervention group, p = 0.0125, Mann-Whitney) 12 weeks from baseline (6 weeks after intervention completion): • Active laser group (N=24): 3.1(3.4) • Placebo laser therapy (N=25): 8.2(4.2) • Significantly better (lower) in the intervention group, p = <0.0001, Mann-Whitney) *Pain (measured using VAS) [mean(SD)]*	arising from the randomisation process 1.1 Was the allocation sequence random? Y - Using computer-generated randomisation list. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - no significant differences in baseline characteristics reported. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? N – Participants were blinded during trial. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N – People delivering laser therapy were blinded during trial.

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Be aged 15-50 years old • Have TBSA >10% • Have deep second-degree burns on upper extremities • Have burns either in healing phase (i.e. >80% wounds have epithelialised) or had healed completely a maximum of 1 month prior to study starting • Have moderate to severe (6-10) itching VAS score • Be able to complete entire assessment questionnaire **Exclusion criteria** • Age <15 years old; • Split skin grafting; • Burns taking longer than 1 month to heal • Using other topical treatments to relieve itching symptoms • Diabetes • Hand deformity • Diagnosed skin condition • Kidney disease • Pregnancy or lactation • Refusing to volunteer for the trial	*laser therapy to forearm only.* 3 x weekly sessions of placebo laser for 6 weeks (total of 18 sessions). Total time of placebo high intensive laser therapy session = 15 minutes.	Scale 0-10. Better = lower. At baseline: • Active laser group (N=24): 8.55(2.65): • Control group (N=25): 8.45(3.55) • No significant difference between groups (p = 0.9118, Mann-Whitney) 6 weeks from baseline (intervention completion): • Active laser group (N=24): 3.58(3.35) • Control group (N=25): 7.43(3.76) • Significantly better (lower) in intervention group, p = 0.0004, Mann-Whitney) 12 weeks from baseline (6 weeks after intervention completion): • Active laser group (N=24): 4.44(4.21) • Control group (N=25): 7.67(3.55) • Significantly better (lower) in intervention group, p = 0.0055, Mann-Whitney)	2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result

Study details	Participants	Interventions	Outcomes and Results	Comments
				was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias: Some concerns Other information None.
Full citation Faqih, A. I., Bedekar, N., Shyam, A., Sancheti, P., Effects of muscle energy	**Sample size** N = 30 (randomised) • Early muscle energy technique: N = 15	**Interventions** • *Both groups:* Participants were given a home exercise programme to	**Results** The authors of this paper have interpreted higher	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool

Study details	Participants	Interventions	Outcomes and Results	Comments
technique on pain, range of motion and function in patients with post-surgical elbow stiffness: A randomized controlled trial, Hong Kong Physiotherapy Journal, 39, 25-33, 2019 **Ref Id** 1129592 **Country/ies where the study was carried out** India **Study type** RCT **Aim of the study** To study the effect of muscle energy technique on pain, range of motion and joint function in patients undergoing rehabilitation for post-surgical elbow stiffness. **Study dates** Not reported. **Source of funding** This study received no financial support.	• Delayed muscle energy technique: N = 15 N = 27 (analysed) • Early muscle energy technique: N = 13 • Delayed muscle energy technique: N = 14 **Characteristics** Age in years: not reported. Gender: not reported. Time since injury: not reported. Injury cause: not reported. **Inclusion criteria** Participants had to: • Be aged 18-50 years old • Have post-operative elbow stiffness after distal humerus and/or radius or ulna fractures • Be without ligament injury • Have a minimum immobilisation period of 3 weeks **Exclusion criteria** • Pathological fractures • Revision surgeries	perform 2 x per day. • *Intervention group: Early muscle energy technique (MET).* MET started immediately after removal of immobilisation which was given by a trained physiotherapist. 6 days x week for 3 weeks, 8-10 repetitions of post-isometric relaxation and/or inhibition for 5-7 sec for 6 days per week. Per day, participants also received 10 repetitions x 2 sets of active flexion and extensions while lying down, 10 repetitions x 2 sets active assisted flexion and extension with a wand, 10 repetitions x 2 sets exercises for wrist flexion, extension, protonation, supination and shoulder flexion, extension, abduction, adduction and rotation. MET resistance was set at 20% of isometric contraction. • *Control group: Delayed MET.* As per the intervention group but immobilisation continued for another week (totalling 4 weeks before MET was started.	DASH and VAS scores as better function and better pain respectively. However, when used as validated, both measurement tools report that lower values are better. The paper makes no mention of inversion of data scales or transformation. We have chosen to interpret the results as per the tool guidance rather than the authors, meaning our conclusions differ from that of the authors for these outcomes. *Upper limb function (measured using DASH score) [mean (SD)]* Range 0-100, lower = better. At baseline: • Early muscle energy technique (N=13): 81.9 (7) • Delayed muscle energy technique (N=14): 87 (6) • Significantly lower (better) in intervention group (p=0.00, Mann-Whitney U test) 3 weeks (intervention completion): • Early muscle energy	(RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y – Chit method used. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? Y – DASH scores were significantly lower (better) in intervention group. Risk-of-bias judgement: High risk. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Ipsilateral fractures • Neurovascular disorders		technique (N=13): 45.9 (6.7) • Delayed muscle energy technique (N=14): 27.7 (4.7) • Mean change: 18.2 (2.2) (95% CI 13.5-22.8) • Significantly lower (better) in intervention group (p<0.00001, Mann-Whitney U test) *Changes in mobility (measured using elbow flexion) [mean(SD)]* At baseline: • Early muscle energy technique (N=13): 84.4 (4.2) • Delayed muscle energy technique (N=14): 82.2 (5) • Significantly higher in control group (p=0.2, unpaired t-test) 3 weeks (intervention completion): • Early muscle energy technique (N=13): 47.8 (5.7) • Delayed muscle energy technique (N=14): 36.1 (8.4) • Mean change: 11.7 (2.8)	arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? N – Per-protocol analysis used. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? Y. Risk-of-bias judgement: High risk. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y – Data available for 14/15 in intervention group and 13/15 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing

Study details	Participants	Interventions	Outcomes and Results	Comments
			(95% CI 5.9-17.4) • Significantly higher in control group (p=0.0003, unpaired t-test) *Changes in mobility (measured using elbow extension) [mean(SD)]* At baseline: • Early muscle energy technique (N=13): -46 (7) • Delayed muscle energy technique (N=14): -44 (4.1) • Significantly higher in control group (p=0.03, unpaired t-test) 3 weeks (intervention completion): • Early muscle energy technique (N=13): -40.2 (5.3) • Delayed muscle energy technique (N=14): -31.6 (5.1) • Mean change: 8.5 (2.0) (95% CI 4.4-12.7) • Significantly higher in control group (p=0.0002, unpaired t-test) *Pain (measured using VAS) [mean(SD)]*	outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N – 3 week follow-up. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors were blinded to group assignment. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			Range 0-10, lower = better. At baseline: • Early muscle energy technique (N=13): 6.6 (0.7) • Delayed muscle energy technique (N=14): 6.9 (0.9) • Significantly higher in control group (p=0.2, Mann-Whitney U test) 3 weeks (intervention completion): • Early muscle energy technique (N=13): 5.6 (0.9) • Delayed muscle energy technique (N=14): 4.3 (0.4) • Mean change: 1.2 (0.2) (95% CI 0.6-1.8) • Significantly higher in control group (p=0.0013, Mann-Whitney U test)	outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from… 5.2. … multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 … multiple analyses of the data? PN. Risk-of-bias judgement Some concerns Overall risk of bias: High risk **Other information** None
Full citation Glinsky, Joanne, Harvey, Lisa, Korten, Monique,	**Sample size** N= 32 (randomised) • Progressive resistance	**Interventions** • *Intervention group: Progressive resistance*	**Results** *Wrist muscles trained*	Limitations Quality assessment: Risk of bias assessed using revised

Study details	Participants	Interventions	Outcomes and Results	Comments
Drury, Craig, Chee, Shane, Gandevia, Simon C., Short-term progressive resistance exercise may not be effective at increasing wrist strength in people with tetraplegia: a randomised controlled trial, The Australian journal of physiotherapy, 54, 103-8, 2008 **Ref Id** 1025584 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To examine 1) whether an 8-week progressive resistance exercise program is effective for increasing strength in the wrist muscles of people with tetraplegia, and 2) whether it is effective for improving muscle endurance and participants' perceptions about use of their hands for activities of daily living. **Study dates**	training + routine care = 16 • Routine care = 16 N= 29-31 (analysed) • Progressive resistance training + routine care = 15 • Routine care = 14-16 **Characteristics** Age in years [Mean (SD)]: • Progressive resistance training + routine care = 37 (16) • Routine care = 47 (20) Gender (M/F): • Progressive resistance training + routine care (N) = 12/3 • Routine care (N) = 15/1 Time since injury in years [Median (IQR)]: • Progressive resistance training + routine care = 1 (3.7) • Routine care = 0.4 (0.9) Injury cause (Traumatic/non-traumatic/not reported): • Progressive resistance training + routine care = all traumatic • Routine care = all	*training + routine care.* 8-week progressive resistance training on randomly selected wrist, 3 times per week, consisting of 3 sets of 10 repetition maximum of one wrist extensor or flexor muscles, with the resistance adjusted "to ensure that participants could only lift the weight 10 times through a full range of motion.....Participants received a 1–3 minute rest before repeating the 10 repetitions a second and third time. The weight was increased over the 8-week training period as soon as participants could perform more than 10 repetitions in a set." (p. 104). A specifically designed device was used to undertake the program, allowing "very weak patients to move all the way through range in an anti-gravity position while ensuring that the resistive torque was constant throughout..... Participants were seated in a wheelchair or chair with the forearm in pronation when training the wrist extensor muscles. The forearm was placed in	*(extensors/flexors):* • Intervention (N) = 13/2 • Control (N) = 15/1 *Patient acceptability (measured using COPM participant perception satisfaction score) [mean (SD)]* Scale 1 (worst) – 10 (best). At baseline: • Progressive resistance training + routine care (N=16): 5.1 (3.1) • Routine care (N=16): 4.9 (2.1) Week 8 (intervention completion): • Progressive resistance training + routine care (N=15): 5 (2.6) • Routine care (N=16): 5.1 (2.3) Difference between Week 8 and Week 0: • Progressive resistance training + routine care (N=15): -0.1 (1.8) • Routine care (N=16): 0.3 (2)	Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y ("A computer-generated random allocation schedule was produced prior to the trial by a person not otherwise involved in subject recruitment or allocation. Allocations were placed in opaque, sequentially numbered envelopes and sealed. They were opened after each participant's baseline measurement was completed." p. 104) 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N, although mean ages differed by 10 years between the groups Risk-of-bias judgement: Low risk of bias Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
Not reported **Source of funding** "Grant and financial support from Royal Rehabilitation Centre Sydney Rehabilitation and Disability Research Foundation; University of Sydney Australian Post Graduate Award; Royal North Shore Private Hospital Ramsay Health PhD scholarship." (p. 108)	traumatic Level of injury (all patients had complete or incomplete tetraplegia with motor level C4-C7 – ASIA scale A/B/C/D): • Progressive resistance training + routine care (N) = 9/0/3/3 • Routine care (N) = 6/4/2/4 **Inclusion criteria** Participants had to: • Be either in-patients or out-patients in 3 participating SCI units • Have complete or incomplete cervical lesion according to ASIA • Have symmetrical (defined as within 1 grade of each other) bilateral weakness (defined as 2-4 of 5) of their wrist extensor or flexor muscles • 2 months post-SCI. *NB. Patients trained only one muscle group – the wrist extensor, rather than the flexor, muscles were selected for training if patients had weakness in both muscles groups.*	supination when training the wrist flexor muscles." (p. 104) + Routine care, including physiotherapy and occupational therapy. • *Control group: Routine care.* Includes physiotherapy and occupational therapy.	• Intervention minus control: -0.3 (95% CI -1.6 to 1) *Changes in ADL (measured using COPM participant perceptions score) [mean(SD)]* Scale 1 (worst) – 10 (best). At baseline: • Progressive resistance training + routine care (N=16): 4.3 (2.4) • Routine care (N=16): 4.4 (1.6) Week 8 (intervention completion): • Progressive resistance training + routine care (N=15): 4.9 (2.2) • Routine care (N=16): 5.2 (2.3) Difference between Week 8 and Week 0: • Progressive resistance training + routine care (N=15): 0.6 (2) • Routine care (N=16): 0.9 (2.3) • Intervention minus control: -0.3 (95% CI -1.9 to 1.2)	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? N 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? PN 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y (intention to treat) 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low

Study details	Participants	Interventions	Outcomes and Results	Comments
	Exclusion criteria • Patients with recent history of trauma to the forearm or hand • Contractures limiting wrist range of motion • People unlikely to remain within the Sydney or Adelaide metropolitan area for 8 weeks • People unlikely to comply with the intervention (estimated from compliance with other aspects of their ongoing rehabilitation and care)			concern Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
				assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Low risk Overall risk of bias Low risk Other information

Study details	Participants	Interventions	Outcomes and Results	Comments
				None
Full citation Harvey, L. A., Batty, J., Crosbie, J., Poulter, S., Herbert, R. D., A randomized trial assessing the effects of 4 weeks of daily stretching on ankle mobility in patients with spinal cord injuries, Archives of physical medicine and rehabilitation, 81, 1340-7, 2000 **Ref Id** 1185187 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of 4 weeks of ankle stretching on the ankle joint mobility of patients with recent SCI. **Study dates** Not reported. **Source of funding**	**Sample size** N= 28 ankles (randomised) • Ankle stretching = 14 ankles • No ankle stretching = 14 ankles N= 28 ankles (analysed) • Ankle stretching = 14 ankles • No ankle stretching = 14 ankles **Characteristics** *Characteristics only reported for all patients, not split by intervention group.* Age in years [Mean (SD)]: 36 (16) Gender (M/F): 14/0 Time since injury [Mean (SD)]: 4 (2.7) months Injury cause: not reported Level of injury (Tetraplegia/Paraplegia): (N) 10/4 **Inclusion criteria**	**Interventions** • *Intervention group: Ankle stretching.* The experimental ankle was constantly stretched for 30 minute sessions, 5-7 times per week for 4 weeks, rotating the ankle into dorsiflexion with the knee extended. A device was designed specifically for this, consisting of a footplate that rotated the ankle through the sagittal plane and a rope that attached to the footplate to a 15cm radius wheel and pulley. By suspending 5kg weight from the rope, the ankle was rotated into dorsiflexion at a constant torque of 7.5Nm. Participants could either be supine on beds or sitting in wheelchair for the session. Participants received no manual therapy (including passive movements or other stretches) and did not weight-bear (either standing or walking) on either ankle for the study period. • *Control group: No ankle stretching.* The control ankle received no	**Results** *Changes in mobility (measured using mobility around ankle with no torque and knee extended in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 89 (9.9) • No ankle stretching: 87 (10.3) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: -1 (95% CI: -5.4-3.1) • No significant differences between groups (p=0.57, paired t-test) 4 weeks from baseline (intervention completion): • Difference: 2 (95% CI: -2.7-5.7) • No significant differences between groups (p=0.45, paired t-test) 5 weeks from baseline (1	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - computer-generated random allocation schedule. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Researchers used sealed, opaque, sequentially numbered envelopes which were not opened until baseline tests completed. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - differences in ankle mobility between participants but no significant differences between ankles. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
This study received funding from the Motor Accident Authority of New South Wales.	Participants had to: • Have an SCI in previous 12 months • Be participating in a rehabilitation programme • Only have minimal muscle activity in muscles around both ankles (defined as not above grade 1 of 5 motor strength) • Be willing to cease assisted-standing and all passive exercises and stretches to ankles for duration of study **Exclusion criteria** • Heels with pressure sores preventing stretching or testing • Unlikely to co-operate with study protocol	stretches during the study period. No further details reported.	week follow-up): • Difference: -1 (95% CI: -4.7-3.7) • No significant differences between groups (p=0.80, paired t-test) *Changes in mobility (measured using mobility around ankle with no torque and knee flexed in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 104 (10.1) • No ankle stretching: 104 (11.1) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: 2 (95% CI: -1.2-5.2) • No significant differences between groups (p=0.20, paired t-test) 4 weeks from baseline (at intervention completion): • Difference: 2 (95% CI: 0-4.4) • No significant differences	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - within participant randomisation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - within participant randomisation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. Mention of 3 patients stopping treatment for a time but unrelated to intervention and missed sessions made up. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was

Study details	Participants	Interventions	Outcomes and Results	Comments
			between groups (p=0.05, paired t-test) 5 weeks from baseline (1 week follow-up): • Difference: 1 (95% CI: -2.3-5.1) • No significant differences between groups (p=043, paired t-test) *Changes in mobility (measured using mobility around ankle with 10nm torque and knee extended in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 106 (9.8) • No ankle stretching: 105 (10.4) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: 1 (95% CI: -2.5-3.7) • No significant differences between groups (p=0.68, paired t-test) 4 weeks from baseline (at intervention completion):	there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - no reported drop-out. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Difference: 0 (95% CI: -3.3-3.3) • No significant differences between groups (p=0.99, paired t-test) 5 weeks from baseline (1 week follow-up): • Difference: 0 (95% CI: -3.0-3.1) • No significant differences between groups (p=0.95, paired t-test) *Changes in mobility (measured using mobility around ankle with 10nm torque and knee flexed in degrees) [mean difference between ankles (95%CI)]* At baseline [mean (SD)]: • Ankle stretching: 121 (10.2) • No ankle stretching: 120 (9.7) • Significance not reported 2 weeks from baseline (halfway through intervention): • Difference: 2 (95% CI: -0.7-4.8) • No significant differences between groups (p=0.13,	outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - assessors unblinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - degree of mobility is an objective measurement. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			paired t-test) 4 weeks from baseline (at intervention completion): • Difference: 0 (95% CI: -2.7-2.4) • No significant differences between groups (p=0.92, paired t-test) 5 weeks from baseline (1 week follow-up): • Difference: 0 (95% CI: -3.2-2.4) • No significant differences between groups (p=.77, paired t-test	results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias Some concerns Other information None.
Full citation Harvey, Lisa A., Byak, Adrian J., Ostrovskaya, Marsha, Glinsky, Joanne, Katte, Lyndall, Herbert, Robert D., Randomised trial of the effects of four weeks of daily stretch on extensibility of hamstring muscles in people with spinal cord injuries, The Australian journal of physiotherapy, 49, 176-81, 2003 **Ref Id** 1025731 **Country/ies where the**	**Sample size** N= 32 hamstrings (randomised) • Hamstring stretching = 16 hips • No stretching = 16 hips N= 32 hamstrings (analysed) • Hamstring stretching = 16 hips • No hamstring stretching = 16 hips **Characteristics** *Characteristics only reported for all patients, not split by intervention group.*	**Interventions** • *Intervention group: Hamstring stretching.* The experimental hamstrings were constantly stretched for 30 minute sessions, 5 times per week for 4 weeks, rotating the ankle into dorsiflexion with the knee extended. A device was designed specifically for this, consisting of a wheel mounted to the side of a physiotherapy trolley and a leg splint on the wheel for the participant to be attached to, so the 2 could be rotated together. The leg splint prevented	**Results** *Changes in mobility (measured using differences in hip flexion between stretched and unstretched hamstrings with 48nm torque) [mean difference (95%CI)]* 4 weeks from baseline (intervention completion): • Difference: 1 (95% CI: -2-5) • No significant differences between groups (p value not reported, paired t-test)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - computer-generated random allocation schedule. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - researchers used sealed, opaque, sequentially

Study details	Participants	Interventions	Outcomes and Results	Comments
study was carried out Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of 4 weeks of hamstring stretching on muscle extensibility of patients with recent SCI. **Study dates** Not reported. **Source of funding** This study received funding from the Motor Accident Authority of New South Wales.	Age in years [Mean (SD)]: 33 (15) Gender (M/F): not reported Time since injury [Mean (SD)]: 3 (1) months Injury cause: not reported Level of injury (Tetraplegia/Paraplegia): (N) 10/6 **Inclusion criteria** • Participants had to: Have an SCI in previous 12 months • Started sitting out of bed after initial injury • Have less than 110 ° passive hip flexion with knee extended **Exclusion criteria** • More than small voluntary muscle activity around hips and knees (defined as above grade 2 of 5 motor strength) • Unlikely to remain in the SCI unit for 4 weeks • Historical trauma to pelvis or upper leg Unable to tolerate stretching due to pain, sacral pressure area	knee flexion, hip abduction and hip rotation. Hamstrings were stretched at a constant pressure of 30Nm by 11.4kg weight from the 27cm diameter wheel. Participants received no manual therapy (including passive movements or other stretches) for the study period. • *Control group: No hamstring stretching.* The control hip received no stretches during the study period. No further details reported.		numbered envelopes which were not opened until baseline tests completed. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - differences in hamstring mobility between participants but no significant differences between hips. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - within participant randomisation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - within participant randomisation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. Mention some participants missing up to 3 sessions but for reasons unrelated to study. A few participants received 1 or 2 extra

Study details	Participants	Interventions	Outcomes and Results	Comments
	or medical complications			sessions to ensure stretching continuing to the day before testing. However, missed sessions were made up and mean number of treatments was as per protocol. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - no reported drop-out.

Study details	Participants	Interventions	Outcomes and Results	Comments
				3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - assessors blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
				likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation	**Sample size**	**Interventions**	**Results**	Limitations

Study details	Participants	Interventions	Outcomes and Results	Comments
Harvey, L. A., Herbert, R. D., Glinsky, J., Moseley, A. M., Bowden, J., Effects of 6 months of regular passive movements on ankle joint mobility in people with spinal cord injury: a randomized controlled trial, Spinal Cord, 47, 62-6, 2009 **Ref Id** 1125847 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of 6 months of ankle stretching on the ankle joint mobility of patients with recent SCI. **Study dates** Not reported. **Source of funding** This study received funding from The University of Sydney's Research and Development Grants	N = 40 ankles (randomised) • Ankle passive movement = 20 ankles • No ankle passive movement = 20 ankles N = 40 ankles (analysed) • Ankle passive movement = 20 ankles • No ankle passive movement = 20 ankles **Characteristics** *Characteristics only reported for all patients, not split by intervention group.* Age in years [Median (IQR)]: 39 (34-44) Gender (M/F): 17-3 Time since injury [Median (IQR)]: 8 (4-14) months Injury cause: not reported Level of injury: not reported but see inclusion criteria **Inclusion criteria** Participants had to: • Have tetraplegia • Be residing in the community	• *Intervention group: Ankle passive movement.* Twice per day the experimental ankle was passively stretched by carers for 10 minutes, 5 times per week for 6 months (totalling 260 sessions). Duration and frequency of these passive movement sessions were recorded in a diary, which were collected at least every second week during routine contact of researchers with participants. Carers received training and written instructions for how to administer the stretches. Participants and their carers were routinely visited (no schedule details given) to ensure the intervention was being given as per study protocol. No further details reported. • *Control group: No ankle passive movement.* The control ankle received no passive movements or stretches. No further details reported.	*Changes in mobility (measured using passive ankle dorsiflexion range of motion with 2nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 81 (9) • No ankle passive movement (N = 20): 81 (7) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 81 (10) • No ankle passive movement (N = 20): 78 (9) • Between group mean difference = 3 (95% CI 1-6) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 3 nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 81 (9) • No ankle passive movement (N = 20): 81 (7)	Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - computer-generated random allocation schedule. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - researchers used sealed, opaque, sequentially numbered envelopes which were not opened until baseline tests completed. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - differences in ankle mobility between participants but no significant differences between ankles. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware

Study details	Participants	Interventions	Outcomes and Results	Comments
Scheme.	• Be wheelchair dependent • Have mild to moderate ankle stiffness (defined as less than 101° ankle dorsiflexion with 12 nm torque but at least 15° motion) • Have paralysis around both knees and ankles • Have carers available to administer the stretching intervention **Exclusion criteria** Not reported.		6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 83 (9) • No ankle passive movement (N = 20): 80 (9) • Between group mean difference = 3 (95% CI 1-5) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 5nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 83 (9) • No ankle passive movement (N = 20): 82 (10) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 84 (9) • No ankle passive movement (N = 20): 81 (9) • Between group mean difference = 2 (95% CI -1-4) *Changes in mobility*	of their assigned intervention during the trial? Y - within participant randomisation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - within participant randomisation. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN. 96% adherence (mean 250 sessions compared to 260 as stated in protocol). Reasons for missing sessions were not related to intervention. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to

Study details	Participants	Interventions	Outcomes and Results	Comments
			(measured using passive ankle dorsiflexion range of motion with 7nm torque applied (degrees) [mean (SD)] At baseline: • Ankle passive movement (N = 20): 85 (9) • No ankle passive movement (N = 20): 85 (7) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 86 (10) • No ankle passive movement (N = 20): 83 (9) • Between group mean difference = 3 (95% CI 1-5) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 8nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 86 (9) • No ankle passive movement (N = 20): 86 (7) 6 months + 1 day	analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - no reported drop-out. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(intervention completion): • Ankle passive movement (N = 20): 88 (10) • No ankle passive movement (N = 20): 84 (9) • Between group mean difference = 4 (95% CI 1-6) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 10nm torque applied (degrees) [mean (SD)]* At baseline: • Ankle passive movement (N = 20): 87 (9) • No ankle passive movement (N = 20): 87 (7) 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 84 (9) • No ankle passive movement (N = 20): 85 (9) • Between group mean difference = 4 (95% CI 2-6) *Changes in mobility (measured using passive ankle dorsiflexion range of motion with 12nm torque applied (degrees) [mean*	4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - assessors blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain?

Study details	Participants	Interventions	Outcomes and Results	Comments
			(SD)] Difference between stretched and unstretched ankles at 6 months + 1 day (intervention completion): • Ankle passive movement (N = 20): 91 (10) • No ankle passive movement (N = 20): 87 (9) • Between group mean difference = 4 (95% CI 2-6) • Significantly higher (better) range of movement in intervention group (paired t-test, p = 0.002)	PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Harwood, R. H., Sahota, O., Gaynor, K., Masud, T., Hosking, D. J., A randomised, controlled comparison of different calcium and vitamin D supplementation regimens in elderly women after hip fracture: The Nottingham Neck of Femur (NoNOF) study, Age and Ageing, 33, 45-51, 2004 **Ref Id** 1123617 **Country/ies where the study was carried out** UK	**Sample size** N = 150 (randomised) • Injected vitamin D: 38 • Injected vitamin D + oral calcium: 36 • Oral vitamin D + oral calcium: 39 • Control: 37 N= 139 (randomised) • Injected vitamin D: 35 • Injected vitamin D + oral calcium: 334 • Oral vitamin D + oral calcium: 36 • Control: 34 **Characteristics**	**Interventions** • *Intervention group: Injected vitamin D*. One-time single injection of 300,000 units Vitamin D2 (ergocalciferol). No further details provided. • *Intervention group: Injected vitamin D + oral calcium.* One-time single injection of 300,000 units Vitamin D2 (ergocalciferol) + 1 x oral calcium carbonate tablet twice per day (total 1 g elemental calcium daily). No further details provided. • *Intervention group: Oral vitamin D + oral calcium.* 1 x combined oral vitamin	**Results** *Changes in mobility (Falls)* Reported as no/yes, no fracture/yes, new fracture At 12 months follow-up: • No ○ Injected Vitamin D = 28/30 ○ Injected Vit D + oral Ca = 19/25 ○ Oral Vit D + Ca = 22/29 ○ Control = 22/35 • Yes, no fracture ○ Injected Vitamin D = 2/30 ○ Injected Vit D + oral Ca =	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Computer generated random number list. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Used sealed, opaque envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the

Study details	Participants	Interventions	Outcomes and Results	Comments
Study type RCT **Aim of the study** To investigate the effectiveness of calcium and vitamin D supplementation on bone biochemical markers, bone mineral density and falls in elderly women with hip fractures. **Study dates** Not reported. **Source of funding** This study received funding from Provalis Healthcare.	Age in years [Mean (range)]: • Injected vitamin D = 80 (67-91) • Injected vitamin D + oral calcium = 81(67-92) • Oral vitamin D + oral calcium = 83 (67-92) • Control = 81 (73-92) Gender: not reported but see inclusion criteria Time since injury: not reported Injury cause: not reported Location of fracture (intracapsular/extracapsular): • Injected vitamin D (N) = 30/8 • Injected vitamin D + oral calcium (N) = 28/8 • Oral vitamin D + oral calcium (N) = 21/18 • Control (N) = 22/15 **Inclusion criteria** Participants had to: • Be admitted to 'fast track' orthgeriatric rehabilitation ward • Female • No more than 7 days after	D3 and calcium carbonate tablet twice per day (totalling 800 units cholecalciferol and 1g elemental calcium per day). No further details reported. • *Control group: No treatment.* No further details provided.	3/25 ○ Oral Vit D + Ca = 4/29 ○ Control = 8/35 • Yes, new fracture ○ Injected Vitamin D = 0 ○ Injected Vit D + oral Ca = 3/25 ○ Oral Vit D + Ca = 3/29 ○ Control = 5/35 • Significant difference between groups (p=0.04, Chi-squared test) *Changes in mobility (measured using use of assistive devices)* At 3 months follow-up: • No aid ○ Injected Vitamin D = 4/35 ○ Injected Vit D + oral Ca = 4/34 ○ Oral Vit D + Ca = 7/36 ○ Control = 8/34 • 1 stick ○ Injected Vitamin D = 19/35 ○ Injected Vit D + oral Ca = 6/34 ○ Oral Vit D + Ca = 9/36 ○ Control = 14/34 • 2 sticks ○ Injected Vitamin D = 7/35 ○ Injected Vit D + oral Ca =	randomization process? N - Fracture location and hypovitaminosis D unbalanced at baseline but no significant difference for all other variables. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - Participants were not blinded due to financial restraints. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - Therapists were not blinded due to financial restraints. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	hip fracture surgery • Living in the community before accident • Independence in activities of daily living before the accident **Exclusion criteria** • Institutionalised patients • Diseases or medication known to affect bone metabolism • Abbreviated mental test score <7/10		14/34 ○ Oral Vit D + Ca = 11/36 ○ Control = 6/34 • Crutches ○ Injected Vitamin D = 0/35 ○ Injected Vit D + oral Ca = 2/34 ○ Oral Vit D + Ca = 0/36 ○ Control = 0/34 • Frame ○ Injected Vitamin D = 5/35 ○ Injected Vit D + oral Ca = 8/34 ○ Oral Vit D + Ca = 9/36 ○ Control = 6/34 • Significant difference between groups (p=0.0006, Chi-squared test) *Changes in mobility (measured as experience of falls)* At 12 months: • Vitamin D (all groups) 4/31 (10%) • Control 3/9 (33.3%) • RR of falling = 0.31 (95% CI: 0.08-1.14) • No significant difference between groups (p=0.11, Fisher exact test)	NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 30/35 injected Vit D group, 34/34 injected Vit D + oral calcium group, 36/36 for oral vitamin D and calcium group, and 34/37 control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
				true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Study was not blinded due to financial constraints. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - Outcomes all used objective measurements. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result

Study details	Participants	Interventions	Outcomes and Results	Comments
				5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PY. Various sub-group analyses carried out but not all were reported. Risk-of-bias judgement: High risk Overall risk of bias High risk Other information None
Full citation Hauer, K., Rost, B., Rutschle, K., Opitz, H., Specht, N., Bartsch, P., Oster, P., Schlierf, G., Exercise training for rehabilitation and secondary prevention of falls in geriatric patients with a history of injurious falls, Journal of the	**Sample size** N= 57 (randomised) • Physiotherapy + strengthening exercises = 31 • Physiotherapy + motor exercises= 26 N= 45 (analysed)	**Interventions** • *Intervention group: Physiotherapy + strengthening exercises*. Started immediately after discharge from hospital): ○ Resistance Training: 1.5 hour sessions 3 times a week for 12 weeks undertaken in groups of	**Results** Unless otherwise stated, the following patient numbers contributed data: Baseline: • Physiotherapy + strengthening exercises: 31	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI

Study details	Participants	Interventions	Outcomes and Results	Comments
American Geriatrics Society, 49, 10-20, 2001 **Ref Id** 1092518 **Country/ies where the study was carried out** Germany **Study type** RCT **Aim of the study** "To determine the safety and efficacy of an exercise protocol designed to improve strength, mobility, and balance and to reduce subsequent falls in geriatric patients with a history of injurious falls." (p. 10) **Study dates** Not reported **Source of funding** Ministerium für Wissenschaft, Forschung und Kunst Baden-Wuerttemberg and the University of Heidelberg.	• Physiotherapy + strengthening exercises = 23 • Physiotherapy + motor exercises = 22 **Characteristics** Age in years [Mean (SD)]: • Physiotherapy + strengthening exercises = 82.2 (4.1) • Physiotherapy + motor exercises = 82.1 (4.8) Gender (M/F): • Physiotherapy + strengthening exercises = all female • Physiotherapy + motor exercises = all female Time since injury: Not reported per group, but it was within 3 months for all patients Injury cause: • Physiotherapy + strengthening exercises (N) = all traumatic • Physiotherapy + motor exercises (N) = all traumatic **Inclusion criteria**	4-6 patients overseen by a therapeutic recreation specialist and consisting of high-intensity progressive resistance training of functionally relevant muscle groups. The exercises included knee and hip extensions performed on a leg press in a sitting position, hip abduction and extension performed in a standing position with the use of a cable pulley system, ankle plantar flexion performed by heel rises during erect standing and stretching of the trained muscle groups after all sets of resistance training. ○ Progressive functional-balance training: 45 min sessions 3 times a week for 12 weeks undertaken in groups of 4-6 patients overseen by a therapeutic recreation specialist after the resistance training sessions and consisting of training in basic (e.g., walking, stepping, and sitting) and subsequently more advanced (e.g., throwing and catching a ball with one person moving forward and one	• Physiotherapy + motor exercises: 26 At end of intervention: • Physiotherapy + strengthening exercises: 24 • Physiotherapy + motor exercises: 23 At 3 months follow up: • Physiotherapy + strengthening exercises: 23 • Physiotherapy + motor exercises: 22 *Upper limb function (measured as hand grip strength in kilopascal) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 101.68 (34.59) • Physiotherapy + motor exercises: 104.92 (28.95) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy +	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	Participants had to: • Be female • Aged >75 years old • Received ward rehabilitation due to an admission for falls and/or recent history of injurious falls that led to medical treatment • Live within 15 km of the study location • Be orthopaedically stable • Have orthopaedic surgeon consent to participate in study **Exclusion criteria** • Acute neurological impairment • Severe cardio-vascular disease • Unstable chronic or terminal illness, • Major depression Severe cognitive impairment • Severe musculoskeletal impairment • Syncopal falls • Falls due to a single identifiable disease (for example stroke, hypoglycaemia) or accident.	person moving backward) functions. Balance training performed in static and dynamic positions. When possible, group games, basic forms of dance, and basic forms of tai chi were also used. ○ Physiotherapy: Two 25-min sessions per week, consisting "mostly of massaging, stretching, and application of heat or ice predominantly to areas affected by fall-afflicted orthopaedic problems." (p. 12) and not strength and balancing training. • *Control group: Physiotherapy + motor exercises.* Started immediately after discharge from hospital. ○ 1-hour meetings of the patients 3 times a week to do motor placebo activities (e.g., flexibility exercise, calisthenics, ball games, and memory tasks while seated). ○ Physiotherapy: Two 25-min sessions per week, consisting "mostly of massaging, stretching, and application of heat or ice predominantly to	strengthening exercises: 102.50 (28.14) • Physiotherapy + motor exercises: 107.13 (23.97) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline strength and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 103.18 (29.49) • Physiotherapy + motor exercises: 106.23 (29.35) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline strength and medication/day) *Changes in mobility (measured with TUG test in sec) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 30.26 (11.56) • Physiotherapy + motor exercises: 26.65 (8.06) • Non-significant (p value not reported, ANCOVA	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? No, data available from 23/31 in the intervention group and 22/26 in the control group 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? PN 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: High risk Domain 4: Risk of bias in

Study details	Participants	Interventions	Outcomes and Results	Comments
		areas affected by fall-afflicted orthopaedic problems." (p. 12) and not strength and balancing training.	with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 19.50 (4.36) • Physiotherapy + motor exercises: 29.96 (12.86) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 24.73 (13.14) • Physiotherapy + motor exercises: 28.23 (11.37) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (Measured with gait speed in m/sec) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 0.52 (0.18)	measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "A person blinded to the patients' group assignment documented main outcome parameters." (p. 12 Hauer 2001) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Physiotherapy + motor exercises: 0.53 (0.17) • Non-significant (ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 0.71 (0.18) • Physiotherapy + motor exercises: 0.51 (0.18) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 0.68 (0.22) • Physiotherapy + motor exercises: 0.51 (0.16) • Significant (p=0.002, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (measured using chair-rise time in sec) [mean (SD)]* Baseline:	analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Physiotherapy + strengthening exercises: 18.13 (6.57) • Physiotherapy + motor exercises: 17.15 (4.72) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 13.42 (2.96) • Physiotherapy + motor exercises: 19.57 (6.17) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 15.86 (4.86) • Physiotherapy + motor exercises: 20.14 (7.22) • Significant (p=0.012, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (measured maximal box step*	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in cm) [mean (SD)] Baseline: • Physiotherapy + strengthening exercises: 55.80 (12.12) • Physiotherapy + motor exercises: 62.00 (15.75) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 75.21 (14.93) • Physiotherapy + motor exercises: 66.59 (17.07) • Significant (p=0.006, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 72.96 (13.86) • Physiotherapy + motor exercises: 65.95 (17.15) • Significant (p=0.046, ANCOVA with adjustment for baseline age, baseline functional performance	

Study details	Participants	Interventions	Outcomes and Results	Comments
			and medication/day) *Changes in mobility (measured with stair flight in cm) [mean (SD)]* Baseline: • Physiotherapy + strengthening exercises: 25.19 (13.93) • Physiotherapy + motor exercises: 26.04 (13.94) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 15.17 (4.56) • Physiotherapy + motor exercises: 24.48 (12.37) • Significant (p=0.001, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 17.18 (5.66) • Physiotherapy + motor exercises: 23.36 (9.41)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Significant (p=0.005, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in mobility (measured using physical/sports activity score) [mean (SD)]* Higher scores = more activity. Before admission to hospital: • Physiotherapy + strengthening exercises (N=28): 6.78 (4.45) • Physiotherapy + motor exercises (N=26): 5.03 (2.64) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 19.97 (3.40) • Physiotherapy + motor exercises: 6.80 (3.71) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline physical activity and	

Study details	Participants	Interventions	Outcomes and Results	Comments
			medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises (N=22): 8.46 (4.94) • Physiotherapy + motor exercises: 5.65 (4.42) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline physical activity and medication/day) *Changes in mobility (measured using total physical activity score) [mean (SD)]* Higher scores = more activity. Before admission to hospital: • Physiotherapy + strengthening exercises (N=28): 9.79 (5.38) • Physiotherapy + motor exercises (N=26): 7.17 (5.34) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			At end of intervention: • Physiotherapy + strengthening exercises: 22.00 (4.38) • Physiotherapy + motor exercises: 8.32 (4.42) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline physical activity and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises (N=22): 11.56 (6.86) • Physiotherapy + motor exercises: 7.85 (5.54) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline physical activity and medication/day) *Changes in mobility (measured as incidence of falls)* At 3 months follow up (covers 6 months: training period up to 3 months follow up): • Physiotherapy + strengthening exercises: 45% of 23 patients	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Physiotherapy + motor exercises: 60% of 21 or 22 patients • Relative risk: 0.753 (95% CI: 0.455–1.245; p = 0.2, chi-square) for patients in the intervention group compared with the control group *Changes in ADL (measured using Tinetti POMA score) [mean (SD)]* Scale 0 (worst) – 28 (best). Baseline: • Physiotherapy + strengthening exercises: 18.86 (4.14) • Physiotherapy + motor exercises: 19.44 (4.23) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 25.33 (2.71) • Physiotherapy + motor exercises: 20.96 (5.03) • Significant (p<0.001, ANCOVA with adjustment for baseline age, baseline	

Study details	Participants	Interventions	Outcomes and Results	Comments
			functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 23.02 (4.62) • Physiotherapy + motor exercises: 20.07 (4.83) • Significant (p=0.004, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in ADL (measured using Barthel ADL Index score) [mean (SD)]* Scale 0 (worst) – 100 (best). Baseline: • Physiotherapy + strengthening exercises: 90.5 (6.59) • Physiotherapy + motor exercises: 89.40 (8.33) • Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			95.00 (4.63) • Physiotherapy + motor exercises: 93.18 (9.07) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 94.76 (6.80) • Physiotherapy + motor exercises: 94.29 (7.63) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) *Changes in ADL (measured using Lawton Instrumental ADL Index score) [mean (SD)]* Scale 0 (worst) – 8 (best). Baseline: • Physiotherapy + strengthening exercises: 5.96 (1.57) • Physiotherapy + motor exercises: 5.41 (1.79)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Non-significant (p value not reported, ANCOVA with adjustment for age and medication/day) At end of intervention: • Physiotherapy + strengthening exercises: 6.90 (1.18) • Physiotherapy + motor exercises: 5.95 (2.14) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day) At 3 months follow up: • Physiotherapy + strengthening exercises: 6.89 (1.49) • Physiotherapy + motor exercises: 6.30 (1.92) • Non-significant (p value not reported, ANCOVA with adjustment for baseline age, baseline functional performance and medication/day)	
Full citation Jang, Ki Un, Choi, Ji Soo, Mun, Jeong Hyeon, Jeon, Jong Hyun, Seo, Cheong Hoon, Kim, Jong Hyeon, Multi-axis shoulder	**Sample size** N= 26 (randomised) • Shoulder splint = 13 • No splint = 13	**Interventions** • *Both groups:* All participants also had the same exercise program (consisting of sessions of passive and active	**Results** *Upper limb function (measured using shoulder abduction angle in degrees) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
abduction splint in acute burn rehabilitation: a randomized controlled pilot trial, Clinical Rehabilitation, 29, 439-46, 2015 **Ref Id** 1128116 **Country/ies where the study was carried out** South Korea **Study type** RCT **Aim of the study** To examine “the effectiveness of a newly designed multi-axis shoulder abduction splint with an easy-to-change angle.” (p. 439) **Study dates** Not reported **Source of funding** The Hallym University Medical Center Research Fund (01-2005-05).	N= 24 (analysed) • Shoulder splint = 11 • No splint = 13 **Characteristics** Age in years [Mean (SD)]: • Shoulder splint = 43.5 (10.4) • No splint = 48.3 (6.9) Gender (M/F): • Shoulder splint (N) = 9/2 • No splint (N) = 10/3 Time since injury: not reported but all the patients had to be within 30 days of the time of injury Injury cause: • Shoulder splint = all traumatic • No splint = all traumatic TBSA: • Shoulder splint (%) = 32.9 (21.9) • No splint (%) = 38.4 (20.6) Shoulder burn surface area: • Shoulder splint (%) = 8.4 (4.6) • No splint (%) = 10.2 (3.8)	mobilization and stretching for 30 minutes twice a day) and "the same medical treatment and regular burn therapy during their stay at the burn center." (p. 441) • *Intervention group: Multi-axis shoulder abduction splint.* Fitted to abduct the affected shoulder as close as possible to a 90 degree abduction angle. The splint was to be worn at all times, including at night, unless removed due to hygiene or medical procedures. “The multi-axis shoulder abduction splint consists of a light weight aluminium bar with a foldable connector. It can be attached and locked to the pole of the bed. Its angle can also be adjusted so that it fits to the position of the patient ……. It is applied by placing the patient’s upper extremity onto the tilting trough board and then stabilizing the extremity with two detachable velcro straps. The foldable bar and connector can be adjusted so that the angle of the shoulder can be set according to the physician’s preferred	Baseline: • Shoulder splint: 75.5 (18.6) • No splint: 81.7 (21.4) Week 1 (from baseline): • Shoulder splint: 79.4 (21.3) • No splint: 73.6 (17.3) Week 2 (from baseline): • Shoulder splint: 83.6 (19.2) • No splint: 81.3 (19.4) Week 3 (from baseline): • Shoulder splint: 89.5 (21.5) • No splint: 83.9 (19.1) Week 4 (from baseline): • Shoulder splint: 94.8 (22.0) • No splint: 87.0 (18.4) Repeated-measure ANOVA showed higher mean shoulder abduction angle over the 4 weeks in the intervention than the control group. Repeated-measure ANCOVA (adjusting for angle in week 0 and Shoulder burn depth index) showed higher mean shoulder abduction angle	arising from the randomization process 1.1 Was the allocation sequence random? Y Computer-generated random number sequence 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY Sealed envelopes with random numbers used to allocate the patients 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the

Study details	Participants	Interventions	Outcomes and Results	Comments
	Inclusion criteria Patients had to: • Have burn injury around shoulder joint • TBSA >10% and < 80% • Injured less than 30 days earlier • Burn centre inpatients **Exclusion criteria** • Septic condition that could limit patient participation • Severe cognitive deficit preventing participants from following instructions • Neurological impairment of the upper extremity relating to shoulder burn • Planning to undergo skin graft surgery around the shoulder	ROM" (p. 441) • *Control group:* No splint.	over the 4 weeks in the intervention than the control group. *Upper limb function (measured using shoulder flexion angle in degrees) [mean (SD)]* Baseline: • Shoulder splint: 84.1 (20.5) • No splint: 82.3 (28.2) Week 1 (from baseline): • Shoulder splint: 97.2 (28.8) • No splint: 80.0 (18.9) Week 2 (from baseline): • Shoulder splint: 100.0 (23.3) • No splint: 82.9 (25.5) Week 3 (from baseline): • Shoulder splint: 104.5 (24.4) • No splint: 90.9 (23.4) Week 4 (from baseline): • Shoulder splint: 107.3 (27.2) • No splint: 100.0 (23.2) Repeated-measure ANOVA showed higher mean	experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
			shoulder flexion angle over the 4 weeks in the intervention than the control group. Repeated-measure ANCOVA (adjusting for angle in week 0 and Shoulder burn depth index) showed no differences between the groups. *Upper limb function (measured using shoulder external rotation angle in degrees) [mean (SD)]* Baseline: • Shoulder splint: 30.0 (22.4) • No splint: 39.6 (24.5) Week 1 (from baseline): • Shoulder splint: 37.2 (25.1) • No splint: 34.7 (19.7) Week 2 (from baseline): • Shoulder splint: 41.5 (25.0) • No splint: 43.0 (23.9) Week 3 (from baseline) • Shoulder splint: 50.0 (28.8) • No splint: 58.2 (28.7) Week 4 (from baseline): • Shoulder splint: 54.5 (28.8)	likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N Blinded assessment by trained assessors 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low concerns Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No splint: 53.5 (24.6) Repeated-measure ANOVA showed no differences between the groups. Repeated-measure ANCOVA (adjusting for angle in week 0 and Shoulder burn depth index) showed no differences between the groups.	result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Jansen, H., Jordan, M., Frey, S., Hölscher-Doht, S., Meffert, R., Heintel, T., Active controlled motion in early rehabilitation improves outcome after ankle fractures: a randomized controlled trial, Clinical Rehabilitation, 32, 312-318,	**Sample size** N = 50 (randomised) • Active controlled motion + physiotherapy: N = 25 • Physiotherapy only: N = 25 N = 48 (analysis) • Active controlled motion + physiotherapy: N = 24	**Interventions** • *Intervention group: Active controlled motion + physiotherapy.* Physiotherapy as described in control group plus active controlled motion was started 2-5 days post-operation using Camoped© device after	**Results** *Changes in mobility (measured using range of motion of ankle joint) [mean (SD)]* Higher = better.	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
2018 **Ref Id** 1129794 **Country/ies where the study was carried out** Germany **Study type** RCT **Aim of the study** To investigate the effectiveness of active controlled motion on rehabilitation outcomes after unstable ankle fractures. **Study dates** Not reported. **Source of funding** This study received no financial support.	• Physiotherapy only: N = 24 **Characteristics** Age in years [Mean (range)]: • Active controlled motion + physiotherapy = 46 (22-73) • Physiotherapy only = 53 (22-73) Gender (M/F): • Active controlled motion + physiotherapy (N) = 14/11 • Physiotherapy only (N) = 13/11 Time since injury (reported as time between injury and operation) [Mean (range)]: • Active controlled motion + physiotherapy (days) = 8.9 (0-16) • Physiotherapy only (days) = 7.4 (0-20) Injury cause (Ankle twist/bicycle accident/fall from horse) • Active controlled motion + physiotherapy (N) = 21/1/2 • Physiotherapy only (N) = 21/3/0 Fracture type (Weber type B/type C): • Active controlled motion +	participants received education from a trained physiotherapist. Participants were advised to use this device for 20 minutes per day, continuing after discharge from hospital. • *Control group: Physiotherapy only.* 20 minute physiotherapy sessions per day. These started on the first post-operative day while participants were still in the hospital, focusing on mobilisation using crutches and maintaining partial weight-bearing. After discharge, 20 minute physiotherapy sessions were continued at 2-3 x per week for 6 weeks. These later sessions focused on oedema management and range of motion exercises.	Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 49 (11.1) • Physiotherapy only (N=24): 41.3 (8.1) • Significantly higher (better) in intervention group (p=0.03, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 58.2 (12.4) • Physiotherapy only (N=22): 53.6 (4.7) • Significantly higher (better) in intervention group (p=0.08, unable to discern statistical test) *Changes in mobility (measured using range of motion of subtalar joint) [mean (SD)]* Higher = better. Baseline: not reported.	sequence random? NI - Simply states participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - No statistical analysis presented but report notes that there was no difference between group characteristics at baseline. Risk-of-bias judgement: High risk. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI.

Study details	Participants	Interventions	Outcomes and Results	Comments
	physiotherapy (N) = 15/10 • Physiotherapy only (N) = 12/12 **Inclusion criteria** Participants had to: • Be aged 18 years old or above • Have operatively treated unstable ankle fracture (Weber classification type B or type C) • Need partial weight-bearing for 6 weeks • Be able to perform physiotherapy and active controlled motion • Have no problems with walking prior to fracture **Exclusion criteria** Not reported.		6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 16.3 (6.3) • Physiotherapy only (N=24): 14 (5.7) • Significantly higher (better) in intervention group (p=0.08, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 58.2 (12.4) • Physiotherapy only (N=22): 14 (5.7) • p Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using VAS for foot and ankle) [mean (SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion +	2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? 6 week - Y, data available for 24/25 participants in both groups. 12 weeks - N, data available for 22/25 in both groups. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? 6 week - NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
			physiotherapy (N=24): 56 (13.7) • Physiotherapy only (N=24): 40.6 (10.5) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 77.7 (13.8) • Physiotherapy only (N=22): 61.4 (16.3) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using Philip score) [mean (SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 58.8 (14.1) • Physiotherapy only	12 weeks - N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? 6 week - NA. 12 weeks - PY, reasons given were simply refused further participation so might be related to study. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? 6 week - NA. 12 weeks - PN - Similar reasons and drop out number is small even if rate is not. Risk-of-bias judgement: 6 weeks - Low risk; 12 weeks - Some concerns. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Follow up at 6 weeks and 12 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Assessors were unblinded to group assignment.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=24): 52.1 (14.3) • No significant difference between groups (p=0.068, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 79.1 (10.9) • Physiotherapy only (N=22): 60.1 (21.7) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using Mazur score) [mean (SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 64.4 (12.3) • Physiotherapy only (N=24): 56.7 (11.8) • Significantly higher (better) in intervention group	4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - All measurements were objective and used validated instruments. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(p>0.01, unable to discern statistical test) 12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 83.9 (10.7) • Physiotherapy only (N=22): 73.1 (14.1) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Changes in mobility (measured using AOFAS) [mean(SD)]* Higher = better. Baseline: not reported. 6 weeks post-operation (intervention completion): • Active controlled motion + physiotherapy (N=24): 71.2 (12) • Physiotherapy only (N=24): 63.6 (8.7) • Significantly higher (better) in intervention group (p>0.02, unable to discern statistical test)	Risk-of-bias judgement: Some concerns. Overall risk of bias: High risk. Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			12 weeks post-operation (6 weeks follow-up): • Active controlled motion + physiotherapy (N=22): 87.5 (7.9) • Physiotherapy only (N=22): 75.2 (11.7) • Significantly higher (better) in intervention group (p>0.01, unable to discern statistical test) *Return to work (measured using mean weeks of group) [mean (range)]* Lower = better. Baseline: not reported. No time point reported: • Active controlled motion + physiotherapy: 10.5 (3–17) • Physiotherapy only: 14.7 (9–26) • Significantly lower (better) in intervention group (p=0.02, unable to discern statistical test)	
Full citation Kasuga, S., Momosaki, R., Hasebe, K., Sawabe, M., Sawaguchi, A., Effectiveness of self-exercise on elderly patients after hip fracture: A	**Sample size** N = 375 • Self-exercise programme + standard rehabilitation = 146 • Standard rehabilitation =	**Interventions** • *Intervention group: Self exercise programme + standard rehabilitation.* Varied from hospital to hospital in terms of content	**Results** *Changes in mobility: (measured using discharge FIM-M score) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I):

Study details	Participants	Interventions	Outcomes and Results	Comments
retrospective cohort study, Journal of Medical Investigation, 66, 178-181, 2019 **Ref Id** 1129831 **Country/ies where the study was carried out** Japan **Study type** Retrospective cohort study **Aim of the study** To investigate the effectiveness of self-exercise programme on rehabilitation outcomes for elderly hip fracture patients. **Study dates** August 2005 - September 2015 **Source of funding** Not reported.	229 **Characteristics** Age in years [Mean (SD)]: • Self-exercise programme + standard rehabilitation = 82.7 (8.3) • Standard rehabilitation = 85.6 (6.9) Gender (M/F): • Self-exercise programme + standard rehabilitation (N) = 23/123 • Standard rehabilitation (N) = 40/189 Time since injury: not reported Injury cause: not reported Location of fracture (neck of femur/trochanteric/other): • Self-exercise programme + standard rehabilitation (N) = 72/70/4 • Standard rehabilitation (N) = 87/113/29 **Inclusion criteria** Patients had to be: • 65 years old or above • Admitted maximum one	and intensity. A survey was administered to a portion of the facilities, which reported that self-exercise programme focused on standing training, balance training and gait training. They were typically planned with a therapist. Supplemented formal therapy by repeating activity and motion. No further details reported. • *Control group: Standard rehabilitation.* Focused on gait training and exercises related to activities of daily living. Typically included 20-24 minutes of physical therapy every day, Monday-Friday only. The programme was designed to include muscle-strengthening exercises, standing training, balance training and ambulation. No further details reported.	Higher = better. At discharge (time point not reported): • Self-exercise programme + standard rehabilitation (N=146): 68.6 (18.0) • Standard rehabilitation (N=229): 51.0 (19.4) *Changes in mobility (measured using FIM-M score gain) [mean (SD)]* Higher = better. At discharge (time point not reported): • Self-exercise programme + standard rehabilitation (N=146): 34.9 (14.8) • Standard rehabilitation (N=229): 25.2 (16.7)	Domain 1: Bias due to confounding 1.1 Is there potential for confounding of the effect of intervention in this study? Y. 1.2. Was the analysis based on splitting participants' follow-up time according to intervention received? N – Either self-exercise or not. No ability to change groups. If N/PN, answer questions relating to baseline confounding (1.4 to 1.6) 1.4. Did the authors use an appropriate analysis method that controlled for all the important confounding domains? Y – Regression analysis performed. 1.5. If Y/PY to 1.4: Were confounding domains that were controlled for measured validly and reliably by the variables available in this study? NI – Article mentions time spent exercising but not how this was measured or if this was comparable between centres. 1.6. Did the authors control for any post-intervention variables that could have been affected by the intervention? N. Questions relating to

Study details	Participants	Interventions	Outcomes and Results	Comments
	day after injury • Have FIM data available from admission and discharge **Exclusion criteria** Not reported.			baseline and time-varying confounding Risk of bias: High risk. Domain 2: Bias in selection of participants into the study 2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? N If N/PN to 2.1: go to 2.4: 2.4. Do start of follow-up and start of intervention coincide for most participants? Y- Admission and discharge. 2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases? NA. Risk of bias: Low risk. Domain 3: Bias in classification of interventions 3.1 Were intervention groups clearly defined? N - Dichotomous outcome with no description of duration, intensity or programme components. Especially important as each hospital had different programmes. 3.2 Was the information used to define intervention groups recorded at the start of the intervention? NI – No

Study details	Participants	Interventions	Outcomes and Results	Comments
				mention of when the decision to classify was made, whether it was at any point during rehabilitation or if it was collected as intent to perform. 3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome? N – Routinely collected data. Risk of bias: Moderate risk. Domain 4: Bias due to deviations from intended interventions 4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice? NI – Lack of information on adherence. 4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome? NA. Risk of bias: High risk. Domain 5: Bias due to missing data 5.1 Were outcome data available for all, or nearly all, participants? Y. 5.2 Were participants excluded due to missing data on intervention status?

Study details	Participants	Interventions	Outcomes and Results	Comments
				Y – Only hospitals including information on self-exercise were included in the analysis. 5.3 Were participants excluded due to missing data on other variables needed for the analysis? Y – Participants excluded if FIM data was missing at either admission or discharge. 5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions? NI. 5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data? NA. Risk of bias: High risk. Domain 6: Bias in measurement of outcomes 6.1 Could the outcome measure have been influenced by knowledge of the intervention received? N – Routine data collection. 6.2 Were outcome assessors aware of the intervention received by study participants? N – Routine data collection. 6.3 Were the methods of outcome assessment comparable across

Study details	Participants	Interventions	Outcomes and Results	Comments
				intervention groups? PY – No description but FIM is a standardised, validated measurement. 6.4 Were any systematic errors in measurement of the outcome related to intervention received? N. Risk of bias: Low risk. Overall risk of bias High risk Other information None.
Full citation Kronborg, Lise, Bandholm, Thomas, Palm, Henrik, Kehlet, Henrik, Kristensen, Morten Tange, Effectiveness of acute in-hospital physiotherapy with knee-extension strength training in reducing strength deficits in patients with a hip fracture: A randomised controlled trial, PLoS ONE, 12, e0179867, 2017 **Ref Id** 1129886 **Country/ies where the study was carried out** Denmark **Study type** RCT	**Sample size** N= 90 (randomised) • Physiotherapy with strength training = 45 • Physiotherapy only = 45 N= 90 (analysed) • Physiotherapy with strength training = 45 • Physiotherapy only = 45 **Characteristics** Age in years [Mean (SD)]: • Physiotherapy with strength training = 79.8 (7.7) • Physiotherapy only = 79.3 (7.5) Gender (M/F): • Physiotherapy with strength training (N) =	**Interventions** • Intervention group: Physiotherapy with strength training. ○ Physiotherapy: Daily (with 1±2 contacts per day) routine physiotherapy consisting of basic mobility and exercise therapy primarily aimed at lower extremities using 12 specific exercises that were progressed individually (repetitions and intensity were not standardised). Moreover, exercises consisting of basic mobility activities, balance and stair climbing aimed at regaining physical function corresponding with levels of pre-fracture habitual activity were	**Results** *Changes in mobility (measured with TUG test in sec) [mean (SD)]* NB. Only patients who had achieved independent mobility assessed At baseline: • Physiotherapy with strength training (N=39): 31.7 (12.5) • Physiotherapy only (N=39): 33 (14.5) End of training (intervention completion): • Physiotherapy with strength training (N=39): 25.4 (11.8) • Physiotherapy only	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y Allocated "by a neutral person (blinded to outcomes and patient characteristics) via a computer-generated list with notes placed in sealed envelopes and marked with participant numbers only..... Allocation was concealed to the data-assessor who was also blinded to all baseline data (archived in a locked cabinet) until end of the study." (p. 3) 1.2 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To examine whether acute in-hospital physiotherapy with additional progressive knee-extension strength training of the fractured limb is more effective in reducing knee-extension strength deficit at follow-up compared to physiotherapy without strength training in patients with a hip fracture **Study dates** 2013-2015 **Source of funding** The IMK Foundation, The Research Foundation of the Capital Region, The Research Foundation of the Danish Physical Therapy Organisation, The Research Foundation of Hvidovre Hospital, and The UCSF Lundbeck Foundation	19/26 • Physiotherapy only (N) = 12/33 Time since injury: Not reported per group, but baseline data collected within 3 days of surgery and at the end of the intervention on post-operative day 10. Injury cause: not reported but probably all traumatic Type of fracture (Femoral neck/trochanteric): • Physiotherapy with strength training (N) = 18/27 • Physiotherapy only (N) = 20/25 **Inclusion criteria** Participants had to: • Be aged ≥ 65 years old • Be living at home • Be admitted to an acute orthopaedic hip fracture bed ward at participating University hospital • Receive primary hip fracture surgery • Follow a multimodal fast-track programme with the preoperative epidural kept	also undertaken. This programme was undertaken both as bedside exercise and in the ward gym. Patients also used walking aids according to their level of independent mobility. ○ Strength training: Daily individual progressive knee-extension strength training conducted by a physiotherapist, 3 X 10 repetitions at an intensity of 10 repetition maximum (i.e., ±2 repetition maximum of the fractured limb using ankle weight cuffs), consisting of 5 knee-extensions for each limb separately as a warm up-exercise with no loads. Subsequently, a weight-cuff matching the patient's initial level of 10 repetition maximum was attached around the ankle of the fractured limb. These "loads were adjusted on a set-to-set basis and 1-minute pauses separated the sets. The exercise was stopped at a maximum of 15 or less than 8 repetitions in a set and loads increased or decreased respectively	(N=39): 23.9 (9.6) End of training minus baseline: • Physiotherapy with strength training (N=39): -6.4 (7.2) • Physiotherapy only (N=39): -9.3 (10.1) • Intervention group minus control group (N=74): 3.0 (-1.1 to 7.1), non-significant (p value not reported, ANOVA) *Changes in mobility (measured using 10MWT)* At follow-up: • Mean (SD) of 0.54 (0.21) m/s for 76 participants. • No significant difference between groups *Changes in mobility (measured using fear of falling ShortFES-I)* At follow-up: • Mean(SD) score of 13.7 (5.5) point • Equates to moderate to high fear of falling. • No significant difference between groups (p value	sequence concealed until participants were enrolled and assigned to interventions? Y See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? PY 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NI

Study details	Participants	Interventions	Outcomes and Results	Comments
	until the 4th postoperative day • Be able to speak and understand Danish Independent pre-fracture indoor walking ability equal to a New Mobility Score ≥ 2 **Exclusion criteria** • Multiple fractures • Weight bearing restrictions • Terminal illnesses • Treatment with total hip arthroplasty or parallel pins • Patients unwilling to participate in appropriate rehabilitation or unable to cooperate in tests	for the following set" (p. 4). Strength training was conducted between postoperative days 2-8. • *Control group: Physiotherapy only.* As the intervention group.	not reported)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
				inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? Y Is the numerical result being assessed likely to have been selected, on the basis of the

Study details	Participants	Interventions	Outcomes and Results	Comments
				results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? N 5.3 ... multiple analyses of the data? N Risk-of-bias judgement: Low risk Overall risk of bias Low risk Other information None
Full citation Li-Tsang, Cecilia Wai Ping, Zheng, Yong Ping, Lau, Joy C. M., A randomized clinical trial to study the effect of silicone gel dressing and pressure therapy on posttraumatic hypertrophic scars, Journal of burn care & research : official publication of the American Burn Association, 31, 448-57, 2010 **Ref Id** 1185194 **Country/ies where the study was carried out** China **Study type**	**Sample size** N = 104 (randomised) • Pressure therapy: 30 • Silicone gel sheeting: 30 • Combined pressure therapy and silicone gel sheeting: 29 • Control group: 21 N = 84 (analysed) • Pressure therapy: 26 • Silicone gel sheeting: 22 • Combined pressure therapy and silicone gel sheeting: 24 • Control group: 12 **Characteristics** *Characteristics only reported for all patients, not split by*	**Interventions** • *Intervention group: Pressure garment therapy + 15 min massage of scar with lanolin daily.* Patients were instructed to wear a tailor-made padded pressure garment. No further details reported. • *Intervention group: Silicone gel sheeting + 15 min massage of scar with lanolin daily.* Silicone gel sheet applied to the wound for 24 hours a day (unless bathing). Micropore tape used to secure if needed. No further details reported. • *Intervention group: Pressure garment + silicone gel sheeting + 15 min massage of scar with*	**Results** *Pain (measured using VAS) [mean(SD)]* Scale 0-10. Better = lower. At baseline • Pressure garment therapy (N=30): 2.28(0.78) • Silicone gel sheeting therapy (N=24): 1.61(2.26) • Pressure garment + silicone gel sheeting (N=29): 1.88(2.34) • Massage only group (N=21): 1.42(2.47) • No significant difference between groups At 2 months from baseline	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomisation process 1.1 Was the allocation sequence random? Y. Draw lots method. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? NI - results of baseline characteristics statistical

Study details	Participants	Interventions	Outcomes and Results	Comments
RCT **Aim of the study** To compare the effectiveness of a combined therapy (pressure therapy + silicone gel sheeting) on the healing of hypertrophic scarring when compared to either pressure therapy alone, silicone gel sheeting alone or a control group. **Study dates** Not reported. **Source of funding** This study received funding from the Internal Central Research Grant, Hong Kong Polytechnic University, Hong Kong SAR.	*intervention group.* Age in years [Mean (SD)]: total 21.8(18.7) Gender [N (M/F)]: total 63/41 Time since injury [Mean (SD)]: total 14.9(30.8) months Injury cause (%) • Scald burn = 32.7 • Thermal burn = 25 • Traumatic injury = 18.3 • Chemical burn = 10.6 • Other = 13.4 TBSA (%): not reported **Inclusion criteria** Patients had to: • Have developed active hypertrophic scarring due to burns, scalds, or traumatic injuries • Scar surface area ≤ 16 cm^2 **Exclusion criteria** • Patients with other medical diseases e.g. diabetes mellitus.	*lanolin daily.* Silicone gel sheet was inserted underneath the padded pressure garment for 24 hours a day (unless bathing). No further details reported. • *Control group: 15 min massage of scar with lanolin daily*. No further details reported.	(during intervention) • Pressure garment therapy (N=30): 2(2.69) • Silicone gel sheeting therapy (N=24): 1.19(2.06) • Pressure garment + silicone gel sheeting (N=29): 1(1.69) • Massage only group (N=21): 0.41(0.90) • Significance not reported *At 4 months from baseline (during intervention) • Pressure garment therapy (N=30): 2.09(2.66) • Silicone gel sheeting therapy (N=24): 0.78(1.18) • Pressure garment + silicone gel sheeting (N=29): 0.64(1.44) • Massage only group (N=21): 1.25(1.77) • Significance not reported 6 months from baseline (intervention completion): • Pressure garment therapy (N=26): 2.70(3.16) • Silicone gel sheeting therapy (N=22): 0.84(1.64) • Pressure garment + silicone gel sheeting (N=24): 0.46(1.19) • Massage only group	analysis not reported. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? N – Participants were blinded during trial. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N – People delivering laser therapy were blinded during trial. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y – Intention to

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=12): 1.54(2.20) • Significantly better (lower) pain scores in combined therapy (p = 0.004) and silicone gel sheeting (p = 0.001) groups when compared to control (ANOVA) • No significant difference reported for pressure garment therapy when compared to control 7 months from baseline (1 month follow-up): • Pressure garment therapy (N = 26): 2.00(2.79) • Silicone gel sheeting therapy (N = 22): 0.10(0.45) • Pressure garment + silicone gel sheeting (N = 24): 0.33(1.04) • Massage only group (N = 12): 1.36(1.74) • Significance not reported *Number of participants not reported at different time period, just original and after intervention completion. Therefore, have used the original trial numbers for 2 months and 4 months from baseline.	treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? No - Dropout rate of 19.23%. Data only available for 12/21 for control group, 26/30 pressure therapy, 22/24 silicone gel sheeting group and 24/29 combined therapy). 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PY. Differing dropout rates between control and treatment groups. Risk-of-bias judgement: High

Study details	Participants	Interventions	Outcomes and Results	Comments
				risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Pain is self-assessed. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN. Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan

Study details	Participants	Interventions	Outcomes and Results	Comments
				that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PY - pain measured at baseline, 2 months, 6 months and 1 month follow-up. Analysis only conducted for 6 months and follow-up and significance only reported for 6 months. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: High risk. Overall risk of bias: High risk. Other information None
Full citation Liu, Hongju, Li, Jianjun, Du, Liangjie, Yang, Mingliang, Yang, Degang, Li, Jun, Gao, Feng, Ma, Ke, Short-term effects of core stability training on the balance and ambulation function of individuals with chronic spinal cord injury: a pilot	**Sample size** N = 40 (randomised) • Unstable core training: 20 • Stable core training: 20 N = 29 (analysed) • Unstable core training: 14 • Stable core training: 15	**Interventions** • *Both group:* Residual extremity muscle strengthening exercises and task-specific body-weight supported treadmill training sessions 5 x per week for 12 weeks. • *Intervention group: Unstable core training.*	**Results** *Changes in mobility (measured using stride length, units not reported) [mean (SD)]* Higher = better.	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI –

Study details	Participants	Interventions	Outcomes and Results	Comments
randomized controlled trial, Minerva Medica, 110, 216-223, 2019 **Ref Id** 1022567 **Country/ies where the study was carried out** China **Study type** RCT **Aim of the study** To investigate the effectiveness of core training on an unstable surface compared to core training on an unstable core training in individuals with chronic SCI. **Study dates** Not reported. **Source of funding** This study received funding from the Special Fund for Basic Scientific Research of Central Public Research Institute.	**Characteristics** Age in years [Mean (SD)]: • Unstable core training = 43 (15.422) • Stable core training = 46 (13.675) Gender (M/F): • Unstable core training (N) = 11/3 • Stable core training (N) = 11/4 Time since injury [Mean (SD)]: • Unstable core training (months) = 8.21 (1.528) • Stable core training (months) = 8.20 (1.656) Injury cause (Car accident/falling/other) • Unstable core training (N) = 8/4/2 • Stable core training (N) = 11/3/1 Level of injury (ASIA c/ASIA D/Tetraplegia/Paraplegia/not reported): • Unstable core training (N) = 12/2/9/5 • Stable core training (N) =	Participants completed 5 x core stability sessions per week for 12 weeks, consisting of a variety of exercises performed while lying and sitting down. Pelvic bridge for 10 sec, planking for 10 sec and side planking for 10 sec were performed lying down with feet hooked in a sling. Lower trunk flexion extension, upper trunk lateral flexion, lower trunk lateral flexion, upper trunk rotation lower trunk rotation, weight shifting, forward reach and lateral reach exercises were performed which were performed while sitting on a physio-ball. • *Control group: Stable core training.* Participants completed 5 x core stability sessions per week for 12 weeks, consisting a variety of exercises performed while lying and sitting down. Pelvic bridge for 10 sec, planking for 10 sec and side planking for 10 sec were performed lying down with on a table. Lower trunk flexion extension, upper trunk lateral flexion, lower trunk lateral flexion, upper trunk	At baseline: • Unstable core training (N=20): 0.475 (0.177) • Stable core training (N=20): 0.392 (0.170) • No significant difference between groups (p=0.074, independent t-test) 12 weeks (intervention completion): • Unstable core training (N=14): 0.564 (0.189) • Stable core training (N=15): 0.454 (0.173) • Significantly higher (better) in intervention group (p=0.025, independent t-test) *Changes in mobility (measured using cadence, units not reported) [mean (SD)]* Higher = better. At baseline: • Unstable core training (N=20): 0.955 (0.484) • Stable core training (N=20): 0.828 (0.440) • No significant difference between groups (p=0.298, independent t-test)	Simply states randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – No significant differences between groups at baseline. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
	9/6/5/10 **Inclusion criteria** Participants had to: • Be receiving inpatient treatment from participating rehabilitation centre • Be aged 18-50 years old • Have a SCI at or rostral to T10 level • SCI at least 6 months prior to enrolment • Be able to rise from sitting to standing with only moderate assistance, and walk a few steps without mobility devices • Agree to maintain their current medication and activity routine • Receive medical clearance from study physician **Exclusion criteria** • Significant pathology including significant osteoarthritis, heterotopic ossification or joint subluxation • Degenerative myelopathy, neoplasm or congenital spinal cord problems • Previous core stability training using physio-ball	rotation lower trunk rotation, weight shifting, forward reach and lateral reach exercises were performed which were performed while sitting on a table.	12 weeks (intervention completion) • Unstable core training (N=14): 1.111 (0.477) • Stable core training (N=15): 0.842 (0.429) • Significantly higher (better) in intervention group (p=0.028, independent t-test) *Changes in mobility (measured using comfortable walking speed, units not reported) [mean (SD)]* Higher = better. At baseline: • Unstable core training (N=20): 0.256 (0.192) • Stable core training (N=20): 0.179 (0.159) • No significant difference between groups (p=0.296, Mann-Whitney rank-sums) 12 weeks (intervention completion): • Unstable core training (N=14): 0.350 (0.226) • Stable core training (N=15): 0.209 (0.171)	2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y – Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NI. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N – Data available for 14/20 participants in intervention group and 15/20 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the

Study details	Participants	Interventions	Outcomes and Results	Comments
	or sling • Uncontrollable spasticity (defined as > grade 2 on Modified Ashworth scale) • Lower extremity orthosis needed for ambulation or standing • Able to jog or run		• Significantly higher (better) in intervention group (p=0.0.019, Mann-Whitney rank-sums)	outcome depended on its true value? PN – Author's note that many participant had travelled from far away to Beijing for SCI rehabilitation and wanted to return home. Risk-of-bias judgement: Some concerns. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N – Assessment occurred at baseline and 12 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N – Gait analysis was performed by specialist software. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by

Study details	Participants	Interventions	Outcomes and Results	Comments
				knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Overall risk of bias: High risk. Other information None.
Full citation Lucareli, P. R., Lima, M. O., Lima, F. P. S., de Almeida, J. G., Brech, G. C., D'Andrea Greve, J. M., Gait analysis following treadmill training with body-weight support	**Sample size** N= 30 (randomised) • Body-weight supported gait training: 15 • Over ground gait training: 15	**Interventions** • *Intervention group: Body-weight supported gait training.* 30 x 30 minute semi-weekly gait-training sessions using a treadmill that was coupled to a	**Results** *Changes in mobility (measured using velocity in m/sec) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
versus conventional physical therapy: a prospective randomized controlled single blind study, Spinal cord, 49, 1001-7, 2011 **Ref Id** 1078605 **Country/ies where the study was carried out** Brazil **Study type** RCT **Aim of the study** To compare the effectiveness of body-weight supported treadmill gait training with standard gait training and physiotherapy, in patients with SCI. **Study dates** Not reported. **Source of funding** None reported.	N= 30 (analysed) • Body-weight supported gait training: 15 • Over ground gait training: 15 **Characteristics** Age in years [Mean (95%CI)]: • Body-weight supported gait training = 31.4 (24.2-34.6) • Over ground gait training = 31.6 (24.8-38.4) Gender (M/F): • Body-weight supported gait training (N) = 7/5 • Over ground gait training (N) = 7/5 Time since injury in years [Mean (95%)]: • Body-weight supported gait training (months) = 9.9 (9.2-10.5) • Over ground gait training (months) = 9.8 (9.1-10.4) Injury cause: not reported. Level of injury (ASIA Grade C/ASIA Grade D): • Body-weight supported	weight support system. The training routine was 30 sec of passive stretching of all lower limb muscle groups (totalling roughly 8 minutes), followed by passive mobilisation of hip, knee and ankle joints for 5 minutes. The patient was then positioned on the treadmill using the weight support (a parachute harness stabilising the pelvic region and trunk of participant) and a pulley system was used to suspend the patient in order to eliminate some body-weight from lower limbs. During the first session for each subject, an assessment was undertaken to calculate the percentage of off-loaded body-weight, as well as the duration and velocity of treadmill training. Training initially began with 40% off-loading body-weight, which was reduced by 10% every 10 sessions while maintaining a participant selected velocity. 2 physiotherapists were present in all sessions in order to aid movements of the lower limb to stimulate a normal gait.	Baseline: • Body-weight supported gait training (N=12): 0.85 (0.32) • Over ground training (N=12): 0.96 (0.61) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 1.25 (0.41) • Over ground training (N=12): 0.98 (0.65) *Changes in mobility (measured using duration of gait cycle in sec) [mean (SD)]* Baseline: • Body-weight supported gait training (N=12): 3.1 (0.68) • Over ground training (N=12): 2.8 (0.53) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test)	arising from the randomization process 1.1 Was the allocation sequence random? NI – Study simply states randomised with selection by someone not involved in study. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Assignment performed after baseline assessment and just before 1st exercise session. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant difference between groups at baseline. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PN - Study described as single-blinded and outcome assessors were blinded to allocation. 2.2. Were carers and people

Study details	Participants	Interventions	Outcomes and Results	Comments
	gait training (N) = 4/8 • Over ground gait training (N) = 5/7 **Inclusion criteria** Not reported specifically but reported that study participants were: • Between 23-40 years old • Able to walk using reciprocal gait pattern • Had mild spasticity (defined as a score ≤2 on modified Ashworth Scale) • Medical authorisation to undertake unsupervised physical activity **Exclusion criteria** • Not able to walk with reciprocal gait pattern • Cardiac pacemaker • Unstable angina or other decompensated heart disease • Chronic obstructive pulmonary disease • Uncontrolled autonomic dysreflexia • Pressure ulcers • Fractures of the lower limb • Tracheostomy • Deformity and rigidity of the hip or knee joints (defined as ≥ 20° flexion)	• *Control group: Over ground gait training.* 30 x 30 minute semi-weekly over ground gait-training sessions. The training routine was 30 sec of passive stretching of all lower limb muscle groups (totalling roughly 8 minutes), followed by passive mobilisation of hip, knee and ankle joints for 5 minutes. The participant then performed over ground gait training, supervised by a physiotherapist who issued verbal commands and manual correction of movement if needed. All of the patient's weight was placed on the ground but parallel bars were available for support if needed.	12 weeks (intervention completion): • Body-weight supported gait training (N=12): 3.95 (0.76) • Over ground training (N=12): 2.7 (0.93) *Changes in mobility (measured using percentage stance of whole gait cycle) [mean (SD)]* At baseline: • Body-weight supported gait training (N=12): 62.75 (1.86) • Over ground training (N=12): 65.0 (2.2) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 58.91 (1.44) • Over ground training (N=12): 64.9 (2.4) *Changes in mobility (measured using percentage swing of whole gait cycle) [mean (SD)]*	delivering the interventions aware of participants' assigned intervention during the trial? PN - See above. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data

Study details	Participants	Interventions	Outcomes and Results	Comments
	or of the ankle joints (defined as ≥10° of plantar flexion)		At baseline: • Body-weight supported gait training (N=12): 37.25 (1.86) • Over ground training (N=12): 34.6 (1.86) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 41.16 (1.52) • Over ground training (N=12): 33.9 (2.6) *Changes in mobility (measured using step length in cm) [mean (SD)]* At baseline: • Body-weight supported gait training (N=12): 59.16(2.44) • Over ground training (N=12): 55.6 (1.9) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test)	available for 12/15 in body-weight support group and 12/15 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN - Loss to follow-up balanced between groups although no reasons given. Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Outcome assessors blinded to group allocation. 4.4 If Y/PY/NI to 4.3: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
			12 weeks (intervention completion): • Body-weight supported gait training (N=12): 69.41(2.06) • Over ground training (N=12): 56.1 (3.1) *Changes in mobility (measured using distance walked in m) [mean (SD)]* At baseline: • Body-weight supported gait training (N=12): 45(9.06) • Over ground training (N=12): 41.7 (6.6) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion): • Body-weight supported gait training (N=12): 55.75 (8.88) • Over ground training (N=12): 43.5 (7.4) *Changes in mobility (measured using cadence in steps/min) [mean (SD)]*	assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information

Study details	Participants	Interventions	Outcomes and Results	Comments
			Higher = better. At baseline: • Body-weight supported gait training (N=12): 93.33(7.67) • Over ground training (N=12): 89.42 (8.57) • No significant difference between groups (p>0.05, Wilcoxon nonparametric test) 12 weeks (intervention completion) • Body-weight supported gait training (N=12): 108.33 (8.96) • Over ground training (N=12): 93.61 (8.26) *Changes in mobility (measured using maximum dorsiflexion during stance, right leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 3.9 • Over ground training (N=12): 3.2 • No significant difference between groups (p>0.05,	None

Study details	Participants	Interventions	Outcomes and Results	Comments
			ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -0.1 (-0.5-0.3) • Over ground training (N=12): 0.8 (0.3-1.2) • According to our calculations using Revman the 95% CI is 0.4-1.2 for the control group. *Changes in mobility (measured using maximum dorsiflexion during stance, left leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 3.8 • Over ground training (N=12): 3.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): 0.0 (-0.4-0.4)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Over ground training (N=12): 0.7 (0.2-1.1) • According to our calculations using Revman the 95% CI for this control group: 0.3-1.1. *Changes in mobility (measured using maximum hip extension during stance, right leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 6.7 • Over ground training (N=12): 5.1 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -0.2 (-1.4 – 1.08) • Revman has calculated and used the following 95% CI for this intervention group: -1.48-1.08. • Over ground training (N=12): -7.8 (-9.1 - -6.6) • According to our	

Study details	Participants	Interventions	Outcomes and Results	Comments
			calculations using Revman the 95% CI for this control group: -9- -6.6. *Changes in mobility (measured using maximum hip extension during stance, left leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 6.7 • Over ground training (N=12): 5.1 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -0.2 (-1.4 – 1.09) • According to our calculations using Revman the 95% CI for this intervention group: -1.48-1.09 • Over ground training (N=12): -7.8 (-9.1 - -6.6) • According to our calculations using Revman the 95% CI for this control group: -9- -6.6	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (measured using maximum hip flexion during gait cycle, right leg) [mean] Higher = better. At baseline: • Body-weight supported gait training (N=12): 28.1 • Over ground training (N=12): 31.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): 0.8 (-2.6 - 4.2) • Over ground training (N=12): 1.1 (-2.3 – 4.5) *Changes in mobility (measured using maximum hip flexion during gait cycle, left leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 28.1	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Over ground training (N=12): 31.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)] • Body-weight supported gait training (N=12): 0.7 (-2.7 – 4.1) • Over ground training (N=12): 1.1 (-2.3 – 4.5) *Changes in mobility (measured using maximum knee extension during stance, right leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 25.5 • Over ground training (N=12): 23.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)]: • Body-weight supported gait training (N=12): -1.4 (-4.9 – 2.1)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Over ground training (N=12): -1.1 (-4.6 – 2.5) • According to our calculations using Revman the 95% CI for this control group: -4.7-2.5 *Changes in mobility (measured using maximum knee extension during stance, left leg) [mean]* Higher = better. At baseline: • Body-weight supported gait training (N=12): 25.5 • Over ground training (N=12): 23.2 • No significant difference between groups (p>0.05, ANOVA) Gain during intervention [mean difference (95% CI)] • Body-weight supported gait training (N=12): -1.4 (-4.9 – 2.1) • Over ground training (N=12): -1.1 (-4.6 – 2.4)	
Full citation Mendelsohn, Marissa E., Overend, Tom J., Connelly, Denise M., Petrella, Robert J., Improvement in aerobic	**Sample size** 20 (randomised) • Upper-body exercise programme + standard rehabilitation: 10	**Interventions** • *Intervention group: Upper-body exercise training + standard rehabilitation.* Standard rehabilitation	**Results** *Changes in mobility (measured using TUG test) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2)

Study details	Participants	Interventions	Outcomes and Results	Comments
fitness during rehabilitation after hip fracture, Archives of Physical Medicine and Rehabilitation, 89, 609-17, 2008 **Ref Id** 1126411 **Country/ies where the study was carried out** Canada **Study type** RCT **Aim of the study** To investigate the effectiveness of an upper-body exercise programme on cardiovascular and respiratory fitness in older hip fracture patient during inpatient rehabilitation. **Study dates** September 2006 - July 2007 **Source of funding** Not reported. However, there is a statement that no commercial party with a financial interest in the study will benefit the authors in any way.	• Standard rehabilitation: 10 N= 20 (analysed) • Upper-body exercise programme + standard rehabilitation: 10 • Standard rehabilitation: 10 **Characteristics** Age in years [Mean (SD)]: • Upper-body exercise training = 80.3 (7.4) • Standard rehabilitation = 81.1 (7.2) Gender (M/F): not reported Time since injury [Mean (SD)]: • Upper-body exercise training (days) = 5.3 (1.5) • Standard rehabilitation (days) = 4.9 (2.2) Injury cause: not reported Location of fracture (neck of femur/intertrochanteric/sub trochanteric): • Upper-body exercise training (N) = 8/1/1 • Standard rehabilitation (N) = 6/0/4 **Inclusion criteria**	plus 3 sessions exercise training per week x 4 weeks. Each session consisted of 5 minutes warm-up, 20 minutes endurance training, 5 minutes cool down. The endurance phase was set at 65% of VO2max. • *Control group: Standard rehabilitation.* Participants admitted after discharged from acute care/short-term convalescence. 5 intensive rehabilitation sessions (Monday-Friday), lasting about 45 minutes each x 4 weeks. Sessions included physical therapy and occupational therapy as well as range of motion, flexibility, strengthening, gait re-training, stair re-training and training in activities of daily living.	Lower = better. At baseline: not reported. 4 weeks from baseline (at discharge): • Upper-body exercise training (N = 9): 24.7 (8.7) • 95% CI = 19.1-30.4 • Standard rehabilitation (N = 9): 39.5 (12.3) • 95% CI = 31.4-47.6 • Significantly lower (better) in intervention group (p=0.012, ANOVA) • Multivariable linear regression analysis • Adjusted for age, sex, type of fracture, co-morbidities, pre-injury bedridden degree, admission FIM score, admission cognitive FIM score, amount of physical therapy, days from injury to surgery • Partial regression co-efficient = 3.49 [95% CI = -0.38-7.35] (p=0.08) *Changes in mobility (measured using 2MWT in m) [mean (SD)]* Higher = better.	Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Drawing labels out of a hat. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant difference between groups. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y – Participants were aware of allocation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Participants had to: Have unilateral hip fracture • At least 25% weight bearing status (determined by orthopaedic surgeon) **Exclusion criteria** • Limited cognitive function (defined as <24 MMSE) • Unstable cardiovascular disease • Unstable chronic obstructive pulmonary disease • Limited visual capacity • Unstable metabolic disease • Hearing and language issues limiting intervention participant • Any other medical factors that might affect rehabilitation and measurements		At baseline: not reported. 4 weeks from baseline (at discharge): • Upper-body exercise training (N = 10): 196.3 (76.4) • 95% CI = 148.6-243.7 • Standard rehabilitation (N = 10): 41.8 (20.4) • 95% CI = 29.2-54.4 • Significantly higher (better) in intervention group (p<0.01, ANOVA) *Changes in mobility (measured using 10MWT in m) [mean (SD)]* Higher = better. At baseline: not reported. 4 weeks from baseline (at discharge: • Upper-body exercise training (N = 10): 326 (175) • 95% CI = 217.5-434.6 • Standard rehabilitation (N = 10): 180 (75.7) • 95% CI = 133.1-226.9 • Significantly higher (better) in intervention group	because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
			(p=0.037, ANOVA) *Changes in ADL (measured using FIM score) [mean(SD)]* Higher = better. At baseline: not reported. At discharge (week 4 after baseline): • Upper-body exercise training (N = 10): 110.6 (5.0) • 95% CI = 107.5-114.1 • Standard rehabilitation (N = 10): 107.2 (8.3) • 95% CI = 31.4-47.6 • No significant difference between groups (p>0.05, ANOVA)	missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? TUG, 2MWT and 10MWT - PN. Very objective. FIM - PY. Measurement graded by assessor. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? TUG, 2MWT and

Study details	Participants	Interventions	Outcomes and Results	Comments
				10MWT - NA. FIM - PN. Risk-of-bias judgement: TUG, 2MWT and 10MWT - Low risk; FIM - Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Monticone, Marco, Ambrosini, Emilia, Brunati, Roberto, Capone, Antonio,	**Sample size** N= 52 (randomised) • Balancing exercises = 26 • Standard physiotherapy =	**Interventions** • *Intervention group: Balancing exercises.* Individually performed	**Results** *Changes in mobility (measured using WOMAC*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool

Study details	Participants	Interventions	Outcomes and Results	Comments
Pagliari, Giulia, Secci, Claudio, Zatti, Giovanni, Ferrante, Simona, How balance task-specific training contributes to improving physical function in older subjects undergoing rehabilitation following hip fracture: a randomized controlled trial, Clinical Rehabilitation, 32, 340-351, 2018 **Ref Id** 1130093 **Country/ies where the study was carried out** Italy **Study type** RCT **Aim of the study** "To evaluate the efficacy of a rehabilitation programme including balance task-specific training in improving physical function, pain, activities of daily living (ADL), balance and quality of life in subjects after a hip fracture." (p. 340) **Study dates** 2012-2014	26 N= 52 (analysed) • Balancing exercises = 26 • Standard physiotherapy = 26 **Characteristics** Age in years [Mean (SD)]: • Balancing exercises = 77.2 (6.6) • Standard physiotherapy = 77.7 (7.5) Gender (M/F): • Balancing exercises (N) = 7/19 • Standard physiotherapy (N) = 8/18 Time since injury in days [Mean (SD)]: • Balancing exercises = 7.9 (2.1) • Standard physiotherapy = 7.6 (2.5) Injury cause: not reported. **Inclusion criteria** Participants had to: • Be aged > 70 years old • Have received an internal fixation due to	balancing exercise program, consisting of 90-minute sessions 5 x per week for 3 weeks, involving "balance task-specific exercises while standing with open and closed eyes with the objective of looking for a symmetrical load on their legs, while standing and keeping proprioceptive pillows under their feet, while standing by shrinking the support base, or maintaining the tandem position, or maintaining their position with and without the use of a proprioceptive bubble." (p. 342). The participants also walked on a rectilinear trajectory +/- "crutches, while changing speed and direction, or while performing motor-cognitive tasks such as turning their head on the right and left side following physiotherapists' inputs." (p. 342) Moreover, the participants also undertook exercises "such as moving from a sitting to a standing position, ascending/descending stai rs and climbing obstacles were also performed." (p. 342). All the patients also	*physical sub-score) [mean (SD)]* Scale 0 (best) – 100 (worst) At baseline: • Balancing exercises: 84.8 (3.7) • Standard physiotherapy: 80.9 (5.7) 3 weeks from baseline (intervention completion): • Balancing exercises: 39.8 (4.9) • Standard physiotherapy: 65.2 (7.1) 12 months after discharge from hospital: • Balancing exercises: 35.7 (6.2) • Standard physiotherapy: 61.0 (11.1) *Changes in mobility (measured using WOMAC stiffness sub-score) [mean (SD)]* 0 (best) – 100 (worst). At baseline: • Balancing exercises: 73.6 (16.3)	(RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y "the physiatrists emailed the principal investigator, who randomized the subjects to one of the two treatment programmes using a list of blinded treatment codes, generated in MATLAB, and an automatic assignment system made in MATLAB to conceal the allocation." (p. 342) 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PN 2.2. Were carers and people

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding None.	extra-capsular hip fractures • Have surgery 7–10 days before admission to the rehabilitation unit • Proficiency in Italian language **Exclusion criteria** • Previous hip and lower limb surgery • Systemic illness • Mini Mental State Examination score < 24 • Recent myocardial infarctions or cerebrovascular events Chronic lung or renal diseases • Other contra-indications present in medical history	received walking training, which was aimed at regaining a symmetrical gait pattern through reciprocal use of their crutches, and during the first session of treatment an ergonomic advice booklet to help them modify their daily living activities. • *Control group: Standard physiotherapy.* Individually performed general physiotherapy exercise program, consisting of 90-minute sessions 5 x per week for 3 weeks involving open kinetic chain exercises in the supine position on the couch aimed at improving the range of hip motion, increasing hip and lower limb muscle strength, and maintaining the length and elasticity of thigh tissues. All the patients also received walking training, which was aimed at regaining a symmetrical gait pattern through reciprocal use of their crutches, and during the first session of treatment an ergonomic advice booklet to help them modify their daily	• Standard physiotherapy: 74.5 (16.8) 3 weeks from baseline (intervention completion): • Balancing exercises: 14.5 (7.8) • Standard physiotherapy: 37.0 (19.3) 12 months after discharge from hospital: • Balancing exercises: 10.4 (9.5) • Standard physiotherapy: 34.2 (23.9) *Pain (measured using WOMAC pain sub-score) [mean (SD)]* Scale 0 (best) – 100 (worst). At baseline: • Balancing exercises: 84.0 (9.3) • Standard physiotherapy: 82.1 (10.3) 3 weeks from baseline (intervention completion): • Balancing exercises: 16.0 (5.6) • Standard physiotherapy: 53.6 (12.6)	delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y

Study details	Participants	Interventions	Outcomes and Results	Comments
		living activities. *NB. Patients received no other treatments (e.g. physical modalities, nerve blocks) or major pharmacological agents, while mild analgesics (e.g. paracetamol) and NSAIDs could be taken.*	12 months after discharge from hospital: • Balancing exercises: 9.6 (9.0) • Standard physiotherapy: 36.1 (16.4) *Pain (measured using SF-36 bodily pain domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best)] At baseline: • Balancing exercises: 10.3 (11.4) • Standard physiotherapy: 9.2 (9.2) 3 weeks from baseline (intervention completion): • Balancing exercises: 63.9 (31.2) • Standard physiotherapy: 37.0 (24.1) 12 months after discharge from hospital: • Balancing exercises: 78.4 (27.3) • Standard physiotherapy: 41.4 (20.5) *Pain (Current pain intensity*	3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N outcome assessor blinded 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			measured using numerical rating score) [mean (SD)] Scale 0 (best) – 10 (worst). At baseline: • Balancing exercises: 6.9 (1.6) • Standard physiotherapy: 7.2 (1.3) 3 weeks from baseline (intervention completion): • Balancing exercises: 1.6 (0.8) • Standard physiotherapy: 5.1 (1.4) 12 months after discharge from hospital: • Balancing exercises: 1.5 (0.8) • Standard physiotherapy: 4.4 (1.3) *Quality of life (measured using SF-36 physical function domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline: • Balancing exercises: 12.1 (12.2)	outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Standard physiotherapy: 12.3 (13.9) 3 weeks from baseline (intervention completion): • Balancing exercises: 56.6 (24.4) • Standard physiotherapy: 38.5 (22.1) 12 months after discharge from hospital • Balancing exercises: 73.3 (25.7) • Standard physiotherapy: 45.2 (14.4) *Quality of life (measured using SF-36 physical role domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best)] At baseline: • Balancing exercises: 12.8 (16.5) • Standard physiotherapy: 15.4 (16.9) 3 weeks from baseline (intervention completion): • Balancing exercises: 79.3 (35.1) • Standard physiotherapy:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			46.7 (23.6) 12 months after discharge from hospital: • Balancing exercises: 81.3 (37.8) • Standard physiotherapy: 56.5 (21.2) *Quality of life (measured using SF-36 general health domain sub-score) [mean (SD)]* Scale 0 (worst) – 100 (best) At baseline: • Balancing exercises: 34.8 (6.2) • Standard physiotherapy: 33.5 (7.7) 3 weeks from baseline (intervention completion): • Balancing exercises: 53.0 (17.0) • Standard physiotherapy: 33.6 (16.3) 12 months after discharge from hospital: • Balancing exercises: 70.4 (18.6) • Standard physiotherapy: 50.7 (23.1)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Quality of life (measured using SF-36 mental health domain sub-score) [mean (SD)] Scale 0 (worst) – 100 (best). At baseline: • Balancing exercises: 64.8 (23.8) • Standard physiotherapy: 62.2 (25.4) 3 weeks from baseline (intervention completion): • Balancing exercises: 67.7 (19.4) • Standard physiotherapy: 57.4 (22.4) 12 months after discharge from hospital: • Balancing exercises: 70.3 (22.7) • Standard physiotherapy: 49.6 (21.1) *Changes in ADL (measured using FIM score) [mean (SD)]* Scale 8 (worst) – 126 (best). At baseline:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Balancing exercises: 61.8 (9.3) • Standard physiotherapy: 61.2 (9.1) 3 weeks from baseline (intervention completion): • Balancing exercises: 97.1 (11.2) • Standard physiotherapy: 80.8 (13.2) 12 months after discharge from hospital: • Balancing exercises: 106.9 (12.3) • Standard physiotherapy: 86.1 (13.2) All of these data were analysed using ANOVA. The authors report where these ANOVAs were significant (main effects and interactions), but no simple main effects are reported to show exactly when the groups differed significantly.	
Full citation Moseley, Anne M., Sherrington, Catherine, Lord, Stephen R., Barraclough, Elizabeth, St George, Rebecca J., Cameron, Ian D., Mobility training after hip	**Sample size** N = 160 (randomised) • High intensity gait re-training: 80 • Standard care: 80	**Interventions** • *Both groups:* All participants received usual post-operative mobilisation and rehabilitation care usually provided from other health professionals. Any	**Results** *Changes in mobility (measured as participants able to walk unaided or with sticks or crutches)*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the

Study details	Participants	Interventions	Outcomes and Results	Comments
fracture: a randomised controlled trial, Age and ageing, 38, 74-80, 2009 **Ref Id** 1185198 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To compare the effectiveness of a high-dose exercise programme with a low-dose exercise programme on rehabilitation outcomes in hip fracture patients. **Study dates** March 2002 - May 2005 **Source of funding** This study received funding from the National Health and Medical Research Council, Australia. 2 of the researchers also receive salaries from this organisation.	N = 150 (analysed) • High intensity gait re-training: 73 • Standard care: 77 **Characteristics** Age in years [Mean (SD)]: • High intensity gait re-training = 84 (8) • Standard care = 84 (7) Gender (M/F): • High intensity gait re-training (N) = 15/65 • Standard care (N) = 15/65 Time since injury (reported as time from fracture to rehabilitation admission) [Median (IQR)]: • High intensity gait re-training (days) = 14 (9-21) • Standard care (days) = 12 (9-19) Injury cause: not reported Location of fracture (Intra-capsular, displaced/Intra-capsular, displaced/Other/Missing): • High intensity gait re-training (N) = 14/26/38/2 • Standard care (N) = 14/24/42	mobility aids were progressed according to usual protocols. No other physiotherapy was given during the study. • *Intervention group: High intensity gait re-training.* 2 x fully weight bearing exercise sessions twice per day for a total of 60 minutes, for 16 weeks. 5 weight bearing exercises were performed along with walking exercises (using body-weight supported treadmill if still inpatients or a walking programme after discharge). The 5 prescribed exercises used both legs and involved stepping in different directions, standing up and sitting down, tapping the foot and stepping on and off a block. A hand support was available if needed. Exercises progressed throughout the intervention period by reducing support from hands, increasing block height, decreasing chair height and increasing the number of repetitions. The programme was started while patients were still inpatients and continued using home visits and a structured	Baseline: • High intensity gait re-training (N=80): 7/73 • Standard care (N=80): 6/74 4 weeks (during intervention): • High intensity gait re-training (N=78): 26/52 • Standard care (N=80): 23/57 • OR (95% CI): 1.2 (0.6–2.6) • No significant difference between groups (p=0.598, logistic regression) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 44/29 • Standard care (N=77): 46/31 • OR (95% CI): 1.0 (0.5–1.9) • No significant difference between groups (p=0.990, logistic regression) *Changes in mobility (measured as participants reporting good mobility compared to those reported poor or fair mobility)*	randomization process 1.1 Was the allocation sequence random? Y - Generated using computer software. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Used opaque, consecutively numbered and sealed envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - No statistical analysis presented but variables look visually similar. Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the

Study details	Participants	Interventions	Outcomes and Results	Comments
	Inclusion criteria Patients had to: • Be admitted with surgical hip fracture fixation to the inpatient rehabilitation units of 3 study hospitals • Have medical approval for weight bearing or partial weight bearing • Be able to tolerate exercise programmes • Be able to take < 4 steps with assistance from forearm support frame and 1 person • Have no medical contra-indications limiting ability to exercise • Living in the community or low care residential facility prior to accident AND plan to return to this destination after discharge • Additionally, subjects with cognitive impairment were included if they had a carer able to supervise exercise sessions. **Exclusion criteria** • Patients with >4 adjusted errors on Short Portable Mental Status Questionnaires without carers able to supervise	home exercise plan after discharge. • *Control group: Standard care.* 30-minutes partial weight bearing exercise sessions per day, for 4 weeks. Sessions consisted of 5 exercises that were performed sitting or lying down, and a small amount of walking using parallel bars or walking aids. Intensity of exercises was increased throughout the intervention period by increasing repetitions and resistance. The programme was started while patients were still inpatients and continued using weekly home visits and a structured home exercise plan after discharge. After the 4 weeks was up, participants were given a tailored partial weight bearing programme and encouraged to continue.	Baseline: • High intensity gait re-training (N=80): 13/67 • Standard care (N=80): 15/65 4 weeks (during intervention): • High intensity gait re-training (N=78): 28/50 • Standard care (N=80): 29/51 • OR (95% CI): 1.0 (0.5–2.0), • No significant difference between groups (p=0.981, logistic regression) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 41/32 • Standard care (N=77): 34/42 • OR (95% CI): 1.6 (0.8–3.1) • No significant difference between groups (p=0.157, logistic regression) *Changes in mobility (measured as participants that fell during study period)* 16 weeks (intervention completion):	experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 73/80 in HIGH group and 77/80 in standard care group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value?

Study details	Participants	Interventions	Outcomes and Results	Comments
	exercise sessions.		• High intensity gait re-training (N=73): 19/54 • Standard care (N=77): 22/55 • OR (95% CI): 0.9 (0.4–1.8) • No significant difference between groups (p=0.727, logistic regression) *Changes in mobility (measured using Modified Falls Efficacy Scale) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 57 (33) • Standard care (N=78): 63 (30) 4 weeks (during intervention): • High intensity gait re-training (N=78): 86 (32) • Standard care (N=79): 82 (29) • Adjusted mean difference (95% CI): 6 (−2–15) • No significant difference between groups (p=0.145, ANCOVA) 16 weeks (intervention	NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? ADLS and balance - N, outcome assessors blinded. Pain and QoL - NI, self-reported measurements. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? ADLS and balance - NA. Pain and QoL - PY, exercise known to affect both of these outcomes. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
			completion): • High intensity gait re-training (N=72): 100 (36) • Standard care (N=76): 97 (32) • Adjusted mean difference (95% CI): 6 (−4–16) • No significant difference between groups (p=0.263, ANCOVA) *Changes in mobility (measured using velocity in m/sec) [mean (SD)]* Baseline: • High intensity gait re-training: 0.30 (0.22) • Standard care: 0.28 (0.16) 4 weeks (during intervention): • High intensity gait re-training (N=78): 0.53 (0.25) • Standard care (N=80): 0.48 (0.22) • Adjusted mean difference (95% CI): 0.03 (−0.03–0.10) • No significant difference between groups (p=0.345, ANCOVA) 16 weeks (intervention completion):	outcome was influenced by knowledge of intervention received? ADLS and balance - NA. Pain and QoL - PN, reasons for missing data all unrelated to intervention. Risk-of-bias judgement: ADLs and balance: Low risk; Pain and QoL: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NA. 5.3 ... multiple analyses of the data? NA. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• High intensity gait re-training (N=73): 0.63 (0.32) • Standard care (N=77): 0.60 (0.31) • Adjusted mean difference (95% CI): (−0.08–0.11) • No significant difference between groups (p=0.793, ANCOVA) *Changes in mobility (measured PPME score) [mean (SD)]* Scale 0 (worst) – 12 (best). Baseline: • High intensity gait re-training (N=80): 6.9 (1.9) • Standard care (N=80): 7.1 (1.6) 4 weeks (during intervention): • High intensity gait re-training (N=78): 8.9 (2.0) • Standard care (N=80): 8.7 (1.8) • Adjusted mean difference (95% CI): 0.3 (−0.2–0.9) • No significant difference between groups (p=0.219, ANCOVA) 16 weeks (intervention	

Study details	Participants	Interventions	Outcomes and Results	Comments
			completion): • High intensity gait re-training (N=73): 9.3 (2.4) • Standard care (N=77): 9.1 (2.4) • Adjusted mean difference (95% CI): 0.3 (−0.4–1.0) • No significant difference between groups (p=0.433, ANCOVA) *Changes in mobility (measured using Sit-to-stand test in stand ups per sec) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 0.15 (0.08) • Standard care (N=80): 0.16 (0.08) 4 weeks (during intervention): • High intensity gait re-training (N=78): 0.24 (0.15) • Standard care (N=80): 0.19 (0.09) • Adjusted mean difference (95% CI): 0.06 (0.02–0.10) • Significantly higher (better) in intervention group (p=0.002, ANCOVA)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			16 weeks (intervention completion): • High intensity gait re-training (N=73): 0.26 (0.14) • Standard care (N=77): 0.22 (0.11) • Adjusted mean difference (95% CI): 0.04 (0.01–0.08) • Significantly higher (better) in intervention group (p=0.026, ANCOVA) *Changes in mobility (measured using step test standing on affected leg) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 0.9 (2.5) • Standard care (N=80): 0.7 (2.1) 4 weeks (during intervention): • High intensity gait re-training (N=78): 4.8 (5.7) • Standard care (N=80): 2.9 (4.2) • Adjusted mean difference (95% CI): 1.9 (0.3–3.4) • Significantly higher (better)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in intervention group (0.017, ANCOVA) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 7.1 (5.2) • Standard care (N=77): 5.7 (5.0) • Adjusted mean difference (95% CI): 1.4 (−0.3–3.0), • No significant difference between groups (p=0.100, ANCOVA) *Pain (measured as participants reporting no or slight pain compared to those reporting some, moderate or severe pain) [OR (95% CI)]* Baseline: • High intensity gait re-training (N=80): 24/56 • Standard care (N=80): 25/55 4 weeks (during intervention): • High intensity gait re-training (N=78): 34/44 • Standard care (N=80): 39/41 • OR (95% CI): 0.8 (0.4–1.6)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No significant difference between groups (p=0.540) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 43/30 • Standard care (N=77): 48/29 • OR (95% CI): 0.9 (0.5–1.7) • No significant difference between groups (p=0.691) *Overall quality of life (measured using EQ-5D score) [mean (SD)]* Higher = better. Baseline: • High intensity gait re-training (N=80): 0.32 (0.25) • Standard care (N=80): 0.36 (0.25) 4 weeks (during intervention): • High intensity gait re-training (N=78): 0.53 (0.27) • Standard care (N=80): 0.52 (0.27) • Adjusted mean difference: 0.02 (−0.07–0.10) • No significant difference between groups (p=0.712,	

Study details	Participants	Interventions	Outcomes and Results	Comments
			ANCOVA) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 0.62 (0.30) • Standard care (N=77): 0.62 (0.26) • Adjusted mean difference (95% CI): 0.01 (−0.09–0.09) • No significant difference between groups (p=0.919, ANCOVA) *Changes in ADL (measured using Barthel Index score) [median (IQR)]* Scale 0 (worst) – 100 (best). Baseline: • High intensity gait re-training (N=80): 65 (55 – 75) • Standard care (N=80): 68 (56 – 75) 4 weeks (during intervention): • High intensity gait re-training (N=78): 93 (85 – 100) • Standard care (N=80): 90 (85 – 95)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Adjusted mean difference (95% CI): 3 (−2–8) • No significant difference between groups (p=0.196, ANCOVA) 16 weeks (intervention completion): • High intensity gait re-training (N=73): 95 (90 – 100) • Standard care (N=77): 95 (85 – 100) • Adjusted mean difference (95% CI): 1 (−4–6) • No significant difference between groups (p=0.771, ANCOVA)	
Full citation Niitsu, Masaya, Ichinose, Daisuke, Hirooka, Taku, Mitsutomi, Kazuhiko, Morimoto, Yoshitaka, Sarukawa, Junichiro, Nishikino, Shoichi, Yamauchi, Katsuya, Yamazaki, Kaoru, Effects of combination of whey protein intake and rehabilitation on muscle strength and daily movements in patients with hip fracture in the early postoperative period, Clinical nutrition (Edinburgh, Scotland), 35, 943-9, 2016	**Sample size** N = 38 (randomised) • Whey protein + rehabilitation: 20 • Rehabilitation only: 18 N = 38 (analysed) • Whey protein + rehabilitation: 20 • Rehabilitation only: 18 **Characteristics** Age in years [Mean (SD)]: • Whey protein + rehabilitation = 80.5 (7.6) • Rehabilitation only = 78.8	**Interventions** • *Intervention group: Whey protein + standard rehabilitation.* Standard rehabilitation as described in control group + whey protein supplement. 42 g whey protein in 200-300 ml water, taken once per day both before and after rehabilitation sessions. If no rehabilitation occurred, supplement was taken throughout the day. Supplementation started the day after surgery and continued for 2 weeks. Per serving, whey protein also	**Results** *Changes in mobility (measured using BI Walking score) [median (IQR)]* Higher = better. At baseline: • Whey protein + rehabilitation (N=20): 10 (0-10) • Standard rehabilitation (N=18): 10 (0-10) Day 14 Post-operation (intervention completion):	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Paper slips withdrawn from opaque envelope by rehabilitation staff not involved in study. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1116452 **Country/ies where the study was carried out** Japan **Study type** RCT **Aim of the study** To compare the effectiveness of resistance training plus whey protein supplementation with resistance training alone on muscle strength and physical function in patients recently undergoing hip fracture surgery. **Study dates** Not reported. **Source of funding** This study received funding from Iwata City Hospital.	(8.6) Gender (M/F); • Whey protein + rehabilitation (N) = all female • Rehabilitation only (N) = all female Time since injury: not reported Injury cause: not reported Location of fracture (intracapsular/extracapsular): • Whey protein + rehabilitation (N) = 13/7 • Rehabilitation only (N) = 9/9 **Inclusion criteria** Participants had to • Have recent hip fracture • Have surgery and rehabilitation after surgery at study hospital **Exclusion criteria** • Advanced dementia and delirium • Need tube feeding • Contra-indication for high protein diets	contained 162 kcal, 32.2 protein, 2.0g lipid and 3.8 carbohydrate. • *Control group Standard rehabilitation.* Consisted mainly of sit-to-stand exercises and gait exercises. Sit-to-stand exercises were conducted on a 50cm high platform and were for a maximum of 30 repetitions (day 1 and 2 post-surgery), maximum of 50 repetitions (days 3-5 post-surgery) and maximum 100 repetitions (days 6-10 post-surgery). Participants were allowed the use of a handrail and physiotherapist assistance if needed. Gait exercises were set at a maximum of 300m per day. Participants were allowed the use of a handrail, walker or cane, and physiotherapist assistance if needed.	• Whey protein + rehabilitation (N=20): 15 (15-15) • Standard rehabilitation (N=18): 10(10-15) • Significantly better (higher) in intervention group ($p < 0.05$, Mann-Whitney U test) *Changes in mobility (measured using BI Stair score) [median (IQR)]* Higher = better. At baseline: • Whey protein + rehabilitation (N=20): 0 (0-5) • Standard rehabilitation (N=18): 0 (0-5) Day 14 Post-operation (intervention completion): • Whey protein + rehabilitation (N=20): 5 (5-5) • Standard rehabilitation (N=18): 5 (5-5) • No significant difference between groups ($p > 0.05$, Mann-Whitney U test) *Pain at rest (measured using*	interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline. Risk-of-bias judgement: Some concerns. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Inability to communicate or understand • Swallowing disorder • Issues with ambulation		*VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). No significant difference between groups at any time point (p=0.74, ANOVA) At baseline: • Whey protein + rehabilitation (N=20): 2.0 (1.8) • Standard rehabilitation (N=18): 2.4 (1.5) • No significant difference between groups (p value not reported) Day 7 Post-operation (during intervention): • Whey protein + rehabilitation (N=20): 1.1 (2.0) • Standard rehabilitation (N=18): 1.5 (1.0) • No significant difference between groups (p value not reported) Day 14 Post-operation (intervention completion): • Whey protein + rehabilitation (N=20): 0.6 (1.2) • Standard rehabilitation	effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 15/20 in whey protein group and 17/18 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? N - All drop outs are for documented reasons unrelated to outcome. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=18): 1.0 (0.8) • No significant difference between groups (p value not reported) *Pain in motion (measured using VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). No significant difference between groups at any time point (p=0.22, ANOVA) At baseline: • Whey protein + rehabilitation (N=20): 5.2 (2.4) • Standard rehabilitation (N=18): 6.0 (2.4) • No significant difference between groups (p value not reported) Day 7 Post-operation (during intervention): • Whey protein + rehabilitation (N=20): 3.6 (2.5) • Standard rehabilitation (N=18): 5.1 (2.3) • No significant difference between groups (p value not reported)	measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI - Pain and ADL self-reported. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y – both subjective assessments. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? Pain - PN, participants still underwent some form of rehabilitation. ADL - NA. Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with

Study details	Participants	Interventions	Outcomes and Results	Comments
			Day 14 Post-operation (intervention completion) • Whey protein + rehabilitation (N=20): 1.7 (1.4) • Standard rehabilitation (N=18): 3.9 (2.4) • No significant difference between groups (p value not reported)	a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Norouzi Javidan, A., Sabour, H., Latifi, S., Abrishamkar, M., Soltani, Z., Shidfar, F., Emami Razavi, H., Does consumption of polyunsaturated fatty acids influence on neurorehabilitation in traumatic spinal cord-injured individuals? a double-blinded clinical trial, Spinal Cord, 52, 378-382, 2014 **Ref Id**	**Sample size** N = 110 (randomised) • Omega-3 group: 55 • Placebo: 55 N = 110 (analysed) • Omega-3 group: 55 • Placebo: 55 **Characteristics** Age in years [Mean (SD)]: • Omega-3 = 51.5 (13.43) • Placebo = 54.12 (11.76)	**Interventions** • *Intervention group: Omega-3 supplements.* 2 x MorDHA capsules (435mg of docosahexanoic acid + 65mg eicosapentaenoic acid) twice per day. No specific advice was given regarding food intake or diet modification. No further details reported. • *Control group: Placebo.* 2 x placebo capsules twice per day. No specific advice was given regarding food	**Results** *Changes in mobility (measured using FIM+FAM Motor sub-score) [mean (SD)]* Scale 16 (worst) – 112 (best). At baseline: • Omega-3 group: 77.67 (20.31) • Placebo group: 83.57	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Permuted balanced block randomization. 1.2 Was the allocation sequence concealed until participants were enrolled

Study details	Participants	Interventions	Outcomes and Results	Comments
1074936 **Country/ies where the study was carried out** Iran **Study type** RCT **Aim of the study** To investigate whether administration of omega-3 fatty acids had a beneficial effect on FIM+FAM scores in patients with SCI. **Study dates** November 2010 - April 2012 **Source of funding** This study received funding from Tehran University of Medical Sciences as part of a PhD project.	Gender (M/F): • Omega-3 (N) = 44/10 • Placebo (N) = 41/9 Time since injury [Mean (SD)]: • Intervention (years) = 8.96(5.44) • Control (years) = 9.56(7.20) Injury cause: not reported but see inclusion criteria Level of injury (Cervical SCI/Thoracic SCI/Lumbar SCI): • Omega-3 (N) = 14/32/8 • Placebo (N) = 7/33/10 **Inclusion criteria** Patients had to: • Have a traumatic SCI for at least 1 year **Exclusion criteria** • Non-traumatic SCI • Pregnancy or lactation • Undertaking any rehabilitation therapy • Patients with amputation • History of diabetes, cancer, endocrinology	intake or diet modification. No further details reported.	(21.65) • No significant difference between groups (p=0.16, t-test) 14 months follow-up: • Omega-3 group (N=54): 78.93 (19.42) • Placebo group (N=50): 84.13 (22.74) • No significant difference between groups (p=0.25, one-way ANOVA) *Changes in mobility (measured using FIM+FAM Locomotion sub-score) [mean (SD)]* Score 7 (worst) – 49 (best). At baseline: • Omega-3 group: 27.50 (11.27) • Placebo group: 30.72 (12.03) • No significant difference between groups (p=0.17, t-test) 14 months follow-up: • Omega-3 group (N=54): 27.90(10.98) • Placebo group (N=50): 30.62(12.29)	and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant differences between groups at baseline. Risk of bias: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN - 80% adherence over 14 months. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to

Study details	Participants	Interventions	Outcomes and Results	Comments
	disease or acute infection • Use of glucocorticoids, thyroid hormones, gonadotrophin-releasing hormone analogues, anticonvulsive drugs, heparin, aluminium containing antacids, lithium, omega 3 fatty acids or other nutrients supplements		• No significant difference between groups (p=0.28, one-way ANOVA) *Changes in ADL (measured using FIM+FAM score) [mean (SD)]* Range 30-210, higher = better. At baseline: • Omega-3 group: 168.23 (25.23) • Placebo group: 175.62 (26.42) • No significant difference between groups (p=016, t-test) 14 months follow-up: • Omega-3 group (N=54): 170.13 (23.37) • Placebo group (N=50): 176.34 (30.96) • No significant difference between groups (p=0.29, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Cognitive sub-score) [mean (SD)]* Scale 14 (worst) – 98 (best).	have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 54/55 in Omega-3 group and 50/55 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: • Omega-3 group: 91.07 (6.34) • Placebo group: 92.60 (6.25) • No significant difference between groups (p=0.24, t-test) 14 months follow-up: • Omega-3 group (N=54): 91.13 (6.50) • Placebo group (N=50): 91.95 (10.22) • No significant difference between groups (p=0.65, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Psychosocial sub-score) [mean (SD)]* Score 9 (worst) – 63 (best). At baseline: • Omega-3 group: 56.17 (6.25) • Placebo group: 57.56 (6.18) • No significant difference between groups (p=0.27, t-test) 14 months follow-up:	risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PN - FIM+FAM validated measurement tool complete with clear instructions for completion and scoring. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Omega-3 group (N=54): 56.80 (5.16) • Placebo group (N=50): 57.68 (6.86) • No significant difference between groups (p=0.50, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Communication sub-score) [mean (SD)]* Score 5 (worst) – 35 (best). At baseline: • Omega-3 group: 34.98 (0.13) • Placebo group: 35.00 (0.00) • No significant difference between groups (p=0.34, t-test) 14 months follow-up: • Omega-3 group (N=54): 34.34 (4.42) • Placebo group (N=50): 34.31 (4.52) • No significant difference between groups (p=0.07, one-way ANOVA) *Changes in ADL (measured using FIM+FAM Self-care*	analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			sub-score) [mean (SD)] Scale 7 (worst) – 49 (best). At baseline: • Omega-3 group: 39.88 (10.13) • Placebo group: 41.77 (9.82) • No significant difference between groups (p=0.34, t-test) 14 months follow-up: • Omega-3 group (N=54): 39.88 (10.13) • Placebo group (N=50): 41.77 (9.82) • No significant difference between groups (p=0.34, one-way ANOVA)	
Full citation Oldmeadow, Leonie B., Edwards, Elton R., Kimmel, Lara A., Kipen, Eva, Robertson, Val J., Bailey, Michael J., No rest for the wounded: early ambulation after hip surgery accelerates recovery, ANZ Journal of Surgery, 76, 607-11, 2006 **Ref Id** 1124251	**Sample size** N = 60 (randomised) • Early ambulation: 29 • Delayed ambulation: 31 N = 60 (analysed) • Early ambulation: 29 • Delayed ambulation: 31 **Characteristics** Age in years [Mean (SD)]: • Early ambulation = 78.8 (2.14)	**Interventions** • *Both groups:* Participants received routine medical and nursing care post-surgery provided by study hospital and were assisted to sit out of bed as soon as possible. A physiotherapy gait re-training programme was performed once per day for 7 days, consisting of ambulation re-training, bed exercises and chest physiotherapy. Physiotherapists providing	**Results** *Changes in mobility (measured using distance walked in m [mean (range)]* Day 7 post-operation (intervention completion): • Early ambulation (EA) (N=29): 66 (SD not reported) • True early ambulation (TEA) (N=19): 82.55 (0.5-400)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Computer generated randomisation. 1.2 Was the allocation sequence concealed until

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of early ambulation on patient and hospital outcomes after hip fracture. **Study dates** March 2004 - December 2004. **Source of funding** Not reported.	• Delayed ambulation = 80.0 (2.08) Gender (M/F): • Early ambulation (N) = 8/21 • Delayed ambulation (N) = 11/20 Time since injury (reported as time to surgery) [Mean (range)]: • Early ambulation (hours) = 58.67(8.5-181) • Delayed ambulation = 54.74(6-264) Injury cause: not reported. Location of fracture: not reported but see inclusion criteria **Inclusion criteria** Participants had to: • Be admitted from A&E at study hospital for surgical fixation of neck of femur fracture **Exclusion criteria** • Pathological fractures • Post-operation orders excluded weight-bearing • Living in residential care prior to admission	care had training in the study protocol to ensure standardisation and that only time to walk was different between the 2 groups. • *Intervention group: Early ambulation.* Assisted by physiotherapist to ambulate as soon as possible, either post-operative day 1 or 2. • *Control group: Delayed ambulation.* Physiotherapists delayed ambulation until day 3 or 4 post-operation.	• Failed early ambulation (FEA) (N=10): 34.70 (5-103) • Delayed ambulation (DA) (N=31): 29.71 (0-150) • Significant difference between groups (p= 0.008 TEA vs DA, p= 0.03 EA vs DA, p= 0.15 TEA vs FEA, Wilcoxon rank sum test) *Changes in ADL (measured as number of participants able to independently negotiate one step)* Day 7 post-operation (intervention completion): • True early ambulation (N=14): 10 • Failed early ambulation (N=9): 0 • Delayed ambulation (N=24): 23 • Significant difference between groups (p= 0.12 TEA vs DA, p= 0.32 EA vs DA, p= 0.04 TEA vs FEA, Chi-squared test) *Changes in ADL (measured as number of participants able to independently transfer one step)* Day 7 post-operation	participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant differences between groups at baseline. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? Y - 10 participants assigned to early ambulation group failed to walk on day 1 or 2. 2.4. If No/PN/NI to 2.3: Were these deviations likely to have affected the outcome? Y. 2.5. If Y/PY to 2.4: Were

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Unable to ambulate prior to accident		(intervention completion): • True early ambulation (N=16): 11 • Failed early ambulation (N=10): 5 • Delayed ambulation (N=25): 4 • Significant difference between groups (p= 0.007 TEA vs DA, p= 0.009 EA vs DA, p= 0.00 TEA vs FEA, Chi-squared test)	these deviations from intended intervention balanced between groups? N - Only early ambulation group affected. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? N - As treated analysis used, where the 10 early ambulation participants who were unable to ambulate on day 1 or 2 were grouped into a 'failed early ambulation' group for analysis. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? Y - 10/29 participants were analysed as 'failed early ambulation' group. Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
				3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - All participants measured day 7 post-operation. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Assessors were blinded to allocation. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the

Study details	Participants	Interventions	Outcomes and Results	Comments
				outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? Y - modified Iowa Level of Assistance scale used to assess functional status, which grades domains on a scale of 0 (completely independent) to 5 (completely dependent). However, the results for transfer assistance and negotiation of step are presented in the paper as dichotomised yes/no and no total score presented. 5.3 ... multiple analyses of

Study details	Participants	Interventions	Outcomes and Results	Comments
				the data? N - Multiple analyses conducted due to the deviation from protocols but all results presented. Risk-of-bias judgement: High risk Overall risk of bias High risk. Other information None.
Full citation Rau, B., Bonvin, F., de Bie, R., Short-term effect of physiotherapy rehabilitation on functional performance of lower limb amputees, Prosthetics and Orthotics International, 31, 258-70, 2007 **Ref Id** 1126716 **Country/ies where the study was carried out** Myanmar **Study type** RCT **Aim of the study** "to evaluate the effectiveness of a short and intensive physiotherapy programme	**Sample size** N = 58 (randomised) • Strengthening training programme: 29 • Usual care: 29 N = 58 (analysed) • Strengthening training programme: 29 • Usual care: 29 **Characteristics** Age in years [Mean (SD)]: • Strengthening training programme = 36.93 (10.90) • Usual care = 35.24 (7.99) Gender (M/F): • Strengthening training programme (N) = 29/0 • Usual care (N) = 29/0 Time since amputation in	**Interventions** • *Both groups:* All patients appear to have been fitted with a prosthesis • *Intervention group: Strengthening training programme.* Standardised individual intensive training of approximate 1 hour duration, consisting of 7 exercises including lower limb strengthening exercises (e.g., using boxes and ladder), weight bearing (e.g., in position of rice planting), coordination tasks, corrected walking, obstacle management (e.g., walking on uneven ground) and functional training (e.g., carrying water). The maximal post-fitting training period was 3 days for transtibial amputees and 5-7 days for transfemoral amputees.	**Results** NB. Transtibial amputees were tested the first day they were fitted (baseline) and then 2 days later (referred to as "Intervention completion" below); trans-femoral amputees were tested when walking out of the parallel bars (baseline) and 4 days later (referred to as " Intervention completion" below). *Changes in mobility (measured using improvement of distance achieved in 2MWT in metres) [mean (SD)]* Intervention completion: • Strengthening training programme: 20.15 (17.12) • Usual care: 8.93 (19.52) • Significantly higher (better)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y – computer-generated by computer 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI – study reports is that allocation was concealed, but not how 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: High risk Domain 2: Risk of bias due

Study details	Participants	Interventions	Outcomes and Results	Comments
versus usual care, mainly consisting of walking" (p. 258) **Study dates** 2002 **Source of funding** Not reported	years [Mean (SD)]: • Strengthening training programme = 11.3 (8) • Usual care = 9.6 (5) Injury cause (Traumatic/non-traumatic/not reported) • Strengthening training programme (N) = 27/2/0 • Usual care (N) = 28/1/0 Level of amputation (Transtibial/transfemoral) • Strengthening training programme (N) = 21/8 • Usual care (N) = 22/7 **Inclusion criteria** Participants had to: • Be aged >15 years old • Have unilateral trans-femoral, knee-disarticulation, transtibial, ankle disarticulation or partial foot amputations due to tumour or trauma • Be living in the local district and surrounding areas • Never have been fitted for a prosthetic device or had already one or more prosthetic device in good general condition	• *Control group: Usual care.* Consisted mainly of walking under supervision. The maximal post-fitting training period was 3 days for transtibial amputees and 5-7 days for transfemoral amputees.	in intervention group compared to control group (p = 0.024, ANOVA) *Changes in mobility (measured using improvement of walking speed in m/min) [mean (SD)]* Intervention completion: • Strengthening training programme: 10.08 (8.56) • Usual care: 3.94 (10.15) • Significantly higher (better) in intervention group compared to control group (p = 0.016, ANOVA). *Changes in mobility (measured using Locomotor Capability Index score) [mean (SD)]* Scale 0 (worst) – 42 (better). Intervention completion: • Strengthening training programme: 1.90 (4.42) • Usual care: 2.00 (4.68) • No significant difference between groups (p value not reported, ANOVA) *Changes in mobility (measured with TUG*	to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA

Study details	Participants	Interventions	Outcomes and Results	Comments
	Exclusion criteria • Bilateral and hip disarticulation amputation • Congenital deformation • Unable to stay for 5 days post-fitting training • Poor stump condition Cognitive limitations • Cardiopulmonary affections		*test in sec) [mean (SD)]* Intervention completion: • Strengthening training programme: 1.76 (2.33) • Usual care: 0.99 (2.73) • No significant difference between groups (p value not reported, ANOVA)	Risk-of-bias judgement: Low concern Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y

Study details	Participants	Interventions	Outcomes and Results	Comments
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NI 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN/PY Risk-of-bias judgement: Some concern Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Low concern Overall risk of bias High risk

Study details	Participants	Interventions	Outcomes and Results	Comments
				Other information All participants stayed in the dormitory and received food for free. The majority of patients had never received any kind of rehabilitation.
Full citation Renerts, K., Fischer, K., Dawson-Hughes, B., Orav, E. J., Freystaetter, G., Simmen, H. P., Pape, H. C., Egli, A., Theiler, R., Bischoff-Ferrari, H. A., Effects of a simple home exercise program and vitamin D supplementation on health-related quality of life after a hip fracture: a randomized controlled trial, Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation, 28, 1377-1386, 2019 **Ref Id** 1130309 **Country/ies where the study was carried out** Switzerland **Study type** Secondary analysis of RCT	**Sample size** N = 173 (randomised) • Interventions ○ High Vit D: 87 ○ Home exercise: 87 • Control ○ Low Vit D and no home exercise N: 86 N = 173 (analysed) • Interventions ○ High Vit D: 87 ○ Home exercise: 87 • Control ○ Low Vit D and no home exercise N: 86 **Characteristics** Age in years [Mean (SD)]: • Interventions ○ High Vit D = 83.4(7.2) ○ Home exercise = 83.4(7.2) • Control ○ Low Vit D and no home exercise = 85.1(6.5)	**Interventions** • *Intervention group: Home exercise.* All subjects took 400IU Vitamin D and 500mg of calcium twice a day and received 30 minutes per day of physiotherapy. Participants in home exercise group had an extra 30 minutes for home exercise instruction each day consisting of balance, strength and mobility components. When discharged from hospital, subjects received a leaflet detailing the home exercise and a recommendation to practice 30 minutes a day. No further details reported. • *Intervention group: High Vit D.* 400IU Vitamin D3 + 500mg elemental calcium twice per day (with breakfast and at bed time) + another 1200 IU Vitamin D3 pill at breakfast	**Results** *Quality of life (measured using changes in the EQ-5D-3L index value) [mean change(95%CI)]* Scale from -0.594 (worst) to 1.000 (best. • Study used a German translation of EQ-5D-3L and used a German Time-Trade-Off value set to calculate the EQ-5D-3L index value. • Data (n = 173 at baseline, n = 120 at 6 months, and n = 119 at 12 months) • Adjusted for baseline age, sex, Charlson Comorbidity Index, Folstein's Mini-Mental State Examination, living status, BMI and serum 25-hydroxyvitamin D concentration. • Pre-set MID of 0.074.	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Simply states randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN – although statistically significant difference between groups for 2 reported variables. Risk of bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To investigate the effectiveness of a vitamin D intervention with a simple home exercise programme on health-related quality of life in the first year after hip fracture. **Study dates** January 2005 - December 2007 **Source of funding** This study received funding from the Baugarten Centre Grant for the Centre on Aging and Mobility and the University Research Priority Program 'Dynamics of Health Aging'. The original study received funding from the Swiss National Foundations, Vontobel Foundation, Baugarten Foundation and Swiss National Foundation.	Gender (M/F): • Interventions ○ High Vit D (N) = 9/87 ○ Home exercise (N) = 9/87 • Control • Low Vit D and no home exercise (N) = 17/69 Time since injury: not reported Injury cause: not reported Location of fracture: not reported **Inclusion criteria** Participants had to: • Have recent acute hip fracture with no previous history of hip fractures • Have undergone surgical intervention for hip fracture • Able to walk at least 3m prior to fracture • Have a Mini-Mental State Examination score of ≥ 15 • Be able to understand German **Exclusion criteria** • Metastatic cancer or	(totalling 2000IU Vitamin D3). Participants undertook 30 minutes per day of physiotherapy. No further details reported. • *Control group: Low Vit D and no home exercise.* All subjects took 400IU Vitamin D3 and 500mg of calcium twice a day (totalling 800IU Vitamin D3) and received 30 minutes per day of physiotherapy. A placebo pill was taken at breakfast. No further details reported.	<u>*High Vit D versus low Vit D*</u> Between baseline and 6 months: • High Vit D: − 0.14 (− 0.24 - -0.04) • Significantly lower (worse) at 6 months compared to baseline (p=0.01, mixed-effects linear regression models) • Low Vit D: − 0.12 (− 0.21- − 0.02) • Significantly lower (worse) at 6 months compared to baseline (p=0.02, mixed-effects linear regression models) Between 6 months and 12 months: • High Vit D: 0.01 (-0.06-0.09) • No significant difference between time points (p=0.7, mixed-effects linear regression model) • Low Vit D: 0.08 (0.01-0.15) • Significantly higher (better) at 12 months compared to 6 months (p=0.03, mixed-effects linear regression models) Between baseline and 12 months:	of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Vit D: PN – Blinding not stated but placebo pills were used in the control group. Home exercise: PY – Not possible to blind due to nature of intervention. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Vit D: PN – Blinding not stated but placebo pills were used in the control group. Home exercise: Y – Physiotherapists unblinded. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? Vit D: PN – 92% adherence for high Vit D group and 94% for low Vit D group. Home exercise: PY - Only 65% of intervention participants were adherent. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? Vit D: NA. Home exercise: NI - No information given for control group.

Study details	Participants	Interventions	Outcomes and Results	Comments
	chemotherapy in previous year • Creatine clearance ≤ 15 mL/min • Kidney stones in past 5 years • Hypocalcaemia • Primary hyperparathyroidism • Sarcoidosis • Severe visual or hearing impairments		• High Vit D: -0.15 (-0.26 – -0.05) • Significantly lower (worse) at 12 months compared to baseline (p=0.004, mixed-effects linear regression models) • Low Vit D: − 0.20 (− 0.3-−0.09) 0.001 • Significantly lower (worse) at 12 months compared to baseline (p=0.001, mixed-effects linear regression models) *Home exercise versus no exercise* Between baseline and 6 months: • Home exercise: − 0.10 (−0.2-0.0) • Significantly lower (worse) at 6 months compared to baseline (p=0.04, mixed-effects linear regression models) • No home exercise: − 0.12 (− 0.21- − 0.02) • Significantly lower (worse) at 6 months compared to baseline (p=0.02, mixed-effects linear regression models) Between 6 months and 12	2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? Vit D: NA. Home exercise: Y. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Vit D: Low risk; Home exercise: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 119/173 of total participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
			months: • Home exercise: − 0.02 (− 0.09-0.05) • No significant difference between time points (p=0.6, mixed-effects linear regression models) • No home exercise: 0.08 (0.01-0.15) • Significantly higher (better) at 12 months compared to 6 months (p=0.03, mixed-effects linear regression models) Between baseline and 12 months: • Home exercise: − 0.08 (− 0.18-0.02) • No significant difference between time points (p=0.11, mixed-effects linear regression models) • No home exercise: − 0.20 (− 0.3-− 0.09) 0.001 • Significantly lower (worse) at 12 months compared to baseline (p=0.001, mixed-effects linear regression models) NB. As the authors do not note the loss-to-follow up for each of the study arms, we have assumed equal drop out between intervention and	true value? NI – No mention in paper of reasons for drop out or which group the drop outs belonged to. Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN – Baseline, 6 months and 12 months.. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in

Study details	Participants	Interventions	Outcomes and Results	Comments
			control groups for the purposes of the GRADE tables and effect analyses in appendix F. These estimates have been subsequently marked down for indirectness.	selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? Y. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? N. 5.3 ... multiple analyses of the data? N. Risk-of-bias judgement: Low risk Overall risk of bias High risk **Other information** 2x2 study design investigating both high Vit D and home exercise programmes. We have used a common control group (low vit D with no home exercise) for comparison.
Full citation Resnick, Barbara, Orwig, Denise, Yu-Yahiro, Janet, Hawkes, William, Shardell,	**Sample size** N = 102 (randomised) • Exercise only: 51	**Interventions** • *Intervention group: Exercise sessions.* Aerobic exercise sessions using a	**Results** *Changes in mobility*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool

Study details	Participants	Interventions	Outcomes and Results	Comments
Michelle, Hebel, J. Richard, Zimmerman, Sheryl, Golden, Justine, Werner, Michele, Magaziner, Jay, Testing the effectiveness of the exercise plus program in older women post-hip fracture, Annals of behavioral medicine: a publication of the Society of Behavioral Medicine, 34, 67-76, 2007 **Ref Id** 1185200 **Country/ies where the study was carried out** USA **Study type** RCT **Aim of the study** To investigate the effectiveness of the individual components of and the whole Exercise Plus Program intervention on self-efficacy, outcome expectations, and exercise behaviour in elderly women after hip fracture. **Study dates** August 2000 - September 2005	• Standard rehabilitation: 51 N = 76 (analysed) • Exercise only: 35 • Standard rehabilitation: 41 **Characteristics** Age in years [Mean (SD)]: • Exercise only = 82.4 (7.9) • Standard rehabilitation = 79.7 (6.7) Gender (M/F): not reported but inclusion criteria states female. Time since injury: not reported. Injury cause: not reported but inclusion criteria states non-pathological. Location of fracture (intertrochanteric/subcapital/ sub trochanteric/other): • Exercise only (N) = 23/22/5/1 • Standard rehabilitation (N) = 27/22/1/1 **Inclusion criteria** Participants had to: • Be female • Be 65 years old or above	Stair step, strengthening programme focusing on main muscle groups relevant to hip fracture recovery, and stretching exercises. Participants performed aerobic exercises for 30 minutes 3 times per week and strength training for 30 minutes 2 times per week. Each patient started at their own level of intensity. Strength training sessions involved a combination of 11 resistance band exercises focusing on the both upper and lower extremities. The duration of each exercise was gradually increased until the participant could perform 3 x 10 repetitions on each side of the body. Intensity was then increased by adding resistance to the bands or by adding ankle/wrist weights. Not exposed to motivational component of intervention, exercise education, verbal feedback, and interventions to decrease unpleasant sensations or encouragement. • *Control group: Standard rehabilitation.* As	*(measured using Step Activity Measure count of number of steps taken by participants in a 48 hour period) [mean (SEM)]* 12 months follow-up: • Exercise only (N=35): 6459 (968) • Standard rehabilitation (N=40): 4060 (1012) • Significantly higher (better) in intervention group (p=0.03, Wald statistics) *Changes in mobility (measured using Yale Physical Activity Survey Exercise subscale in hours) [Mean (SEM)]* Higher = better. At baseline: • Exercise only (N=51): 1.21 (0.25) • Standard rehabilitation (N=51): 0.66 (0.20) • Significance not reported 2 months follow-up: • Exercise only (N=40): 1.77 (0.36) • Standard rehabilitation (N=42): 1.70 (0.36)	(RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Using freeware computer programme. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - Statistical analysis not reported but baseline characteristics look visibly similar. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PN - Participants not told their assignment and interventions were similar. 2.2. Were carers and people delivering the interventions aware of participants'

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding This study received funding from the National Institute on Aging and the Claude D. Pepper Older Americans Independent Center.	• Be residing in the community at the time of fracture • Be within 72 hours of admission for a non-pathological fracture • Have surgical repair of hip fracture • Not have medical problems that could increase the risk of falls when exercising at home • Be walking without assistance before the accident • Have Folstein Mini Mental State Examination score ≥ 20. **Exclusion criteria** Not reported.	prescribed by Medicare guidelines, generally including inpatient physical and occupational therapy as determined by the participant's ability and 1 home therapy evaluation for safety. Participants did not have any intervention sessions. No further details reported.	• Significance not reported 6 months follow-up: • Exercise only (N=39): 2.27 (0.29) • Standard rehabilitation (N=43): 1.02 (0.25) • Significance not reported 12 months follow-up: • Exercise only (N=35): 3.34 (0.66) • Standard rehabilitation (N=40): 0.92 (0.23) • Significance not reported	assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN - No statistically significant difference between numbers of visits between groups. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or

Study details	Participants	Interventions	Outcomes and Results	Comments
				nearly all, participants randomized? N - Data available for 35/51 participants in intervention and 41/51 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? Y - Sensitivity analysis performed. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors were blinded to group allocation.

Study details	Participants	Interventions	Outcomes and Results	Comments
				4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns

Study details	Participants	Interventions	Outcomes and Results	Comments
				Other information Patients randomised into 4 groups: Control, Motivation only, Exercise only and Exercise + motivation. Data extracted for control and exercise only groups.
Full citation Rigot, Stephanie, Worobey, Lynn, Boninger, Michael L., Gait Training in Acute Spinal Cord Injury Rehabilitation-Utilization and Outcomes Among Nonambulatory Individuals: Findings From the SCIRehab Project, Archives of Physical Medicine and Rehabilitation, 99, 1591-1598, 2018 **Ref Id** 1130315 **Country/ies where the study was carried out** USA **Study type** Prospective cohort study **Aim of the study** To test the hypothesis that increased time practicing gait training in subjects with SCI who do not achieve	**Sample size** N = 747 • Gait training: 430 • No gait training: 317 Characteristics Age in years [Median (IQR)]: • Gait training = 43.0 (25.0-56.0) • No gait training = 20.0 (22.0-44.0) • Significant difference (p<0.05) between the 2 groups at baseline Gender (M/F): • Gait training (N) = 514/84 • Control (N) = 250/67 Time since injury: not reported but inclusion criteria states recent. Injury cause: not reported but inclusion criteria states traumatic	**Interventions** • *Intervention group: Gait training.* Defined as the amount of time performing ambulation training (both gait training and pre-gait training), independent of surface, equipment, mechanical assistance or manual assistance. Pre-gait activities included strengthening and balance training for future ambulation and could include the use of assistive devices such as parallel bars or frames. No further details reported. • *Control group: No gait training.* No further details reported.	**Results** *Changes in mobility (measured using discharge mode of locomotion (N [%])* • Gait training (N=430): ○ Walking 109 (14.6) ○ Both 53 (7.1) ○ WC 266 (35.7) • No gait training (N=317): ○ Walking 1 (0.1) ○ Both 0 (0.0) ○ WC 316 (42.4) • Statistically significant inter-group difference between wheelchair from walking and both (p<0.05, statistical test not reported) *Changes in mobility (measured using CHART-Physical independence sub-score among those primarily using wheelchair) [median (IQR)]*	Limitations Quality assessment: Risk of bias assessed using Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I): Domain 1: Bias due to confounding 1.1 Is there potential for confounding of the effect of intervention in this study? Y 1.2. Was the analysis based on splitting participants' follow-up time according to intervention received? Y – Participants group was determined by amount of time spent on interventions in their physiotherapy sessions before dichotomised. The longer they spent in the rehabilitation, the higher chance they had at being included in the intervention group. 1.3. Were intervention discontinuations or switches likely to be related to factors that are prognostic for the

Study details	Participants	Interventions	Outcomes and Results	Comments
functional ambulation will decrease training times for transfer and wheeled mobility, as well as increasing quality of life and self-perceived participation measures. **Study dates** 2007-2011 **Source of funding** This study received funding from the Administration on Community Living, National Institute on Disability, Independent Living and Rehabilitation Research.	Level of injury (ASIA A&B T1-S5/ASIA C C1-C8/ASIA C T1-S5/ASIA D): • Gait training (N) = 92/112/53/173 • Control (N) = 261/40/12/4 • Significant difference ($p<0.05$) between the 2 groups at baseline **Inclusion criteria** Participants had to: • Be aged 12 years or over • Have a recent traumatic SCI • Be admitted to a SCI rehabilitation centres that was taking part in SCIRehab data collection project. **Exclusion criteria** • Patients without follow-up data • Individuals with ASIA grade A & B SCI between C1-C8		Scale 0 (worst) – 100 (best). 1 year after discharge: • Gait training (N=144): 88 (48-100) • No gait training (N=299): 96 (76-100) • Significantly lower (worse) in intervention group (p=0.002, unclear which statistical test used) *Changes in mobility (measured using CHART-Mobility sub-score among those primarily using wheelchair) [median (IQR)]* Scale 0 (worst) – 100 (best). 1 year after discharge: • Gait training (N=140): 77 (57-100) • No gait training (N=297): 89 (63-100) • Significantly lower (worse) in intervention group (p=0.024, unclear which statistical test used) *Pain (measured using numerical scale reporting usual pain over last 4 weeks among those primarily using*	outcome? Y. If Y/PY, answer questions relating to both baseline and time-varying confounding (1.7 and 1.8). 1.7. Did the authors use an appropriate analysis method that adjusted for all the important confounding domains and for time-varying confounding? Y – Time spent on gait training was normalised as a percentage of total inpatient physiotherapy time to avoid bias caused by length of stay. 1.8. If Y/PY to 1.7 Were confounding domains that were adjusted for measured validly and reliably by the variables available in this study? PY – All measures are objective measurements. Risk of bias: Low risk. Domain 2: Bias in selection of participants into the study 2.1. Was selection of participants into the study (or into the analysis) based on participant characteristics observed after the start of intervention? Y – 375/1376 patients entered the study but had injury ASIA A+B C1-C8 so were excluded from analysis.

Study details	Participants	Interventions	Outcomes and Results	Comments
			wheelchair) [median (IQR)] Scale 1 (best) – 10 (worst). 1 year after discharge: • Gait training (N=152): 5 (3-7) • No gait training (N=296): 4 (1-6) • No significant difference between groups (p=0.70, unclear which statistical test used) *Overall quality of life (measured using Diener SWLS among those primarily using wheelchair) [median (IQR)]* Scale 5 (worst) – 35 (best). 1 year after discharge: • Gait training (N=124): 19 (12-25) • No gait training (N=261): 22 (14-26) • No significant difference between groups (p=0.89, unclear which statistical test used)	2.2. If Y/PY to 2.1 Were the post intervention variables that influenced selection likely to be associated with the intervention? N – Reasoning given that clinical knowledge shows ambulation is not an expected outcome for these patients. 2.3. If Y/PY to 2.2 Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome? NA. 2.4. Do start of follow-up and start of intervention coincide for most participants? Y – Admission and discharge. 2.5. If Y/PY to 2.2 and 2.3, or N/PN to 2.4: Were adjustment techniques used that are likely to correct for the presence of selection biases? NA Risk of bias: Low risk. Domain 3: Bias in classification of interventions 3.1 Were intervention groups clearly defined? N – Gait training and pre-gait training clearly defined in terms of exercises but no mention of timings (just that they had been accounted for). 3.2 Was the information

Study details	Participants	Interventions	Outcomes and Results	Comments
				used to define intervention groups recorded at the start of the intervention? N – Decided throughout the study when threshold of gait training was reached. 3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome? N – Routinely collected data. Risk of bias: Serious risk. Domain 4: Bias due to deviations from intended interventions 4.1. Were there deviations from the intended intervention beyond what would be expected in usual practice? NI – Lack of information on adherence to exercise programme or what would usually be seen in normal practice. 4.2. If Y/PY to 4.1: Were these deviations from intended intervention unbalanced between groups and likely to have affected the outcome? NA. 4.3. Were important co-interventions balanced across intervention groups? NI – No co-interventions described. 4.4. Was the intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
				implemented successfully for most participants? N – Of the participants who were included in the intervention group, 7% of participants only received pre-gait activity and 15.8 did not receive any pre-gait training. The definition of the intervention makes sure to include both pre-gait and gait training, but exercises differ between the 2. 4.5. Did study participants adhere to the assigned intervention regimen? NI but time spent gait training was standardised and taken in to account during the analysis. 4.6. If N/PN to 4.3, 4.4 or 4.5: Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention? NA. Risk of bias: Serious risk. Domain 5: Bias due to missing data 5.1 Were outcome data available for all, or nearly all, participants? N – Data available for 747/1376 patients. 5.2 Were participants excluded due to missing data on intervention status? NI.

Study details	Participants	Interventions	Outcomes and Results	Comments
				5.3 Were participants excluded due to missing data on other variables needed for the analysis? Y – Participants excluded if no follow up data available. 5.4 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Are the proportion of participants and reasons for missing data similar across interventions? NI. 5.5 If PN/N to 5.1, or Y/PY to 5.2 or 5.3: Is there evidence that results were robust to the presence of missing data? N – Appendix 1 has information on the participants who were excluded due to missing data, but no analysis reported to confirm robustness without them. Risk of bias: Serious risk. Domain 6: Bias in measurement of outcomes 6.1 Could the outcome measure have been influenced by knowledge of the intervention received? N – Routine data. 6.2 Were outcome assessors aware of the intervention received by study participants? N – Routine data. 6.3 Were the methods of outcome assessment

Study details	Participants	Interventions	Outcomes and Results	Comments
				comparable across intervention groups? Y – All validated measurements (CHART, SWLS) apart from pain which was a numerical rating score of 0-10. 6.4 Were any systematic errors in measurement of the outcome related to intervention received? N Risk of bias: Low risk. Overall risk of bias High risk Other information None
Full citation Rohner-Spengler, Manuela, Frotzler, Angela, Honigmann, Philipp, Babst, Reto, Effective Treatment of Posttraumatic and Postoperative Edema in Patients with Ankle and Hindfoot Fractures: A Randomized Controlled Trial Comparing Multilayer Compression Therapy and Intermittent Impulse Compression with the Standard Treatment with Ice, The Journal of bone and joint surgery. American volume, 96, 1263-1271, 2014 **Ref Id** 1128754	**Sample size** N = 67 (randomised) • Compression bandage group: 21 • Intermittent compression group: 23 • Elevation and ice group: 23 N = 56 (analysed) • Compression bandage group: 21 • Intermittent compression group: 14 • Elevation and ice group: 23 **Characteristics** *Characteristics and baseline data are reported separately*	**Interventions** • *All groups:* All patients without external fixation treatment were given a custom-made vacuum orthosis for pre-operative fracture stabilisation and to standardise post-operative care. • *Intervention group: Compression bandage group.* Standard treatment + elevation for 24 hours using a Hess splint + multilayer compression bandage (22 hours of compression, 1 hour bandage removal and 1 hour bandage reapplication). In patients without external fixation, the bandage was applied	**Results** *Patient acceptability (measured using VAS) [median(IQR)]* Scale 0-100. Higher = better Baseline (1st post-operative day): • Bandage group: 74(54-84) • Intermittent compression group: 38(0-73) • Ice and elevation: 70(43-85) • No significant difference between groups (p = 0.49, Kruskal-Wallis) 12 weeks from baseline:	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomisation process 1.1 Was the allocation sequence random? Y - computer-generated randomisation sequence. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Used independent software specialists and sequentially numbered opaque, sealed envelopes.

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out Switzerland **Study type** RCT **Aim of the study** To compare the efficacy of multi-layer compression therapy with intermittent impulse compression with standard treatment (ice and elevation) on oedema reduction in patients with hindfoot or ankle fractures. **Study dates** January 2007 - January 2009 **Source of funding** This study received funding from Orthofix and Fachgruppe Lymphologische Physiotherapie Schweiz (national group of physiotherapists specialising in lymphatic drainage). Bandage material was donated by Smith & Nephew.	*for pre-operatively included and post-operatively included participants.* Age in years [Median (range)]: • Pre-operatively included ○ Compression bandage group = 35 (19-59) ○ Intermittent compression group = 26 (21-58) ○ Elevation and ice group = 46 (22-65) • Post-operatively included ○ Compression bandage group = 37 (19-59) ○ Intermittent compression group = 44 (21-64) ○ Elevation and ice group = 40 (19-65) Gender (M/F): • Pre-operatively included ○ Compression bandage group (N) = 11/5 ○ Intermittent compression group (N) = 8/3 ○ Elevation and ice group (N) = 11/8 • Post-operatively included ○ Compression bandage group (N) = 13/7 ○ Intermittent compression group (N) = 10/3 ○ Elevation and ice group	to provide moderate compression that was well tolerated by the patient without a feeling of discomfort. There was no cold application. • *Intervention group: Intermittent impulse compression.* Standard treatment + 1 second of 130 mmHg pressure, every 20 sec using A-V Impulse System. If possible, this was for 24 hours but minimum duration of mean 8 hours a day (SD +/- 2 hours) and 2 consecutive hours per session. This was applied with the lower limb in the horizontal position or lower during the impulse compression session and in the horizontal position during the off-session periods. There was no cold application and no additional compression (stockings or bandages). • *Control group: Elevation and ice packs.* Standard treatment + elevation for 24 hours using a Hess splint. 4 x 20 minute minimum ice gel packs daily. No compression to be applied (stockings or bandages). No further	• Compression bandage group (N=20): 85(74-93) • Intermittent compression group (N=11): 70(59-76) • Ice and elevation (N=22): 80(67-90) • No significant difference between groups (p = 0.10, Kruskal-Wallis) 1 year from baseline: • Compression bandage (N=19): 83(64-95) • Intermittent compression group (N=11): 87(54-100) • Ice and elevation (N=21): 90(80-96) • No significant difference between groups (p = 0.78, Kruskal-Wallis) *Changes in mobility (measured as range of plantar flexion (degrees)) [median(IQR)]* At baseline (1st post-operative day): • Bandage group:30(28-35) • Intermittent compression group: 40(30-45) • Ice and elevation: 33(28-37) • No significant difference between groups (p = 0.47,	1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? NI – Characteristics reported as means and participant numbers. Median age visually appears to be lower in intermittent impulse group but no statistical analysis done between groups. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY - No description of participant blinding. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY - No description of carer blinding. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY - 5 participants in impulse compression group stopped due to pain. 2.4. If Y/PY to 2.3: Were

Study details	Participants	Interventions	Outcomes and Results	Comments
	(N) = 13/9 Time since injury: not reported. Injury cause: not reported. Fracture type (OTA 42-A/43-B/43-C/44-A/44-B/44-C/72-A/72-B/72-C/73-C): • Pre-operatively included ○ Compression bandage group (N) = 1/0/0/1/10/5/0/1/1/0 ○ Intermittent compression group (N) = 0/1/0/1/8/2/1/1/1/1 ○ Elevation and ice group (N) = 0/2/0/0/3/4/0/1/0/1 • Post-operatively included ○ Compression bandage group (N) = 1/0/0/1/12/6/0/1/1/0 ○ Intermittent compression group (N) = 0/1/1/1/11/3/1/0/1 ○ Elevation and ice group (N) = 0/2/0/0/5/5/0/0/0/1 **Inclusion criteria** Patients had to : • Be aged 18-65 years old • Have unilateral ankle/hindfoot fractures • Be an inpatient referred	details reported.	Kruskal-Wallis) Day 2 from baseline (during intervention) • Bandage group:35(30-40) • Intermittent compression group: 38(30-44) • Ice and elevation: 35(30-42) • No significant difference between groups (p = 0.92, Kruskal-Wallis) Day 3 from baseline (during intervention) • Bandage group: 40(35-50) • Intermittent compression group: 43(29-50) • Ice and elevation: 39(30-44) • No significant difference between groups (p = 0.70, Kruskal-Wallis) Day 4 from baseline (during intervention): • Bandage group:38(30-45) • Intermittent compression group: 38(24-40) • Ice and elevation: 35(24-40) • No significant difference between groups (p = 0.41, Kruskal-Wallis)	these deviations from intended intervention balanced between groups? N. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? PY. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N. Data only available for 21/23 in control, 19/21 in bandage, 14/23 impulse compression group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y.

Study details	Participants	Interventions	Outcomes and Results	Comments
	from emergency department • Not be using walking aids before accident • Have pre-operative and/or post-operative oedema **Exclusion criteria** • Pathological fractures • Open fractures • Polytrauma • Cerebral trauma • Diabetes mellitus • Lymphedema • Peripheral arterial occlusive disease • Decompensated heart failure or renal insufficiency • Acute bacterial infection • Severe osteoporosis • Known tumours • Post-thrombotic syndrome or thrombosis • Neurological deficiencies • Use of diuretics • Pregnancy • Alcohol or drug abuse • Psychological disorders		Day 5 from baseline (during intervention): • Bandage group: 37(31-47) • Intermittent compression group: 37(25-40) • Ice and elevation: 31(30-41) • No significant difference between groups (p = 0.59, Kruskal-Wallis) 6 weeks from baseline (intervention completion): • Compression bandage (N=21): 35(30-42) • Intermittent compression group (N=12): 35(30-50) • Ice and elevation (N=22): 35(30-42) • No significant difference between groups (p = 0.87, Kruskal-Wallis) *Changes in mobility (measured as range of dorsiflexion (degrees)) [median(IQR)]* At baseline (1st post-operative day): • Bandage group: -18(-21--14) • Intermittent compression group: -15(-22--10) • Ice and elevation: -16(-21--	3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PY - drop-out not balanced between groups. Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Pain and acceptability – Y, self-assessed. Mobility - N, assessors were blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Pain and acceptability - PY. Mobility - NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention

Study details	Participants	Interventions	Outcomes and Results	Comments
			14) • No significant difference between groups (p = 0.34, Kruskal-Wallis) Day 2 from baseline (during intervention): • Bandage group: -10(-18--5) • Intermittent compression group: -13(-15--6) • Ice and elevation: -10(-15--5) • No significant difference between groups (p = 0.93, Kruskal-Wallis) Day 3 from baseline (during intervention): • Bandage group: -15(-17--5) • Intermittent compression group: -10(-10-0) • Ice and elevation: -8(-10-0) • Significant lower in bandage group compared to control group (p = 0.03, Mann-Whitney). No significant difference reported between the other groups. Day 4 from baseline (during intervention): • Bandage group: -10(-16--	received? Pain and acceptability - PN. Mobility - NA. Risk-of-bias judgement: Pain and acceptability, some concerns; Mobility, low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			5) • Intermittent compression group: -10(-10--5) • Ice and elevation: 0(-11-0) • No significant difference between groups (p = 0.28, Kruskal-Wallis) Day 5 from baseline (during intervention): • Bandage group: -15(-20--3) • Intermittent compression group: -9(-10--5) • Ice and elevation: 31-10(-16--3) • No significant difference between groups (p = 0.23, Kruskal-Wallis) 6 weeks (at intervention completion): • Compression bandage group (N=21): 0(-4-9)* • Intermittent compression group (N=12): 10(0-10) • Ice and elevation (N=22): 5(0-10) • No significant difference between groups (p = 0.32, Kruskal-Wallis) • *Minus values represent plantar flexion *Pain (measured using VAS)*	

Study details	Participants	Interventions	Outcomes and Results	Comments
			[median(IQR)] Scale 0-10. Lower = better Baseline (1st post-operative day): • Bandage group: 19(8-34) • Intermittent compression group: 28(9-47) • Ice and elevation: 27(14-42) • No significant difference between groups (p = 0.49, Kruskal-Wallis) 6 weeks (at intervention completion): • Compression bandage group (N=21): 0(0-6.3) • Intermittent compression group (N=12):0(0-11) • Ice and elevation (N=22): 6.3(0-10) • No significant difference between groups (p = 0.24, Kruskal-Wallis)	
Full citation Samhan, Ahmed Fathy, Abdelhalim, Nermeen Mohamed, Impacts of low-energy extracorporeal shockwave therapy on pain, pruritus, and health-related quality of life in patients with burn: A randomized placebo-	**Sample size** N = 50 (randomised) • Low-energy extracorporeal shockwave therapy = 25 • Placebo shockwave therapy = 25 N = 45 (analysed)	**Interventions** • *All participants:* Standard physical therapy programme for 1 hour x3 days/week. Also received pressure garments, controlling of oedema, creams and sunscreen. • *Intervention group: Low-*	**Results** *Pain (measured using Numerical Rating Scale) [median (range)]* Scale 0-10, lower = better	**Limitations** Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation

Study details	Participants	Interventions	Outcomes and Results	Comments
controlled study, Burns : journal of the International Society for Burn Injuries, 45, 1094-1101, 2019 **Ref Id** 1286600 **Country/ies where the study was carried out** Egypt **Study type** RCT **Aim of the study** To compare the effectiveness of low-energy extracorporeal shock wave therapy with placebo shockwave therapy in pain, itching and quality of life outcomes in burn patients. **Study dates** March 2017 - October 2018 **Source of funding** Not reported	• Low-energy extracorporeal shockwave therapy = 22 • Placebo shockwave therapy = 23 **Characteristics** Age in years [Mean (SD)]: • Low-energy extracorporeal shockwave therapy = 35.18 (10.23) • Placebo shockwave therapy = 32.78 (10.15) Gender (M/F): • Low-energy extracorporeal shockwave therapy (N) = 12/10 • Placebo shockwave therapy (N) = 13/10 Time since injury in days [Mean (SD)]: • Low-energy extracorporeal shockwave therapy = 42.50 (5.19) • Placebo shockwave therapy = 39.87 (8.07) Injury cause: • Low-energy extracorporeal shockwave therapy = all traumatic • Placebo shockwave therapy = all traumatic	*energy extracorporeal shockwave therapy.* Standard physical therapy plus 1 session/week of shockwave therapy for 4 weeks. 1000-2000 shocks per session and not exceeding 10 minutes. Intensity = 100shocks/cm2, energy flux density = 0.05–0.20mJ/mm2, frequency = 4Hz. • *Control group: Placebo shockwave therapy.* Standard therapy plus plus 1 session/week of shockwave therapy for 4 weeks. Parameters same as intervention group but without any energy output.	At 4 weeks from baseline (intervention completion): • Low-energy extracorporeal shockwave therapy = 2 (0 - 4) • Placebo shockwave therapy = 6 (5-9) • Significantly lower (better) in intervention group (p=0.012, Mann-Whitney)	sequence random? Y – Computer generated 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – Baseline demographics not significantly different. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? N – Paper states patients were blinded to allocation 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations likely to

Study details	Participants	Interventions	Outcomes and Results	Comments
	Total burn surface area [Mean (SD)]: • Low-energy extracorporeal shockwave therapy (%) = 18.54 (4.52) • Placebo shockwave therapy (%) = 19.56 (4.32) **Inclusion criteria** Patients had to: • Be aged 18-55 years old • Have a 2nd or 3rd degreed burns over upper or lower extremities, excluding hands and feet • Have a TBSA >10% • Have their injuries treated with skin craft or healed spontaneously at least 1 month prior to enrollment **Exclusion criteria** • Patients with malignancy • Patients with diabetes • Pregnancy • Fracture surrounding burned area • Psychiatric disorders (but only if the burn injury was as a result of suicide attempt) • Blood clotting disorders or patients on anti-coagulant medications • The potential for increased			have affected the outcome? NA 2.5 If No/PN/NI to 2.4: Were these deviations from intended intervention balanced between groups? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - ITT 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N – Data available for 45/50 (90%) f participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? PY 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the

Study details	Participants	Interventions	Outcomes and Results	Comments
	skin damage when using extracorporeal shock wave therapy.			outcome depended on its true value? PN – Loss to follow-up similar between groups Risk-of-bias judgement: Some conerns Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N – Assessors blinded and assessments at same time points 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk

Study details	Participants	Interventions	Outcomes and Results	Comments
				Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement Some concerns Overall risk of bias Some concerns **Other information** None.
Full citation Shamji, M. F., Roffey, D. M., Young, D. K., Reindl, R., Wai, E. K., A pilot evaluation of the role of bracing in stable thoracolumbar burst fractures without neurological deficit, Journal	**Sample size** N= 23 (randomised) • Thoracolumbosacral orthosis = 12 • Ambulation encouragement = 11	**Interventions** • *Both groups:* All patients requested to avoid strenuous activities, bending, twisting, or lifting. • *Intervention group: Customized*	**Results** *Changes in mobility (lumbar specific disability measured using revised Oswestry Disability Index score) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the

Study details	Participants	Interventions	Outcomes and Results	Comments
of Spinal Disorders and Techniques, 27, 370-375, 2014 **Ref Id** 1128887 **Country/ies where the study was carried out** Canada **Study type** RCT **Aim of the study** "Investigate clinical and radiologic outcomes of bracing versus no-bracing in the treatment of stable thoracolumbar burst fractures." (p. 370) **Study dates** 2005-2009 **Source of funding** Physicians' Services Incorporated Foundation, Toronto, ON, Canada and University of Ottawa, Ottawa, ON, Canada	N= 23 (analysed) • Thoracolumbosacral orthosis = 12 • Ambulation encouragement = 11 **Characteristics** Age in years [Median (IQR)]: • Thoracolumbosacral orthosis = 37 (not reported) • Ambulation encouragement = 43 (not reported) Gender (M/F): • Thoracolumbosacral orthosis (N) = 10/2 • Ambulation encouragement (N) = 4/7 Time since injury: not reported. Injury cause: • Thoracolumbosacral orthosis = all traumatic • Ambulation encouragement = all traumatic Level of injury (T12/L1/L2): • Thoracolumbosacral orthosis (N) = 3/7/2	*thoracolumbosacral orthosis.* Fitted by certified orthotist within 24 hours (of injury?), to be worn for 3 months whenever out of bed. • *Control group: Ambulation encouragement.* Initial period of immobilization followed by encouragement of ambulation as tolerated after 24 hours.	Scale 0 (best) – 100 (worst). Baseline: Not reported. 6 months follow up: • Thoracolumbosacral orthosis: 19 (6) • Ambulation encouragement: 16 (7) *Pain (measured using VAS) [mean (SD)]* Scale 0 (best) – 10 (worst). Baseline: • Thoracolumbosacral orthosis: 5.4 (2.8) • Ambulation encouragement: 4.2 (2.1) 6 months follow up • Thoracolumbosacral orthosis: 1.0 (1.4) • Ambulation encouragement: 0.8 (1.6) *Quality of life (measured using SF-36 Physical component score) [mean (SD)]* Scale 0 (worst) – 100 (best).	randomization process 1.1 Was the allocation sequence random? Y Randomisation according to computer-generated block allocation 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y Allocation concealed by consecutively numbered, sealed, opaque envelopes 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Ambulation encouragement (N) = 2/8/1 **Inclusion criteria** Patients had to: • Have acute isolated stable thoracolumbar burst fracture • Fracture between T10 and L4 (AO type A3) • No neurological deficit • Injury appropriate for non-operative care • Recruited from participating tertiary care Level 1 trauma centres **Exclusion criteria** • Aged <18 years old • Previous spinal surgery or fracture • Neurological deficit or associated head injury • Lower extremity injury affecting weight bearing • Unable to communicate in English • Unavailable for 6-month follow-up		Baseline: Not reported 6 months follow up: • Thoracolumbosacral orthosis: 51.6 (11.6) • Ambulation encouragement: 51.2 (13.6) *Quality of life (measured using SF-36 Mental component score) [mean (SD)]* Scale 0 (worst) – 100 (best). Baseline: Not reported 6 months follow up: • Thoracolumbosacral orthosis: 43.3 (11.6) • Ambulation encouragement: 46.6 (10.7)	experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
				likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y for the outcomes reported as they were patient-reported 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
				result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Low risk Overall risk of bias High risk Other information None
Full citation Shuai, L., Yu, G. H., Feng, Z., Wang, W. S., Sun, W. M., Zhou, L., Yan, Y., Application of a paraplegic gait orthosis in thoracolumbar spinal cord injury, Neural Regeneration Research, 11, 1997-2003, 2016 **Ref Id**	**Sample size** N= 36 (randomised) • Intervention: 18 • Control: 18 N= 36 (analysed) • Intervention: 18 • Control: 18 **Characteristics** Age in years [Mean (SD)]: • Intervention= 33.9 (11.1)	**Interventions** • *Intervention group*: The same rehabilitation training as the control group plus individualised paraplegic gait orthosis (including reciprocating gait orthosis, Walkabout, bilateral hip-knee ankle foot orthosis, bilateral knee-ankle foot orthosis, unilateral knee-ankle foot orthosis, and an	**Results** *Changes in ADL (measured using modified Barthel Index) [mean (SD)]* Higher = better. At 3 months follow-up (after intervention completion): • Training and orthosis: 63.62 (32.33)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - simply described as randomised

Study details	Participants	Interventions	Outcomes and Results	Comments
1023724 **Country/ies where the study was carried out** China **Study type** RCT **Aim of the study** This RCT aimed to compare the effectiveness of an individualised paraplegic gait orthosis plus functional rehabilitation (including FES) to functional rehabilitation (including FES) only for improving locomotion in adults with spinal cord injury (SCI). **Study dates** Recruitment: January 2008 to December 2015 **Source of funding** Not reported	• Control= 37.3 (10.2) Gender (M/F): • Intervention (n): 13/5; • Control (n): 11/7 Time since injury (reported as course of disease) in days [Mean (SD)]: • Intervention: 25.00 (4.52) • Control: 23.00 (6.29) Level of injury (AIS grade A/B/C/D)= • Intervention (N): 9/4/3/2 • Control (N): 8/6/4/0 Type of SCI (1.complete/incomplete; 2. acute/chronic): Not reported **Inclusion criteria** Participants had to: • Aged between 16 and 70 years old • Have thoracic or lumbar SCI (below T4, not ASIA Classification Grade E) • Have illness longer than 30 days duration **Exclusion criteria** • Cognitive disorder • Cancer • Serious organ function damage • Patients who did not consent	ankle foot orthosis), which was based on the level of SCI and the desired rehabilitation targets. Training included brace wearing and removal, standing balance function, conversion of gravity centre and ambulation. Training was performed twice a day, 30-40 mins each, with a therapist gradually moving the participants towards independence throughout the study period. • *Control group:* The following rehabilitation training was given to each participants, for 3-4 hours a day. • Maintenance of joint range of motion for 20-30 minutes daily - joints above SCI level were exercised by participant and below SCI were passively exercised by trained therapist. Particular emphasis was placed on passive hip extension exercises. • Residual muscle strength training - treatment modes transitioned from therapist-assisted strength training to progressive resistance strength training.	• Control (training): 29.98 (28.33)	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? No Risk-of-bias judgement Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*) 2.1. Were participants aware of their assigned intervention during the trial? PY – not possible to blind due to nature of intervention 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY – not possible to blind due to nature of intervention 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN – differences in othosis depending on level of SCI and rehab targets but same time spent with trained professionals and nature of SCI means different orthosis

Study details	Participants	Interventions	Outcomes and Results	Comments
		• Standing training for 40 minutes twice a day - initially assisted by an electric tilt table with a gradual transition to parallel bar-assisted standing training. • Balance training - gradual transition from the sitting position to erect position, as well as from static balance to dynamic balance. • FES for a 20 minutes per session - applied to key muscles below the SCI level. 15 sessions consisted of a treatment course. 2 weeks rest followed a treatment course before the next treatment course was started.		will be required 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
				true value? NA Risk-of-bias judgement Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? No – modified Barthel Index 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY – patient reported outcomes and unsure whether outcome assessors are blinded 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN – control was rigorous rehabilitation training Risk-of-bias judgement Some concerns Domain 5: Risk of bias in selection of the reported

Study details	Participants	Interventions	Outcomes and Results	Comments
				result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? PY Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement Low risk Overall risk of bias Risk-of-bias judgement: Some concerns **Other information** None
Full citation Sherrington, C., Lord, S. R., Home exercise to improve strength and walking velocity after hip fracture: a randomized controlled trial, Archives of physical medicine and rehabilitation, 78, 208-12, 1997	**Sample size** N = 42 (randomised) • Step exercise: 21 • Control: 21 N = 40 (analysed) • Step exercise: 40 • Control: 40	**Interventions** • *Intervention group: Step exercise for 1 month.* Participants were provided with telephone books (7cmx23cmx5cm) to serve as stepping blocks as they are roughly 1/3 the height of a standard house step. A baseline assessment	**Results** *Changes in mobility (measured using velocity in m/sec) [mean (SD)]* At baseline: • Step exercise: 0.46 (0.28) • Control: 0.52 (0.33)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y -

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1185202 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of a home-exercise programme on the strength, postural control and mobility in older people with hip fracture. **Study dates** Not reported **Source of funding** Not reported	**Characteristics** Age in years [Mean (SD)]: • Step exercise = 80.0 (8.1) • Control = 77.1 (8.2) Gender (M/F)*: • Step exercise (N) = 8/13 • Control (N) = 1/20 • Significant difference reported between groups but no p value reported. Time since injury: not reported but inclusion criteria states maximum of 9 months prior. Injury cause: not reported but inclusion criteria states fall Location of fracture: proportions not reported but noted that there was no significance at baseline between groups (p=0.43). **Inclusion criteria** Participants had to: • Be aged 60 years old or above • Admitted with proximal femoral fracture resulting from fall • Fracture occurred	established the maximum number of repetitions participants could perform safely. Consultation with patients decided the number of repetitions to be performed and the height of the step (1 or 2 telephone books). Participants had to complete at least 1 session per day and were instructed to gradually increase the number of repetitions performed. Subjects were given a photograph of them performing the exercise and written instruction for reference. Number of repetitions and sessions performed per day were recorded in an exercise diary. During the intervention, patients received 1 visit from the investigator to confirm the exercises were still being performed correctly and to increase the number of repetitions or the height or the step if needed. • *Control group.* No details reported.	At intervention completion (time of measurement not clearly reported): • Step exercise (N=20): 0.51 (0.34) • Control (N=20): 0.50 (0.35) • Significantly better in the in the intervention group (p<0.05, ANOVA) *Changes in mobility (measured using cadence in step/min) [mean (SD)]* At baseline: • Step exercise: 83.0 (30.3) • Control: 90.2 (32.1) At intervention completion (time of measurement not clearly reported): • Step exercise (N=20): 86.5 (29.5) • Control (N=20): 88.3 (35.3) • No significant difference (p value not reported, ANOVA)	Random number method. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - No statistically significant differences between groups except for gender. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y – Participants not blinded to group allocation. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from

Study details	Participants	Interventions	Outcomes and Results	Comments
	maximum 9 months ago • Residing in the community at the time of the accident • Have a discharge destination within South Western Sydney **Exclusion criteria** Not reported.			intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y- Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 20/21 participants in intervention and 20/21 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value?

Study details	Participants	Interventions	Outcomes and Results	Comments
				NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Assessors not blind to group allocation. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PN - Gait and mobility both objective measurements. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Sherrington, Catherine, Lord, Stephen R., Herbert, Robert D., A randomised trial of weight-bearing versus non-weight-bearing exercise for	**Sample size** N = 80 (randomised) • Weight-bearing exercise = 41 • Non weight-bearing exercise = 39	**Interventions** • *Both groups:* Exercise programmes started while participants were still on inpatient rehabilitation ward and advised to	**Results** *Changes in mobility (measured using step test repetitions in affected leg) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
improving physical ability in inpatients after hip fracture, The Australian journal of physiotherapy, 49, 15-22, 2003 **Ref Id** 1124610 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of weight-bearing exercises compared with non-weight-bearing exercises on strength, mobility and functional performance in elderly patients following hip fracture. **Study dates** Not reported. **Source of funding** This study received funding from the Health Research Foundation Sydney South West and the Arthritis	N = 77 (analysed) • Weight-bearing exercise = 40 • Non weight-bearing exercise = 37 **Characteristics** Age in years [Mean (SD)]: • Weight-bearing exercise = 81.0 (7.0) • Non weight-bearing exercise = 81.1 (8.3) Gender (M/F): • Weight-bearing exercise (N) = 14/27 • Non weight-bearing exercise (N) = 12/27 Time since injury [Mean (SD)]: • Weight-bearing exercise (days) = 19.2 (22.8) • Non weight-bearing exercise = 17.4 (8.5) Injury cause: not stated but inclusion criteria states fall-related hip fracture. Location of fracture (Intracapsular/other): • Weight-bearing exercise	continue at home if they were discharged before the study period ended. All participants received usual rehabilitation care (consisting of locomotion practice, progression of walking aids and assessment of ADL) as well as care from other health professionals (including occupational therapists, social worker and medical care). Participants were encouraged to take pain relief prior to sessions. • *Intervention group: Weight-bearing exercise + standard rehabilitation*. A series of exercises performed each weekday in a weight-bearing position, consisting of sit-to-stand, lateral step-up, forward step-up-and-over, forward foot taps and stepping grids. Exercises started off with either a walking frame or 1-2 portable height-adjustable tables. If this was too difficult to start with, participants performed exercises with the support of a tilt table. The supervising physiotherapist chose several initial	Baseline: • Weight-bearing: 0.0 (0.2) • Non weight-bearing: 0.1 (0.6) 2 weeks (intervention completion): • Weight-bearing: 1.3 (3.1) • Non weight-bearing: 0.5 (1.4) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using step test repetitions in non-affected leg) [mean (SD)]* Baseline: • Weight-bearing: 1.3 (3.0) • Non weight-bearing: 0.5 (1.3) 2 weeks (intervention completion): • Weight-bearing: 3.7 (4.3) • Non weight-bearing: 2.1 (2.8) • No significant different between groups (p value not reported, ANOVA)	arising from the randomization process 1.1 Was the allocation sequence random? Y - Used random number table. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY - No information given on method but article states concealed randomisation used. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No differences between groups at baseline. Risk-of-bias judgement: Some concerns. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that

Study details	Participants	Interventions	Outcomes and Results	Comments
Foundation.	(N) = 12/29 • Non weight-bearing exercise (N) = 16/23 Inclusion criteria Participants had to: • Be admitted to inpatient rehabilitation ward at participating hospital • Recently suffered a fall-related hip fracture Exclusion criteria • Age <60 years old • Unable to complete assessments or participate in the exercise programme because of cognitive impairment, major medical conditions or fracture complications	exercises, before adding exercises as determined by participant's capability. Number of repetitions were based on the initial assessment, ranging from 5-30 per exercise. Difficulty was increased by increasing number of repetitions, decreasing the hand support, increasing height of blocks used in forward step-and-over and forward foot-taps or decreasing the platform height used in the sit-to-stand exercise. • *Control group: Non-weight-bearing exercise + standard rehabilitation.* A series of exercises performed each weekday in a supine position, consisting of hip abduction, hip flexion, hip/knee flexion/extension (drawing heel toward buttock), end of range knee flexion (straightening a bent knee over a wedge) and ankle dorsiflexion/plantarflexion. The supervising physiotherapist chose several initial exercises, before adding exercises as determined by participant's capability. If a participant was unable to move a	*Changes in mobility (measured using velocity in m/sec) [mean (SD)]* Baseline: • Weight-bearing: 0.12 (0.10) • Non weight-bearing: 0.09 (0.09) 2 weeks (intervention completion): • Weight-bearing: 0.25 (0.22) • Non weight-bearing: 0.19 (0.20) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using cadence in steps/sec) [mean (SD)]* Baseline: • Weight-bearing (N=41): 0.60 (0.38) • Non weight-bearing (N=39): 0.47 (0.33) 2 weeks (intervention completion): • Weight-bearing (N=40): 0.91 (0.58) • Non weight-bearing	arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for 40/41 participants in intervention group and 37/39 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result

Study details	Participants	Interventions	Outcomes and Results	Comments
		limb, exercises were modified by using isometric muscle contractions. Number of repetitions were based on the initial assessment, ranging from 5-30 per exercise. Difficulty was increased by increasing the number of repetitions performed for each exercise.	(N=37): 0.71 (0.42) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using step length in affected leg in cm) [mean (SD)]* Baseline: • Weight-bearing (N=22): 20.0 (16.3) • Non weight-bearing (N=18): 16.3 (15.2) 2 weeks (intervention completion): • Weight-bearing (N=19): 25.8 (15.9) • Non weight-bearing (N=22): 23.1 (15.0) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using step length in non-affected leg in cm) [mean (SD)]* Baseline: • Weight-bearing (N=22): 8.3 (10.1) • Non weight-bearing	was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. Risk-of-bias judgement: Low risk. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Measurement at baseline and 2 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Paper states assessor was not blinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY - Assessment made by first author.

Study details	Participants	Interventions	Outcomes and Results	Comments
			(N=18): 7.9 (9.3) 2 weeks (intervention completion): • Weight-bearing (N=19): 13.2 (11.4) • Non weight-bearing (N=22): 13.8 (12.8) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using time to stand in sec) [mean (SD)]* Baseline: • Weight-bearing (N=41): 0.14 (0.10) • Non weight-bearing (N=39): 0.09 (0.07) 2 weeks (intervention completion): • Weight-bearing (N=40): 0.21 (0.12) • Non weight-bearing (N=37): 0.16 (0.09) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using time to sit up in sec) [mean (SD)]*	4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN - All measurements are objective measurements or validated measurement tools. Risk-of-bias judgement: Some concerns. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns. Overall risk of bias High risk. Other information None.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Baseline: • Weight-bearing (N=41): 0.06 (0.06) • Non weight-bearing (N=39): 0.04 (0.07) 2 weeks (intervention completion): • Weight-bearing (N=40): 0.13 (0.13) • Non weight-bearing (N=37): 0.10 (0.09) • No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using PPME score) [mean (SD)]* Scale: 0 (worst) – 12 (best). Baseline: • Weight-bearing (N=41): 5.4 (3.0) • Non weight-bearing (N=39): 4.5 (2.5) 2 weeks (intervention completion): • Weight-bearing (N=40): 7.5 (2.7) • Non weight-bearing (N=37): 6.8 (2.8)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No significant different between groups (p value not reported, ANOVA) *Changes in mobility (measured using lateral step up in affected leg) [N (%)]* 0 – No support 1 – Hand support Baseline: • Weight-bearing (N=41): 6 (15) • Non weight-bearing (N=39): 3 (8) 2 weeks (intervention completion): • Weight-bearing (N=40): 22 (55) • Non weight-bearing (N=37): 7 (19) • Significantly higher (better) in intervention group (p<005, Chi-squared test) *Changes in mobility (measured using participants who became able to do lateral step up with affected leg) [N (%)]* 0 – No support 1 – Hand support	

Study details	Participants	Interventions	Outcomes and Results	Comments
			2 weeks (intervention completion): • Weight-bearing (N=40): 16 (40) • Non weight-bearing (N=37): 6 (16) • Significantly higher (better) in intervention group (p<005, Chi-squared test) *Changes in mobility (measured using lateral step up in non-affected leg) [N (%)]* 0 – No support 1 – Hand support Baseline: • Weight-bearing (N=41): 16 (39) • Non weight-bearing (N=39): 10 (26) 2 weeks (intervention completion): • Weight-bearing (N=40): 26 (66) • Non weight-bearing (N=37): 21 (57) • No significant different between groups (p value not reported, Chi-squared test)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (measured using participants who became able to do lateral step up with non-affected leg) [N (%)] 0 – No support 1 – Hand support 2 weeks (intervention completion): • Weight-bearing (N=40): 15 (41) • Non weight-bearing (N=37): 13 (33) • No significant different between groups (p value not reported, Chi-squared test) *Changes in mobility (measured using number of participants unable to walk 6 m) [N (%)]* Baseline: • Weight-bearing (N=41): 9 (22) • Non weight-bearing (N=39): 12 (31) 2 weeks (intervention completion): • Weight-bearing (N=41): 7	

Study details	Participants	Interventions	Outcomes and Results	Comments
			(18) • Non weight-bearing (N=39): 4 (10) • No significant difference between groups (p value not reported, Mann-Whitney U test) *Changes in mobility (measured using number of participants able to walk 6 m with a frame) [N (%)]* Baseline: • Weight-bearing (N=41): 31 (76) • Non weight-bearing (N=39): 27 (69) 2 weeks (intervention completion): • Weight-bearing (N=41): 20 (49) • Non weight-bearing (N=39): 23 (59) • No significant difference between groups (p value not reported, Mann-Whitney U test) *Changes in mobility (measured using number of participants able to walk 6 m with 2 sticks) [N (%)]*	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Baseline: • Weight-bearing (N=41): 1 (2) • Non weight-bearing (N=39): 0 (0) 2 weeks (intervention completion): • Weight-bearing (N=41): 9 (22) • Non weight-bearing (N=39): 7 (18) • No significant difference between groups (p value not reported, Mann-Whitney U test) *Changes in mobility (measured using number of participants able to walk 6 m with 1 stick or no aid) [N (%)]* Baseline: • Weight-bearing (N=41): 0 (0) • Non weight-bearing (N=39): 0 (0) 2 weeks (intervention completion): • Weight-bearing (N=41): 8 (20) • Non weight-bearing (N=39): 2 (5) • Significantly higher (better)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			in intervention group (p<005, Mann-Whitney U test) *Changes in mobility (measured using participants who became able to walk with 1 stick or no aid) [N(%)]* 2 weeks (intervention completion): • Weight-bearing (N=41): 8 (20) • Non weight-bearing (N=39): 2 (5) • No significant difference between groups (p=0.09, Chi-squared test)	
Full citation Singh, Nalin A., Quine, Susan, Clemson, Lindy M., Williams, Elodie J., Williamson, Dominique A., Stavrinos, Theodora M., Grady, Jodie N., Perry, Tania J., Lloyd, Bradley D., Smith, Emma U. R., Singh, Maria A. Fiatarone, Effects of high-intensity progressive resistance training and targeted multidisciplinary treatment of frailty on mortality and nursing home admissions after hip fracture: a randomized controlled trial, Journal of the American Medical Directors	**Sample size** N = 124 (randomised) • HIPFIT = 62 • Standard care = 62 N = 99 (analysed) • HIPFIT = 49 • Standard care = 50 **Characteristics** Age in years [Mean (SD)] • HIPFIT = 80.1 (10.1) • Standard care = 78.4 (9.0) Gender (M/F): • HIPFIT (N) = 19/42	**Interventions** • *Intervention group: HIPFIT.* Core treatment consisted of high-intensity progressive resistance training given 2 days per week for 12 months. Training was set at 80% of peak upper and lower body strength and supervised by research staff of the outpatient clinic. After standard physiotherapy ended (roughly 6-8 weeks after fracture), weight lifting began. All participants received a phone call and a home visit per month from their trainer. This	**Results** N=124 for all analyses. Any missing data (4-26% of scores across all scales and time points) were imputed via the maximum expectation algorithm in SPSS (version 17) using age, data at other time points and group assignment as predictors. *Changes in mobility (measured by use of assistive devices) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - Computer-generated randomly permuted blocks. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Offsite investigator and sequentially

Study details	Participants	Interventions	Outcomes and Results	Comments
Association, 13, 24-30, 2012 **Ref Id** 1126898 **Country/ies where the study was carried out** Australia **Study type** RCT **Aim of the study** To investigate the effectiveness of a 12 month high-intensity progressive resistance training targeting sarcopenia on long-term outcomes after hip fracture. **Study dates** February 2003- April 2007 **Source of funding** This study received funding from the Australian National Health and Medical Research Council (administered by the University of Sydney).	• Standard care (N) = 20/42 Time since injury in years: not reported Injury cause: not reported Location of fracture: not reported **Inclusion criteria** Participants had to: • Be aged 55 years old or above • Be admitted to hospital for surgical repair of minimal-trauma hip fracture • Adequate cognitive ability and fluency in English to understand informed consent process **Exclusion criteria** • Terminal illness • Pathological fractures • Not undergoing surgical repair • Residing too far away from study hospital	averaged 80 exercise sessions, 10 home visits and 10 phone calls over the year. No further details reported. • *Control group: Standard care.* As per medical guidelines for hip fracture in the geographical area, including orthogeriatric care, rehabilitation service, physiotherapy and other health services if needed. No further details reported.	Lower = better. 12 months follow-up: • HIPFIT: 4.3 (2.2) • Control: 5.5 (3.0) • Significantly lower in intervention group (p=0.02, unclear which statistical test was used) *Changes in ADL (measured using ALSAR skills score) [mean (SD)]* Scale 0 (best) – 22 (worst). At baseline: • HIPFIT: 15.1 (3.8) • Control: 14.1 (3.6) 12 months follow-up: • HIPFIT: 10.2 (5.6) • Control: 9.5 (5.5) • No significant difference between groups (p=0.78, unclear which statistical test was used) *Changes in ADL (measured using NHANES score) [mean (SD)]* Scale 0 (best) – 3 (worst).	numbered, opaque, sealed envelopes. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No statistically significant differences between groups. Risk of bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: • HIPFIT: 0.93 (0.81) • Control: 1.02 (0.65) 12 months follow-up: • HIPFIT: 1.55 (0.80) • Control: 1.58(0.80) • No significant difference between groups (p = 0.67, unclear which statistical test was used) *Changes in ADL (measured using FIM total score) [median (range)]* Scale 18 (worst) – 126 (best). At baseline: • HIPFIT: 101.2 (59-122) • Control: 95.4 (43-122) 12 months follow-up: • HIPFIT: 106.7 (56-126) • Control: 101.5 (34-126) • Adjusted mean difference (95% CI): 0.46 (-4.33-5.26) • Relative effect size (95% CI) -0.04 (-0.36-0.44) • No significant difference between groups (p=0.84, unclear which statistical test was used)	2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 49/62 participants in intervention and 50/62 in control. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? N - Reason for withdrawal all noted as being unrelated to study. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in ADL (measured using Katz ADL score) [median (range)] Scale 0 (best) – 12 (worst). At baseline: • HIPFIT: 0.0 (0.0-8.0) • Control: 0.0 (0.0-9.0) 12 months follow-up: • HIPFIT: 0.5 (0.0-9.0) • Control: 1.0 (0.00-12.0) • Adjusted mean difference (95% CI): -0.9 (-1.9-0.2) • Relative effect size (95% CI) -0.33 (-0.74-0.07) • No significant difference between groups (p=0.06, unclear which statistical test was used)	Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N - Assessors blinded for FIM and ALSAR, unblinded for other outcomes. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result

Study details	Participants	Interventions	Outcomes and Results	Comments
				analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None
Full citation Suwanpasu, S., Aungsuroch, Y., Jitapanya, C., Post-surgical physical activity enhancing program for elderly patients after hip fracture: A randomized controlled trial, Asian Biomedicine, 8, 525-532, 2014	Sample size N = 46 (randomised) • Physical activity enhancing programme = 23 • Standard care = 23 N = 46 (analysed) • Physical activity enhancing programme = 23 • Standard care = 23	**Interventions** • *Intervention group: Physical activity enhancing programme (PEP) + standard care.* Physical training with self-efficacy intervention based on several psychological theories and rehabilitation guidelines and consisting of 4 phases. First and 2nd	**Results** *Changes in mobility (Overall physical activity measured using International Physical Activity Questionnaire) [mean (SD)]* Higher = better. 6 weeks post-discharge (at	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y - block randomisation using coin

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1128984 **Country/ies where the study was carried out** Thailand **Study type** RCT **Aim of the study** To investigate the effectiveness of a physical activity enhancing programme on levels of physical activity in older patients after hip fracture surgery. **Study dates** January 2012 - February 2013 **Source of funding** This study received funding from the Thai Red Cross Society and King Chulalongkorn Memorial Hospital.	Characteristics Age in years [Mean (SD)]: • Physical activity enhancing programme = 77.61(7.88) • Standard care = 72.9(8.36) Gender (M/F): • Physical activity enhancing programme (N) = 5/18 • Standard care = 16/7 Time since injury in years: not reported Injury cause: not reported Location of fracture: not reported **Inclusion criteria** Not reported. **Exclusion criteria** Not reported.	phases covered assessment and preparation for strengthening self-efficacy and outcome expectations for exercise. The 3rd phase involved structural exercises and practising daily-life activity exercises every day of the week. This phase also included re-evaluating goal setting, self-monitoring and control of unpleasant sensations associated with exercise. The last phase involved the evaluation of physical activity behaviours and energy expenditure of exercise. • *Control group: Standard care.* Standard care plus participants received a physical activity for hip fracture booklet, flip book and poster when they came into the clinic after the end of the intervention. No further details reported.	intervention completion): • Physical activity enhancing programme (N = 23): 1738.24 (983.50) • Standard care (N = 23): 776.87 (727.52) • Significantly higher (better) in intervention group (p = <0.001, ANCOVA) after controlling for pre-fracture physical activity.	flips. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - no statistically significant difference between groups at baseline. Risk of bias judgement: Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups?

Study details	Participants	Interventions	Outcomes and Results	Comments
				NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its

Study details	Participants	Interventions	Outcomes and Results	Comments
				true value? NA. Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Physical activity was self-assessed. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? Y - Physical activity was measured subjectively. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? PN - information was gathered for 7 days and used various activity domains to come to total score.

Study details	Participants	Interventions	Outcomes and Results	Comments
				Risk-of-bias judgement: Some concerns Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Progressive strength training in older patients after hip	**Sample size** N= 150 (randomised) • Exercise programme = 100 • No exercise programme = 50	**Interventions** • *Intervention group: Twice per week exercise programme.* The exercise program was undertaken over 3 months,	**Results** *Changes in mobility (measured using Sit-to-stand test in sec) [mean (SD)]*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias

Study details	Participants	Interventions	Outcomes and Results	Comments
fracture: a randomised controlled trial, Age and Ageing, 40, 221-7, 2011 **Ref Id** 1126984 **Country/ies where the study was carried out** Norway **Study type** RCT **Aim of the study** "to assess the effect upon balance, strength, mobility, instrumental activities of daily living (iADL), and self-rated health of a 3-month strength-training programme of progressive resistance exercise training, in older home-dwelling hip fracture patients." (p. 221-2) **Study dates** 2007-2008 **Source of funding** The Eastern Regional Health Authority	N= 150 (analysed) • Exercise programme =100 • No exercise programme = 50 **Characteristics** Age in years [Mean (SD)]: • Exercise programme = 82.1 (6.5) • No exercise programme = 82.9 (5.8) Gender (M/F): • Exercise programme (N) = 15/85 • No exercise programme (N) = 60/40 Time since injury: 3 months for all the patients (part of the inclusion criteria) Injury cause: Not explicitly reported, but probably all traumatic **Inclusion criteria** Participants had to: • Be aged ≥ 65 years old at 12 weeks after operation • Be admitted to hospital for a femoral neck fracture or a trochanteric fracture • Have a MMSE score ≥ 23/30 at 12 weeks after operation	commencing 3 months after the fracture and consisting of twice weekly 45-60 min sessions wherein the patients completed four exercises: standing knee flexion, lunge (pass forward), sitting knee extension and leg extension. These sessions were run by a physiotherapist as individual or group sessions. The load of the sessions was based on the patient's 1-repetition maximum and was adjusted during the program period. Patients also completed a home-based training program once weekly, which consisted of standing knee flexion and lunge (pass forward) exercises. These exercise were undertaken with weight belts ranging from 0.5-12 kg. Patients were also advised to walk about for 30 mins daily if they were able to. • *Control group: No exercise programme.* The participants were just asked to maintain their current lifestyle, with no restrictions were placed on their exercise activities.	Lower = better. At baseline (3 months after injury): • Exercise programme: 40.2 (12.2) • No exercise programme: 37.3 (12.1) • Between-group differences: 2.9 (-1.1 to 7.1); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 18.6 (8.4) • No exercise programme: 34.4 (7.7) • Between-group differences: -15.8 (-18.6 to -13.1); significantly faster in intervention group *Changes in mobility (measured using 6MWT in m) [mean (SD)]* Higher = better. At baseline (3 months after injury): • Exercise programme: 216.4 (88.7)	arising from the randomization process 1.1 Was the allocation sequence random? Y Computer-generated random list 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y "Research assistants not involved in the study performed the randomisation using lots in sealed opaque envelopes." (p. 222) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Living at home • Be able to undergo physical therapy for the hip fracture **Exclusion criteria** • Permanently institutionalised before the hip fracture • Metastatic cancer as presumed underlying reason for the fracture • Life expectancy <6 months • Hip fracture was part of a multi-trauma • Participants who were institutionalised during the first 3 months post-operation or did not return for the 3-month follow-up.		• No exercise programme: 223.1 (83.6) • Between-group differences: -6.7 (-36.1 to 22.6) ; non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 297.2 (120.8) • No exercise programme: 240.7 (80.7) • Between-group differences: 56.5 (19.9-93.1); significantly longer in intervention group *Changes in mobility (measured using maximum gait speed over 10 m in m/sec) [mean(SD)]* At baseline (3 months after injury): • Exercise programme: 0.42 (0.2) • No exercise programme: 0.43 (0.2) • Between-group differences: 0.01 (-4.2 to 5.5); non-significant 3 months from baseline (intervention completion, 6	the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y Intention-to-treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could

Study details	Participants	Interventions	Outcomes and Results	Comments
			months post-injury) • Exercise programme: 0.58 (0.3) • No exercise programme: 0.51 (0.3) • Between-group differences: -0.07 (-1.5 to 1.5); non-significant *Changes in mobility (measured TUG test in sec) [mean(SD)]* At baseline (3 months after injury): • Exercise programme: 21.4 (9.2) • No exercise programme: 20.6 (8) • Between-group differences: 0.8 (-2.2 to 3.8); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 13.3 (4.8) • No exercise programme: 19.8 (10.3) • Between-group differences: -6.5 (-9 to -4.1); significantly faster in intervention group	missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N "All assessments were made by an examiner who was blinded to the group allocation and who was not involved in any part of the treatment or rehabilitation." (p. 222) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in mobility (measured using step height in cm) [mean (SD)] At baseline (3 months after injury): • Exercise programme: 8.7 (12.4) • No exercise programme: 8 (13) • Between-group differences: 0.7 (-9 to 4.1); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 19.6 (13.4) • No exercise programme: 10.6 (10.6) • Between-group differences: 9 (4.8 to 13.2); significantly higher in intervention group *Quality of life (measured using the SF-12 Physical component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (3 months after injury):	likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Exercise programme: 49.7 (6.2) • No exercise programme: 49.4 (6.7) • Between-group differences: 0.2 (-1.9 to 2.4); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 45.6 (5.9) • No exercise programme: 45.5 (5.4) • Between-group differences: 0.1 (-1.8 to 2.1); non-significant *Quality of life (measured using the SF-12 Mental component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (3 months after injury): • Exercise programme: 49.8 (7.3) • No exercise programme: 52.3 (7.9) • Between-group differences: -1.1 (-3.5 to 1.4); non-significant	

Study details	Participants	Interventions	Outcomes and Results	Comments
			3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 51.5 (8.4) • No exercise programme: 52.5 (9.1) • Between-group differences: 1.1 (-1.7 to 2.6); non-significant *Changes in ADL (measured using Nottingham Extended ADL score) [mean (SD)]* Scale 0 (worst) – 66 (best). At baseline (3 months after injury): • Exercise programme: 43.4 (10.8) • No exercise programme: 45.2 (9.1) • Between-group differences: -1.8 (-5.3 to 1.6); non-significant 3 months from baseline (intervention completion, 6 months post-injury) • Exercise programme: 48.1 (13.1) • No exercise programme: 43.2 (13)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Between-group differences: 4.9 (0.6 to 9.4); significantly higher in intervention group	
Full citation Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Prolonged strength training in older patients after hip fracture: a randomised controlled trial, Age and Ageing, 41, 206-12, 2012 **Ref Id** 1126985 **Country/ies where the study was carried out** Norway **Study type** RCT **Aim of the study** "to assess the effect of a 12-week once-a-week prolonged strength-training programme in a group of home-dwelling older hip fracture patients." (p. 206) **Study dates** 2007-2008	**Sample size** N = 95 (randomised) • Exercise programme = 48 • No exercise programme = 47 N = 95 (analysed) • Exercise programme =48 • No exercise programme = 47 Characteristics Age in years [Mean (SD)]: • Exercise programme = 82.4 (6.5) • No exercise programme = 82.2 (5.1) Gender (M/F): Exercise programme (N) = 9/39 No exercise programme (N) = 9/38 Time since injury: not reported. Injury cause: Not explicitly reported, but probably all traumatic	**Interventions** • *Intervention group: Once per week exercise programme.* The exercise program was undertaken over 3 months, commencing 6 months after the fracture and consisting of once weekly 45-60 min sessions wherein the patients completed four exercises: standing knee flexion, lunge (pass forward), sitting knee extension and leg press exercise. These sessions were run by a physiotherapist as individual or group sessions. The load of the sessions was based on the patient's 1-repetition maximum and was adjusted during the program period. Patients also completed a home-based training program once weekly, which consisted standing knee flexion and lunge (pass forward) exercises. These exercise were undertaken with weight belts ranging from 0.5-12 kg. Patients	**Results** *Changes in mobility (measured using Sit-to-stand test in sec) [mean (SD)]* Lower = better. At baseline (24 weeks post-injury): • Exercise programme: 20.7 (5.3) • No exercise programme: 20.3 (10.2) • Between-group differences: 0.4 (-0.5 to 1.5); non-significant 3 months from baseline (intervention completion, 9 months post-injury) • Exercise programme: 16.8 (3.6) • No exercise programme: 26.8 (3.8) • Between-group differences: -10 (Not correctly reported); unclear whether it is significantly faster in intervention group, although it probably	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? PY Not reported but it as computer-generated random list in Sylliaas 2011 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y "Research assistants not involved in the study performed the randomisation using lots in sealed opaque envelopes" (p. 207) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to

Study details	Participants	Interventions	Outcomes and Results	Comments
Source of funding The Eastern Regional Health Authority	**Inclusion criteria** Participants had to: • Be aged ≥ 65 years old at 12 weeks after operation • Be admitted to hospital for a femoral neck fracture or a trochanteric fracture • Have a MMSE score ≥ 23/30 at 12 weeks after operation • Living at home • Be able to undergo physical therapy for the hip fracture • Previously participated in the intervention arm in Sylliaas 2011 **Exclusion criteria** • Permanently institutionalised before the hip fracture • Metastatic cancer as presumed underlying reason for the fracture • Life expectancy <6 months • Hip fracture was part of a multi-trauma • Participants who were institutionalised during the first 3 months post-operation or did not return for the 3-month follow-up.	were also advised to walk about for 30 mins daily if they were able to. • *Control group: No exercise programme.* The participants were just asked to maintain their current lifestyle, with no restrictions were placed on their exercise activities.	is. The data reported in Table 2 are those from Sylliaas 2011 (–15.8 (–18.6, –13.1)) *Changes in mobility (measured using 6MWT in m) [mean (SD)]* Higher = better. At baseline (24 weeks post-injury): • Exercise programme: 308.1 (114.6) • No exercise programme: 287.1 (126.6) • Between-group differences: 21.7 (-6.1 to 22.6); non-significant 3 months from baseline (intervention completion, 9 months post-injury: • Exercise programme: 453.7 (72.1 • No exercise programme: 345.7 (35.3) • Between-group differences: 108 (77.1-129.9); significantly longer in intervention group *Changes in mobility (measured using maximum velocity in m/sec) [mean*	intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y Intention-to-treat 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA Risk-of-bias judgement: Low risk

Study details	Participants	Interventions	Outcomes and Results	Comments
			(SD)] At baseline (24 weeks post-injury): • Exercise programme: 0.6 (0.8) • No exercise programme: 0.6 (0.7) • Between-group differences: 0.1 (-0.3 to 3.8); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 1.3 (0.3) • No exercise programme: 0.8 (3.9) • Between-group differences: 0.5 (0.3 to 0.7); significantly faster in intervention group *Changes in mobility (measured using Time Up-and-Go test in sec) [mean (SD)]* At baseline (24 weeks post-injury): • Exercise programme: 14.1 (5.7) • No exercise programme: 12.5 (3.4)	Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N “All assessments, during the entire study, were carried out

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Between-group differences: 1.6 (-0.2 to 3.5); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 6.4 (0.7) • No exercise programme: 9.9 (1.2) • Between-group differences: 3.5 (0.5 to 6.1); significantly faster in intervention group *Changes in mobility (measured using step height in cm) [mean (SD)]* At baseline (24 weeks post-injury): • Exercise programme: 17.6 (12) • No exercise programme: 21.6 (14.5) • Between-group differences: 4 (-8 to 4.1); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 26.8 (10.3)	by the same examiner blinded to group allocation and the type of intervention the subject had received." (p. 208) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI

Study details	Participants	Interventions	Outcomes and Results	Comments
			• No exercise programme: 24 (6.2) • Between-group differences: 2.8 (Not correctly reported); unclear whether it is significantly faster in intervention group, although it probably is not. The data reported in Table 2 are those from Sylliaas 2011 (9.0 (4.8, 13.2) *Quality of life (measured using the SF-12 Physical component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (24 weeks post-injury): • Exercise programme: 47.4 (1.6) • No exercise programme: 47.9 (3) • Between-group differences: -0.5 (-1.7 to 2.3); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 52.2 (2.1) • No exercise programme:	5.3 ... multiple analyses of the data? PN Risk-of-bias judgement Some concerns Overall risk of bias Some concerns Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			48.8 (3.1) • Between-group differences: 3.4 (0.4 to 6.1); significantly higher in intervention group *Quality of life (measured using the SF-12 Mental component score) [mean (SD)]* Scale 0 (worst) – 100 (best). At baseline (24 weeks post-injury): • Exercise programme: 48.6 (7.3) • No exercise programme: 47.1 (3.8) • Between-group differences: -1.5 (-3.5 to 1.4); non-significant 3 months from baseline (intervention completion, 9 months post-injury: • Exercise programme: 51.6 (8.4) • No exercise programme: 47.2 (3.9) • Between-group differences: 4.4 (1.5 to 6.3); significantly higher in intervention group	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in ADL (measured using Nottingham Extended ADL score) [mean (SD)] Scale 0 (worst) – 66 (best). At baseline (24 weeks post-injury): • Exercise programme: 50.3 (10.6) • No exercise programme: 46.1 (14.8) • Between-group differences: 4.2 (-5 to 1.4); non-significant 3 months from baseline (intervention completion, 9 months post-injury): • Exercise programme: 59.2 (3.5) • No exercise programme: 54.8 (6.7) • Between-group differences: 4.4 (0.1 to 8.6); significantly higher in intervention group	
Full citation Taraldsen, Kristin, Sletvold, Olav, Thingstad, Pernille, Saltvedt, Ingvild, Granat, Malcolm H., Lydersen, Stian, Helbostad, Jorunn L., Physical behavior and function early after hip fracture surgery in patients	Sample size N = 397 (randomised) • Comprehensive geriatric care = 198 • Orthopaedic care = 199 N = 317 (analysed) • Comprehensive geriatric	**Interventions** • *Intervention group: Comprehensive geriatric care.* Consisted of an integrative, multi-disciplinary treatment plan for hip fracture patients, with particular focus applied to co-morbidity	**Results** For the purposes of this study upright events = standing or walking. *Changes in mobility (measured using upright*	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process

Study details	Participants	Interventions	Outcomes and Results	Comments
receiving comprehensive geriatric care or orthopedic care--a randomized controlled trial, The journals of gerontology. Series A, Biological sciences and medical sciences, 69, 338-45, 2014 **Ref Id** 1116733 **Country/ies where the study was carried out** Norway **Study type** RCT **Aim of the study** To investigate the effect of comprehensive geriatric care with general orthopaedic care on mobility during the initial post-operative days after surgery for hip fracture. **Study dates** Not reported. **Source of funding** This study received funding from the Norwegian Research Council, the Central Norway Health Authority, The Department	care = 175 • Orthopaedic care = 142 **Characteristics** Age in years [Mean (SD)]: • Comprehensive geriatric care = 83.1 (5.8) • Orthopaedic care = 83.0 (6.3) Gender (M/F): • Comprehensive geriatric care (%) = 28.6/71.4 • Orthopaedic care (%) = 21.8/78.2 Time since injury: not reported. Injury cause: not reported. Location of fracture (Intracapsular fracture/other): • Comprehensive geriatric care (%) = 58/42 • Orthopaedic care (%) = 63/37 **Inclusion criteria** Participants had to: • Be part of the Trondheim Hip Fracture Trial • Admitted to hospital with a	management, pain relief, hydration, oxygenation, nutrition and early mobilisation. Regular team meetings enhanced communication, as did checklists and treatment protocols. The plan used the following principles. 1. Participants were assisted with mobilisation as early day 1 post-operation as long as there were no contra-indications. 2. Participants progressed through the mobilisation plan depending on individual ability. 3. Weight-bearing was emphasised. 4 Short term goals were set for all participants, based on their own pre-fracture function. Early mobilisation and mobilisation planning was designed between physiotherapists and the nursing staff, using observation during initial mobilisation, pre-fracture functional status and surgery performed. It included expected progress for each participant, which was then integrated into their care plans. This was used to allow the physiotherapists to particularly focus on	*time in min) [mean (SD)]* At baseline: not reported. Day 4 (post-operation): • Comprehensive geriatric care (N=175): 57.6 (67.9) • Orthopaedic care (N=142): 45.1 (57.7) • Mean difference: 12.5 (p=0.016, linear regression adjusted for gender and fracture type) *Changes in mobility (measured using number of upright events) [mean (SD)]* At baseline: not reported. Day 4 post-operation: • Comprehensive geriatric care (N=175): 24.1 (22.1) • Orthopaedic care (N=142): 19.0 (16.5) • Mean difference: 5.1 (p=0.005, linear regression adjusted for gender and fracture type) *Changes in mobility (measured using CAS) [mean (SD)]* NB. CAS was only	1.1 Was the allocation sequence random? Y - Using web-based computer randomisation programme. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No differences between groups at baseline. Risk-of-bias judgement: Some concerns. Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? Y - Paper states that participants were unblinded. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y - Paper states that staff who provided intervention were unblinded. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that

Study details	Participants	Interventions	Outcomes and Results	Comments
for Neuroscience at Norwegian University of Science and Technology, The St Olav Hospital Trust, the SINTEF and St Olav Hospital Fund for Research and Innovation, the Municipality of Trondheim, The Norwegian Women's Health Association and the Norwegian Extra Foundation for Health and Rehabilitation.	hip fracture • Be 70 years old or above • Living in the community prior to accident • Be able to walk at least 10 metres • Give informed consent **Exclusion criteria** • Pathological fractures • Multi-trauma • Short life expectancy	participants who did not progress as expected. • *Control group: Orthopaedic care.* Standard care delivered on the orthopaedic ward, including conventional in-patient physiotherapy. No further details reported.	performed by 299 of the 317 participants but numbers not reported per group. Have used 317 and proportions reported in article, which may cause under-estimate of effects. Scale 0 (worst) – 18 (best). At baseline: not reported. Day 1-3 post-operation: • Comprehensive geriatric care (N=175): 9.9 (3.9) • Orthopaedic care (N=142): 9.4 (3.8) • Adjusted mean difference: 0.5 (p=0.234, linear regression adjusted for gender and fracture type) *Changes in mobility (measured using SPPB score) [mean (SD)]* NB. SPPB was only performed by 295 of the 317 participants but numbers not reported per group. Have used 317 and proportions reported in article, which may cause under-estimate of effects. Scale 0 (worst) – 12 (best).	arose because of the experimental context? NI. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intent to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. Risk-of-bias judgement: Some concerns. Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N - Data available for 175/198 in intervention group and 142/199 in control group. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing

Study details	Participants	Interventions	Outcomes and Results	Comments
			At baseline: not reported. Day 5 post-operation: • Comprehensive geriatric care: 1.6 (2.0) • Orthopaedic care: 1.0 (1.6) • Adjusted mean difference (Comprehensive geriatric care – Orthopaedic care): 0.6 (p=0.002, linear regression adjusted for gender and fracture type) *Changes in mobility (using upright time during a 24 hour period in min) [mean (SD)]* At baseline: not reported. Day 4 post-operation (during night, 00:00-06:00): • Comprehensive geriatric care (N=175): 3.1 (6.4) • Orthopaedic care (N=142): 3.6 (8.1) • Adjusted mean difference: 0.5 (p=0.704, linear regression adjusted for gender and fracture type) Day 4 post-operation (during day, 06:00-12:00): • Comprehensive geriatric care (N=175): 20.0 (24.5)	outcome data? N. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? Y - A number of those lost to follow-up were due to technical issues with the gait sensor but some were due to undocumented reasons, refusal to wear sensor or medical issues. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PY - 23 drop outs in the intervention group compared to 57 in the control group. Additionally, reasons for drop out were different between the 2 groups (pressed for time and not admitted in the control group, with a great proportion of participants in the control removing sensor themselves. Risk-of-bias judgement: High risk. Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN - Although conflict of interest states that an author is a co-inventor of the measurement device and director of the manufacturing

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Orthopaedic care (N=142): 15.4 (22.9) • Adjusted mean difference: 4.6 (p=0.007, linear regression adjusted for gender and fracture type) Day 4 post-operation (during afternoon, 12:00-18:00): • Comprehensive geriatric care (N=175): 19.3 (25.8) • Orthopaedic care (N=142): 14.4 (20.4) • Adjusted mean difference: 4.9 (p=0.007, linear regression adjusted for gender and fracture type) Day 4 post-operation (during evening, 18:00-00:00): • Comprehensive geriatric care (N=175): 15.0 (19.6) • Orthopaedic care (N=142): 11.8 (14.8) • Adjusted mean difference: 3.2 (p=0.053, linear regression adjusted for gender and fracture type)	company. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Day 1 to 5 post-operation with specific time points noted. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? Y - Paper states that assessors were unblinded. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - Objective measurement device. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. Risk-of-bias judgement: Low risk. Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data

Study details	Participants	Interventions	Outcomes and Results	Comments
				were available for analysis? Y – Paper states that all analysis was done blinded to group intervention. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. Risk-of-bias judgement: Low risk. Overall risk of bias High risk. Other information None.
Full citation Xiao, X., Huang, J., Chen, Z., Xia, X., Wang, S., Yang, Z., Effects of computer-assisted wrist/hand training on the improvement of hand function in traumatic hand injuries, International Journal of Clinical and Experimental Medicine, 11, 1208-1216, 2018 **Ref Id** 1130629	**Sample size** N= 56 (randomised) • Computer-assisted rehabilitation therapy = 28 • Standard rehabilitation =28 N= 51 (analysed) • Computer-assisted rehabilitation therapy = 26 • Standard rehabilitation = 25 **Characteristics** Age in years [Mean (SD)]:	**Interventions** • *Intervention group: Computer-assisted rehabilitation therapy.* Consisted of 40 60-min sessions given twice daily on weekdays over 4 weeks. Each session included 40 mins of physical modalities exercises (including thermal modalities and ultrasound) and range of motion exercises (joint mobilization and tendon gliding) and 20 mins of	**Results** *Upper limb function (measured using total active (hand) motion in degrees) [mean (SD)]* At baseline: • Computer-assisted rehabilitation therapy: 729.17 (238.92) • Standard rehabilitation: 745.00 (228.11) • No significant difference (ANOVA)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? Y “A staff member not involved in the study was responsible for the allocation by using a computer generated random number table.” (p. 1209)

Study details	Participants	Interventions	Outcomes and Results	Comments
Country/ies where the study was carried out China **Study type** RCT **Aim of the study** "To investigate the effects of computer-assisted wrist/hand intervention on the improvement of hand function for patients with traumatic hand injuries" (p. 1208) **Study dates** 2012-2014 **Source of funding** Innovation fund of interdisciplinary projects from Huazhong University of Science and Technology (Grant number: 2011JC072), China.	• Computer-assisted rehabilitation therapy = 33.44 (13.23) • Standard rehabilitation = 33.50 (12.07) Gender (M/F): • Computer-assisted rehabilitation therapy (N) = 14/12 • Standard rehabilitation (N) = 17/8 Time since injury in days [Mean (SD)]: • Computer-assisted rehabilitation therapy = 51.25 (15.21) • Standard rehabilitation = 46.50 (13.71) Injury cause: • Computer-assisted rehabilitation therapy = all traumatic • Standard rehabilitation = all traumatic Type of injury (Fracture/flexor/both): • Computer-assisted rehabilitation therapy (N) = 9/12/5 • Standard rehabilitation (N) = 10/11/4	computer-assisted wrist/hand strengthening rehabilitation exercises undertaken on a desk-top computer with a handmade ellipsoid-shaped joystick handle with seven force sensing resistors on its surface and a data processing module. The patient played a virtual shooting video game to train both wrist and hand in an integrated manner. • *Control group: Standard rehabilitation.* Consisted of 40 60-min sessions given twice daily on weekdays over 4 weeks. Each session included 40 mins of physical modalities exercises (including thermal modalities and ultrasound) and range of motion exercises (joint mobilization and tendon gliding) and 20 mins of conventional strengthening exercises (Theraband for wrist exercises and therapy putty for hand grip/pinch strengthening).	4 weeks from baseline (intervention completion): • Computer-assisted rehabilitation therapy: 789.16 (191.35) • Standard rehabilitation: 802.50 (210.57) • No significant difference (ANOVA) Difference before-after training: • Computer-assisted rehabilitation therapy: 60.00 (54.68) • Standard rehabilitation: 57.50 (78.58) • No significant difference (ANOVA) *Upper limb function (measured as hand grip strength in kg) [mean (SD)]* At baseline: • Computer-assisted rehabilitation therapy: 5.54 (3.47) • Standard rehabilitation: 5.88 (2.38) 4 weeks from baseline (intervention completion): • Computer-assisted	1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y See 1.1 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N Risk-of-bias judgement: Low risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? PY 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	Inclusion criteria Participants had to: • Be aged 16-65 years old • Have traumatic injury to the hand or/and wrist which involves bone or/and flexor tendon • Be 4-6 weeks post bone fracture surgery and 8 weeks post flexor tendon • No communication or cognitive deficits • Happy to participate in progressive resistance movement. • Be recruited from inpatient rehabilitation centre **Exclusion criteria** • Bilateral hand injuries in conjunction with other injuries (e.g., peripheral nerve injuries, shoulder or elbow injury) • Unhealed wounds		rehabilitation therapy: 9.05 (3.74) • Standard rehabilitation: 7.42 (2.69) Difference before-after training: • Computer-assisted rehabilitation therapy: 3.51 (0.35) • Standard rehabilitation: 1.54 (0.37) • Significant higher (better) in intervention group (ANOVA) *Upper limb function (measured using 2-point pinch strength in kg) [mean (SD)]* At baseline: • Computer-assisted rehabilitation therapy: 1.26 (0.33) • Standard rehabilitation: 1.13 (0.49) • No significant difference (ANOVA) 4 weeks from baseline (intervention completion): • Computer-assisted rehabilitation therapy: 1.86 (0.50)	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI, but PY 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? PN Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? N (51/56 randomised participants) 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? N 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NI 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? PN Risk-of-bias judgement: Some concerns Domain 4: Risk of bias in measurement of the outcome

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Standard rehabilitation: 1.38 (0.51) • No significant difference (ANOVA) Difference before-after training: • Computer-assisted rehabilitation therapy: 0.60 (0.53) • Standard rehabilitation: 0.25 (0.13) • No significant difference (ANOVA) *Upper limb function (measured using upper extremity function index score) [mean (SD)]* Higher = better. At baseline: • Computer-assisted rehabilitation therapy: 45.00 (16.22) • Standard rehabilitation: 48.85 (12.69) 4 weeks from baseline (intervention completion): • Computer-assisted rehabilitation therapy: 60.92 (12.04) • Standard rehabilitation:	4.1 Was the method of measuring the outcome inappropriate? PN 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN "All the participants were assessed at baseline and post four weeks of intervention by a trained and experienced rehabilitation physician, who was blinded to group allocation" (p. 1210) 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N (see 4.2) 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? NA 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA Risk-of-bias judgement: Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that

Study details	Participants	Interventions	Outcomes and Results	Comments
			56.15 (13.03) Difference before-after training: • Computer-assisted rehabilitation therapy: 15.92 (2.50) • Standard rehabilitation: 7.31 (2.50) • Significant better in intervention group (ANOVA)	produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias High risk Other information None
Full citation Yigiter, K., Sener, G., Erbahceci, F., Bayar, K., Ulger, O. G., Akdogan, S., A comparison of traditional prosthetic training versus proprioceptive neuromuscular facilitation resistive gait training with trans-femoral amputees, Prosthetics and Orthotics International, 26, 213-7, 2002	**Sample size** N= 50 (randomised) • Proprioceptive neuromuscular facilitation = 25 • Traditional prosthetic training = 25 N (analysed) = not explicitly reported but probably the same as randomised	**Interventions** • *Both groups:* “Modular prostheses including modified total contact quadrilateral socket, single axis knee joint with constant friction and Solid Ankle Cushion Heel (SACH) foot were utilised in the prosthetic fittings. To achieve the adequate functions of thigh muscles; the anteroposterior	**Results** *Changes in mobility (measured using % weight bearing) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 39.10 (6.22) • Traditional prosthetic training: 36.45 (5.24)	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI 1.2 Was the allocation sequence concealed until

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1124973 **Country/ies where the study was carried out** Turkey **Study type** RCT **Aim of the study** "to compare the outcome of traditional and proprioceptive neuromuscular facilitation (PNF) techniques on weight bearing and gait biomechanics." (p. 213) **Study dates** Not reported **Source of funding** Not reported	**Characteristics** Age in years [Mean (SD)]: • Proprioceptive neuromuscular facilitation = 28.16 (7.24) • Traditional prosthetic training = 28.18 (6.48) Gender (M/F): • Proprioceptive neuromuscular facilitation (N) = 25/0 • Traditional prosthetic training (N) = 25/0 Time since injury in years [Mean (SD)]: Not reported, but time since amputation for the participants as a whole = 7.20 (0.76) months Injury cause: • Proprioceptive neuromuscular facilitation = all traumatic • Traditional prosthetic training = all traumatic Inclusion criteria Not reported, but: • “Fifty unilateral trans-femoral amputees who were attending for their first prosthesis, participated in this study.”	dimension of the socket was increased, and the mediolateral dimension was decreased when compared with a standard quadrilateral socket…. After single axis knee joint and SACH foot were attached to the socket and biomechanical alignments were performed, the subjects were asked to walk freely in parallel bars for one day under supervision. Free walking was permitted to provide adaptation to prostheses before training.” (p. 214) The training was initiated using parallel bars with double arm support, progressing to single arm support, and to an open area when the participant could perform the training without support. • *Intervention group: Proprioceptive neuromuscular facilitation.* Prosthetic training consisting of proprioceptive neuromuscular facilitation (PNF) which included 10 daily sessions lasting 30 minutes each of weight-shifting (forward-backward and side-to-side), dynamic	• No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 55.68 (6.98) • Traditional prosthetic training: 44.81 (4.42) • Significantly higher in intervention group ($p < 0.05$) Difference before-after training: • Proprioceptive neuromuscular facilitation: 16.59 (8.87) • Traditional prosthetic training: 8.35 (3.57) • Significantly higher in intervention group ($p < 0.05$) *Changes in mobility (measured using stride length in cm) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 106.22 (7.6) • Traditional prosthetic training: 106.88 (7.17) • No significant difference	participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? NI (Very few baseline characteristics reported) Risk-of-bias judgement: High risk Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome?

Study details	Participants	Interventions	Outcomes and Results	Comments
	(p. 213) • "There was no muscle weakness other than the weakness related to the level of amputation. No muscle shortening, joint motion limitations or other problems preventing weight bearing and walking were the other selection criteria. All the subjects received postoperative and preprosthetic physiotherapy procedures including stump positioning, bandaging, stretching and dynamic exercises, balancing activities in parallel bars and finally three-point ambulation. " (p. 214) **Exclusion criteria** Not reported.	balancing activities (free, unrestricted), static balancing exercises with physiotherapist giving resistance in antagonistic direction, stool stepping, braiding, gait exercises and climbing/descending the stairs given by PNF. Moreover, "approximation was applied to restore the relationship between the prosthetic foot and the ground. During balancing, weight shifting, stool-stepping, single limb standing, gait and climbing and descending the stairs, approximation was used" (p. 215) to the weight-bearing side together with resistance given to promote the advancement of the other limb • *Control group: Traditional prosthetic training.* This included 10 daily sessions lasting 30 minutes each of weight-shifting (forward-backward and side-to-side), dynamic balancing activities (free, unrestricted), stool stepping, braiding, gait exercises and climbing/descending the stairs.	At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 114.08 (13.69) • Traditional prosthetic training: 108.2 (7.82) • Significantly longer in intervention group ($p < 0.05$) Difference before-after training: • Proprioceptive neuromuscular facilitation: 7.86 (3.89) • Traditional prosthetic training: 1.32 (0.56) • Significantly longer in intervention group ($p < 0.05$) *Changes in mobility (measured using amputated side step length in cm) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 59.82 (4.95) • Traditional prosthetic training: 59.84 (4.51) • No significant difference	NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? NI 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NI Risk-of-bias judgement: High risk Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? NI 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NI 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NI Risk-of-bias judgement: High risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of

Study details	Participants	Interventions	Outcomes and Results	Comments
			At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 55.94 (4.55) • Traditional prosthetic training: 54.42 (4.71) • Significantly longer in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 3.88 (1.86) • Traditional prosthetic training: 5.42 (2.27) • Significantly shorter in intervention group (p<0.05) *Changes in mobility (measured using sound side step length in cm) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 46.4 (4.35) • Traditional prosthetic training: 47.04 (5.59) • No significant difference At intervention completion	measuring the outcome inappropriate? PY 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PY 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NI Risk-of-bias judgement: High risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the

Study details	Participants	Interventions	Outcomes and Results	Comments
			(time point not reported): • Proprioceptive neuromuscular facilitation: 58.14 (3.83) • Traditional prosthetic training: 53.78 (5.59) • Significantly longer in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 11.74 (3.62) • Traditional prosthetic training: 6.74 (2.65) • Significantly longer in intervention group (p<0.05) *Changes in mobility (measured using cadence with self-selected comfortable gait in steps/min) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 58.12 (8.79) • Traditional prosthetic training: 58.4 (8.15) • No significant difference At intervention completion (time point not reported):	basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? NI 5.3 ... multiple analyses of the data? NI Risk-of-bias judgement: High risk Overall risk of bias High risk Other information None

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Proprioceptive neuromuscular facilitation: 74.32 (8.11) • Traditional prosthetic training: 68.36 (7.48) • Significantly more in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 16.44 (4.58) • Traditional prosthetic training: 9.96 (2.26) • Significantly more in intervention group (p<0.05) *Changes in mobility (measured using cadence of fast gait in steps/min) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 63.12 (8.79) • Traditional prosthetic training: 63.48 (8.17) • No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation:	

Study details	Participants	Interventions	Outcomes and Results	Comments
			84.32 (8.11) • Traditional prosthetic training: 78.36 (7.48) • Significantly more in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 21.6 (4.36) • Traditional prosthetic training: 14.72 (2.46) • Significantly more in intervention group (p<0.05) *Changes in mobility (measured using velocity in cm/sec) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 51.43 (8.73) • Traditional prosthetic training: 52.07 (8.79) • No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 66.14 (7.64) • Traditional prosthetic training: 61.63 (9.4)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Significantly higher in intervention group (p<0.05) Difference before-after training: • Proprioceptive neuromuscular facilitation: 14.72 (3.81) • Traditional prosthetic training: 9.6 (3.6) • Significantly higher in intervention group (p<0.05) *Changes in mobility (measured using stride length/lower limb length) [mean (SD)]* At baseline: • Proprioceptive neuromuscular facilitation: 1.2 (0.11) • Traditional prosthetic training: 1.21 (0.16) • No significant difference At intervention completion (time point not reported): • Proprioceptive neuromuscular facilitation: 1.28 (0.1) • Traditional prosthetic training: 1.23 (0.12) • Significantly higher in intervention group (p<0.05)	

Study details	Participants	Interventions	Outcomes and Results	Comments
			Difference before-after training: • Proprioceptive neuromuscular facilitation: 0.08 (0.01) • Traditional prosthetic training: 0.02 (0.03) • Significantly higher in intervention group (p<0.05)	
Full citation Yildirim, A., Sürücü, G. D., Karamercan, A., Gedik, D. E., Atci, N., Dülgeroğlu, D., Özgirgin, N., Short-term effects of upper extremity circuit resistance training on muscle strength and functional independence in patients with paraplegia, Journal of back and musculoskeletal rehabilitation, 29, 817-823, 2016 **Ref Id** 1013726 **Country/ies where the study was carried out** Turkey **Study type** RCT	**Sample size** N = 26 (randomised) • Circuit resistance training + standard rehabilitation = 13 • Standard rehabilitation only = 13 N = 26 (analysed) • Circuit resistance training + standard rehabilitation = 13 • Standard rehabilitation only = 13 **Characteristics** Age in years [Mean (SD)]: • Circuit resistance training + standard rehabilitation = 29.6 (8.5) • Standard rehabilitation only = 31.9 (12.0) Gender (M/F):	**Interventions** • *Intervention group: Circuit resistance training + standard rehabilitation.* Standard care as per control group. Circuit resistance training consisted of 60 minutes/day sessions, 5 per week for 6 weeks. Sessions used repetitive exercises of the upper extremities, aimed at strengthening elbow and shoulder flexor–extensor, abductor–adductor, pectoral, and latissimus dorsi muscles. Maximum weight that could be lifted 10 times was determined on day 1. Participants performed 3 sets of exercises (1 each at 50%, 75% and 100% of this maximum weight) x 5 days/week. Maximum weight that could be lifed	**Results** *Upper body functioning (measured using isokinetic measurement of concentric strength) [mean (SD)]* At 6 weeks from baseline (intervention completion): • Total work/Body weight (J/kg), left side, 180/sec, extension ○ Circuit resistance training + standard rehabilitation = 65.2 (34.5) ○ Standard rehabilitation only = 75.3 (28.9) • Total work/Body weight (J/kg), left side, 180/sec, flexion ○ Circuit resistance training + standard rehabilitation = 61.3 (17.7) ○ Standard rehabilitation	Limitations Quality assessment: Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Simply says block randomisation technique 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N – Baseline demographics not significantly different. Risk-of-bias judgement: Some concerns Domain 2: Risk of bias due

Study details	Participants	Interventions	Outcomes and Results	Comments
Aim of the study To compare the effectiveness of upper extremity circuit resistance training plus standard rehabilitation with standard rehabilitation alone on muscle strength, functional independence and quality of life in patients with paraplegia. **Study dates** Not reported. **Source of funding** Not reported.	• Circuit resistance training + standard rehabilitation (N) = 11/2 • Standard rehabilitation only (N) = 11/2 Time since injury: Not reported. Injury cause: • Circuit resistance training + standard rehabilitation = all traumatic • Standard rehabilitation only = all traumatic Level of injury (T5-T10/T10-L4): • Circuit resistance training + standard rehabilitation (N) = 7/6 • Standard rehabilitation only (N) =7/6 **Inclusion criteria** Not reported. **Exclusion criteria** • Patients with non-traumatic SCI • Patients unable to recover balance while sitting • Severely disabled patients (no further details reported on how this was	10 times was re-measured during week 3 and week 5. • *Control group: Standard rehabilitation only.* 60 minutes/day sessions, 5 per week for 6 weeks. Sessions included balance exercises, training for wheelchair use and transfers, ADL practice, mobilisation exercises, training in use of assistive devices.	only = 49.2 (15.4) • Total work/Body weight (J/kg), left side, 60/sec, extension ○ Circuit resistance training + standard rehabilitation = 121.8 (28.6) ○ Standard rehabilitation only = 107.1 (32.8) • Total work/Body weight (J/kg), left side, 60/sec, flexion ○ Circuit resistance training + standard rehabilitation = 107.7 (32.7) ○ Standard rehabilitation only = 68.2 (17.9) • Total work/Body weight (J/kg), right side, 180/sec, extension ○ Circuit resistance training + standard rehabilitation = 74.3 (26.9) ○ Standard rehabilitation only = 69.2 (32.8) • Total work/Body weight (J/kg), right side, 180/sec, flexion ○ Circuit resistance training + standard rehabilitation = 54.17 (12.1) ○ Standard rehabilitation	to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? PY – Not possible due to type of intervention. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? NI 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NI 2.4. If Y/PY to 2.3: Were these deviations likely to have affected the outcome? NA 2.5 If No/PN/NI to 2.4: Were these deviations from intended intervention balanced between groups? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - ITT 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the

Study details	Participants	Interventions	Outcomes and Results	Comments
	determined) • Patients with pressure sores that stopped them performing rehabilitation • Patients with brain damage • Patients with non-vertebral fractures • Patients who could not to cooperate • Patients with deep vein thrombosis, cardiopulmonary disease, cerebral aneurysm • Patients with non-cardiac diseases • Patients with severe psychiatric disorders		only = 43.5 (7.2) • Total work/Body weight (J/kg), right side, 60/sec, extension ○ Circuit resistance training + standard rehabilitation = 115.7 (29.1) ○ Standard rehabilitation only = 107.1 (28.3) • Total work/Body weight (J/kg), right side, 60/sec, flexion ○ Circuit resistance training + standard rehabilitation = 108.1 (42.5) ○ Standard rehabilitation only = 77.3 (16.6) • Peak torque/Body weight (Nm/kg), left side, 180/sec, extension ○ Circuit resistance training + standard rehabilitation = 45.4 (14.2) ○ Standard rehabilitation only = 46.5 (13.5) • Peak torque/Body weight (Nm/kg), left side, 180/sec, flexion ○ Circuit resistance training + standard rehabilitation = 40.4 (8.4) ○ Standard rehabilitation only = 34.8 (7.1)	group to which they were randomized? NA Risk-of-bias judgement: Some concerns Domain 3: Missing outcome data 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y – All participants 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA Risk-of-bias judgement: Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? Y 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N – Same assessor, same technique and same time points

Study details	Participants	Interventions	Outcomes and Results	Comments
			• Peak torque/Body weight (Nm/kg), left side, 60/sec, extension ○ Circuit resistance training + standard rehabilitation = 73.4 (14.3) ○ Standard rehabilitation only = 68.6 (18.4) • Peak torque/Body weight (Nm/kg), left side, 60/sec, flexion ○ Circuit resistance training + standard rehabilitation = 61.6 (13.4) ○ Standard rehabilitation only = 48.1 (8.9) • Peak torque/Body weight (Nm/kg), right side, 180/sec, extension ○ Circuit resistance training + standard rehabilitation = 47.3 (14.1) ○ Standard rehabilitation only = 46.3 (21.1) • Peak torque/Body weight (Nm/kg), right side, 180/sec, flexion ○ Circuit resistance training + standard rehabilitation = 42.8 (3.8) ○ Standard rehabilitation only = 32.9 (4.8) • Peak torque/Body weight	4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? ADL and QoL – PY; Upper body function – N. Used isokinetic parameters which are objective measures. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? ADL and QoL – PN. Used structured and validated instruments, performed by healthcare professionals; Upper body function – NA Risk-of-bias judgement: ADL and QoL – Some concerns; Upper body function – Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?

Study details	Participants	Interventions	Outcomes and Results	Comments
			(Nm/kg), right side, 60/sec, extension ○ Circuit resistance training + standard rehabilitation = 73.9 (15.3) ○ Standard rehabilitation only = 70.6 (22.8) • Peak torque/Body weight (Nm/kg), right side, 60/sec, flexion ○ Circuit resistance training + standard rehabilitation = 58.4 (9.2) ○ Standard rehabilitation only = 50.5 (12.5) *Overall QoL (measured using QoL scale) [mean (SD)]* Scale -234 - +234, higher = better At 6 weeks from baseline (intervention completion): • Circuit resistance training + standard rehabilitation = 105.1 (89.2) • Standard rehabilitation only = 133.6 (99.4) • No significant difference between groups (p=0.238, • Mann-Whitney U test)	NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN Risk-of-bias judgement: Some concerns Overall risk of bias Risk-of-bias judgement: Some concerns **Other information** None.

Study details	Participants	Interventions	Outcomes and Results	Comments
			Changes in ADL (measured using total FIM score) [mean (SD)] Scale 18-126, higher = better At 6 weeks from baseline (intervention completion): • Circuit resistance training + standard rehabilitation = 103.6 (12.8) • Standard rehabilitation only = 96.6 (8.7) • Significantly higher (better) in intervention group (p=0.048, student t-test)	

2MWT: 2 minute walk test; 6MWT: 6 minute walk test; 10MWT: 10 minute walk test; ADL: Activities of daily living; ALSAR: Assessment of Living Skills and Resources; ANCOVA: Analysis of covariance statistical test; ANOVA: Analysis of variance statistical test; AOFAS: American Orthopedic Foot and Ankle score; ASIA: American Spinal Injury Association; BI: Barthel Index; BMI: Body mass index; BSHQ: Burn specific health questionnaire; C: Cervical spinal level; CAS: Cumulative ambulation score; CHART: Craig Handicap Assessment and Reporting Technique; COPM: Canadian Occupational Performance measure; CI: confidence interval; cm: centimetres; DASH: Disabilities of the Arm, Shoulder and Hand; EQ-5D(-3L): EuroQol, 5 domains, 3 levels; F: Female; FES-I: Falls Efficacy Scale International; FIM: Functional independence measure; FIM+FAM: Functional independence measure and functional assessment measure; FIM-L: Functional independence measure locomotion sub-score; FIM-M: Functional independence measure motor sub-score; g: grams; GRADE: Grading of Recommendations Assessment, Development and Evaluation; IQR: Interquartile range; ITT: intention to treat; IU: International units; kcal: kilocalories; kg: kilograms; L: Lumbar spinal level; LEMS: Lower Extremity Motor score; LMN: Lower motor neurone; M: Male; m: metre; mDLQI: Modified Dermatology Life Quality Index; min: minutes; ml: millilitres; MHOQ: Michigan Hand Qutcomes questionnaire; N: Number [of No if part of quality assessment]; NA: Not applicable; NHANES: National Health and Nutrition Examination Survey; NI: No information; nm: Newton-metre; OR: Odds ratio; PN: Probably not; POMA: Performance Orientated Mobility assessment; PPME: Physcial performance and mobility examination; PY: Probably yes; QoL: Quality of life; RCT: Randomised controlled trial; RoB2: revised Cochrane risk of bias tool; RR: Risk ratio; SCI: Spinal cord injury; SD: Standard deviation; secs: seconds; SEM: Standard error of the mean; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SPPB; Short Physical Performance Battery; SWLS: Satisfaction with Life Scale; T: Thoracic spinal level; TBSA: Total burn surface area: TUG: Timed Up and Go test; UMN: Upper motor neurone; VAS: Visual analogue scale; WHOQOL: World Health Organization quality of life questionnaire; WHOQOL-Bref-Tr: Abbreviated WHO Quality of life tool [Turkish language] WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index; Y: Yes

Evidence tables for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Table 10: Evidence tables

Study details	Participants	Interventions	Outcomes and Results	Comments
Full citation Cucuzzo, N. A., Ferrando, A., Herndon, D. N., The effects of exercise programming vs traditional outpatient therapy in the rehabilitation of severely burned children, The Journal of burn care & rehabilitation, 22, 214-20, 2001 **Ref Id** 1123218 **Country/ies where the study was carried out** USA **Study type** RCT **Aim of the study** To compare the effectiveness of a comprehensive exercise programme	**Sample size** N= 21 (randomised) • Inpatient exercise: 11 • Outpatient therapy: 10 N= 21 (analysed) • Inpatient exercise: 11 • Outpatient therapy: 10 **Characteristics** Age in years [Mean (SD)]: • Inpatient exercise = 11.9 (1.2) • Outpatient therapy = 9.2 (1.4) Gender (M/F): • Total (N) = 8/3 Time since injury in years: not reported Total burn surface area: • Inpatient exercise	**Interventions** • *Intervention group: Inpatient exercise* 12-week comprehensive rehabilitation and wellness programme conducted at hospital. If patients lived off-site, they were shuttled to and from facility. Exercise took the form of general conditioning exercise, focusing on moderate intensity, progressive resistance training as well as aerobic and general conditioning exercises. Sessions last 1 hour, took place 3 times per week, for 12 weeks (totalling 36 sessions). Sessions focused on strength training (isotonic, isometric and isokinetic exercises using free weights) with secondary exercises added for balanced general conditioning effects (using treadmill, stationary bike or walking). In the first week, participants performed 1-2 training sessions of 1-2 sets for each exercise, in order to introduce correct technique. The programme was divided into 2 phases. Phase 1 Maximum load for resistance training was set at 50% of the 3 rep maximum weight, 4-10	**Results** *Changes in mobility (Change in distance walked measured using 6MWT) [mean (SEM)]* Higher = better. At baseline (Original 6MWT score in metres, 6 months post-burn): • Inpatient exercise: 456 (30) • Outpatient therapy: 508 (32) • No significant difference (p value not reported) 3 months from baseline (at intervention completion, 9 months post-burn): • Inpatient exercise (N=11): 186 (29) • Outpatient therapy (N=10): 66 (21) • Significantly higher (better) in intervention group (p = 0.004, unpaired t-test)	**Limitations** **Quality assessment:** Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI - Simply states randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? NI. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? PN - Paper mentions no statistically significant difference between groups for age, TBSA, height and weight. No further details reported. *Risk of bias judgement:* Some concerns Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) 2.1. Were participants aware of their assigned intervention during the trial? NI. 2.2. Were carers and people

Study details	Participants	Interventions	Outcomes and Results	Comments
with traditional outpatient therapy on function and trainability of muscle strength in severely burned children. **Study dates** Not reported. **Source of funding** This study received funding from the National Institute on Disease and Rehabilitation Research and Shriners Hospital.	(%) = 62.0 (4.6) • Outpatient therapy (%) = 57.1 (4.2) **Inclusion criteria** Patients had to: • Be provided rehabilitation services within the Shriners-University of Texas hospital systems • Have burns >40% TBSA • Be older than 6 years old • Be treated at a burn centre within 72 hours of injury • Have 95% wound healing • Be able to be followed up throughout the length of study (including follow-up data collection) **Exclusion criteria** • Anoxic brain injury • Psychological disorders • Quadriplegia • Severe behavioural disorder	repetitions performed. Phase 2 Maximum load for resistance training was set at 70-85% of 3 rep maximum, 8-15 repetitions. No strength training was allowed outside of these sessions. Participants also received occupational and physical therapy twice per day for 1 hour, school for 2-3 hours per day, with play therapy and psychological therapy as appropriate. Exercise sessions were taken by an exercise physiologist and were strictly limited to 1 hour each. Individual exercise programmes were reviewed each week, with resistance increasing along with a patient's strength and aerobic capacity by 10-20% of average weekly work volume. Aerobic exercise was designed to increase energy expenditure by 50-80% of heart rate reserve. • *Control group: Traditional outpatient therapy* Occupational and physical therapy department of Shriners Hospital referred to outpatient therapy centres near their home. Focused on the relief of scar contractures and wound care and did not include a quantifiable exercise prescription to increase musculoskeletal strength. The number of visits and duration of		delivering the interventions aware of participants' assigned intervention during the trial? NI. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PY – Control group did not have a specific programme to follow, and it varied between rehabilitation centres. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? N – Issue with control group only. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? Y. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. *Risk-of-bias judgement:* High risk <u>Domain 3: Missing outcome data</u> 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Severe cognitive disorder	individual sessions varied from centre to centre. This group were not allowed to weight train during the study but were allowed to maintain daily activities, physical therapy sessions and recreational/sports activities.		biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA. *Risk-of-bias judgement:* Low risk Domain 4: Risk of bias in measurement of the outcome 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? PN. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - Metres walked is an objective measurement. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. *Risk-of-bias judgement:* Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan

Study details	Participants	Interventions	Outcomes and Results	Comments
				that was finalized before unblinded outcome data were available for analysis? NI. Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN. 5.3 ... multiple analyses of the data? PN. *Risk-of-bias judgement:* Some concerns Overall risk of bias *High risk* **Other information** None.
Full citation Ebid, Anwar Abdelgayed, El-Shamy, Shamekh Mohamed, Draz, Amira Hussin, Effect of isokinetic training on muscle strength, size and gait after healed pediatric burn: a randomized controlled study, Burns : journal of the International Society for Burn Injuries, 40, 97-105, 2014	**Sample size** N= 37 (randomised) • Home exercise + isokinetic training: 18 • Home exercise only: 19 N= 33 (analysed) • Home exercise + isokinetic training: 16 • Home exercise only: 17 **Characteristics**	**Interventions** • *All participants.* Same physical therapy program, consisting of positioning, range of motion, stretching exercise for lower limb muscles, daily walking, and exercise • *Intervention group: Isokinetic training + home exercise.* 12-week isokinetic training program on Biodex system, performed 3 times per week (36 sessions in total) and involving 5-min warm-up on treadmill (velocity = 4 km/h), then quadriceps stretching ("the	**Results** *Changes in mobility (Stride length measured in cm) [mean (SD)]* Higher = better At baseline: • Home exercise + isokinetic training (N=18): 88 (2.09) • Home exercise only (N=19): 88.11 (2.28) 12 weeks from baseline (intervention completion):	**Limitations** **Quality assessment:** Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) Domain 1: Risk of bias arising from the randomization process 1.1 Was the allocation sequence random? NI "random process that involved opening an opaque envelope prepared by an independent person with random number generation. The randomization process was carried out by a registration clerk who was not involved in any part of the study." (p. 99). No further

Study details	Participants	Interventions	Outcomes and Results	Comments
Ref Id 1127734 **Country/ies where the study was carried out** Saudi Arabia **Study type** RCT **Aim of the study** "to investigate the effects of isokinetic training program on muscle strength, muscle size and gait parameters after healed paediatric burn." (p. 97) **Study dates** Not reported **Source of funding** Not reported	Age in years [Mean (SD)]: • Home exercise + isokinetic training = 13.46 (1.18) • Home exercise only = 13.6 (1.12) Gender (M/F): • Home exercise + isokinetic training (N) = 10/6 • Home exercise only (N) = 11.6 Time since injury in days [Mean (SD)]: • Home exercise + isokinetic training: 44.35 (3.95) • Home exercise only: 42.25 (3.49) Injury cause: • Home exercise + isokinetic training = all traumatic • Home exercise only = all traumatic Total burn surface area [mean (SD)]: • Home exercise + isokinetic training (%) = 42.06 (3.08)	participants stretched the quadriceps muscles of both limbs. Each muscle group was stretched 5 times for 30 s alternately for 5 min" p. 99). "Fifty percentages of average peak torque were selected as the initial dose of isokinetic exercise, and an increasing dose program was used in the first to fifth sessions (one set to five sets), and a dose of six sets was applied from the sixth to the 24th session and, finally, a dose of 10 sets was applied from the 25th to the 36th sessions. Each set consists of 10 repetitions concentric contraction at an angular velocity of 150°/s and patients were allowed 3 min of rest between sets" (p. 100). Patients were also given verbal encouragement and visual feedback from the equipment. + home-based physical therapy program involving range of motion exercise, splinting, stretching exercise for lower limb muscles, daily walking, functional training for ambulation and activities of daily living) to be performed 3 times per week; intensity, type and duration of exercises also prescribed to patients, but not further specified by authors. • *Control group: Home exercise*	• Home exercise + isokinetic training (N=16): 135.5 (2.82) • Home exercise only (N=17): 94 (2.69) *Changes in mobility (Step length measured in cm) [mean (SD)]* At baseline: • Home exercise + isokinetic training: 38.62 (1.14) • Home exercise only: 38 (1.83) 12 weeks from baseline (intervention completion): • Home exercise + isokinetic training: 63.25 (2.97) • Home exercise only: 43.76 (1.34) *Changes in mobility (Velocity measured in cm/s) [mean (SD)]* At baseline: • Home exercise + isokinetic training: 74.93 (1.38) • Home exercise only: 74.7 (1.53) 12 weeks from baseline (intervention completion): • Home exercise + isokinetic training: 135.94 (1.65) • Home exercise only: 81.11 (1.91)	information reported. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? PY (See 1.1) 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N *Risk-of-bias judgement:* Some concerns <u>Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</u> 2.1. Were participants aware of their assigned intervention during the trial? Y 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? Y 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? PN 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y –

Study details	Participants	Interventions	Outcomes and Results	Comments
	• Home exercise only (%) = 42.4 (3.13) The groups did not differ statistically significantly in age, weight, height, gender distribution, body mass index, length of hospitalization, lower extremity total body surface area or length of time between injury and initial evaluation. **Inclusion criteria** Participants had to: • Have healed burns with TBSA 36-45% • Be ambulatory without assistive devices • Not be athletes • "The burned children were categorized as having a circumferential lower limb deep second to third degree thermal injury extends from the lower trunk to the foot." (p. 98) • Patients described as recruited by therapists working in	*only.* The same home-based program as the intervention group.	*Changes in mobility (Cadence measured in step/min) [mean(SD)]* At baseline: • Home exercise + isokinetic training: 82.43 (1.54) • Home exercise only: 82.88 (1.53) 12 weeks from baseline (intervention completion): • Home exercise + isokinetic training: 137.63 (1.36) • Home exercise only: 90.35 (1.32)	Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA *Risk-of-bias judgement:* Low risk <u>Domain 3: Missing outcome data</u> 3.1 Were data for this outcome available for all, or nearly all, participants randomized? PY 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? NA *Risk-of-bias judgement:* Low risk <u>Domain 4: Risk of bias in measurement of the outcome</u> 4.1 Was the method of measuring the outcome inappropriate? N 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? N, they were blinded to group assignment

Study details	Participants	Interventions	Outcomes and Results	Comments
	outpatient clinic **Exclusion criteria** • Children with diabetes • Neuropathy • Neurological disorders • Severe behaviour or cognitive disorders • Leg amputation, previous brain injury • Any disease affecting balance, vestibular or visual disorders • Lower limb deformity • History of epilepsy • Children who had participated in any rehabilitation program prior to the study • Children taking any medication that could affect strength adaptations, adversely affecting the results of the study			4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? PN, automatic computer measurements used. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? N *Risk-of-bias judgement:* Low risk Domain 5: Risk of bias in selection of the reported result 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? NI *Risk-of-bias judgement:* Some concerns Overall risk of bias *Some concerns* **Other information** None.

Study details	Participants	Interventions	Outcomes and Results	Comments
Full citation Ebid, Anwar Abdelgayed, El-Shamy, Shamekh Mohamed, Amer, Maysa Abbas, Effect of vitamin D supplementation and isokinetic training on muscle strength, explosive strength, lean body mass and gait in severely burned children: A randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 43, 357-365, 2017 **Ref Id** 1129564 **Country/ies where the study was carried out** Saudi Arabia **Study type** RCT **Aim of the study** To investigate the effectiveness of	**Sample size** N = 48 (randomised) • Isokinetic training + vitamin D: 15 • Isokinetic training + placebo: 17 • Standard care: 16 (not reported in data extraction after this) N = 48 (analysed) • Isokinetic training + vitamin D: 15 • Isokinetic training + placebo: 17 • Standard care: 16 (not reported in data extraction after this) **Characteristics** Age in years [Mean (SD)]: • Vitamin D = 13.80 (1.47) • Isokinetic training = 13.11 (1.45) Gender (M/F) • Vitamin D (N) = 10/7 • Isokinetic training (N) = 11/6 Time since injury: not reported	**Interventions** *Intervention group Standard care+ isokinetic training + vitamin D*. Standard care as described in control group + 12-week Isokinetic training programme using Biodex system as described in control group + Vitamin D (1000 IU Vitamin D3 [Cholecalciferol] taken orally once per day with food). No further details reported. *Control group Standard care + isokinetic training + placebo.* Routine physical therapy programme including range of motion exercises, lower limb stretching exercises, splinting, daily walking and training for activities of daily living. Also carried out a12 week Isokinetic training programme using Biodex system. 3 x training sessions per week consisting of 5 minute warm up on a treadmill at 4 km/hour and 5 sets (10 repetitions of concentric contraction at 150°/sec) of knee extensor stretching with 3-minute rest between. Initially, intensity was set at 50% of every peak torque. For the 1st 5 sessions, sets were increased from 1 to 5 sets. From session 6-24, 6 sets were performed, progressing to 10 sets for session 25-30. Placebo pills given in place of Vitamin D3.	**Results** *Changes in mobility (Stride length measured in cm) [mean (SD)]* Higher = better At baseline: • Vitamin D group + isokinetic training (N=15): 87.00 (2.08) • Isokinetic training (N=17): 88.00 (2.09) At 12 weeks (after intervention completion): • Vitamin D group + isokinetic training (N=15): 139.56 (2.57) • Isokinetic training (N=17): 110.60 (2.87) • Significant difference between groups at 12 weeks (p value < 0.0001, repeated-measured ANOVA with post hoc comparison) *Changes in mobility (Step length measured in cm) [mean (SD)]* Higher = better At baseline: • Vitamin D group + isokinetic training (N=15): 39.00 (1.83)	**Limitations** **Quality assessment:** Risk of bias assessed using revised Cochrane risk of bias tool (RoB 2) <u>Domain 1: Risk of bias arising from the randomization process</u> 1.1 Was the allocation sequence random? NI - Paper simply states that participants were randomised. 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? Y - Opaque enveloped with random number which were opened by participants. 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? N - No significant difference between groups at baseline. *Risk-of-bias judgement:* Low risk <u>Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</u> 2.1. Were participants aware of their assigned intervention during the trial? N - Participants were blinded to group assignment. 2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? N -

Study details	Participants	Interventions	Outcomes and Results	Comments
vitamin D supplementation and exercise on muscle strength, explosive strength, mobility and vitamin D levels in children with severe burns. **Study dates** Not reported. **Source of funding** No specific funding received from any funding agency, commercial enterprise or non-profit organisation.	Injury cause: not reported TBSA [mean(SD)]: • Vitamin D (%) = 24 (3.1) • Isokinetic training (%) = 26 (2.8) **Inclusion criteria** Participants had to: • Have TBSA between 40-55% • Be able to walk without assistance • Not be an athlete **Exclusion criteria** • Metabolic disorders • Neuropathy • Visual and vestibular disorders • Limb amputation • Lower limb deformity • Taking part in another study • History of adverse medical reactions • History of epilepsy History of imbalance		• Isokinetic training (N=17): 38.62 (1.32) At 12 weeks (after intervention completion): • Vitamin D group + isokinetic training (N=15): 67.26 (2.45) • Isokinetic training (N=17): 55.25 (2.49) • Significant difference between groups at 12 weeks (p value < 0.0001, repeated-measured ANOVA with post hoc comparison) *Changes in mobility (Velocity measured in cm/s) [mean (SD)]* Higher = better At baseline: Vitamin D group + isokinetic training (N=15): 73.34 (1.48) Isokinetic training (N=17): 73.93 (1.38) At 12 weeks (after intervention completion): • Vitamin D group + isokinetic training (N=15): 133.94 (1.65) • Isokinetic training (N=17): 99.94(1.65) • Significant difference between groups at 12 weeks (p value < 0.0001, repeated-measured	Therapists were blinded to group assignment. 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? NA. 2.4. If Y/PY to 2.3: Were these deviations from intended intervention balanced between groups? NA. 2.5 If No/PN/NI to 2.4: Were these deviations likely to have affected the outcome? NA. 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? Y - Intention to treat. 2.7 If No/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? NA. *Risk-of-bias judgement:* Low risk <u>Domain 3: Missing outcome data</u> 3.1 Were data for this outcome available for all, or nearly all, participants randomized? Y - Data available for all participants. 3.2 If No/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? NA. 3.3 If No/PN to 3.2: Could missingness in the outcome depend on its true value? NA. 3.4 If Y/PY/NI to 3.3: Is it likely

Study details	Participants	Interventions	Outcomes and Results	Comments
			ANOVA with post hoc comparison) *Changes in mobility (Cadence measured in step/min) [mean (SD)]* Higher = better At baseline: • Vitamin D group + isokinetic training (N=15): 83.43 (1.65) • Isokinetic training (N=17): 83.50 (1.55) At 12 weeks (after intervention completion): • Vitamin D group + isokinetic training (N=15): 140.63 (1.36) • Isokinetic training (N=17): 132.63 (1.36) • Significant difference between groups at 12 weeks (p value < 0.0001, repeated-measured ANOVA with post hoc comparison)	that missingness in the outcome depended on its true value? NA. *Risk-of-bias judgement:* Low risk <u>Domain 4: Risk of bias in measurement of the outcome</u> 4.1 Was the method of measuring the outcome inappropriate? PN. 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? N - Data collection occurred at baseline and 12 weeks. 4.3 If No/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants? NI. 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? N - All outcomes objectively measured. 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? NA. *Risk-of-bias judgement:* Low risk <u>Domain 5: Risk of bias in selection of the reported result</u> 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? NI Is the numerical result being assessed likely to have been selected, on the basis of the

Study details	Participants	Interventions	Outcomes and Results	Comments
				results, from... 5.2. ... multiple outcome measurements (e.g. scales, definitions, time points) within the outcome domain? PN 5.3 ... multiple analyses of the data? PN *Risk-of-bias judgement* Some concerns Overall risk of bias *Some concerns* **Other information** The results of isokinetic training +home exercise are reported separately in another paper (Ebid 2014). Only vitamin D+ isokinetic training and isokinetic training only will be extracted from this paper.

6MWT: 6 minute walk test; ANOVA: Analysis of variance statistical test; cm: centimetres; F: Female; IU: International units; M: Male; N: Number [or No if part of quality assessment]; NA: Not applicable; NI: No information; PN: Probably not; PY: Probably yes; RCT: Randomised controlled trial; SD: Standard deviation: SEM: standard error of mean; TBSA: Total burn surface area: Y: Yes

Appendix E – Forest plots

Forest plots for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

No meta-analyses were performed as the interventions or outcomes were either not sufficiently similar to allow them to be combined or they were not reported by more than one study.

Forest plots for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

No meta-analyses were performed as the interventions or outcomes were either not sufficiently similar to allow them to be combined or they were not reported by more than one study.

Appendix F – GRADE tables

GRADE tables for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Early weight-bearing to mobilise

Table 11: Clinical evidence profile for early weight-bearing: Early weight-bearing versus late weight-bearing in unstable ankle fracture rehabilitation (outcomes reported as counts (%) and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Relative (95% CI)	Absolute		
Return to work (measured using number of participants returned to work at each time point) - 6 weeks post-operation (intervention completion)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	23/49 (46.9%)	22/46 (47.8%)	RR 0.98 (0.64 to 1.5)	10 fewer per 1000 (from 172 fewer to 239 more)	VERY LOW	CRITICAL
Return to work (measured using number of participants returned to work at each time point) - 3 month post-operation (6 week follow-up)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	38/49 (77.6%)	36/44 (81.8%)	RR 0.95 (0.77 to 1.16)	41 fewer per 1000 (from 188 fewer to 131 more)	VERY LOW	CRITICAL
Return to work (measured using number of participants returned to work at each time point) - 6 months post-operation												
1 (Dehgha	randomised trials	very serious[1]	no serious	no serious	no serious	none	44/46 (95.7%)	40/43 (93%)	RR 1.03 (0.93 to	28 more per 1000	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Relative (95% CI)	Absolute		
n 2016)			inconsistency	indirectness	imprecision				1.14)	(from 65 fewer to 130 more)		
Return to work (measured using number of participants returned to work at each time point) - 12 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	49/50 (98%)	40/43 (93%)	RR 1.05 (0.96 to 1.15)	47 more per 1000 (from 37 fewer to 140 more)	LOW	CRITICAL

CI: Confidence interval; RR: Risk ratio
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MIDSs (for all RR 0.8 and 1.25)
3 95% CI crosses 1 MID (for all RR 0.8 and 1.25)

Table 12: Clinical evidence profile for early weight-bearing: Early weight-bearing versus late weight-bearing in unstable ankle fracture rehabilitation (outcomes reported as means only and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Early weight-bearing mean	Late weight-bearing mean		
Return to work (measured using total days off work [mean]; better indicated by lower values) – Time point not reported												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Early weight-bearing mean	Late weight-bearing mean		
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	40	37	51.2[3]	47.8[3]	VERY LOW	CRITICAL
Changes in mobility (measured using total ankle dorsiflexion/plantar flexion range of motion in degrees; better indicated by higher values) – 6 weeks post-operation (intervention completion)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	53	54	41[4]	29[4]	VERY LOW	CRITICAL
Changes in mobility (measured using total ankle dorsiflexion/plantar flexion range of motion in degrees; better indicated by higher values) – 3 months post-operation (6 week follow-up)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	49	51	49[5]	49[5]	VERY LOW	CRITICAL
Changes in mobility (measured using total ankle dorsiflexion/plantar flexion range of motion in degrees; better indicated by higher values) – 6 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	46	46	56[5]	53[5]	VERY LOW	CRITICAL
Changes in mobility (measured using total ankle dorsiflexion/plantar flexion range of motion in degrees; better indicated by higher values) – 12 months post-operation (6 week follow-up)												
1 (Dehghan	randomised trials	very serious[1]	no serious	no serious	very serious[2]	none	50	52	60[5]	61[5]	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Early weight-bearing mean	Late weight-bearing mean		
2016)			inconsistency	indirectness								
Changes in mobility (measured using Olerud/Molander ankle functions scores; range 0-100; better indicated by higher values) – 6 weeks post-operation (intervention completion)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	53	54	45[6]	32[6]	VERY LOW	CRITICAL
Changes in mobility (measured using Olerud/Molander ankle functions scores; range 0-100; better indicated by higher values) – 3 months post-operation (6 week follow-up)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	49	51	62[5]	56[5]	VERY LOW	CRITICAL
Changes in mobility (measured using Olerud/Molander ankle functions scores; range 0-100; better indicated by higher values) – 6 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	46	46	77[5]	73[5]	VERY LOW	CRITICAL
Changes in mobility (measured using Olerud/Molander ankle functions scores; range 0-100; better indicated by higher values) – 12 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	50	52	89[5]	85[5]	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Early weight-bearing mean	Late weight-bearing mean		
Overall quality of life (measured using SF-36 Physical component score; range 0-100; better indicated by higher values) – 6 weeks post-operation (intervention completion)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	53	54	51[7]	42[7]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 Physical component score; range 0-100; better indicated by higher values) – 3 months post-operation (6 weeks follow-up)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	49	51	66[5]	64[5]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 Physical component score; range 0-100; better indicated by higher values) – 6 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	46	46	79[8]	72[8]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 Physical component score; range 0-100; better indicated by higher values) – 12 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	50	52	85[9]	79[9]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 mental component score; range 0-100; better indicated by higher values) – 6 weeks post-operation (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early weight-bearing	Late weight-bearing	Early weight-bearing mean	Late weight-bearing mean		
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	53	54	66[10]	54[10]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 mental component score range 0-100; better indicated by higher values) – 3 months post-operation (6 weeks follow-up)												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	49	51	74[5]	73[5]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 mental component score; range 0-100; better indicated by higher values) – 6 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	46	46	84[11]	79[11]	VERY LOW	CRITICAL
Overall quality of life (measured using SF-36 mental component score; range 0-100; better indicated by higher values) – 12 months post-operation												
1 (Dehghan 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	50	52	87[12]	83[12]	VERY LOW	CRITICAL

SF-36: 36-item Short Form Survey
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to lack of SD reporting and no published MIDs, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analysis performed by the authors, there is no significant difference between the means of each group (p=0.72, unclear which statistical test the authors used)

4 According to the statistical test performed by the authors, the mean is significantly higher (better) in the intervention group (p<0.0001, unclear which statistical test the authors used)
5 According to the statistical test performed by the authors, there is no significant difference between the means of each group (p value not reported, unclear which statistical test the authors used)
6 According to the statistical test performed by the authors, the mean is significantly higher (better) in the intervention group (p=0.0007, unclear which statistical test the authors used)
7 According to the statistical test performed by the authors, the mean is significantly higher (better) in the intervention group (p=0.0008, unclear which statistical test the authors used)
8 According to the statistical analysis performed by the authors, there is no significant difference between the means of each group (p=0.07, unclear which statistical test the authors used)
9 According to the statistical test performed by the authors, the mean is significantly higher (better) in the intervention group (p=0.04, unclear which statistical test the authors used)
10 According to the statistical test performed by the authors, the mean is significantly higher (better) in the intervention group (p=0.0008, unclear which statistical test the authors used)
11 According to the statistical analysis performed by the authors, there is no significant difference between the means of each group (p=0.08, unclear which statistical test the authors used)
12 According to the statistical analysis performed by the authors, there is no significant difference between the means of each group (p=0.09, unclear which statistical test the authors used)

Table 13: Clinical evidence profile for early weight-bearing: Early ambulation versus late ambulation in hip fracture rehabilitation (outcomes reported as means (range) and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early ambulation	Delayed ambulation	Early ambulation mean (range)	Delayed ambulation mean (range)		
Changes in mobility (measured using distance walked in m; better indicated by higher values) - Day 7 post-operation (intervention completion)												
1 (Oldmeadow 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	29	31	66 (not reported)[3]	29.71 (0 to 150)[3]	VERY LOW	CRITICAL

m: metre
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to lack of reported SD and published MIDs, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.

3 According to the statistical test performed by the authors, the mean is significantly higher (better) in the intervention group (p=0.03, Wilcoxon rank sum test)

Table 14: Clinical evidence profile for early weight-bearing: Early ambulation versus late ambulation in hip fracture rehabilitation (outcomes reported as counts (%) and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early ambulation	Delayed ambulation	Relative (95% CI)	Absolute		
Changes in ADL (measured as number of participants able to independently negotiate one step) - Day 7 post-operation (intervention completion)												
1 (Oldmeadow 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	10/23 (43.5%)	23/24 (95.8%)	RR 0.45 (0.28 to 0.73)	527 fewer per 1000 (from 259 fewer to 690 fewer)	LOW	CRITICAL
Changes in ADL (measured as number of participants able to independently transfer one step) - Day 7 post-operation (intervention completion)												
1 (Oldmeadow 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	16/26 (61.5%)	4/25 (16%)	RR 3.85 (1.49 to 9.93)	456 more per 1000 (from 78 more to 1000 more)	LOW	CRITICAL

ADL: Activities of daily living: CI: confidence interval; RR: Risk ratio
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

Table 15: Clinical evidence profile for early weight-bearing: Weight-bearing versus non weight-bearing in hip fracture rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Weight-bearing	Non weight-bearing	Relative (95% CI)	Absolute		
Changes in mobility (measured using step test repetitions in affected leg range; better indicated by higher values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 0.8 higher (0.26 lower to 1.86 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using step test repetitions in non-affected leg; better indicated by higher values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 1.6 higher (0.01 lower to 3.21 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using velocity in m/sec; better indicated by higher values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 0.06 higher (0.03 lower to 0.15 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using cadence in steps/sec; better indicated by higher values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 0.2 higher (0.02 lower to 0.42 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using step length in affected leg in cm; better indicated by higher values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	19	22	-	MD 2.7 higher (6.81 lower to 12.21 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using step length in non-affected leg in cm; better indicated by higher values) - 2 weeks (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Weight-bearing	Non weight-bearing	Relative (95% CI)	Absolute		
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	19	22	-	MD 0.6 lower (8.01 lower to 6.81 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using time to stand in sec; better indicated by lower values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 0.05 higher (0 to 0.1 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using time to sit up in sec; better indicated by lower values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 0.03 higher (0.02 lower to 0.08 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Physical Performance and Mobility Examination score; range 0-12; better indicated by higher values) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	37	-	MD 0.7 higher (0.53 lower to 1.93 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using lateral step up in affected leg) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	22/40 (55%)	7/37 (18.9%)	RR 2.91 (1.41 to 5.99)	361 more per 1000 (from 78 more to 944 more)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Weight-bearing	Non weight-bearing	Relative (95% CI)	Absolute		
Changes in mobility (measured using participants who became able to do lateral step up with affected leg) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	16/40 (40%)	6/37 (16.2%)	RR 2.47 (1.08 to 5.63)	238 more per 1000 (from 13 more to 751 more)	VERY LOW	CRITICAL
Changes in mobility (measured using lateral step up in non-affected leg) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	26/40 (65%)	21/37 (56.8%)	RR 1.15 (0.8 to 1.64)	85 more per 1000 (from 114 fewer to 363 more)	VERY LOW	CRITICAL
Changes in mobility (measured using participants who became able to do lateral step up with non-affected leg) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	15/40 (37.5%)	13/37 (35.1%)	RR 1.07 (0.59 to 1.93)	25 more per 1000 (from 144 fewer to 327 more)	VERY LOW	CRITICAL
Changes in mobility (measured using number of participants unable to walk 6 m) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	7/41 (17.1%)	4/39 (10.3%)	RR 1.66 (0.53 to 5.24)	68 more per 1000 (from 48 fewer to 435 more)	VERY LOW	CRITICAL
Changes in mobility (measured using number of participants able to walk 6 m with a frame) - 2 weeks (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Weight-bearing	Non weight-bearing	Relative (95% CI)	Absolute		
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20/41 (48.8%)	23/39 (59%)	RR 0.83 (0.55 to 1.24)	100 fewer per 1000 (from 265 fewer to 142 more)	VERY LOW	CRITICAL
Changes in mobility (measured using number of participants able to walk 6 m with 2 sticks) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	22/41 (53.7%)	7/39 (17.9%)	RR 2.99 (1.44 to 6.2)	357 more per 1000 (from 79 more to 933 more)	LOW	CRITICAL
Changes in mobility (measured using number of participants able to walk 6 m with 1 stick or no aid) - 2 weeks (intervention completion)												
1 (Sherrington 2003)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	8/41 (19.5%)	2/39 (5.1%)	RR 3.8 (0.86 to 16.82)	144 more per 1000 (from 7 fewer to 811 more)	VERY LOW	CRITICAL

CI: confidence interval; cm: centimetre; m: metre; MD: mean difference; RR: Risk ratio; sec: second
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for step test, affected leg +/-0.3; for step test, non-affected leg +/-0.65; for velocity +/-0.045; for cadence +/-0.165; for step length, affected leg +/-7.6; for time to stand +/-0.035; for time to sit up +/-0.035; for Physical Performance and Mobility Examination +/-1.25; for all RR 0.8 and 1.25)
3 95% CI crosses 2 MIDs (for step length, non-affected leg +/-4.65; for all RR 0.8 and 1.25)

Table 16: Clinical evidence profile for early weight-bearing: Comprehensive geriatric care versus orthopaedic care in hip fracture rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Comprehensive geriatric care	Orthopaedic care	Relative (95% CI)	Absolute		
Changes in mobility (measured using upright time in min; better indicated by higher values) - Day 4 (post-operation)												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	no serious imprecision	none	175	142	-	MD 12.5 higher (1.33 lower to 26.33 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using number of upright events range; better indicated by higher values) - Day 4 post-operation												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	serious[3]	none	175	142	-	MD 5.1 higher (0.85 to 9.35 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Cumulative Ambulation Score; range 0-18; better indicated by higher values) - Day 1-3 post-operation												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	no serious imprecision	none	175	142	-	MD 0.5 higher (0.35 lower to 1.35 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Short Physical Performance Battery score; range 0-12; better indicated by higher values) - Day 5 post-operation												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	serious[3]	none	175	142	-	MD 0.6 higher (0.2 to 1 higher)	VERY LOW	CRITICAL
Changes in mobility (using upright time during a 24 hour period in min; better indicated by higher values) - Day 4 post-operation (during night, 00:00-06:00)												
1 (Taraldse	randomised trials	very serious[1]	no serious inconsiste	serious[2]	no serious imprecisio	none	175	142	-	MD 0.5 lower (2.14	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Comprehensive geriatric care	Orthopaedic care	Relative (95% CI)	Absolute		
n 2014)			ncy		n					lower to 1.14 higher)		
Changes in mobility (using upright time during a 24 hour period in min; better indicated by higher values) - Day 4 post-operation (during day, 06:00-12:00)												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	very serious[4]	none	175	142	-	MD 4.6 higher (33.24 lower to 42.44 higher)	VERY LOW	CRITICAL
Changes in mobility (using upright time during a 24 hour period in min; better indicated by higher values) - Day 4 post-operation (during afternoon, 12:00-18:00)												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	no serious imprecision	none	175	142	-	MD 4.9 higher (0.19 lower to 9.99 higher)	VERY LOW	CRITICAL
Changes in mobility (using upright time during a 24 hour period in min; better indicated by higher values) - Day 4 post-operation (during evening, 18:00-00:00)												
1 (Taraldsen 2014)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	no serious imprecision	none	175	142	-	MD 3.2 higher (0.59 lower to 6.99 higher)	VERY LOW	CRITICAL

CI: confidence interval; cm: centimetre; m: metre; MD: mean difference; min: minute
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB

2 Intervention is indirect: multi-disciplinary intervention that has an early mobilisation component
3 95% CI crosses 1 MID (for number of upright events +/-8.25; for Short Physical Performance Battery +/-0.8)
4 95% CI crosses 2 MIDs (for upright time between 06:00-12:00 +/-11.45)

Exercise class, reconditioning, cardiovascular and fitness training

Table 17: Clinical evidence profile for exercise class/reconditioning/cardiovascular/fitness training: Aerobic exercise + standard rehabilitation versus standard rehabilitation only in SCI rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Aerobic exercise + standard rehabilitation	Standard rehabilitation only	Aerobic exercise + standard rehabilitation	Standard rehabilitation only		
Quality of Life (measured using WHOQOL-Bref-Tr physical domain score; scale not reported; better indicated by higher values) - 6 weeks from baseline (during intervention)												
1 (Akkurt 2017)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	17	16	Median (range): 11.4 (6.9-14.3)[3]	Median (range): 10.86 (8.6-13.7)[3]	VERY LOW	IMPORTANT
Quality of Life (measured using WHOQOL-Bref-Tr physical domain score; scale not reported; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Akkurt 2017)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	17	16	Median (range): 10.9 (7.4-13.1)[3]	Median (range): 10.9 (6.3-14.3)[3]	VERY LOW	IMPORTANT
Quality of Life (measured using WHOQOL-Bref-Tr psychological domain score; scale not reported; better indicated by higher values) - 6 weeks from baseline (during intervention)												
1 (Akkurt	randomis	very	no	no	very	none	17	16	Median	Median	VERY	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Aerobic exercise + standard rehabilitation	Standard rehabilitation only	Aerobic exercise + standard rehabilitation	Standard rehabilitation only		
2017)	ed trials	serious[1]	serious inconsistency	serious indirectness	serious[2]				(range): 13.3 (10.0-7.3)[3]	(range): 12.0 (7.3-14.7)[3]	LOW	
Quality of Life (measured using WHOQOL-Bref-Tr psychological domain score; scale not reported; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Akkurt 2017)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	17	16	Median (range): 13.7 (5.0-17.0)[3]	Median (range): 12.7 (9.0-17.0)[3]	VERY LOW	IMPORTANT
Changes in ADL (measured using FIM score; range 18-126; better indicated by higher values) - 6 weeks from baseline (during intervention)												
1 (Akkurt 2017)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	17	16	Median (range): 63 (50-118)[3]	Median (range): 72 (56-94)[3]	VERY LOW	IMPORTANT
Changes in ADL (measured using FIM score; range 18-126; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Akkurt 2017)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	17	16	Median (range): 62.5 (50-118)[3]	Median (range): 74 (56-119)[3]	VERY LOW	IMPORTANT

ADL: Activities of daily living; FIM: Functional independence measure; IQR: Interquartile range; WHOQOL-Bref-Tr: World Health Organization abbreviated Quality of Life Questionnaire [Turkish language]

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels
3 According to the statistical analyses performed by the author, the median difference was not statistically significant between groups (p>0.05, Mann-Whitney U test)

Table 18: Clinical evidence profile for exercise class/reconditioning/cardiovascular/fitness training: Upper-body exercise training + standard rehabilitation versus standard rehabilitation only in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Upper body exercise training + standard rehabilitation	Standard rehabilitation only	Relative	Absolute (95% CI)		
Changes in mobility (measured using Timed Up and Go test in sec; better indicated by lower values) - 4 weeks from baseline (intervention completion)												
1 (Mendelsohn 2008)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	9	9	-	MD 14.8 lower (24.64 to 4.96 lower)	VERY LOW	CRITICAL
Changes in mobility (measured using 2MWT in meters; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Mendelsohn 2008)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	10	10	-	MD 154.5 higher (105.49 to 203.51 higher)	LOW	CRITICAL
Changes in mobility (measured using 10MWT in meters; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Mendelsohn 2008)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	10	10	-	MD 146 higher (27.82 to 264.18 higher)	VERY LOW	CRITICAL
Changes in ADL (measured using FIM score; range 18-126; better indicated by higher values) - 4 weeks from baseline (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Upper body exercise training + standard rehabilitation	Standard rehabilitation only	Relative	Absolute (95% CI)		
1 (Mendelsohn 2008)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	10	10	-	MD 3.4 higher (2.61 lower to 9.41 higher)	VERY LOW	IMPORTANT

2MWT: 2 minute walk test; 10MWT: 10 minute walk test; CI: confidence interval; FIM: Functional independence measure; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for TUG +/-6.15; for 10MWT +/-37.85; for FIM +/-4.15)

Table 19: Clinical evidence profile for exercise class/reconditioning/cardiovascular/fitness training: Aerobic exercise versus standard rehabilitation in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Aerobic exercise	Standard rehabilitation	Relative	Absolute (95% CI)		
Changes in mobility (measured using SAM; better indicated by higher values) - 12 months from baseline (intervention completion)												
1 (Resnick 2007)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	35	40	-	MD 2399 higher (363.63 lower to	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Aerobic exercise	Standard rehabilitation	Relative	Absolute (95% CI)		
										5161.63 higher)[3]		
Changes in mobility (measured using YPAS-E in hours; better indicated by higher values) - 2 months follow-up (during intervention)												
1 (Resnick 2007)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious imprecision[4]	none	40	42	-	MD 0.07 higher (0.93 lower to 1.07 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using YPAS-E in hours; better indicated by higher values) - 6 months from baseline (during intervention)												
1 (Resnick 2007)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	39	43	-	MD 1.25 higher (0.5 to 2 higher)	LOW	IMPORTANT
Changes in mobility (measured using YPAS-E in hours; better indicated by higher values) - 12 months from baseline (intervention completion)												
1 (Resnick 2007)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	35	40	-	MD 2.42 higher (1.05 to 3.79 higher)	MODERATE	IMPORTANT

CI: confidence interval; SAM: Step Activity Measure; YPAS-E; Yale Physical Activity Survey Exercise sub-score
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for SAM +/-3239.98; for YPAS-E +/-0.714)
3 It should be noted that, in contrast to our findings, the analysis performed by the study authors concluded that this result was significantly higher (better) in the intervention group (p=0.03, Wald statistics)
4 95% CI crosses 2 MIDs (for YPAS-E +/-0.714)

Table 20: Clinical evidence profile for exercise class/reconditioning/cardiovascular/fitness training: Step exercises versus control (no details reported) in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Step exercises	Control	Relative	Absolute (95% CI)		
Changes in mobility (measured using velocity in m/sec; better indicated by higher values) - At intervention completion (time of measurement not clearly reported)												
1 (Sherrington 1997)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	20	20	-	MD 0.01 higher (0.2 lower to 0.22 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using cadence in step/min; better indicated by higher values) - At intervention completion (time of measurement not clearly reported)												
1 (Sherrington 1997)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	20	20	-	MD 1.8 lower (21.96 lower to 18.36 higher)	VERY LOW	CRITICAL

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MIDs (for velociy +/-0.165; for cadence +/-16.05)

Gait re-education

Table 21: Clinical evidence profile for gait re-education: Body weight supported gait training (BWSGT) on a fixed track versus standard care

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BWSGT on a fixed track	Standard care	Relative (95% CI)	Absolute		
Patient acceptability: Satisfaction with Abilities and Well-Being Scale (SAWS; scale not reported; better indicated by lower values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	14	12	-	MD 3.4 higher (2.59 lower to 9.39 higher)	VERY LOW	CRITICAL
Patient acceptability: Satisfaction with Abilities and Well-Being Scale (SAWS; scale not reported; better indicated by lower values) - at week 17 from baseline (4 weeks after intervention completion) (Better indicated by lower values)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[4]	none	14	12	-	MD 1 higher (3.57 lower to 5.57 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 General health perception score[1] (scale not reported; better indicated by lower values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	14	12	-	MD 0.3 lower (0.88 lower to 0.28 higher)	VERY LOW	IMPORTANT
Overall quality of life: SF-36 General health perception score[1] (scale not reported; better indicated by lower values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	14	12	-	MD 0.3 lower (0.96 lower to 0.36 higher)	VERY LOW	IMPORTANT
Overall quality of life: SF-36 Energy score[1] (scale not reported; better indicated by lower values) - at week 13 from baseline (after intervention completion)												
1 (Alexeev	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	14	12	-	MD 1 lower (3.27 lower	VERY LOW	IMPORTANT

a 2011)										to 1.27 higher)		
Overall quality of life: SF-36 Energy score[1] (scale not reported; better indicated by lower values) - at week 17 from baseline (4 weeks after intervention completion) (Better indicated by lower values)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	14	12	-	MD 3.3 higher (1.22 to 5.38 higher)	VERY LOW	IMPORTANT
Overall quality of life: SF-36 Mental health perception Score[1] (scale not reported; better indicated by higher values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	14	12	-	MD 0.5 higher (0.85 lower to 1.85 higher)	VERY LOW	IMPORTANT
Overall quality of life: SF-36 Mental health perception Score[1] (scale not reported; better indicated by higher values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[3]	none	14	12	-	MD 0.4 higher (1.02 lower to 1.82 higher)	VERY LOW	IMPORTANT
Overall quality of life: SF-36 Fatigue score[1] (scale not reported; better indicated by higher values) - at week 13 from baseline (after intervention completion) (Better indicated by higher values)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[4]	none	14	12	-	MD 0 higher (2.06 lower to 2.06 higher)	VERY LOW	IMPORTANT
Overall quality of life: SF-36 Fatigue score[1] (scale not reported; better indicated by higher values) - at week 17 from baseline (4 weeks after intervention completion) (Better indicated by higher values)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[4]	none	14	12	-	MD 0.4 lower (3.21 lower to 2.41 higher)	VERY LOW	IMPORTANT

CI: Confidence interval; MD: Mean difference; SF-36: the Short Form (36) Health Survey
1 Study authors report using measurements derived from corresponding SF-36 domains, but not all questions.

2 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
3 Confidence intervals crosses 1 MID (for SF-36 General health perception score +/- 0.40; SF-36 Energy score +/- 2.15; SAWS +/- 4.45; SF-36 Mental health perception Score +/- 1.00)
4 Confidence intervals crosses 2 MIDs (for SF-36 Mental health perception Score +/- 1.00; SF-36 Fatigue score +/- 1.35)

Table 22: Clinical evidence profile for gait re-education: Body weight supported gait training (BWSGT) on a treadmill versus standard care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	BWSGT on a treadmill	Standard care	Relative (95% CI)	Absolute		
Patient acceptability: Satisfaction with Abilities and Well-Being Scale (SAWS; scale not reported; better indicated by lower values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	9	12	-	MD 6.2 higher (1.03 lower to 13.43 higher)	VERY LOW	CRITICAL
Patient acceptability: Satisfaction with Abilities and Well-Being Scale (SAWS; scale not reported; better indicated by lower values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[2]	none	9	12	-	MD 0.2 lower (6.17 lower to 5.77 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 General health perception score[4] (scale not reported; better indicated by lower values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	9	12	-	MD 0.2 lower (1.05 lower to 0.65 higher)	VERY LOW	CRITICAL

Overall quality of life: SF-36 General health perception score[4] (scale not reported; better indicated by lower values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	9	12	-	MD 0.7 lower (1.64 lower to 0.24 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 Energy score[4] (scale not reported; better indicated by lower values) - at week 13 from baseline (after intervention completion)												
11 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	9	12	-	MD 0.9 lower (3.56 lower to 1.76 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 Energy score[4] (scale not reported; better indicated by lower values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	9	12	-	MD 1.6 lower (4.91 lower to 1.71 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 Mental health perception Score[4] (scale not reported; better indicated by higher values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	Serious[3]	none	9	12	-	MD 1.2 higher (0.23 lower to 2.63 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 Mental health perception Score[4] (scale not reported; better indicated by higher values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	9	12	-	MD 0.3 lower (1.87 lower to 1.27 higher)	VERY LOW	CRITICAL
Overall quality of life: SF-36 Fatigue score[4] (scale not reported; better indicated by higher values) - at week 13 from baseline (after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	9	12	-	MD 0.2 lower (2.82 lower to	VERY LOW	CRITICAL

										2.42 higher)		
Overall quality of life: SF-36 Fatigue score[4] (scale not reported; better indicated by higher values) - at week 17 from baseline (4 weeks after intervention completion)												
1 (Alexeeva 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	9	12	-	MD 1.4 higher (1.69 lower to 4.49 higher)	VERY LOW	CRITICAL

CI: Confidence interval; MD: Mean difference; SF-36: Short Form Health Survey – 36 item
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MIDs (for SF-36 General health perception score +/- 0.40; SF-36 Fatigue score +/- 1.35; SF-36 Mental health perception Score +/- 1.00; SAWS +/- 4.45)
3 95% CI crosses 1 MID (for SF-36 General health perception score +/- 0.40; SF-36 Energy score +/- 2.15; SF-36 Mental health perception Score +/- 1.00; SAWS +/- 4.45)
4 Study authors report using measurements derived from corresponding SF-36 domains, but not all questions.

Table 23: Clinical evidence profile for gait re-education: Body-weight supported gait training versus over ground training in SCI rehabilitation (outcomes reported as medians (IQR) and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Body-weight supported gait training	Over ground training		
Changes in mobility (measured using FIM-L score in ASIA B + C patients; range 1-7; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	52	57	Median (IQR): 6 (1-6)[3]	Median (IQR): 6 (2-6)[3]	VERY LOW	CRITICAL
Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months measured using FIM-L; range 1-7; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin	randomised trials	very serious[1]	no serious	no serious	very serious[2]	none	27	18	Median (IQR): 6	Median (IQR): 6 (	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Body-weight supported gait training	Over ground training		
2006)			inconsistency	indirectness					(6-7)[4]	6-7)[4]		
Changes in mobility (measured using velocity in ASIA C + D (UMN and LMN) patients in m/sec; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	35	33	Median (IQR): 1.1 (0.8-1.4)[5]	Median (IQR): 1.0 (0.7-1.5)[5]	VERY LOW	CRITICAL
Changes in mobility (in UMN ASIA C + D patients measured using velocity in m/sec; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	30	25	Median (IQR): 1.0 (0.6-1.5)[6]	Median (IQR): 1.2 (0.9-1.7)[6]	VERY LOW	CRITICAL
Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using velocity in m/sec; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	27	18	Median (IQR): 1.1 (0.6-1.5)[7]	Median (IQR): 1.1 (0.4-1.7)[7]	VERY LOW	CRITICAL
Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using distance in m; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsist	indirectn	very serious[2]	none	27	18	Median (IQR): 312	Median (IQR): 401 (366-	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Body-weight supported gait training	Over ground training		
			ency	ess					(165-477)[8]	483)[8]		
Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using LEMS score; range 0-50; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	27	18	Median (IQR): 45 (43-49)[9]	Median (IQR): 45 (36-49)[9]	VERY LOW	CRITICAL
Changes in mobility (in UMN ASIA C + D who were able to walk at 6 months, measured using Walking Index for Spinal Cord Injury score; range 0-20; better indicated by higher values) - 6 months (3 months after intervention completion)												
1 (Dobkin 2006)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	27	18	Median (IQR): 18 (13-19)[10]	Median (IQR): 18 (13-19)[10]	VERY LOW	CRITICAL

ASIA: American Spinal Injury Association; FIM-L: Functional independence measure locomotion sub-scale; IQR: Interquartile range; LEMS: Lower extremity motor score; m: metre; UMN: upper motor neurone; SCI: Spinal cord injury; sec: second
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.39, regression analysis)
4 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.69, regression analysis)
5 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.65, regression analysis)
6 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.58, regression analysis)
7 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.98, regression analysis)
8 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.27, regression analysis)
9 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.45, regression analysis)
10 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.69, regression analysis)

Table 24: Clinical evidence profile for gait re-education: Body-weight supported gait training versus over ground training in SCI rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
Changes in mobility (in participants with SCI level of ASIA B measured using FIM-L; range 1-7; better indicated by higher values) - 6 weeks (during intervention)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	17	-	MD 0.01 higher (0.17 lower to 0.19 higher)	LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA B measured using FIM-L; range 1-7; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	13	16	-	MD 0.63 lower (1.67 lower to 0.41 higher)	VERY LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA B measured using LEMS; range 0-50; better indicated by higher values) - 6 weeks (during intervention)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	16	-	MD 0.5 lower (4.79 lower to 3.79 higher)	LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA B measured using LEMS; range 0-50; better indicated by higher values) - 12 weeks (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	13	16	-	MD 1.2 lower (8.08 lower to 5.68 higher)	VERY LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA B measured using walking distance in m; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	9	12	-	MD 5.7 lower (35.01 lower to 23.61 higher)	VERY LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA C + D measured using FIM-L; range 1-7; better indicated by higher values) - 6 weeks (during intervention)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	39	39	-	MD 0.9 lower (1.83 lower to 0.03 higher)	VERY LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA C + D measured using FIM-L; range 1-7; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	43	40	-	MD 0.8 lower (1.56 to 0.04 lower)	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
Changes in mobility (in participants with SCI level of ASIA C + D measured using velocity in m/sec; better indicated by higher values) - 6 weeks (during intervention)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	21	29	-	MD 0.18 higher (0.05 lower to 0.41 higher)	VERY LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA C + D measured using velocity in m/sec; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	34	37	-	MD 0.01 higher (0.24 lower to 0.26 higher)	LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA C + D measured using LEMS; range 0-50; better indicated by higher values) - 6 weeks (during intervention)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	40	39	-	MD 0.4 lower (6.09 lower to 5.29 higher)	LOW	CRITICAL
Changes in mobility (in participants with SCI level of ASIA C + D measured using LEMS; range 0-50; better indicated by higher values) - 12 weeks (intervention completion) (Better indicated by higher values)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsist	no serious indirectne	no serious imprecisi	none	43	40	-	MD 1 lower (6.3 lower to 4.3	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
			ency	ss	on					higher)		
Changes in mobility (in participants with SCI level of ASIA C + D measured using walking distance in m; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Dobkin 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	34	36	-	MD 3.6 lower (95.27 lower to 88.07 higher)	LOW	CRITICAL

ASIA: American Spinal Injury Association; CI: Confidence interval; FIM-L: Functional independence measure locomotion sub-scale; LEMS: Lower extremity motor score; m: metre; MD: Mean difference; UMN: upper motor neurone; SCI: Spinal cord injury; sec: second
1 Very serious risk of bias in the evidence contributing to the evidence as per RoB2
2 95% CI crosses 1 MID (for FIM-L in participants with SCI ASIA B +/-0.865; for FIM-L in SCI ASIA C+D +/-0.7; for velocity in SCI ASIA C+D +/-0.27)
3 95% CI crosses 2 MIDs (for LEMS score in ASIA B +/-5.15; for distance walked in ASIA B +/-18.15)

Table 25: Clinical evidence profile for gait re-education: Body-weight supported gait training versus over ground training in SCI rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
Changes in mobility (measured using velocity in m/sec; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	12	12	-	MD 0.27 higher (0.16 lower to 0.7 higher)	LOW	CRITICAL
Changes in mobility (measured using duration of gait cycle in sec; better indicated by lower values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 1.25 higher (0.57 to 1.93 higher)	MODERATE	CRITICAL
Changes in mobility (measured using percentage stance of whole gait cycle; better indicated by lower values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 5.99 lower (7.57 to 4.41 lower)	MODERATE	CRITICAL
Changes in mobility (measured using percentage swing of whole gait cycle; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 7.26 higher (5.56 to 8.96 higher)	MODERATE	CRITICAL
Changes in mobility (measured using step length in cm; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecisio	none	12	12	-	MD 13.31 higher (11.2 to	MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
					n					15.42 higher)		
Changes in mobility (measured using distance walked in m; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 12.25 higher (5.71 to 18.79 higher)	MODERATE	CRITICAL
Changes in mobility (measured using cadence in steps/min; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 14.72 higher (7.83 to 21.62 higher)	MODERATE	CRITICAL
Changes in mobility (measured using maximum dorsiflexion during stance, right leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 0.9 lower (1.4 to 0.4 lower)	MODERATE	CRITICAL
Changes in mobility (measured using maximum dorsiflexion during stance, left leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 0.7 lower (1.2 to 0.2 lower)	MODERATE	CRITICAL
Changes in mobility (measured using maximum hip extension during stance, right leg; better indicated by higher values) - Gain during												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 7.6 higher (6.04 to 9.16 higher)	MODERATE	CRITICAL
Changes in mobility (measured using maximum hip extension during stance, left leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 7.6 higher (6.03 to 9.17 higher)	MODERATE	CRITICAL
Changes in mobility (measured using maximum hip flexion during gait cycle, right leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 0.3 lower (4.58 lower to 3.98 higher)	MODERATE	CRITICAL
Changes in mobility (measured using maximum hip flexion during gait cycle, left leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 0.4 lower (4.68 lower to 3.88	MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Body-weight supported gait training	Over ground training	Relative (95% CI)	Absolute		
										higher)		
Changes in mobility (measured using maximum knee extension during stance, right leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 0.3 lower (4.77 lower to 4.17 higher)	MODERATE	CRITICAL
Changes in mobility (measured using maximum knee extension during stance, left leg; better indicated by higher values) - Gain during intervention												
1 (Lucareli 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	12	12	-	MD 0.3 lower (4.71 lower to 4.11 higher)	MODERATE	CRITICAL

CI: confidence interval; cm: centimetre; m: metre; MD: mean difference; min: minute; sec: second
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses1 MID (for velocity +/-0.305)

Table 26: Clinical evidence profile for gait re-education: High intensity gait re-education versus standard care in hip fracture rehabilitation (outcomes reported at means (SD) or counts (%) and analysed accordingly)

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High intensity gait re-training	Standard care	Relative (95% CI)	Absolute		
Changes in mobility (measured as participants able to walk unaided or with sticks or crutches) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	26/78 (33.3%)	23/80 (28.8%)	RR 1.16 (0.73 to 1.85)	46 more per 1000 (from 78 fewer to 244 more)	VERY LOW	CRITICAL
Changes in mobility (measured as participants able to walk unaided or with sticks or crutches) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	44/73 (60.3%)	46/77 (59.7%)	RR 1.01 (0.78 to 1.31)	6 more per 1000 (from 131 fewer to 185 more)	VERY LOW	CRITICAL
Changes in mobility (measured as participants reporting good mobility compared to those reported poor or fair mobility) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	28/78 (35.9%)	29/80 (36.3%)	RR 0.99 (0.65 to 1.5)	4 fewer per 1000 (from 127 fewer to 181 more)	VERY LOW	CRITICAL
Changes in mobility (measured as participants reporting good mobility compared to those reported poor or fair mobility) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious1	no serious inconsistency	no serious indirectness	serious[3]	none	41/73 (56.2%)	34/77 (44.2%)	RR 1.27 (0.92 to 1.76)	119 more per 1000 (from 35 fewer to 336 more)	LOW	CRITICAL
Changes in mobility (measured as participants that fell during study period) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	19/73 (26%)	22/77 (28.6%)	RR 0.91 (0.54 to 1.54)	26 fewer per 1000 (from 131 fewer to 154 more)	VERY LOW	CRITICAL
Changes in mobility (measured using Modified Falls Efficacy Scale; range 0-140; better indicated by higher values) - 4 weeks (during intervention)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High intensity gait re-training	Standard care	Relative (95% CI)	Absolute		
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	78	79	-	MD 4 higher (5.56 lower to 13.56 higher)	MODERATE	CRITICAL
Changes in mobility (measured using Modified Falls Efficacy Scale; range 0-140; better indicated by higher values) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	72	76	-	MD 3 higher (8 lower to 14 higher)	MODERATE	CRITICAL
Changes in mobility (measured using velocity in m/sec; better indicated by higher values) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	78	80	-	MD 0.05 higher (0.02 lower to 0.12 higher)	LOW	CRITICAL
Changes in mobility (measured using velocity in m/sec; better indicated by higher values) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	73	77	-	MD 0.03 higher (0.07 lower to 0.13 higher)	LOW	CRITICAL
Changes in mobility (measured PPME score; range 0-12; better indicated by higher values) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious inconsistency	none	78	80	-	MD 0.2 higher (0.39 lower to 0.79 higher)	MODERATE	CRITICAL
Changes in mobility (measured PPME score; range 0-12; better indicated by higher values) - 16 weeks (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High intensity gait re-training	Standard care	Relative (95% CI)	Absolute		
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	73	77	-	MD 0.2 higher (0.57 lower to 0.97 higher)	LOW	CRITICAL
Changes in mobility (measured using Sit-to-stand test in sec; better indicated by higher values) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	78	80	-	MD 0.05 higher (0.01 to 0.09 higher)	LOW	CRITICAL
Changes in mobility (measured using Sit-to-stand test in sec; better indicated by higher values) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	73	77	-	MD 0.04 higher (0 to 0.08 higher)	LOW	CRITICAL
Changes in mobility (measured using step test standing on affected leg; better indicated by higher values) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	78	80	-	MD 1.90 higher (0.34 lower to 3.46 higher)	LOW	CRITICAL
Changes in mobility (measured using step test standing on affected leg; better indicated by higher values) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	73	77	-	MD 1.4 higher (0.23 lower to 3.03 higher)	LOW	CRITICAL
Pain (measured as participants reporting no or slight pain compared to those reporting some, moderate or severe pain) - 4 weeks (during intervention)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High intensity gait re-training	Standard care	Relative (95% CI)	Absolute		
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	34/78 (43.6%)	39/80 (48.8%)	RR 0.89 (0.64 to 1.25)	54 fewer per 1000 (from 176 fewer to 122 more)	VERY LOW	IMPORTANT
Pain (measured as participants reporting no or slight pain compared to those reporting some, moderate or severe pain) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	43/73 (58.9%)	48/77 (62.3%)	RR 0.94 (0.73 to 1.22)	37 fewer per 1000 (from 168 fewer to 137 more)	LOW	IMPORTANT
Overall quality of life (measured using EQ-5D score; scale not reported; better indicated by higher values) - 4 weeks (during intervention)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	78	80	-	MD 0.01 higher (0.07 lower to 0.09 higher)	MODERATE	IMPORTANT
Overall quality of life (measured using EQ-5D score; scale not reported; better indicated by higher values) - 16 weeks (intervention completion)												
1 (Mosely 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	73	77		MD 0 higher (0.09 lower to 0.09 higher)	MODERATE	IMPORTANT

CI: confidence interval; EQ-5D: EuroQol 5 dimensions; PPME: Physical Performance and Mobility Examination; RR: risk ratio; SD: standard deviation
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MIDs (for all RR 0.8 and 1.25)
3 95% CI crosses 1 MID (for all RR 0.8 and 1.25; for velocity +/-0.08; for PPME +/-0.8; for Sit-to-stand +/-0.04; for step test +/-1.05)

Table 27: Clinical evidence profile for gait re-education: High intensity gait re-education versus standard care in hip fracture (outcomes reported at means (IQR) and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High intensity gait re-education	Standard care	High intensity gait re-education	Standard care		
Changes in ADL (measured using Barthel Index score; range 0-100; better indicated by higher values) - 4 weeks (during intervention)												
1 (Moseley 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	78	80	Mean (IQR): 93 (85-100)[3]	Mean (IQR): 90 (85-95)[3]	VERY LOW	IMPORTANT
Changes in ADL (measured using Barthel Index score; range 0-100; better indicated by higher values) - 16 weeks (intervention completion)												
1 (Moseley 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	73	77	Mean (IQR): 95 (90-100)[4]	Mean (IQR): 95 (85-100)[4]	VERY LOW	IMPORTANT

ADL: Activities of daily living; ANOVA: Analysis of variance; IQR: Interquartile range
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analysis performed by the authors, the mean difference was not significantly different between groups (p=0.196, ANOVA)
4 According to the statistical analysis performed by the authors, the mean difference was not significantly different between groups (p=0.771, ANOVA)

Table 28: Clinical evidence profile for gait re-education: Gait training versus no gait training in SCI rehabilitation (outcomes reported at counts (%) and analysed accordingly)

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Gait training	No gait training	Relative (95% CI)	Absolute		
Changes in mobility (measured using number of participants walking at discharge)												
1 (Rigot 2018)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	109/430 (25.3%)	1/317 (0.32%)	RR 80.36 (11.28 to 572.52)	250 more per 1000 (from 32 more to 1000 more)	LOW	CRITICAL

CI: confidence interval; RR: risk ratio
1 Very serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

Table 29: Clinical evidence profile for gait re-education: Gait training versus no gait training in SCI rehabilitation (outcomes reported at medians (IQR) and analysed accordingly)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Gait training	No gait training	Gait training	No gait training		
Changes in mobility (measured using CHART-Physical independence sub-score among those primarily using wheelchair; range 0-100; better indicated by higher values) - 1 year after discharge												
1 (Rigot 2018)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	144	299	Median (IQR): 88.0 (48-100)[3]	Median (IQR): 96 (76-100)[3]	LOW	CRITICAL
Changes in mobility (measured using CHART-Mobility sub-score among those primarily using wheelchair; better indicated by												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Gait training	No gait training	Gait training	No gait training		
higher values) - 1 year after discharge												
1 (Rigot 2018)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	140	297	Median (IQR): 77 (57-100)[4]	Median (IQR): 89 (63-100)[4]	LOW	CRITICAL
Pain (measured using numerical scale reporting usual pain over last 4 weeks among those primarily using wheelchair; range 1-10; better indicated by lower values) - 1 year after discharge												
1 (Rigot 2018)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	152	296	Median (IQR): 5 (3-7)[5]	Median (IQR): 4 (1-6)	LOW	CRITICAL
Overall quality of life (measured using Diener Satisfaction With Life scale among those primarily using wheelchair; range 5-35; better indicated by higher values) - 1 year after discharge												
1 (Rigot 2018)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	serious imprecision	none	124	261	Median (IQR): 19 (12-25)[6]	Median (IQR): 22 (14-26)[6]	VERY LOW	CRITICAL

1 Very serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analysis performed by the authors, the median difference was significantly lower (worse) in the intervention group (p=0.002, unclear which statistical test the authors used)
4 According to the statistical analysis performed by the authors, the median difference was significantly lower (worse) in the intervention group (p=0.024, unclear which statistical test the authors used)
5 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.70, unclear which statistical test the authors used)
6 According to the statistical analysis performed by the authors, the median difference was not significantly different between groups (p=0.89, unclear which statistical test the authors used)

Table 30: Clinical evidence profile for manual therapy interventions: Massage + standard care versus standard care only in burn rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Massage + standard care	Standard care only	Relative	Absolute (95% CI)		
Pain (measured using VAS score; range 0-10; better indicated by lower values) - At discharge (specific time frame not reported)												
1 (Cho 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	76	70	-	MD 1.45 lower (1.81 to 1.09 lower)	MODERATE	IMPORTANT

CI: Confidence interval; MD: Mean difference; VAS: Visual analogue scale
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

Table 31: Clinical evidence profile for manual therapy interventions: Early muscle energy technique versus delayed muscle energy technique in elbow fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early muscle energy technique	Delayed muscle energy technique	Relative	Absolute (95% CI)		
Upper limb function (measured using DASH score; range 0-100; better indicated by lower values) - 3 weeks (intervention completion)												
1 (Faqih 2019)	randomised trials	very serious[1]	no serious	no serious	no serious	none	13	14	-	MD 18.2 higher	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Early muscle energy technique	Delayed muscle energy technique	Relative	Absolute (95% CI)		
			inconsistency	indirectness	imprecision					(13.8 to 22.6 higher)[2]		
Changes in mobility (measured using elbow flexion; better indicated by higher values) - 3 weeks (intervention completion)												
1 (Faqih 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	13	14	-	MD 11.7 higher (6.32 to 17.08 higher)	LOW	CRITICAL
Changes in mobility (measured using elbow extension; better indicated by lower values) - 3 weeks (intervention completion)												
1 (Faqih 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	13	14	-	MD 8.6 lower (12.53 to 4.67 lower)	LOW	CRITICAL
Pain (measured using VAS; range 0-10; better indicated by lower values) - 3 weeks (intervention completion)												
1 (Faqih 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	13	14	-	MD 1.3 higher (0.77 to 1.83 higher)[2]	LOW	IMPORTANT

CI: Confidence interval; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 The authors of this paper have interpreted higher DASH and VAS scores as better function and better pain respectively. However, when used as validated, both measurement tools report that lower values are better. The paper makes no mention of inversion of data scales or transformation.

Table 32: Clinical evidence profile for manual therapy interventions: Ankle stretching versus no ankle stretching in SCI rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ankle stretching	No ankle stretching	Relative	Absolute (95% CI)		
Changes in mobility (measured using mobility around ankle with no torque and knee extended in degrees; better indicated by higher values) - 2 weeks from baseline (halfway through intervention)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	14	14	-	MD 1 lower (5.4 lower to 3.4 higher)	LOW	CRITICAL
Changes in mobility (measured using mobility around ankle with no torque and knee extended in degrees; better indicated by higher values) - 4 weeks from baseline (at intervention completion)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	14	14	-	MD 2 higher (2.7 lower to 6.7 higher)	LOW	CRITICAL
Changes in mobility (measured using mobility around ankle with no torque and knee extended in degrees; better indicated by higher values) - 5 weeks from baseline (1 week follow-up)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 1 lower (4.7 lower to 2.7 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with no torque and knee flexed in degrees; better indicated by higher values) - 2 weeks from baseline (halfway through intervention)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 2 higher (1.2 lower to 5.2 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with no torque and knee flexed in degrees; better indicated by higher values) - 4												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ankle stretching	No ankle stretching	Relative	Absolute (95% CI)		
weeks from baseline (at intervention completion)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 2 higher (0 to 4 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with no torque and knee flexed in degrees; better indicated by higher values) - 5 weeks from baseline (1 week follow-up)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 1 higher (2.3 lower to 4.3 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with 10nm torque and knee extended in degrees; better indicated by higher values) - 2 weeks from baseline (halfway through intervention)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 1 higher (2.5 lower to 4.5 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with 10nm torque and knee extended in degrees; better indicated by higher values) - 4 weeks from baseline (at intervention completion)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 0 higher (3.3 lower to 3.3 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with 10nm torque and knee extended in degrees; better indicated by higher values) - 5 weeks from baseline (1 week follow-up)												
1 (Harvey	randomis	serious[1]	no	no	no	none	14	14	-	MD 0	MODER	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ankle stretching	No ankle stretching	Relative	Absolute (95% CI)		
2000)	ed trials		serious inconsistency	serious indirectness	serious imprecision					higher (3 lower to 3 higher)	ATE	
Changes in mobility (measured using mobility around ankle with 10nm torque and knee flexed in degrees; better indicated by higher values) - 2 weeks from baseline (halfway through intervention)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	14	14	-	MD 2 higher (2.7 lower to 6.7 higher)	LOW	CRITICAL
Changes in mobility (measured using mobility around ankle with 10nm torque and knee flexed in degrees; better indicated by higher values) - 4 weeks from baseline (at intervention completion)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 0 higher (2.7 lower to 2.7 higher)	MODERATE	CRITICAL
Changes in mobility (measured using mobility around ankle with 10nm torque and knee flexed in degrees; better indicated by higher values) - 5 weeks from baseline (1 week follow-up)												
1 (Harvey 2000)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	14	-	MD 0 higher (3.2 lower to 3.2 higher)	MODERATE	CRITICAL

CI: Confidence interval; MD: Mean difference; nm: Newton metre
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for ankle mobility with no torque, knee extended +/-5.15; for ankle mobility with 10nm torque, knee flexed +/-5.1)

Table 33: Clinical evidence profile for manual therapy interventions: Hamstring stretching versus no hamstring stretching in SCI rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Hamstring stretching	No hamstring stretching	Relative	Absolute (95% CI)		
Changes in mobility (measured using mobility differences between stretched and unstretched ankle with 48nm torque and knee flexed in degrees; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Harvey 2003)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	14	14	-	MD 1 higher (2 lower to 4 higher)	VERY LOW	CRITICAL

CI: Confidence interval; MD: Mean difference
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to no reporting of SD and no published MIDs so was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.

Table 34: Clinical evidence profile for manual therapy interventions: Ankle passive movement versus no ankle passive movement in SCI rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ankle passive movement	No ankle passive movement	Relative	Absolute (95% CI)		
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 2nm torque applied in degrees; better indicated by higher												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ankle passive movement	No ankle passive movement	Relative	Absolute (95% CI)		
values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	20	-	MD 3 higher (2.9 lower to 8.9 higher)	LOW	CRITICAL
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 3nm torque applied in degrees; better indicated by higher values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	20	-	MD 3 higher (2.58 lower to 8.58 higher)	LOW	CRITICAL
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 5nm torque applied in degrees; better indicated by higher values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	20	-	MD 3 higher (2.58 lower to 8.58 higher)	LOW	CRITICAL
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 7nm torque applied in degrees; better indicated by higher values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious	no serious	serious[2]	none	20	20	-	MD 3 higher	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Ankle passive movement	No ankle passive movement	Relative	Absolute (95% CI)		
			inconsistency	indirectness						(2.9 lower to 8.9 higher)		
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 8nm torque applied in degrees; better indicated by higher values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	20	-	MD 4 higher (1.9 lower to 9.9 higher)	LOW	CRITICAL
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 10nm torque applied in degrees; better indicated by higher values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	20	20	-	MD higher (5 lower to 5 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using passive ankle dorsiflexion range of motion with 12nm torque applied in degrees; better indicated by higher values) - 6 months + 1 day (intervention completion)												
1 (Harvey 2009)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	20	-	MD 4 higher (1.9 lower to 9.9 higher)[4]	LOW	CRITICAL

CI: Confidence interval; MD: Mean difference; nm: Newton metre
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for ankle dorsiflexion with 2nm torque +/-3.5; for ankle dorsiflexion with 3nm torque +/-3.5; for ankle dorsiflexion with 5nm torque +/-5; for ankle dorsiflexion with 7nm torque +/-3.5; for ankle dorsiflexion with 8nm torque +/-3.5; for ankle dorsiflexion with 10nm torque +/-3.5; for ankle dorsiflexion with 12nm torque +/-4.5)

3 95% CI crosses 2 MIDs (for ankle dorsiflexion with 10nm torque +/-3.5)
4 This 95% CI has been calculated but using the data reported in the article and calculated in Revman. However, it should be noted that it differs from the confidence interval reported in the article (2-6 degrees).

Table 35: Clinical evidence profile for manual therapy interventions: Active controlled motion + physiotherapy versus physiotherapy only in unstable ankle fracture rehabilitation (outcomes reported as means (SD) and analysed appropriately)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Active controlled motion + physiotherapy	Physiotherapy only	Relative	Absolute (95% CI)		
Changes in mobility (measured using range of motion of ankle joint; better indicated by higher values) - 6 weeks post-operation (intervention completion)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	24	-	MD 7.7 higher (2.2 to 13.2 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using range of motion of ankle joint; better indicated by higher values) - 12 weeks post-operation (6 weeks follow-up)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	22	-	MD 4.6 higher (0.94 lower to 10.14 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using range of motion of subtalar joint; better indicated by higher values) - 6 weeks post-operation (intervention completion)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsiste	no serious indirectne	serious[2]	none	24	24	-	MD 2.3 higher (1.1 lower	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Active controlled motion + physiotherapy	Physiotherapy only	Relative	Absolute (95% CI)		
			ncy	ss						to 5.7 higher)		
Changes in mobility (measured using range of motion of subtalar joint; better indicated by higher values) - 12 weeks post-operation (6 weeks follow-up)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	22	22	-	MD 44.2 higher (38.5 to 49.9 higher)	LOW	CRITICAL
Changes in mobility (measured using VAS for foot and ankle; range 0-100; better indicated by higher values) - 6 weeks post-operation (intervention completion)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24	24	-	MD 15.4 higher (8.49 to 22.31 higher)	LOW	CRITICAL
Changes in mobility (measured using VAS for foot and ankle; range 0-100; better indicated by higher values) - 12 weeks post-operation (6 weeks follow-up)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	22	22	-	MD 16.3 higher (7.38 to 25.22 higher)	LOW	CRITICAL
Changes in mobility (measured using Philip score; scale not reported; better indicated by higher values) - 6 weeks post-operation (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Active controlled motion + physiotherapy	Physiotherapy only	Relative	Absolute (95% CI)		
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	24	-	MD 6.7 higher (1.33 lower to 14.73 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Philip score; scale not reported; better indicated by higher values) - 12 weeks post-operation (6 weeks follow-up)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	22	22	-	MD 19 higher (8.85 to 29.15 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Mazur score; scale not reported; ; better indicated by higher values) - 6 weeks post-operation (intervention completion)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	24	-	MD 7.7 higher (0.88 to 14.52 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Mazur score; scale not reported; ; better indicated by higher values) - 12 weeks post-operation (6 weeks follow-up)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsiste	no serious indirectne	serious[2]	none	22	22	-	MD 10.8 higher (3.4 to	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Active controlled motion + physiotherapy	Physiotherapy only	Relative	Absolute (95% CI)		
			ncy	ss						18.2 higher)		
Changes in mobility (measured using American Orthopaedic Foot and Ankle score; range 0-100; better indicated by higher values) - 6 weeks post-operation (intervention completion)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	24	-	MD 7.6 higher (1.67 to 13.53 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using American Orthopaedic Foot and Ankle score; range 0-100; better indicated by higher values) - 12 weeks post-operation (6 weeks follow-up)												
1 (Jansen 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	22	-	MD 12.3 higher (6.4 to 18.2 higher)	VERY LOW	CRITICAL

AOFAS: American Orthopaedic Foot and Ankle score; CI: Confidence interval; MD: Mean difference; SD: standard deviation; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1MID (for ankle range of motion +/-4.05; for subtalar range of motion +/-2.85; for Philip score +/-7.15; for Mazur score +/-5.9; for AOFAS +/-8.35)

Table 36: Clinical evidence profile for manual therapy interventions: Active controlled motion + physiotherapy versus physiotherapy only in unstable ankle fracture rehabilitation (outcomes reported as means (range) and analysed appropriately)

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Active controlled motion + physiotherapy	Physiotherapy only	Active controlled motion + physiotherapy	Phzysiotherapy only		
Return to work (measured using mean weeks to return to work; better indicated by lower values) - No time point reported												
1 (Jansen 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	24	24	Mean 10.5 (range 3-17)[3]	Mean 14.7 (range 9-26)[3]	VERY LOW	IMPORTANT

CI: Confidence interval; MD: Mean difference
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to no reporting of SD and no published MIDs so was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analysis performed by the authors, the mean difference is significantly lower (better) in intervention group (p=0.02, unable to discern statistical test)

Nutrition support

Table 37: Clinical evidence profile for nutrition support interventions: rehabilitation + essential amino acids versus rehabilitation + placebo in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Essential amino acids + rehabilitation	Placebo + rehabilitation	Relative (95% CI)	Absolute		
Changes in mobility (measured using 6MWT in m; better indicated by higher values) - At discharge												
1 (Aquilani 2019)	randomised trials	very serious[1]	no serious inconsist	no serious indirectn	serious[2]	none	28	28	-	MD 18.8 higher (35.42 lower to	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Essential amino acids + rehabilitation	Placebo + rehabilitation	Relative (95% CI)	Absolute		
			ency	ess						73.02 higher)		
Changes in mobility (measured using 6MWT in m; better indicated by higher values) – Gain during intervention (discharge score - admission score)												
1 (Aquilani 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	28	28	-	MD 44.6 higher (0.07 to 89.13 higher)	VERY LOW	CRITICAL
Patients achieving minimal Clinically important different in 6MWT												
1 (Aquilani 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	21/28 (75%)	13/28 (46.4%)	RR 1.62 (1.06 to 1.95)	288 more per 1000 (from 28 more to 441 more)	VERY LOW	CRITICAL

6MWT: 6 minute walk test; CI: confidence interval; m: metre
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for 6MWT +/-35.95, for patients achieving minimal clinical significance 0.8 and 1.25)

Table 38: Clinical evidence profile for nutrition support interventions: vitamin D supplementation versus no treatment in hip fracture rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Vitamin D (all groups)	No treatment	Relative (95% CI)	Absolute		
Changes in mobility (measured as experience of falls) - At 12-months follow-up												
1 (Harwood 2004)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	4/31 (12.9%)	3/9 (33.3%)	RR 0.39 (0.07 to 1.37)	203 fewer per 1000 (from 310 fewer to 123 more)	VERY LOW	CRITICAL

CI: confidence interval
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MIDs (for experience of falls 0.8 and 1.25)

Table 39: Clinical evidence profile for nutrition support interventions: whey protein + standard rehabilitation versus standard rehabilitation in hip fracture rehabilitation (outcomes reported as medians (IQR) and analysed appropriately)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whey protein + standard rehabilitation	Standard rehabilitation	Whey protein + standard rehabilitation	Standard rehabilitation		
Changes in mobility (measured using Barthel Index Walking score; range 0-15; better indicated by higher values) - Day 14 Post-operation (intervention completion)												
1 (Niitsu 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	20	18	Median (IQR):15 (15-15)[3]	Median (IQR): 10 (10-15)[3]	VERY LOW	CRITICAL
Changes in mobility (measured using Barthel Index Stair score; range 0-10; better indicated by higher values) - Day 14 Post-operation												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whey protein + standard rehabilitation	Standard rehabilitation	Whey protein + standard rehabilitation	Standard rehabilitation		
(intervention completion)												
1 (Niitsu 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	20	18	Median (IQR): 5 (5-5)[4]	Median (IQR): 5 (5-5)[4]	VERY LOW	CRITICAL

IQR: Interquartile range
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analyses performed by the author, the median was significantly higher in the intervention group (p<0.05, Mann-Whitney U test)
4 According to the statistical analyses performed by the author, the median difference was not statistically significant between groups (p>0.05, Mann-Whitney U test)

Table 40: Clinical evidence profile for nutrition support interventions: whey protein + standard rehabilitation versus standard rehabilitation in hip fracture rehabilitation (outcomes reported as means (SD) and analysed appropriately)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whey protein + standard rehabilitation	Standard rehabilitation	Relative	Absolute (95% CI)		
Pain at rest (measured using VAS; range 0-10; better indicated by lower values) - Day 7 Post-operation (during intervention)												
1 (Niitsu 2016)	randomised trials	very serious[1]	no serious	no serious	serious[2]	none	20	18	-	MD 0.4 lower (1.39	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whey protein + standard rehabilitation	Standard rehabilitation	Relative	Absolute (95% CI)		
			inconsistency	indirectness						lower to 0.59 higher)		
Pain at rest (measured using VAS; range 0-10; better indicated by lower values) - Day 14 Post-operation (intervention completion)												
1 (Niitsu 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	18	-	MD 0.4 lower (1.04 lower to 0.24 higher)	VERY LOW	IMPORTANT
Pain in motion (measured using VAS; range 0-10; better indicated by lower values) - Day 7 Post-operation (during intervention												
1 (Niitsu 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	18	-	MD 1.5 lower (3.03 lower to 0.03 higher)	VERY LOW	IMPORTANT
Pain in motion (measured using VAS; range 0-10; better indicated by lower values) - Day 14 Post-operation (intervention completion)												
1 (Niitsu 2016)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	20	18	-	MD 2.2 lower (3.47 to 0.93 lower)	VERY LOW	IMPORTANT

CI: confidence intervals; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for pain at rest +/-0.75; for pain in motion +/-1.2)

Table 41: Clinical evidence profile for nutrition support interventions: Omega-3 supplements versus placebo in SCI rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Omega-3 supplement**	**Placebo**	**Relative**	**Absolute (95% CI)**		
Changes in mobility (measured using FIM+FAM Motor sub-score; range 16-112; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	54	50	-	MD 5.2 lower (13.36 lower to 2.96 higher)	LOW	CRITICAL
Changes in mobility (measured using FIM+FAM Locomotion sub-score; range 7-49; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	54	50	-	MD 2.72 lower (7.21 lower to 1.77 higher)	LOW	CRITICAL
Changes in ADL (measured using FIM+FAM Total score; range 30-210; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	54	50	-	MD 6.21 lower (16.82 lower to 4.4 higher)	LOW	IMPORTANT
Changes in ADL (measured using FIM+FAM Cognitive sub-score; range 14-98; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	54	50	-	MD 0 higher (3.32 lower to 3.32 higher)	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Omega-3 supplement	Placebo	Relative	Absolute (95% CI)		
Changes in ADL (measured using FIM+FAM Psychosocial sub-score; range 9-63; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	54	50	-	MD 0.88 lower (3.23 lower to 1.47 higher)	LOW	IMPORTANT
Changes in ADL (measured using FIM+FAM Communication sub-score; range 5-35; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision[4]	none	54	50	-	MD 0.03 higher (1.69 lower to 1.75 higher)	MODERATE	IMPORTANT
Changes in ADL (measured using FIM+FAM Self-care sub-score; range 7-49; better indicated by higher values) - 14 months follow-up												
1 (Norouzi Javidan 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	54	50	-	MD 1.89 lower (5.73 lower to 1.95 higher)	LOW	IMPORTANT

ADL: Activities of daily living; CI: confidence interval; FIM+FAM: Functional independence measure and functional assessment measure
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for FIM+FAM Motor sub-score +/-10.83; for FIM+FAM Locomotion sub-score +/-6.015; for FIM+FAM total score +/-13.21; for FIM+FAM Psychosocial sub-score +/-3.09; for FIM+FAM Self-care sub-score +/-4.91)
3 95% CI crosses 2 MIDs (for FIM+FAM Cognitive sub-score +/-3.125)
4 The article reported a standard deviation of 0 for the control group FIM+FAM Communication sub-score so we were unable to calculate the MID using this figure. Instead we chose to use the standard deviation of the control group at follow-up to calculate the MIDs for imprecision and clinical importance.

Table 42: Clinical evidence profile for nutrition support interventions: High vitamin D versus low vitamin D supplementation in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	High Vit D	Low Vit D	Relative	Absolute (95% CI)		
Quality of life (measured using changes in the EQ-5D-3L index value; scale not reported; better indicated by higher values) - Between baseline and 6 months												
1 (Renerts 2019)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	very serious[3]	none	60	60	-	MD 0.02 lower (0.16 lower to 0.12 higher)	VERY LOW	IMPORTANT
Quality of life (measured using changes in the EQ-5D-3L index value; scale not reported; better indicated by higher values) - Between 6 months and 12 months												
1 (Renerts 2019)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	serious[4]	none	60	59	-	MD 0.07 lower (0.17 lower to 0.03 higher)	VERY LOW	IMPORTANT
Quality of life (measured using changes in the EQ-5D-3L index value; scale not reported; better indicated by higher values) - Between baseline and 12 months												
1 (Renerts 2019)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	very serious[3]	none	60	59	-	MD 0.05 higher (0.1 lower to 0.2 higher)	VERY LOW	IMPORTANT

1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Study marked down for indirectness because drop out is only reported for the whole RCT population (4 arms, baseline N = 173, at 6 months N = 120, at 12 months N = 119). For the purposes of analysis, we have assumed dropout was equal between the study arms but cannot be certain.
3 95% CI crosses 2 MIDs (for EQ-5D-3L Index value +/-0.074)
4 95% CI crosses 1 MID (for EQ-5D-3L Index value +/-0.074)

Scar, swelling and oedema management

Table 43: Clinical evidence profile for scar, swelling and oedema management interventions: active laser therapy versus placebo laser therapy in burn rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Active laser therapy	placebo laser therapy	Relative	Absolute(95% CI)		
Quality of life (measured using MDLQI; range 0-21; better indicated by lower values) - 6 weeks from baseline (intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	25	-	MD 3 lower (5.25 to 0.75 lower)	LOW	IMPORTANT
Quality of life (measured using MDLQI; range 0-21; better indicated by lower values) - 12 weeks from baseline (6 weeks after intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24	25	-	MD 5.1 lower (7.24 to 2.96 lower)	MODERATE	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) - 6 weeks from baseline (intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	25	-	MD 3.85 lower (5.84 to 1.86 lower)	LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) - 12 weeks from baseline (6 weeks after intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	25	-	MD 3.23 lower (5.41 to 1.05 lower)	LOW	IMPORTANT

CI: confidence interval; MDLQI: modified Dermatology life quality index; VAS: Visual analogue scale
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for MDLQI +/-2.4; for VAS +/-2.25)

Table 44: Clinical evidence profile for scar, swelling and oedema management interventions: pressure garment therapy + massage versus massage only in burn rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Pressure garment + massage	Massage only	Relative	Absolute (95% CI)		
Pain (measured using VAS; range 0-10; better indicated by lower values) at 2 months from baseline (during intervention)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	30	21	-	MD 1.59 higher (0.55 to 2.63 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 4 months from baseline (during intervention)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	30	21	-	MD 0.84 higher (0.38 lower to 2.06 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 6 months from baseline (intervention completion)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	12	-	MD 1.16 higher (0.58 lower to 2.9 higher)	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Pressure garment + massage	Massage only	Relative	Absolute (95% CI)		
Pain (measured using VAS; range 0-10; better indicated by lower values) at 7 months from baseline (1 month follow-up)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	12	-	MD 0.64 higher (0.82 lower to 2.1 higher)	VERY LOW	IMPORTANT

CI: confidence interval; MD: mean difference; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for VAS +/-1.235)

Table 45: Clinical evidence profile for scar, swelling and oedema management interventions: silicone gel sheeting + massage versus massage only in burn rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Silicone gel sheeting + massage	Massage only	Relative	Absolute (95% CI)		
Pain (measured using VAS; range 0-10; better indicated by lower values) at 2 months from baseline (during intervention)												
1 (Li-Tsang	randomised trials	very serious[1]	no serious	no serious	serious[2]	none	24	21	-	MD 0.78 higher	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Silicone gel sheeting + massage	Massage only	Relative	Absolute (95% CI)		
2010)			inconsistency	indirectness						(0.13 lower to 1.69 higher)		
Pain (measured using VAS; range 0-10; better indicated by lower values) at 4 months from baseline (during intervention)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	21	-	MD 0.47 lower (1.36 lower to 0.42 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 6 months from baseline (intervention completion)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	12	-	MD 0.7 lower (2.12 lower to 0.72 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 7 months from baseline (1 month follow-up)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	12	-	MD 1.26 lower (2.26 to 0.26 lower)	VERY LOW	IMPORTANT

CI: confidence interval; MD: mean difference; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for VAS +/-1.235)

Table 46: Clinical evidence profile for scar, swelling and oedema management interventions: pressure garment therapy + silicone gel sheeting + massage versus massage only in burn rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Pressure garment + silicone gel sheeting + massage	Massage only	Relative	Absolute (95% CI)		
Pain (measured using VAS; range 0-10; better indicated by lower values) - 2 months from baseline (during intervention)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	29	21	-	MD 0.59 higher (0.14 lower to 1.32 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 4 months from baseline (during intervention)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	29	21	-	MD 0.61 lower (1.53 lower to 0.31 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 6 months from baseline (intervention completion)												
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	12	-	MD 1.08 lower (2.41 lower to 0.25 higher)	VERY LOW	IMPORTANT
Pain (measured using VAS; range 0-10; better indicated by lower values) at 7 months from baseline (1 month follow-up)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Pressure garment + silicone gel sheeting + massage	Massage only	Relative	Absolute (95% CI)		
1 (Li-Tsang 2010)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	12	-	MD 1.03 lower (2.1 lower to 0.04 higher)	VERY LOW	IMPORTANT

CI: confidence interval; MD: mean difference; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for VAS +/-1.235)

Table 47: Clinical evidence profile for scar, swelling and oedema management interventions: compression bandage versus ice and elevation in ankle fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compression bandage	Ice and elevation	Compression bandage	Ice and elevation		
Patient acceptability (measured using VAS; range 0-100; better indicated by higher values) at 12 weeks from baseline												
1 (Rohner-Spengler	randomised trials	very serious[1]	no serious inconsiste	no serious indirectne	very serious[2]	none	20	22	Median (IQR): 85 (74-93)3	Median (IQR): 80 (67-	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Compression bandage	Ice and elevation	Compression bandage	Ice and elevation		
2014)			ncy	ss						90)3		
Patient acceptability (measured using VAS; range 0-100; better indicated by higher values) at 1 year from baseline												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	19	22	Median (IQR): 83 (64-95)[3]	Median (IQR): 90 (80-96)[3]	VERY LOW	CRITICAL
Changes in mobility (measured using degrees of plantar flexion; better indicated by higher values) at 6 weeks from baseline (intervention completion)												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	22	Median (IQR): 35 (30-42)[3]	Median (IQR): 35 (30-42)[3]	VERY LOW	CRITICAL
Changes in mobility (measured using degrees of dorsiflexion; better indicated by higher values) at 6 weeks from baseline (intervention completion)												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	22	Median (IQR): 0 (-4-9)[3]	Median (IQR): 5 (0-10)[3]	VERY LOW	CRITICAL
Pain (measured using VAS; range 0-10; better indicated by lower values) at 6 weeks from baseline (intervention completion)												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	22	Median (IQR): 0 (0-6.3)[3]	Median (IQR): 6.3 (0-10)[3]	VERY LOW	IMPORTANT

CI: confidence interval; MD: mean difference; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.

3 According to the statistical analyses performed by the author, the median difference was not statistically significant

Table 48: Clinical evidence profile for scar, swelling and oedema management interventions: intermittent compression versus ice and elevation in ankle fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intermittent compression	Ice and elevation	Intermittent compression	Ice and elevation		
Patient acceptability (measured using VAS; range 0-100; better indicated by higher values) at 12 weeks post-operatively												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	11	22	Median (IQR): 70 (59-76)[3]	Median (IQR): 80 (67-90)[3]	VERY LOW	CRITICAL
Patient acceptability (measured using VAS; range 0-100; better indicated by higher values) at 1 year from baseline												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	11	21	Median (IQR): 87 (54-100)[3]	Median (IQR): 90 (80-96)[3]	VERY LOW	CRITICAL
Changes in mobility (measured using degrees of plantar flexion; better indicated by higher values) at 6 weeks from baseline (intervention completion)												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	12	22	Median (IQR): 35 (30-50)[3]	Median (IQR): 35 (30-42)[3]	VERY LOW	CRITICAL
Changes in mobility (measured using degrees of dorsiflexion; better indicated by higher values) at 6 weeks from baseline (intervention completion)												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	12	22	Median (IQR): 10 (0-10)[3]	Median (IQR): 5 (0-10)[3]	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intermittent compression	Ice and elevation	Intermittent compression	Ice and elevation		
Pain (measured using VAS; range 0-10; better indicated by lower values) at 6 weeks from baseline (intervention completion)												
1 (Rohner-Spengler 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	12	22	Median (IQR): 0 (0-11)[3]	Median (IQR): 6.3 (0-10)[3]	VERY LOW	IMPORTANT

CI: confidence interval; MD: mean difference; VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analyses performed by the author, the median difference was not statistically significant

Table 49: Clinical evidence profile for scar, swelling and oedema management interventions: low energy extracorporeal shockwave therapy versus placebo extracorporeal shockwave therapy

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Low energy ESWT	Placebo ESWT	Low energy ESWT	Placebo ESWT		
Pain (measured using Numerical Rating Scale; range 0-10; better indicated by lower values) (4 weeks from baseline, at intervention completion)												
1	randomise	serious[1]	no serious	no serious	very serious[2]	none	22	23	Median	Median	VERY	IMPORTAN

(Samhan 2019)	d trials		inconsistency	indirectness					(range): 2 (0-4)[3]	(range): 6 (5-9)[3]	LOW	T

ESWT: Extracorporeal schockwave therapy
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 2 Imprecision could not be assessed using GRADE default values due to the design of the study, and was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analyses performed by the author, the median was significantly lower in the intervention group (p<0.012, Mann-Whitney U test)

Splinting and orthotics

Table 50: Clinical evidence profile for splinting and orthotic interventions: thoracolumbosacral orthosis versus immediate mobilisation in rehabilitation for thoracolumbar burst fracture without neurological deficit

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Thoracolumbosacral orthosis	Immediate mobilisation	Relative	Absolute (95% CI)		
Changes in mobility (measured using Roland Morris Disability Questionnaire; range 0-24; better indicated by lower values) - Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury)												
1 (Bailey 2014)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	47	49	-	MD 1.1 lower (1.36 to 0.84 lower)	HIGH	CRITICAL
Patient acceptability (measured using Satisfactions with treatment score; scale 1-7; better indicated by higher values) - Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury)												
1 (Bailey 2014)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	47	49	-	MD 0.2 higher (0.16 to 0.24 higher)	HIGH	CRITICAL
Quality of life (measured using SF-36 Physical component score; scale not reported; better indicated by higher values) - Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Thoracolumbosacral orthosis	Immediate mobilisation	Relative	Absolute (95% CI)		
1 (Bailey 2014)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	47	49	-	MD 2.5 higher (2.06 to 2.94 higher)	HIGH	IMPORTANT
Quality of life (measured using SF-36 Mental component score; scale not reported; better indicated by higher values) - Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury)												
1 (Bailey 2014)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	47	49	-	MD 1.4 higher (0.92 to 1.88 higher)	HIGH	IMPORTANT
Pain (average weekly pain measured using VAS; range 0-10; better indicated by lower values) - Average of all follow-up time points (at discharge, 2 and 6 weeks, 3, 6, 12 and 24 months post-injury)												
1 (Bailey 2014)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	47	49	-	MD 0.7 lower (0.8 to 0.6 lower)	HIGH	IMPORTANT

CI: Confidence interval; MD: mean difference; SF-36: 36 item short-form survey; VAS: VAS: Visual analogue scale

Table 51: Clinical evidence profile for splinting and orthotic interventions: metacarpophalangeal orthosis versus no orthosis in burn rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Metacarpophalangeal orthosis	No orthosis	Relative	Absolute (95% CI)		
Upper limb function (Grip strength of right hand, measured in kg; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	21	-	MD 1.1 higher (4.88 lower to 7.08 higher)	VERY LOW	CRITICAL
Upper limb function (Grip strength of left hand, measured in kg; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	21	21	-	MD 0.5 lower (4.32 lower to 3.32 higher)	VERY LOW	CRITICAL
Upper limb function (Dominant hand writing measured using Jebsen-Taylor hand function test in secs; better indicated by lower values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	21	21	-	MD 4.2 lower (5.58 to 2.82 lower)	LOW	CRITICAL
Upper limb function (measured using MHOQ; range 0-100; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	21	21	-	MD 21.2 higher (5.04 to 37.36 higher)	VERY LOW	CRITICAL
Quality of life (measured using Burn Specific Health Scale score; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	21	-	MD 8 higher (7.05 lower to 23.05	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Metacarpophalangeal orthosis	No orthosis	Relative	Absolute (95% CI)		
										higher)		
Changes in ADL (measured using FIM; range 18-126; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	21	21	-	MD 3.5 lower (9.74 lower to 2.74 higher)	VERY LOW	IMPORTANT
Changes in ADL (measured using MHOQ ADL Score; range 0-100; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	21	-	MD 10.4 higher (13.98 lower to 34.78 higher)	VERY LOW	IMPORTANT
Pain (measured using MHOQ Pain Score; range 0-100; better indicated by lower values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	21	-	MD 5.4 higher (14.39 lower to 25.19 higher)	VERY LOW	IMPORTANT
Patient acceptability (measured using MHOQ Aesthetics Score; range 0-100; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsiste	no serious indirectne	very serious[2]	none	21	21	-	MD 0 higher (20.4 lower	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Metacarpophalangeal orthosis	No orthosis	Relative	Absolute (95% CI)		
			ncy	ss						to 20.4 higher)		
Patient acceptability (measured using MHOQ Satisfaction with hand function score; range 0-100; better indicated by higher values) - 8 weeks (intervention completion)												
1 (Choi 2011)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	21	21	-	MD 3.3 higher (15.5 lower to 22.1 higher)	VERY LOW	CRITICAL

ADL: activities of daily living; CI: confidence interval; FIM: Functional independence measure; MD: mean difference; MHOQ: Michigan Hand Outcomes Questionnaire
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MID (for right hand grip strength +/- 4.05; for BSHS QoL +/-6.05; for MHOQ ADL score +/-13.8; for MHOQ Pain score +/- 13.8; for MHOQ Aesthetics score +/-2.2; for MHOQ Satisfaction score +/-8.85)
3 95% CI crosses 1 MID (for left hand grip strength +/-3.8; for MHOQ +/-8; for FIM +/-5.55)

Table 52: Clinical evidence profile for splinting and orthotic interventions: multi-axis shoulder abduction splint versus no splint in burn injury

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Shoulder splint	No splint	Relative	Absolute (95% CI)		

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Shoulder splint	No splint	Relative	Absolute (95% CI)		
Upper limb function (measured using shoulder abduction angle in degrees; better indicated by higher values) – 1 week (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	11	13	-	MD 5.8 higher (9.91 lower to 21.51 higher)	LOW	CRITICAL
Upper limb function (measured using shoulder abduction angle in degrees; better indicated by higher values) - 2 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	11	13	-	MD 2.3 higher (13.19 lower to 17.79 higher)	VERY LOW	CRITICAL
Upper limb function (measured using shoulder abduction angle in degrees; better indicated by higher values) – 3 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	11	13	-	MD 5.6 higher (10.81 lower to 22.01 higher)	VERY LOW	CRITICAL
Upper limb function (measured using shoulder abduction angle in degrees; better indicated by higher values) – 4 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	11	13	-	MD 7.8 higher (8.6 lower to 24.2 higher)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Shoulder splint	No splint	Relative	Absolute (95% CI)		
Upper limb function (measured using shoulder flexion angle in degrees; better indicated by higher values) – 1 week (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	11	13	-	MD 17.2 higher (2.68 lower to 37.08 higher)	LOW	CRITICAL
Upper limb function (measured using shoulder flexion angle in degrees; better indicated by higher values) – 2 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	11	13	-	MD 17.1 higher (2.44 lower to 36.64 higher)	LOW	CRITICAL
Upper limb function (measured using shoulder flexion angle in degrees; better indicated by higher values) – 3 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	11	13	-	MD 13.6 higher (5.63 lower to 32.83 higher)	LOW	CRITICAL
Upper limb function (measured using shoulder flexion angle in degrees; better indicated by higher values) – 4 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	11	13	-	MD 7.3 higher (13.13 lower to 27.73 higher)	LOW	CRITICAL
Upper limb function (measured using shoulder external rotation angle in degrees; better indicated by higher values) – 1 week (from baseline)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Shoulder splint	No splint	Relative	Absolute (95% CI)		
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	11	13	-	MD 2.5 higher (15.79 lower to 20.79 higher)	VERY LOW	CRITICAL
Upper limb function (measured using shoulder external rotation angle in degrees; better indicated by higher values) – 2 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	11	13	-	MD 1.5 lower (21.17 lower to 18.17 higher)	VERY LOW	CRITICAL
Upper limb function (measured using shoulder external rotation angle in degrees; better indicated by higher values) – 3 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	11	13	-	MD 8.2 lower (31.29 lower to 14.89 higher)	VERY LOW	CRITICAL
Upper limb function (measured using shoulder external rotation angle in degrees; better indicated by higher values) – 4 weeks (from baseline)												
1 (Jang 2015)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	11	13	-	MD 1 higher (20.64 lower to 22.64 higher)	VERY LOW	CRITICAL

CI: confidence interval; MD: mean difference
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for shoulder abduction +/-10.7; for shoulder flexion +/-14.1)
3 95% CI crosses 2 MIDs (for shoulder abduction +/-10.7; for shoulder external rotation +/- 11.2)

Table 53: Clinical evidence profile for splinting and orthotic interventions: thoracolumbosacral orthosis versus immediate mobilisation in rehabilitation thoracolumbar burst fracture without neurological deficit

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Thoracolumbosacral orthosis	Ambulation encouragement	Relative	Absolute (95% CI)		
Changes in mobility (lumbar specific disability measured using revised Oswestry Disability Index score; range 0-100; better indicated by lower values) - At 6 months follow-up												
1 (Shamji 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	12	11	-	MD 3 higher (2.35 lower to 8.35 higher)	VERY LOW	CRITICAL
Pain (measured using VAS; range 0-10; better indicated by lower values) - At 6 months follow-up												
1 (Shamji 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	12	11	-	MD 1.2 higher (0.81 lower to 3.21 higher)	VERY LOW	IMPORTANT
Quality of life (measured using SF-36 physical component score; range 0-100; better indicated by higher values) - At 6 months follow-up												
1 (Shamji 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	12	11	-	MD 0.4 higher (9.98 lower to 10.78 higher)	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Thoracolumbosacral orthosis	Ambulation encouragement	Relative	Absolute (95% CI)		
Quality of life (measured using SF-36 mental component score; 0-100; better indicated by higher values) - At 6 months follow-up												
1 (Shamji 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	12	11	-	MD 3.3 lower (12.41 lower to 5.81 higher)	VERY LOW	IMPORTANT

CI: Confidence interval; MD: mean difference; SF-36: 36 item short-form survey; VAS: VAS: Visual analogue scale
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for Oswestry Disability Index +/-3.5; for VAS +/-1.05)
3 95% CI crosses 2 MIDs (for SF-36 physical component +/-6.65; SF-36 mental component +/-5.35)

Table 54: Clinical evidence profile for paraplegic gait orthosis plus functional training versus standard care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Paraplegic gait orthosis plus functional training	Standard care	Relative (95% CI)	Absolute		

Changes in activity of daily living: modified Barthel Index (mBI; range 0-100; better indicated by higher values) [at 3 months follow-up after intervention completion]												
1 (Shuai 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	18	18	-	MD 33.94 higher (14.08 to 53.8 higher)	MODERATE	IMPORTANT

CI: Confidence interval; MD: Mean difference
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2.

Strengthening, balance, proprioception, vestibular rehabilitation and training

Table 55: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Extended physical therapy + exercise therapy versus home exercise training in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Extended physical therapy + exercise therapy	Home exercise training	Relative	Absolute (95% CI)		
Change in mobility (measured using Modified Physical Performance Test score; range 0-36; better indicated by higher values) - 3 months (during intervention)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	44	39	-	MD 2.8 higher (0.38 lower to 5.98 higher)	LOW	CRITICAL
Change in mobility (measured using Modified Physical Performance Test score; range 0-36; better indicated by higher values) - 6 months (intervention completion)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsist	no serious indirectne	serious[2]	none	37	43	-	MD 5.7 higher (2.74 to	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Extended physical therapy + exercise therapy	Home exercise training	Relative	Absolute (95% CI)		
			ency	ss						8.66 higher)		
Changes in mobility (measured as number of participants not using assistive device for gait if required at baseline) - Time point not reported												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	19/33 (57.6%)	11/35 (31.4%)	RR 1.83 (1.04 to 3.24)	261 more per 1000 (from 13 more to 704 more)	LOW	CRITICAL
Changes in ADL (measured using Functional Status Questionnaire score; range 0-36; better indicated by lower values) - 3 months (during intervention) (Better indicated by lower values)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	45	41	-	MD 2.1 higher (0.13 lower to 4.33 higher)	LOW	IMPORTANT
Changes in ADL (measured using Functional Status Questionnaire score; range 0-36; better indicated by lower values) - 6 months (intervention completion) (Better indicated by lower values)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	43	-	MD 2.5 higher (0.07 to 4.93 higher)	LOW	IMPORTANT
Changes in ADL (measured using Instrumental Activities of Daily Living score; range 0-14; better indicated by higher values) - 3 months (during intervention)												
1 (Binder	randomis	serious[1]	no	no	serious[2]	none	45	41	-	MD 0.7	LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Extended physical therapy + exercise therapy	Home exercise training	Relative	Absolute (95% CI)		
2004)	ed trials		serious inconsistency	serious indirectness						higher (0.34 lower to 1.74 higher)		
Changes in ADL (measured using Instrumental Activities of Daily Living score; range 0-14; better indicated by higher values) - 6 months (intervention completion)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	40	43	-	MD 0.6 higher (0.5 lower to 1.7 higher)	LOW	IMPORTANT
Changes in ADL (measured using Basic Activities of Daily Living score; range 0-14; better indicated by higher values) - 3 months (during intervention)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	45	41	-	MD 0.4 higher (0.11 lower to 0.91 higher)	LOW	IMPORTANT
Changes in ADL (measured using Basic Activities of Daily Living score; range 0-14; better indicated by higher values) - 6 months (intervention completion)												
1 (Binder 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	41	43	-	MD 0.4 higher (0.13 lower to 0.93 higher)	LOW	IMPORTANT

ADL: Activities of daily living; CI: Confidence interval; MD: Mean difference

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for modified Physical Performance Test score +/-4.1; for assistive devices 0.8 and 1.25; for Functional Status Questionnaire +/-2.75; for Instrumental Activities of Daily Living +/-1.3; for Basic Activities of Daily Living +/-0.65)

Table 56: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Physiotherapy + gym session + mobility versus physiotherapy only in general trauma rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + gym session + mobility	Physiotherapy only	Relative (95% CI)	Absolute		
Patient acceptability (measured as number of patients reporting very satisfied with treatment[1]) - Time point not reported												
1 (Calthorpe 2004)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	28/41 (68.3%)	16/41 (39%)	RR 1.75 (1.13 to 2.71)	293 more per 1000 (from 51 more to 667more)	VERY LOW	CRITICAL
Changes in mobility (measured using number of participants reporting problems in mobility domain on EQ-5D) - At 6 months following injury												
1 (Calthorpe 2004)	randomised trials	serious[4]	no serious inconsistency	no serious indirectness	very serious[5]	none	14/34 (41.2%)	20/39 (51.3%)	RR 0.80 (0.48 to 1.33)	103 fewer per 1000 (from 267 fewer to 169 more)	VERY LOW	CRITICAL
Pain (measured using number of participants reporting problems in pain/discomfort domain on EQ-5D) - At 6 months following injury												
1 (Calthorpe 2004)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[5]	none	17/34 (50%)	23/39 (59%)	RR 0.85 (0.55 to 1.30)	88 fewer per 1000 (from 265 fewer to 177 more)	VERY LOW	IMPORTANT
Changes in ADL (measured using number of participants reporting problems in self-care domain on EQ-5D) - At 6 months following injury												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + gym session + mobility	Physiotherapy only	Relative (95% CI)	Absolute		
1 (Calthorpe 2004)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[5]	none	10/34 (29.4%)	10/39 (25.6%)	RR 1.15 (0.54 to 2.42)	38 more per 1000 (from 118 fewer to 364 more)	VERY LOW	IMPORTANT
Changes in ADL (measured using number of participants reporting problems in usual activity domain on EQ-5D) - At 6 months following injury												
1 (Calthorpe 2004)	randomised trials	very serious[2]	no serious inconsistency	no serious indirectness	very serious[5]	none	12/34 (35.3%)	10/39 (25.6%)	RR 1.38 (0.68 to 2.78)	97 more per 1000 (from 82 fewer to 456 more)	VERY LOW	IMPORTANT

CI: Confidence interval; EQ-5D: EuroQol 5 dimensions; MD: Mean difference; OR: Odds ratio
1 Study reported satisfaction with treatment as a choice between not satisfied, somewhat satisfied, satisfied or very satisfied. Odds ratio was calculated by dichotomising answers into not satisfied/somewhat satisfied/satisfied compared and very satisfied
2 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
3 95% CI crosses 1 MID (for number participants reporting vert satisfied with treatment 0.8 and 1.25)
4 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
5 95% CI crosses 2 MIDs (for number participants reporting problems in any given domain on EQ-5D 0.8 and 1.25)

Table 57: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Physiotherapy + gym session + mobility versus physiotherapy only in general trauma rehabilitation (outcomes reported as medians (IQR) and analysed appropriately)

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + gym session + mobility	Physiotherapy only	Physiotherapy + gym session + mobility	Physiotherapy only		
Changes in mobility (measured using measured by modified Iowa Level of Assistance score; range 0-36; better indicated by lower values) - At day 3												
1 (Calthorpe 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	43	44	Median (IQR): 7 (1-15)[3]	Median (IQR): 10 (4-19)[3]	VERY LOW	CRITICAL
Changes in mobility (measured using measured by modified Iowa Level of Assistance score; range 0-36; better indicated by lower values) - At day 5												
1 (Calthorpe 2004)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	43	44	Median (IQR): 7.5 (2-15)[4]	Median (IQR): 16 (4-24)[4]	VERY LOW	CRITICAL
Quality of life (measured using Glasgow Outcome Scale-Extended; range 0-8; better indicated by higher values) - Part of 6-monthly routinely collected data (exact time point unclear)												
1 (Calthorpe 2004)	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	very serious[2]	none	34	39	Median (IQR): 6 (3.7)[6]	Median (IQR): 6 (5-6)[6]	VERY LOW	IMPORTANT
Quality of life (measured using SF-12 Physical component score; range 0-100; better indicated by higher values) - Part of 6-monthly routinely collected data (exact time point unclear)												
1 (Calthorpe 2004)	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	very serious[2]	none	25	32	Median (IQR): 36 (29-49)[7]	Median (IQR): 33 (26-56)[7]	VERY LOW	IMPORTANT
Quality of life (measured using SF-12 Mental component score; range 0-100; better indicated by higher values) - Part of 6-monthly routinely collected data (exact time point unclear)												
1 (Calthorpe 2004)	randomised trials	very serious[5]	no serious inconsist	no serious indirectn	very serious[2]	none	25	32	Median (IQR): 54 (37-58)[8]	Median (IQR): 55 (50-58)[8]	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + gym session + mobility	Physiotherapy only	Physiotherapy + gym session + mobility	Physiotherapy only		
			ency	ess								

IQR: Interquartile range; SF-12: 12 item short-form survey;
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to no reporting of SD and no published MIDs so was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels. Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
3 According to the statistical analyses performed by the author, the median difference was statistically significantly higher in the intervention group (p<0.02, ANOVA). However, the pre-defined MID of 8.5 was not exceeded so the difference is not clinically important.
4 According to the statistical analyses performed by the author, the median difference was statistically significantly higher in the intervention group (p<0.04, ANOVA). The pre-defined MID of 8.5 was reached and so the difference is clinically important.
5 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
6 According to the statistical analyses performed by the author, the median difference was not statistically significant between groups (p=0.65, ordinal logistics regression analysis)
7 According to the statistical analyses performed by the author, the median difference was not statistically significant between groups (p=0.96, unclear which statistical test was used)
8 According to the statistical analyses performed by the author, the median difference was not statistically significant between groups (p=0.37, unclear which statistical test was used

Table 58: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Progressive resistance training + routine care versus routine care only in SCI rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Progressive resistance training + routine care	Routine care only	Relative	Absolute(95% CI)		
Patient acceptability (measured using COPM participant perception satisfaction score; range 1-10; better indicated by higher values; better indicated by higher values) – 8 weeks (intervention completion)												
1 (Glinsky 2008)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[1]	none	15	16	-	MD 0.1 lower (1.83 lower to 1.63 higher)	LOW	CRITICAL
Patient acceptability (measured using COPM participant perception satisfaction score; range 1-10; better indicated by higher values) - Difference between baseline and 8 weeks												
1 (Glinsky 2008)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[1]	none	15	16	-	MD 0.40 lower (1.74 lower to 0.94 higher)	LOW	CRITICAL
Changes in ADL (measured using COPM participant perceptions score; range 1-10; better indicated by higher values) – 8 weeks (intervention completion)												
1 (Glinsky 2008)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious[1]	none	15	16	-	MD 0.3 lower (1.88 lower to 1.28 higher)	LOW	IMPORTANT
Changes in ADL (measured using COPM participant perceptions score; range 1-10; better indicated by higher values) - Difference between baseline and 8 weeks												
1 (Glinsky 2008)	randomised trials	no serious risk of	no serious inconsiste	no serious indirectne	very serious[1]	none	15	16	-	MD 0.3 lower (1.81	LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Progressive resistance training + routine care	Routine care only	Relative	Absolute(95% CI)		
		bias	ncy	ss						lower to 1.21 higher)		

ADL: Activities of daily living; CI: Confidence interval; COPM: Canadian Occupational Performance Measure; MD: Mean difference
1 95% CI crosses 2 MIDs (for COPM Satisfaction +/-0.8; for COPM Perception +/-1.05)

Table 59: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Physiotherapy + strengthening exercises versus physiotherapy + motor exercises in injurious falls rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strengthening exercises	Physiotherapy and motor exercises	Relative	Absolute (95% CI)		
Upper limb function (measured as hand grip strength in kilo pascal; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	23	-	MD 4.63 lower (19.55 lower to 10.29 higher)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strengthening exercises	Physiotherapy and motor exercises	Relative	Absolute (95% CI)		
Upper limb function (measured as hand grip strength in kilo pascal; better indicated by higher values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 3.05 lower (20.24 lower to 14.14 higher)	LOW	CRITICAL
Changes in mobility (measured with Timed Up and Go in seconds; better indicated by lower values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24	23	-	MD 10.46 lower (16 to 4.92 lower)	MODERATE	CRITICAL
Changes in mobility (measured with Timed Up and Go in seconds; better indicated by lower values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 3.5 lower (10.67 lower to 3.67 higher)	LOW	CRITICAL
Changes in mobility (measured using velocity in m/sec; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24	23	-	MD 0.2 higher (0.1 to 0.3 higher)	MODERATE	CRITICAL
Changes in mobility (measured using velocity in m/sec) - At 3 months follow up												
1 (Hauer	randomi	serious[1]	no	no	no	none	23	22	-	MD 0.17	MODER	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strengthening exercises	Physiotherapy and motor exercises	Relative	Absolute (95% CI)		
2001)	sed trials		serious inconsistency	serious indirectness	serious imprecision					higher (0.06 to 0.28 higher)	ATE	
Changes in mobility (measured using chair-rise time in sec; better indicated by lower values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24	23	-	MD 6.15 lower (8.94 to 3.36 lower)	MODERATE	CRITICAL
Changes in mobility (measured using chair-rise time in sec; better indicated by lower values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 4.28 lower (7.89 to 0.67 lower)	LOW	CRITICAL
Changes in mobility (measured maximal box step in cm; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	23	-	MD 8.62 higher (0.56 lower to 17.8 higher)	LOW	CRITICAL
Changes in mobility (measured maximal box step in cm; better indicated by higher values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 7.01 higher (2.12 lower to 16.14 higher)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strengthening exercises	Physiotherapy and motor exercises	Relative	Absolute (95% CI)		
Changes in mobility (measured using stair flight in cm; better indicated by lower values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	23	-	MD 9.31 lower (14.68 to 3.94 lower)	LOW	CRITICAL
Changes in mobility (measured using stair flight in cm; better indicated by lower values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 6.18 lower (10.74 to 1.62 lower)	LOW	CRITICAL
Changes in mobility (measured using physical/sports activity score; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24	23	-	MD 13.17 higher (11.13 to 15.21 higher)	MODERATE	CRITICAL
Changes in mobility (measured using physical/sports activity score; better indicated by higher values) - 3 months follow-up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	22	-	MD 2.81 higher (0.04 to 5.58 higher)	LOW	CRITICAL
Changes in mobility (measured using total physical activity score; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsist	no serious indirectn	no serious imprecisi	none	24	23	-	MD 13.68 higher (11.16 to	MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strengthening exercises	Physiotherapy and motor exercises	Relative	Absolute (95% CI)		
			ency	ess	on					16.2 higher)		
Changes in mobility (measured using total physical activity score; better indicated by higher values) - 3 months follow-up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	22	22	-	MD 3.71 higher (0.03 to 7.39 higher)	LOW	CRITICAL
Changes in mobility (measured as incidence of falls) - 3 months follow up (covering 6 month recall)												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	45% of 23 participants	60% of 21 or 22 participants	RR 0.753 (0.455 to 1.245)[3]	Not reported	LOW	CRITICAL
Changes in ADL (measured using Tinetti Performance Orientated Mobility Assessment score; range 0-28; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	23	-	MD 4.37 higher (2.05 to 6.69 higher)	LOW	IMPORTANT
Changes in ADL (measured using Tinetti Performance Orientated Mobility Assessment score; range 0-28; better indicated by higher values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 2.95 higher (0.19 to 5.71	LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strengthening exercises	Physiotherapy and motor exercises	Relative	Absolute (95% CI)		
										higher)		
Changes in ADL (measured using Barthel ADL Index score; range 0-100; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	23	-	MD 1.82 higher (2.32 lower to 5.96 higher)	LOW	IMPORTANT
Changes in ADL (measured using Barthel ADL Index score; range 0-100; better indicated by higher values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 0.47 higher (3.76 lower to 4.7 higher)	LOW	IMPORTANT
Changes in ADL (measured using Lawton Instrumental ADL Index score; range 0-8; better indicated by higher values) - At 3 months follow up												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	22	-	MD 0.59 higher (0.42 lower to 1.6 higher)	LOW	CRITICAL
Changes in ADL (measured using Lawton Instrumental ADL Index score; range 0-8; better indicated by higher values) - Intervention completion												
1 (Hauer 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	24	23	-	MD 0.95 higher (0.04 lower to 1.94 higher)	LOW	IMPORTANT

ADL: Activities of daily living; CI: Confidence interval; cm: centimetre; MD: Mean difference; RR: Relative risk; secs: seconds

1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for hand grip strength +/-14.475; for Timed Up and Go +/-4.03; for chair rise time +/-2.36; for maximal box step +/- 7.875; for stair flight +/-6.97; for physical/sports activity score +/-2.32; for total physical activity score +/-2.67; for incidence of falls 0.8 and 1.25; for Tinetti Performance Orientated Mobility Assessment +/-2.115; for Barthel ADL Index +/-4.165; for Lawton Instrumental ADL Index +/-0.895)
3 According to the statistical analyses performed by the author, the relative risk was not significant (p = 0.2, chi-square).

Table 60: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Self-exercise programme + standard rehabilitation versus standard rehabilitation only in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Self-exercise programme + standard rehabilitation	Standard rehabilitation only	Relative	Absolute (95% CI)		
Changes in mobility (measured using discharge motor FIM score; range 13-91; better indicated by higher values) - At discharge (time point not reported)												
1 (Kasuga 2019)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	146	229	-	MD 17.6 higher (13.75 to 21.45 higher)	LOW	CRITICAL
Changes in mobility (measured using motor FIM score gain; range 13-91; better indicated by higher values) - At discharge (time point not reported)												
1 (Kasuga 2019)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	146	229	-	MD 9.7 higher (6.47 to 12.93 higher)	VERY LOW	CRITICAL

CI: Confidence interval; FIM: Functional independence measure; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I
2 95% CI crosses 1 MID (for motor FIM gain +/-8.35)

Table 61: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Physiotherapy + strength training versus physiotherapy only in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physiotherapy + strength training	Physiotherapy only	Relative	Absolute (95% CI)		
Changes in mobility (measured with Timed Up and Go in seconds; better indicated by lower values) - Intervention completion												
1 (Kronborg 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	39	39	-	MD 1.5 higher (3.27 lower to 6.27 higher)	HIGH	CRITICAL
Changes in mobility (measured with Timed Up and Go in seconds; better indicated by higher values) - Gain during intervention												
1 (Kronborg 2017)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	no serious imprecision	none	39	39	-	MD 2.90 higher (0.99 lower to 6.79 higher)	HIGH	CRITICAL

CI: Confidence interval; MD: Mean difference

Table 62: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Unstable core training versus stable core training in SCI rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Unstable core training	Stable core training	Relative	Absolute (95% CI)		
Changes in mobility (measured using stride length, units not reported; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Liu 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	14	15	-	MD 0.11 higher (0.02 lower to 0.24 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using cadence, units not reported; better indicated by higher values) - 12 weeks (intervention completion) (Better												
1 (Liu 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	14	15	-	MD 0.13 higher (0.21 lower to 0.46 higher)	LOW	CRITICAL
Changes in mobility (measured using comfortable walking speed, units not reported; better indicated by higher values) - 12 weeks (intervention completion)												
1 (Liu 2019)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	14	15	-	MD 0.14 higher (0.01 lower to 0.29 higher)	VERY LOW	IMPORTANT

CI: Confidence interval; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for stride length +/-0.085; for comfortable walking speed +/-0.0795)

Table 63: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Balancing exercises versus standard physiotherapy in hip fracture rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Balancing exercises	Standard physiotherapy	Relative	Absolute (95% CI)		
Changes in mobility (measured using WOMAC physical sub-score; range 0-100; better indicated by lower values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 25.4 lower (28.72 to 22.08 lower)	MODERATE	CRITICAL
Changes in mobility (measured using WOMAC physical sub-score; range 0-100; better indicated by lower values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 25.3 lower (30.19 to 20.41 lower)	MODERATE	CRITICAL
Changes in mobility (measured using WOMAC stiffness sub-score; range 0-100; better indicated by lower values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 22.5 lower (30.5 to 14.5 lower)	MODERATE	CRITICAL
Changes in mobility (measured using WOMAC stiffness sub-score; range 0-100; better indicated by lower values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 23.8 lower (33.69 to 13.91 lower)	MODERATE	CRITICAL
Pain (measured using WOMAC pain sub-score; range 0-100; better indicated by lower values) - 3 weeks from baseline (intervention completion)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Balancing exercises	Standard physiotherapy	Relative	Absolute (95% CI)		
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 37.6 lower (42.9 to 32.3 lower)	MODERATE	IMPORTANT
Pain (measured using WOMAC pain sub-score; range 0-100; better indicated by lower values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 26.5 lower (33.69 to 19.31 lower)	MODERATE	IMPORTANT
Pain (measured using SF-36 bodily pain domain sub-score; range 0-100; better indicated by higher values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 26.9 higher (11.75 to 42.05 higher)	MODERATE	IMPORTANT
Pain (measured using SF-36 bodily pain domain sub-score; range 0-100; better indicated by higher values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 37 higher (23.88 to 50.12 higher)	MODERATE	IMPORTANT
Pain (measured using current pain intensity numerical rating score; range 0-10; better indicated by lower values) - 3 weeks from baseline												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Balancing exercises	Standard physiotherapy	Relative	Absolute (95% CI)		
(intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 3.5 lower (4.12 to 2.88 lower)	MODERATE	IMPORTANT
Pain (measured using current pain intensity numerical rating score; range 0-10; better indicated by lower values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 2.9 lower (3.49 to 2.31 lower)	MODERATE	IMPORTANT
Quality of life (measured using SF-36 physical function domain sub-score; range 0-100; better indicated by higher values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	26	-	MD 18.10 higher (5.45 to 30.75 higher)	LOW	IMPORTANT
Quality of life (measured using SF-36 physical function domain sub-score; range 0-100; better indicated by higher values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 28.1 higher (16.78 to 39.42	MODERATE	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Balancing exercises	Standard physiotherapy	Relative	Absolute (95% CI)		
										higher)		
Quality of life (measured using SF-36 physical role domain sub-score; range 0-10; better indicated by higher values 0) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 32.6 higher (16.34 to 48.86 higher)	MODERATE	IMPORTANT
Quality of life (measured using SF-36 physical role domain sub-score; range 0-100; better indicated by higher values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	26	-	MD 24.8 higher (8.14 to 41.46 higher)	LOW	IMPORTANT
Quality of life (measured using SF-36 general health domain sub-score; range 0-100; better indicated by higher values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 19.4 higher (10.35 to 28.45 higher)	MODERATE	IMPORTANT
Quality of life (measured using SF-36 general health domain sub-score; range 0-100; better indicated by higher values) - 12 months after discharge from hospital												
1 (Monticon	randomised trials	serious[1]	no serious inconsiste	no serious indirectne	no serious imprecisio	none	26	26	-	MD 19.7 higher	MODERATE	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Balancing exercises	Standard physiotherapy	Relative	Absolute (95% CI)		
e 2018)			ncy	ss	n					(8.3 to 31.1 higher)		
Quality of life (measured using SF-36 mental health domain sub-score; range 0-100; better indicated by higher values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	26	-	MD 10.2 higher (1.19 lower to 21.59 higher)	LOW	IMPORTANT
Quality of life (measured using SF-36 mental health domain sub-score; range 0-100; better indicated by higher values) - 12 months after discharge from hospital												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	26	-	MD 20.7 higher (8.79 to 32.61 higher)	LOW	IMPORTANT
Changes in ADL (measured using FIM score; range 8-126; better indicated by higher values) - 3 weeks from baseline (intervention completion)												
1 (Monticone 2018)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 16.3 higher (9.65 to 22.95 higher)	MODERATE	IMPORTANT
Changes in ADL (measured using FIM score; range 18-126; better indicated by higher values) - 12 months after discharge from hospital												
1	randomise	serious[1]	no serious	no serious	no serious	none	26	26	-	MD 20.8	MODER	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Balancing exercises	Standard physiotherapy	Relative	Absolute (95% CI)		
(Monticone 2018)	d trials		inconsistency	indirectness	imprecision					higher (13.86 to 27.74 higher)	ATE	

ADL: Activities of daily living; CI: Confidence interval; FIM: Functional independence measure; MD: Mean difference; SF-36: SF-36: 36 item short-form survey; WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for SF-36 physical function +/-6.95; for SF-36 physical role +/-8.45; for SF-36 mental health +/-12.7)

Table 64: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Strengthening training programme versus usual care in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Strengthening training programme	Usual care	Relative	Absolute (95% CI)		
Changes in mobility (measured using improvement of distance achieved in 2MWT in m; better indicated by higher values) - Intervention completion												
1 (Rau 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	29	29	-	MD 11.22 higher (1.77 to 20.67	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Strengthening training programme	Usual care	Relative	Absolute (95% CI)		
										higher)		
Changes in mobility (measured using improvement of walking speed in m/min; better indicated by higher values) - Intervention completion												
1 (Rau 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	29	29	-	MD 6.14 higher (1.31 to 10.97 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using Locomotor Capability Index score; scale 0-42; better indicated by higher values) - Intervention completion												
1 (Rau 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	29	29	-	MD 0.1 lower (2.44 lower to 2.24 higher)	VERY LOW	CRITICAL
Changes in mobility (measured with Timed Up and Go in seconds; better indicated by lower values) - Intervention completion												
1 (Rau 2007)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	29	29	-	MD 0.77 higher (0.54 lower to 2.08 higher)	VERY LOW	CRITICAL

2MWT: 2 minute walk test; CI: Confidence interval; m: metre; MD: Mean difference; min: minute
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for 2MWT +/-9.76; for improvement of walking speed +/-5.075; for Locomotor Capability Index +/-2.34; for Timed Up and Go +/-1.365)

Table 65: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Home exercise versus no home exercise in hip fracture rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Home exercise	No home exercise	Relative	Absolute (95% CI)		
Quality of life (measured using changes in the EQ-5D-3L index value; scale not reported; better indicated by higher values) - Between baseline and 6 months												
1 (Renerts 2019)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	very serious[3]	none	60	60	-	MD 0.02 higher (0.12 lower to 0.16 higher)	VERY LOW	IMPORTANT
Quality of life (measured using changes in the EQ-5D-3L index value; scale not reported; better indicated by higher values) - Between 6 months and 12 months												
1 (Renerts 2019)	randomised trials	very serious[1]	no serious inconsistency	serious[3]	serious[4]	none	60	59	-	MD 0.1 lower (0.2 lower to 0 higher)	VERY LOW	IMPORTANT
Quality of life (measured using changes in the EQ-5D-3L index value; scale not reported; better indicated by higher values) - Between baseline and 12 months												
1 (Renerts 2019)	randomised trials	very serious[1]	no serious inconsistency	serious[2]	serious[4]	none	60	59	-	MD 0.12 higher (0.03 lower to 0.27 higher)	VERY LOW	IMPORTANT

CI: Confidence interval; EQ-5D-3L: EuroQol 5 dimensions and 3 levels; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Study marked down for indirectness because drop out is only reported for the whole RCT population (4 arms, baseline N = 173, at 6 months N = 120, at 12 months N = 119). For the purposes of analysis, we have assumed dropout was equal between the study arms but cannot be certain.
3 95% CI crosses 2 MIDs (for EQ-5D-3L Index value +/-0.074)
4 95% CI crosses 1 MID (for EQ-5D-3L Index value +/-0.074)

Table 66: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: HIPFIT (High intensity progressive resistance training) versus standard care in hip fracture rehabilitation (outcomes reported as means (SD) and analysed appropriately)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	HIPFIT	Standard care	Relative	Absolute (95% CI)		
Changes in mobility (measured by use of assistive devices) - 12 months follow-up (Better indicated by lower values)												
1 (Singh 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	62	62	-	MD 1.2 lower (2.13 to 0.27 lower)	LOW	CRITICAL
Changes in ADL (measured using ALSAR skills score; range 0-22; better indicated by lower values) - 12 months follow-up												
1 (Singh 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	62	62	-	MD 0.70 higher (1.25 lower to 2.65 higher)	LOW	IMPORTANT
Changes in ADL (measured using NHANES score; range 0-3; better indicated by lower values) - 12 months follow-up												
1 (Singh 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	62	62	-	MD 0.03 lower (0.31 lower to 0.25 higher)	MODERATE	IMPORTANT

ADL: Activities of daily living; ALSAR: Assessment of Living Skills and Resources; CI: Confidence interval; MD: Mean difference; NHANES: National Health and Nutrition Examination Survey
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (use of assistive devices +/-1.5; for ALSAR score +/-1.8)

Table 67: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: HIPFIT (High intensity progressive resistance training) versus standard care in hip fracture rehabilitation (outcomes reported as medians (range) and analysed appropriately)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	HIPFIT	Standard care	HIPFIT	Standard care		
Changes in ADL (measured using FIM score; range 18-126; better indicated by higher values) - 12 months follow-up												
1 (Singh 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	62	62	Median (range): 106.7 (56-126)[3]	Median (range): 101.5 (34-126)[3]	VERY LOW	IMPORTANT
Changes in ADL (measured using Katz ADL score; range 0-12; better indicated by lower values) - 12 months follow-up												
1 (Singh 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	62	62	Median (range): 0.5 (0-9)[4]	Median (range): 1.0 (0-12)[4]	VERY LOW	IMPORTANT

ADL: Activities of daily living; FIM: Functional independence measure
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 Imprecision could not be assessed using GRADE default values due to no reporting of SD and no published MIDs so was instead assessed using the sample size: The result was not downgraded if n≥400, if n=399-200, the result was downgraded 1 level, and if n<200 the result was downgraded by 2 levels.
3 According to the statistical analyses performed by the author, the median difference was not significantly different between groups (p=0.84, unclear which statistical test was used)
4 According to the statistical analyses performed by the author, the median difference was not significantly different between groups (p=0.06, unclear which statistical test was used)

Table 68: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Physical activity enhancing programme (PEP) + standard care versus standard care only in hip fracture rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PEP + standard care	Standard care only	Relative	Absolute (95% CI)		
Changes in mobility (Overall physical activity measured using International Physical Activity Questionnaire; scale not reported; better indicated by higher values) - 6 week												
1 (Suwanpasu 2014)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	23	23	-	MD 961.37 higher (461.42 to 1461.33 higher)	LOW	CRITICAL

CI: Confidence interval; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

Table 69: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Twice per week exercise programme versus no exercise programme in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Exercise programme	No exercise programme	Relative	Absolute (95% CI)		
Changes in mobility (measured using Sit-to-stand test in seconds; better indicated by lower values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	100	50	-	MD 15.8 lower (18.5 to 13.1 lower)	MODERATE	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Exercise programme	No exercise programme	Relative	Absolute (95% CI)		
Changes in mobility (measured using 6MWT in m; better indicated by higher values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	100	50	-	MD 56.5 higher (23.93 to 89.07 higher)	LOW	CRITICAL
Changes in mobility (measured using maximum velocity in m/sec; better indicated by higher values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	100	50	-	MD 0.07 higher (0.03 lower to 0.17 higher)	LOW	CRITICAL
Changes in mobility (measured Timed Up-and-Go test in sec; better indicated by lower values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	100	50	-	MD 6.5 lower (9.51 to 3.49 lower)	LOW	CRITICAL
Changes in mobility (measured using step height in cm; better indicated by higher values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas	randomised trials	serious[1]	no serious	no serious	serious[2]	none	100	50	-	MD 9 higher	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Exercise programme	No exercise programme	Relative	Absolute (95% CI)		
2011)			inconsistency	indirectness						(5.06 to 12.94 higher)		
Quality of life (measured using the SF-12 Physical component score; range 0-100; better indicated by higher values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	100	50	-	MD 0.1 higher (1.79 lower to 1.99 higher)	MODERATE	IMPORTANT
Quality of life (measured using the SF-12 Mental component score; range 0-100; better indicated by higher values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	100	50	-	MD 1 lower (4.01 lower to 2.01 higher)	LOW	IMPORTANT
Changes in ADL (measured using Nottingham Extended ADL score; range 0-66; better indicated by higher values) - 3 months from baseline (intervention completion, 6 months post-injury)												
1 (Sylliaas 2011)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	100	50	-	MD 4.9 higher (0.48 to 9.32 higher)	LOW	IMPORTANT

6MWT: 6 minute walk test; ADL: Activities of daily living; CI: Confidence interval; cm: Centimetre; m: metre; MD: Mean difference; min: minute; sec: Seconds; SF-12: 12 item short-form survey
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for 6MWT +/- 41.8; for maximum velocity over 10m +/-0.1; for Timed Up and Go +/-4; for step height +/-6.5; for SF-12 mental component +/-3.95; for Nottingham ADL +/-4.55)

Table 70: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Once per week exercise programme versus no exercise programme in hip fracture rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Exercise programme	No exercise programme	Relative	Absolute (95% CI)		
Changes in mobility (measured using Sit-to-stand test in seconds; better indicated by lower values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	48	47	-	MD 10 lower (11.49 to 8.51 lower)	MODERATE	CRITICAL
Changes in mobility (measured using 6MWT in m; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	48	47	-	MD 108 higher (85.24 to 130.76 higher)	MODERATE	CRITICAL
Changes in mobility (measured using maximum velocity in m/sec; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsiste	no serious indirectne	very serious[2]	none	48	47	-	MD 0.5 higher (0.62	VERY LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Exercise programme	No exercise programme	Relative	Absolute (95% CI)		
			ncy	ss						lower to 1.62 higher)		
Changes in mobility (measured Timed Up-and-Go test in sec; better indicated by lower values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	48	47	-	MD 3.5 lower (3.9 to 3.1 lower)	MODERATE	CRITICAL
Changes in mobility (measured using step height in cm; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	48	47	-	MD 2.8 higher (0.61 lower to 6.21 higher)	MODERATE	CRITICAL
Quality of life (measured using the SF-12 Physical component score; range 0-100; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	48	47	-	MD 3.4 higher (2.33 to 4.47 higher)	MODERATE	IMPORTANT
Quality of life (measured using the SF-12 Mental component score; range 0-100; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-injury)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Exercise programme	No exercise programme	Relative	Absolute (95% CI)		
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	48	47	-	MD 4.4 higher (1.78 to 7.02 higher)	LOW	IMPORTANT
Changes in ADL (measured using Nottingham Extended ADL score; range 0-66; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-injury)												
1 (Sylliaas 2012)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	48	47	-	MD 4.4 higher (2.24 to 6.56 higher)	MODERATE	IMPORTANT

6MWT: 6 minute walk test; ADL: Activities of daily living; CI: Confidence interval; cm: centimetre; m: metre; MD: Mean difference; min: minute; sec: seconds; SF-12: 12 item short-form survey
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MIDs (for maximum velocity over 10 m +/-0.35)
3 95% CI crosses 1 MID (for SF-12 mental component +/-1.9)

Table 71: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Computer-assisted rehabilitation therapy versus standard rehabilitation in traumatic hand injury rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Computer-assisted rehabilitation therapy	Standard rehabilitation	Relative	Absolute (95% CI)		
Upper limb function (measured using total active hand motion in degrees; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	25	-	MD 13.34 lower (123.9 lower to 97.22 higher)	VERY LOW	CRITICAL
Upper limb function (measured using total active hand motion in degrees; better indicated by higher values) - Difference before-after training												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	26	-	MD 2.5 higher (34.3 lower to 39.3 higher)	LOW	CRITICAL
Upper limb function (measured as hand grip strength in kg; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	25	-	MD 1.63 higher (0.15 lower to 3.41 higher)	VERY LOW	CRITICAL
Upper limb function (measured as hand grip strength in kg; better indicated by higher values) - Difference before-after training												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	25	-	MD 1.97 higher (1.77 to 2.17 higher)	LOW	IMPORTANT
Upper limb function (measured using 2-point pinch strength in kg; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Xiao	randomis	very	no	no	serious[2]	none	26	25	-	MD 0.48	VERY	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Computer-assisted rehabilitation therapy	Standard rehabilitation	Relative	Absolute (95% CI)		
2018)	ed trials	serious[1]	serious inconsistency	serious indirectness						higher (0.2 to 0.76 higher)	LOW	
Upper limb function (measured using 2-point pinch strength in kg; better indicated by higher values) - Difference before-after training												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	25	-	MD 0.35 higher (0.14 to 0.56 higher)	LOW	CRITICAL
Upper limb function (measured using upper extremity function index score; scale not reported; better indicated by higher values) - 4 weeks from baseline (intervention completion)												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	26	25	-	MD 4.77 higher (2.12 lower to 11.66 higher)	VERY LOW	CRITICAL
Upper limb function (measured using upper extremity function index score; scale not reported; better indicated by higher values) - Difference before-after training												
1 (Xiao 2018)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	26	25	-	MD 8.61 higher (7.24 to 9.98 higher)	LOW	CRITICAL

CI: Confidence interval; kg: kilogram; MD: Mean difference
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for hand motion +/-114.65; for hand grip strength +/-1.19; for 2 point grip strength +/-0.245; for upper extremity function index +/-6.345)

Table 72: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Proprioceptive neuromuscular facilitation versus traditional prosthetic training in transfemoral amputation rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Proprioceptive neuromuscular facilitation	Traditional prosthetic training	Relative	Absolute (95% CI)		
Changes in mobility (measured using percentage weight bearing; better indicated by higher values) - At intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	25	25	-	MD 10.87 higher (7.63 to 14.11 higher)	LOW	CRITICAL
Changes in mobility (measured using percentage weight bearing; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	25	25	-	MD 8.24 higher (4.49 to 11.99 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using stride length in cm; better indicated by higher values) - At intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 5.88 higher (0.3 lower to 12.06 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using stride length in cm; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsiste	no serious indirectne	no serious imprecisio	none	25	25	-	MD 6.54 higher (5 to 8.08	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Proprioceptive neuromuscular facilitation	Traditional prosthetic training	Relative	Absolute (95% CI)		
			ncy	ss	n					higher)		
Changes in mobility (measured using amputated side step length in cm; better indicated by higher values) - At intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 1.52 higher (1.05 lower to 4.09 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using amputated side step length in cm; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 1.54 lower (2.69 to 0.39 lower)	VERY LOW	CRITICAL
Changes in mobility (measured using sound side step length in cm; better indicated by higher values) - At intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 4.36 higher (1.7 to 7.02 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using sound side step length in cm; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	25	25	-	MD 5 higher (3.24 to 6.76 higher)	LOW	CRITICAL
Changes in mobility (measured using cadence with self-selected comfortable gait in steps/min; better indicated by higher values) - At												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Proprioceptive neuromuscular facilitation	Traditional prosthetic training	Relative	Absolute (95% CI)		
intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 5.96 higher (1.64 to 10.28 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using cadence with self-selected comfortable gait in steps/min; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 6.48 higher (4.48 to 8.48 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using cadence of fast gait in steps/min; better indicated by higher values) - At intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 5.96 higher (1.64 to 10.28 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using cadence of fast gait in steps/min; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	25	25	-	MD 6.88 higher (4.92 to 8.84 higher)	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Proprioceptive neuromuscular facilitation	Traditional prosthetic training	Relative	Absolute (95% CI)		
Changes in mobility (measured using velocity in cm/sec; better indicated by higher values) - At intervention completion (time point not reported)												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 4.51 higher (0.24 lower to 9.26 higher)	VERY LOW	CRITICAL
Changes in mobility (measured using velocity in cm/sec; better indicated by higher values) - Difference before-after training												
1 (Yigiter 2002)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	25	25	-	MD 5.12 higher (3.07 to 7.17 higher)	VERY LOW	CRITICAL

ADL: Activities of daily living; CI: Confidence interval; cm: centimetre; MD: Mean difference; min: minute; sec: seconds
1 Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 1 MID (for percentage weight bearing +/-2.62; for stride length +/-3.585; for amputated side step length +/-2.255; sound side step length +/-2.795; for self-selected gait cadence +/-4.75; for fast-gait cadence +/-4.085; for velocity +/-4.395)

Table 73: Clinical evidence profile for strengthening, balance, proprioception, vestibular rehabilitation/training interventions: Circuit resistance training + standard care versus standard care only

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	CRT + standard care	Standard care only	Relative	Absolute (95% CI)		
Upper body function (measured using Total work/Body weight (J/kg), left side, 180/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	13	13	-	MD 10.1 lower (34.56 lower to 14.36 higher)	VERY LOW	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), left side, 180/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 12.1 higher (0.65 lower to 24.85 higher)	LOW	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), left side, 60/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 14.7 higher (8.96 lower to 38.6 higher)	LOW	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), left side, 60/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	13	13	-	MD 39.50 higher (19.24 to 59.76 higher)	MODERATE	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), right side, 180/sec, extension; better indicated by higher values) (6 weeks												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	CRT + standard care	Standard care only	Relative	Absolute (95% CI)		
from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	13	13	-	MD 5.10 higher (17.96 lower to 28.16 higher)	VERY LOW	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), right side, 180/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 10.67 higher (3.02 to 18.32 higher)	LOW	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), right side, 60/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 8.6 higher (13.47 lower to 30.67 higher)	LOW	CRITICAL
Upper body function (measured using Total work/Body weight (J/kg), right side, 60/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsiste	no serious indirectne	serious[3]	none	13	13	-	MD 30.8 higher (6 to 55.6	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	CRT + standard care	Standard care only	Relative	Absolute (95% CI)		
			ncy	ss						higher)		
Upper body function (measured using Peak torque/Body weight (Nm/kg), left side, 180/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	13	13	-	MD 1.1 lower (11.75 lower to 9.55 higher)	VERY LOW	CRITICAL
Upper body function (measured using Peak torque/Body weight (Nm/kg), left side, 180/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 5.6 higher (0.38 lower to 11.58 higher)	LOW	CRITICAL
Upper body function (measured using Peak torque/Body weight (Nm/kg), left side, 60/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 4.8 higher (7.87 lower to 17.47 higher)	LOW	CRITICAL
Upper body function (measured using Peak torque/Body weight (Nm/kg), left side, 60/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim	randomis	serious[1]	no	no	serious[3]	none	13	13	-	MD 13.50	LOW	CRITICAL

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	CRT + standard care	Standard care only	Relative	Absolute (95% CI)		
2016)	ed trials		serious inconsistency	serious indirectness						higher (4.76 to 22.24 higher)		
Upper body function (measured using Peak torque/Body weight (Nm/kg), right side, 180/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	13	13	-	MD 1 higher (12.8 lower to 14.8 higher)	VERY LOW	CRITICAL
Upper body function (measured using Peak torque/Body weight (Nm/kg), right side, 180/sec, flexion; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	13	13	-	MD 9.9 higher (6.57 to 13.23 higher)	MODERATE	CRITICAL
Upper body function (measured using Peak torque/Body weight (Nm/kg), right side, 60/sec, extension; better indicated by higher values) (6 weeks from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	very serious[2]	none	13	13	-	MD 3.3 higher (11.63 lower to 18.23 higher)	VERY LOW	CRITICAL
Upper body function (measured using Peak torque/Body weight (Nm/kg), right side, 60/sec, flexion; better indicated by higher values) (6 weeks												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	CRT + standard care	Standard care only	Relative	Absolute (95% CI)		
from baseline, at intervention completion)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 7.9 higher (0.54 lower to 16.34 higher)	LOW	CRITICAL
Overall quality of life (measured using QoL scale) (6 weeks from baseline, at intervention completion; better indicated by higher values)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 28.5 lower (101.1 lower to 44.1 higher)	LOW	IMPORTANT
Changes in ADL (measured using total FIM score; range 18-126) (6 weeks from baseline, at intervention completion; better indicated by higher values)												
1 (Yildirim 2016)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	13	13	-	MD 7 higher (1.41 lower to 15.41 higher)	LOW	IMPORTANT

ADL: Activities of daily living; CRT: Circuit resistance training; FIM: Functional Independence Measure; MD: Mean difference; QoL: Quality of life
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2
2 95% CI crosses 2 MID (for Total work/Body weight [left/180/extension] +/- 9.6; Total work/Body weight [right/180/extension] +/- 12.2; Peak torque/Body weight [left/180/extension] +/- 5.4; Peak torque/Body weight [right/180/extension] +/- 6.95; Peak torque/Body weight [right/60/extension] +/- 7.35)
3 95% CI crosses 1 MID (for Total work/Body weight [left/180/flexion] +/- 7.05; Total work/Body weight [left/60/extension] +/- 12.1; Total work/Body weight [left/60/flexion] +/- 11.1; Total work/Body weight [right/180/flexion] +/- 4.6; Total work/Body weight [right/60/extension] +/- 14.45; Total work/Body weight [right/60/flexion] +/- 10.9; Peak torque/Body weight [left/180/flexion] +/- 4.9; Peak torque/Body weight [left/60/extension] +/- 8.5; Peak torque/Body weight [left/60/flexion] +/-7.4; Peak torque/Body weight [right/60/flexion] +/- 15.75; QoL scale +/- 45. 9; FIM +/- 3.65)

GRADE tables for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Table 74: Clinical evidence profile for strengthening training interventions: inpatient exercise versus outpatient exercise in burn rehabilitation

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Inpatient exercise	Outpatient exercise	Relative	Absolute (95% CI)		
Changes in mobility (measured using 6MWT in m; better indicated by higher values) - 3 months from baseline (intervention completion, 9 months post-burn)												
1 (Cucuzzo 2001)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	11	10	-	MD 120 higher (49.82 to 190.18.52 higher)	MODERATE	CRITICAL

6MWT: 6-minute walk test; CI: Confidence interval; m: metre; MD: mean difference
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

Table 75: Clinical evidence profile for strengthening training interventions: home exercise + isokinetic training versus home exercise only in burn rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Home exercise + isokinetic training	Home exercise only	Relative	Absolute (95% CI)		
Changes in mobility (measured using stride length in cm; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	16	17	-	MD 41.5 higher (39.62 to 43.38 higher)	MODERATE	CRITICAL
Changes in mobility (measured using step length in cm; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	16	17	-	MD 19.49 higher (17.9 to 21.08 higher)	MODERATE	CRITICAL
Changes in mobility (measured using velocity in cm/sec; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	16	17	-	MD 54.83 higher (53.61 to 56.05 higher)	MODERATE	CRITICAL
Changes in mobility (measured using cadence in step/min; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2014)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	16	17	-	MD 47.28 higher (46.36 to 48.2 higher)	MODERATE	CRITICAL

CI: Confidence interval; cm: centimetre; MD: mean difference; min: minute; sec: second
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

Table 76: Clinical evidence profile for nutrition support interventions: standard care + isokinetic training + vitamin D versus placebo + isokinetic training + standard care in burn rehabilitation

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Vitamin D + isokinetic training + standard care**	**Placebo + isokinetic training + standard care**	**Relative**	**Absolute (95% CI)**		
Changes in mobility (measured using stride length in cm; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	15	17	-	MD 28.96 higher (27.08 to 30.84 higher)	MODERATE	CRITICAL
Changes in mobility (measured using step length in cm; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	15	17	-	MD 12.01 higher (10.3 to 13.72 higher)	MODERATE	CRITICAL
Changes in mobility (measured using velocity in cm/sec; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	15	17	-	MD 34 higher (32.85 to 35.15 higher)	MODERATE	CRITICAL
Changes in mobility (measured using cadence instep/min; better indicated by higher values) - 12 weeks from baseline (intervention completion)												
1 (Ebid 2017)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	15	17	-	MD 8 higher (7.06 to 8.94 higher)	MODERATE	CRITICAL

CI: Confidence interval; cm: centimetre; MD: mean difference; min: minute; sec: second
1 Serious risk of bias in the evidence contributing to the outcomes as per RoB 2

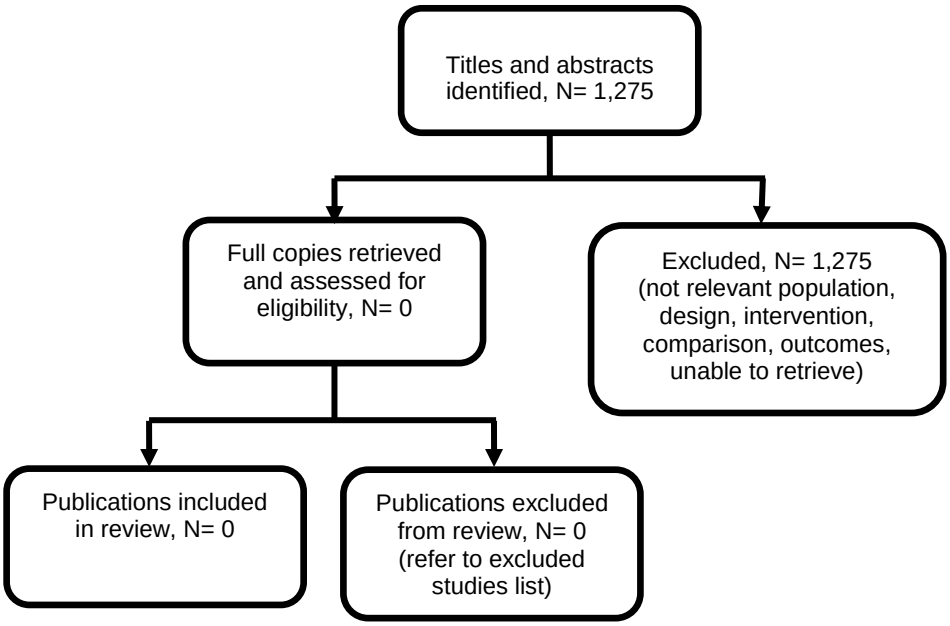
Appendix G – Economic evidence study selection

Economic evidence study selection for review questions:

B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Figure 3: Study selection flow chart: Children and young people



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Appendix H – Economic evidence tables

Economic evidence tables for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

No economic evidence was identified which was applicable to this review question.

Economic evidence tables for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

No economic evidence was identified which was applicable to this review question.

Appendix I – Economic evidence profiles

Economic evidence profiles for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Table 77: Economic evidence profiles for intensive rehabilitation programme

Study and country	Limitations	Applicability	Other comments	Incremental costs	Incremental effects	ICER	Uncertainty
Guideline economic analysis	Potentially serious limitations1	Partially applicable2	Cost-utility analysis Time horizon: 3 years Primary measure of outcome: QALYs	P1 (inpatient intensive rehabilitation) P2 (inpatient intensive rehabilitation) P3 (outpatient intensive rehabilitation) P4 (outpatient intensive rehabilitation plus accommodation and counselling costs)	P1 (inpatient intensive rehabilitation) P2 (inpatient intensive rehabilitation) P3 (outpatient intensive rehabilitation) P4 (outpatient intensive rehabilitation plus accommodation and counselling costs)	P1 (inpatient intensive rehabilitation) plus SC vs. SC only: £26,400 P2 (inpatient intensive rehabilitation): £24,800 P3 (outpatient intensive rehabilitation): £2,800 P4 (outpatient intensive rehabilitation plus accommodation and counselling costs): £7,200	Depending on the assumptions made the ICERs ranged as follows: P1 – £15,600-£67,500 P2 – £14,700 - £63,400 P3 – £500 - £7,200 P4 – £4,300-£18,400

Insert abbreviations: ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year; SC: standard care

1. *Effectiveness based on expert opinion; cost data from muscoleskeletal and police physical rehabilitaion services*
2. *QALYs; utility scores from a single small study*

Economic evidence profiles for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

No economic evidence was identified which was applicable to this review question.

Appendix J – Economic analysis

Economic evidence analysis for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Introduction - objective of economic modelling

The committee considered the cost-effectiveness of intensive rehabilitation for people with complex traumatic injuries as an area of great importance. There was no existing economic evidence on the cost-effectiveness of intensive rehabilitation in people with complex traumatic injuries. Therefore, an exploratory economic analysis was undertaken to assess the potential cost-effectiveness of providing an intensive rehabilitation programme.

Interventions assessed

There was no evidence on the effectiveness of intensive rehabilitation in the guideline systematic review. As a result, the committee provided information on three intensive rehabilitation programmes that informed the economic model. Programme 1 (P1) and 2 (P2) were complex musculoskeletal, level two rehabilitation services, funded by Clinical Commissioning Groups. The private provider provided P1 with the NHS contract, and NHS provided P2. Both programmes aimed to promote a return to functional living and work and help reduce trauma's long-term impact. P1 was provided in a 24-bed unit with no information as to its content. P2 had the same staffing/programme set up as a prosthetic rehabilitation service and included daily rehabilitation (i.e. Monday to Friday 10 am - 3 pm) and included one to one and group physiotherapy, occupational therapy (OT), psychologist, and orthotics sessions. It also included group exercise classes. The participants had access to a gym for independent exercises and access to facilities to practice daily living activities such as kitchen, bathroom, and car. This programme was provided in an outpatient setting with hotel accommodation. Both programmes were delivered over a 3-week period.

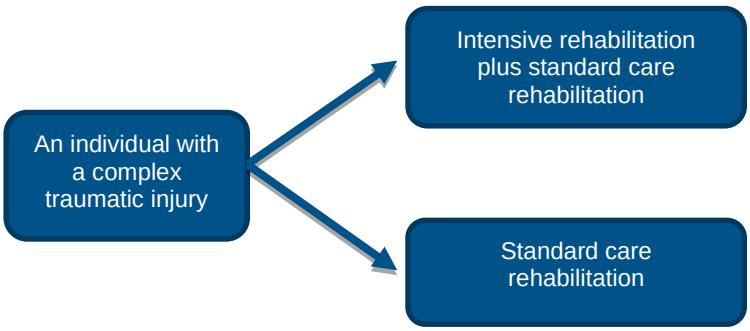
The committee also provided information on the police outpatient intensive rehabilitation programme (P3). P3 was mainly a physical rehabilitation programme to maximise patients' outcomes of improved health and fitness and expedite their return to police work. P3 was delivered over a 2-week period and included physiotherapy, hydrotherapy, back school and pain lectures, and one-to-one gym rehabilitation. The frequency of sessions varied.

Services gave the above intensive rehabilitation programmes in addition to standard care (SC) rehabilitation. The model considered SC rehabilitation-only as a comparator.

Economic modelling

A simple decision tree model was constructed using Microsoft Office Excel 2016. According to the model structure, an individual with complex rehabilitation receives either intensive rehabilitation with SC or SC rehabilitation only. The model was unable to consider individual health states, i.e. fully recovered, partially recovered etc. However, the effectiveness review identified 1 study that reported the average health-related quality of life scores in individuals who have undergone a rehabilitation programme. The analysis utilised these mean quality of life scores to estimate quality-adjusted life-year (QALY) gains due to intensive rehabilitation happening over a shorter time and recovery starting sooner. The time horizon was guided by clinical data availability (i.e. health-related quality of life scores) and was 3 years. A schematic diagram of the model is presented in Figure 4.

Figure 4: Schematic diagram of a decision tree model constructed for the assessment of the relative cost-effectiveness of intensive rehabilitation for individuals with complex rehab needs.



Costs and outcomes considered in the analysis

The economic analysis adopted the perspective of the National Health Service (NHS) and personal social services (PSS), as recommended by (NICE 2014).

Costs consisted of intervention costs only. The committee discussed the importance of other health and care costs. For example, the committee noted that intensive rehabilitation would reduce primary care visits, outpatient visits, hospital admissions, A&E attendances, etc. The committee could not identify relevant cost data sources to support their inclusion.

The committee discussed the relevance of care costs in this population. The committee was of a mixed view. The committee explained that care costs might be only relevant in individuals with spinal cord injuries (SCI) and the elderly. It would be not unusual for a hip fracture to trigger care costs in older individuals. The committee also explained that mainly family members provide informal care in this population. Nevertheless, a sensitivity analysis was undertaken to explore the impact of including care costs in the analysis. Lynne-Stoked (2015) explored the cost-effectiveness of rehabilitation in individuals with complex neurological disability. The study reported care costs for different levels of dependency. The low dependency group comprises the least severe individuals with admission Northwick Park Dependency (NPDS) score < 10. The NPDS tool provides an assessment of patient care needs. It is an ordinal scale incorporating activities of daily living, safety awareness, behavioural management and communication. Individuals with NPDS < 10 were largely independent for basic self-care and provided a reasonable proxy of care needs in people with complex rehabilitation needs, where such costs are relevant.

The measure of outcome was the QALY. A discount rate of 3.5% was used for all future costs and outcomes (NICE, 2014).

Clinical input parameters

The systematic review has not identified any relevant literature on the effectiveness of intensive rehabilitation. The main benefit of intensive rehabilitation is that it is of a shorter duration, is more intense, and benefits start accruing quicker. For example, clinicians would give intensive rehabilitation over 3 weeks, whereas SC rehabilitation would be spread out over 15 months. In the base-case analysis, the model assumed that intensive rehabilitation would be initiated at the same time as standard care rehabilitation.

The committee explained that intensive rehabilitation would be initiated only in a small proportion of individuals with the most severe injuries and complex needs, and the timing will depend on factors such as weight-bearing, psychological state, number and pattern of injuries, immobilisation period, healing rate, an individual is returning to work or a higher-level function. The sensitivity analysis explored the impact of different starting points of intensive rehabilitation relative to SC rehabilitation.

Utility data and estimation of QALYs

To express outcomes in the form of QALYs, utility scores were required. Utility scores represent the health-related quality of life (HRQoL) associated with specific health states on a scale from 0 (death) to 1 (perfect health); they are estimated using preference-based measures that capture people's preferences on the HRQoL experienced.

NICE recommends the EuroQol five dimension questionnaire (EQ-5D) (Brooks 1996) as the preferred measure of HRQoL in adults for use in a cost-utility analysis. The standard version of the EQ-5D has not been designed for use in children. As a result, alternative standardised and validated preference-based measures of health-related quality of life that have been designed specifically for use in children can be considered (NICE, 2013).

Monticone (2018), an RCT (N=52) included in the guideline systematic review, reported Short-Form 36 (SF-36) scores in individuals with a hip fracture and complex rehabilitation needs. This was the only RCT included in the systematic review that reported usable data. The committee acknowledged that even though a hip fracture population may not be the best proxy, it would provide a conservative estimate of improvements in health-related quality of life expected in individuals who have the most severe injuries and complex needs and would be eligible for an intensive rehabilitation programme. The intervention in this RCT comprised balancing exercises, 5 x 90 minute individually performed sessions per week for 3 weeks. The sessions involved balance task-specific proprioceptive balancing exercises and walking on a rectilinear trajectory with or without. The intervention also included the exercises designed to replicate everyday activities such as climbing stairs or avoiding obstacles. The standard physiotherapy group comprised general physiotherapy exercise sessions, 5 x 90 minutes individually performed sessions per week for 3 weeks. Sessions involved open kinetic chain exercises to improve the range of hip motion, increase hip and lower limb muscle strength, and maintain the length and elasticity of thigh tissues. All participants received walking training and an ergonomic advice booklet. The study reported SF-36 scores at baseline, at the end of treatment, and 12-month follow-up for both intervention and SC groups. The SF-36 scores were transformed into EQ-5D-3L scores using a published algorithm (Ara 2008). Ara 2008 reported a number of different models that could be used to convert between SF-36 and EQ-5D-3L. However, their conclusion was that there was very little to choose between the goodness of fit and the accuracy of the predictions generated by the various models presented, and based on validations, they advocated EQ (1) model as the first choice, and this was the model used in this analysis. The committee reviewed the converted scores and explained that the intervention group's improvements were more representative of the improvements observed in their practice. The scores in the control group were used as part of the sensitivity analysis.

Kruithof 2020 undertook a prospective multicentre non-randomised study to examine health status and psychological outcomes after trauma. The study included 4,883 individuals with various injuries, including pelvic injury; hip fracture; tibia, complex foot and femur fracture; traumatic brain injury; thoracic injury; rib fracture. The study reported EQ-5D-3L scores at baseline, end of treatment, and also follow-up. These scores were used as part of a sensitivity analysis.

In the model, individuals were modelled to start at a baseline health-related quality of life in both groups. In the intensive rehabilitation group, individuals were modelled to improve from baseline to the end of treatment health-related quality of life over the duration of an intensive rehabilitation (i.e. 3 weeks). Following this, individuals were modelled to improve from the end of treatment to 12-month follow-up health-related quality of life. From then on, individuals were modelled to remain at a follow-up health-related quality of life for the model's duration.

In the SC group, individuals were assumed to move from baseline to the end of treatment health-related quality of life over the duration of SC rehabilitation (i.e. 15 months). Following this, individuals were modelled to move from the end of treatment to the 12-month follow-up

health-related quality of life. From then on, individuals were modelled to remain at a follow-up health-related quality of life for the model's remainder duration.

Relative effectiveness

Since there was no evidence on intensive rehabilitation's relative effectiveness plus SC (versus SC only), the analysis used the committee expert opinion to approximate this. The committee explained that they would expect at least a 5% improvement in health-related quality of life scores with intensive rehabilitation plus SC (vs SC only). The sensitivity analysis assessed the impact of varying this assumption. The UK general population norm EQ-5D-3L score was used as a ceiling value (i.e. the health-related quality of life scores were varied up to a level of approximately 0.857).

Cost data

An intensive rehabilitation programme costs were estimated based on the committee's cost data on musculoskeletal and police rehabilitation and are summarised in Table 78.

The committee explained that the costs for P3 do not include costs associated with psychological support. Consequently, this cost was topped up with the counsellor input. The model assumed that, on average, an individual would require 6 sessions. The NHS Band 7 worker's unit cost is £56 per client hour (Hospital-based scientific and professional staff, Curtis & Burns, 2019). The committee also explained that intensive rehabilitation is most likely to be provided by one provider for the region (e.g. major trauma centre for their trauma network). Individuals will either have to commute for their rehabilitation or stay in hotel accommodation nearby for the programme's duration. Modelling assumed that individuals would stay in hotel accommodation at the cost of £68 per night. The hotel's cost was based on the accommodation provided by a rehabilitation programme identified through an online search. The inflated cost of programme P3 will be referred to as P4.

The intervention cost of standard care was zero, given that it was administered in both arms.

In the sensitivity analysis, care costs were estimated by combining the hours of care reported in Lynne-Stokes (2015) with a relevant unit cost. According to the study, the care hours per week were 15.9 at admission. The care hours were combined with national unit cost data for daycare for adults requiring physical support (age 18-64), estimated at £20 per client hour (Curtis & Burns, 2019). Based on the committee expert opinion, the probability of care costs in this population was 0.05. In the intensive rehabilitation programme, group care costs were assumed to be incurred during the rehabilitation programme (i.e. 3 weeks) and 3 months following the discharge. In the standard care group, the care costs were assumed to be incurred for the standard care rehabilitation duration (i.e. 15 months). Sensitivity analysis varied assumptions on care costs.

Due to the lack of suitable data, the analysis has not considered other health and care costs.

Table 78: The mean (deterministic) values of all input parameters used in the economic model.

Input parameter	Deterministic / mean value	Source of data – comments
Percent improvement in the end of treatment and follow-up health-related quality of life scores with intensive rehabilitation	5%	Committee expert opinion
Utilities (annual)		
Base-case analysis		

Input parameter	Deterministic / mean value	Source of data – comments
Baseline EOT FU	0.317 0.674 0.798	Monticone 2018, RCT, Italy, intervention group scores. SF-36 scores were converted to EQ-5D-3L using a published algorithm by Ara (2008). For the baseline, a more conservative estimate of the two groups was used, i.e.intervention group.
Sensitivity analyses		
Baseline EOT FU	0.317 0.479 0.501	Monticone 2018, RCT, Italy, control group scores. SF-36 scores were converted to EQ-5D-3L using a published algorithm by Ara (2008). For the baseline, a more conservative estimate of the two groups was used, i.e.intervention group.
Baseline EOT FU	0.490 0.560 0.760	Kruithof 2020, a prospective multicentre non-randomised study, Netherlands, N=4883. The study examined health status and psychological outcomes after trauma including pelvic injury, hip fracture, tibia, complex foot and femur fracture, traumatic brain injury, thoracic injury, rib fracture, etc.
Rehabilitation programme costs per patient		
P1 – inpatient rehabilitation	£10,542	Information provided by the Committee. Complex musculoskeletal rehabilitation service, 24 bedded unit (private provider with the NHS contract); activity was level 2 rehabilitation, Clinical Commissioning Group (CCG) funded. The purpose was return to functional / work and help reduce the long-term impact of trauma.
P2 – inpatient rehabilitation	£9,912	Information provided by the Committee. Complex musculoskeletal rehabilitation service provided within same staffing / programme as prosthetic rehabilitation service (NHS provider). Activity was level 2 rehabilitation, CCG funded. The purpose was return to functional living / work and help reduce the long term impact of trauma. The programme included daily rehabilitation, Monday to Friday, 10 am to 3pm. It included one to one therapy sessions including physiotherapy, occupational therapy, psychology, and orthotics. Group therapy sessions and group exercise classes. Individuals also had access to gym for independent exercises, access to facilities to practise activities of daily living e.g. kitchen, bathroom, car. The cost included accommodation (hotel services).
P3 - outpatient rehabilitation	£1,118	Information provided by the Committee. Physical rehabilitation programme focussing on improved health and fitness. The purpose was to expedite the return, of ill and injured individuals to work. The frequency of sessions varied i.e. some individuals didn't need seeing every day but other individuals required to be seen for longer periods or two to three times a day. The programme included physiotherapy, hydrotherapy, back school and pain lectures, and individual one to one gym rehabilitation sessions. The programme was delivered over a 2-week period.
P4 - outpatient rehabilitation (P3), plus counselling, plus	£2,882	Same as P3 (above), plus counselling delivered by Band 7 NHS worker, at £56/hour (Curtis & Burns, 2019). It was modelled that individuals will have 6

Input parameter	Deterministic / mean value	Source of data – comments
accommodation costs		therapy sessions. Cost of a hotel accommodation was included at a rate of £68/night for the duration of the rehabilitation programme.
Care costs	£318	Estimated using care hours reported by Lynne-Stokes (2015). Care hours were assigned the unit cost of £20/hour (Day care for adults requiring physical support (age 18-64), Curtis & Burns 2019). In the intensive rehabilitation programme group care costs were assumed to be incurred during the rehabilitation programme (i.e. 3 weeks) and for 3 months following the discharge. In the standard care group, the care costs were assumed to be incurred for duration of the standard care rehabilitation (i.e. 15 months). Care costs were varied in the sensitivity analysis.
Probability of requiring care / incurring care costs	0.00 in the base case, 0.05 in sensitivity analyses	The committee expert opinion. Care costs were included only during the duration of active rehabilitation.
Discount rate for costs and outcomes	3.5%	As per NICE guidelines manual (NICE, 2014)

Data analysis and presentation of results

Only a deterministic analysis was undertaken, where data are analysed as point estimates; results are presented as mean total costs and QALYs associated with each option are assessed. Relative cost-effectiveness between alternatives was estimated using incremental analysis, and incremental cost-effectiveness ratios (ICERs) were calculated. ICERs expressed the additional cost per additional unit of benefit (i.e. QALY) associated with one option relative to its comparator. Estimating such a ratio allowed consideration of whether the additional benefits were worth the additional cost when choosing an option. The option with the highest ICER below the cost-effectiveness threshold was deemed to be the most cost-effective option.

One-way sensitivity analyses explored the impact of varying:

The cost of an intensive rehabilitation programme

The utility values

The duration of an intensive rehabilitation programme

The duration of standard care rehabilitation

The start of an intensive rehabilitation programme

The care costs

Economic modelling results

Under the base-case assumptions (i.e. using Montecorne 2018 intervention arm utility values, assuming 5% improvement in utility values [vs. SC], assuming that an individual is initiated on intensive rehabilitation at the start of their rehabilitation journey) the ICER ranged from £2,600/QALY for P3 to £24,900/QALY for P1. The results are summarised in Table 79.

As expected, in the scenario where no assumptions are made about the relative improvement in health-related quality of life scores in the intensive rehabilitation group (vs SC), the ICERs are less favourable and ranged from £3,500/QALY for P3 to £33,300/QALY for P1. In this scenario, benefits are only due to intensive rehabilitation being of shorter duration and benefits starting to accrue sooner.

Based on the committee expert opinion, an intensive rehabilitation programme's duration could be 2 weeks (base-case 3 weeks). The impact of varying this model input was negligible, with ICERs remaining largely unchanged.

The committee advised that SC rehabilitation duration could be anywhere between 12-24 months (base-case 15 months). Assuming the lower end of the estimate, as expected, the ICERs were slightly less favourable and ranged from £2,900/QALY for P3 to £27,700/QALY for P1. Modelling, the upper-end estimate of 24 months the ICERs ranged from £1,700/QALY for P3 to £15,900/QALY for P1. Related to this, one of the main assumptions was that it takes 60 weeks for people receiving standard care rehabilitation to achieve the same health-related quality of life as people in the intensive rehabilitation group achieve in 3 weeks. By varying the duration of standard care rehabilitation, it was found that outpatient rehabilitation (P3) remained potentially cost effective with an ICER < £20,000 per QALY gained at all times. However, the duration of standard care rehabilitation needs to be at least 80 weeks for an ICER of inpatient rehabilitation (P1) to be below the lower NICE cost-effectiveness threshold of £20,000 per QALY gained and 47 weeks for an ICER to be below the upper NICE cost-effectiveness threshold of £30,000 per QALY gained.

The committee advised that care costs may be applicable only for a small proportion of individuals (i.e. 5%). Including care costs had a negligible impact and the ICERs remained largely unchanged.

The model was sensitive to assumptions about health-related quality of life scores. The base-case analysis used utility scores from Monetcorne 2018 intervention arm. Using the same study's utility scores from the control arm (i.e. conservative estimate) has resulted in substantially higher ICERs. The ICERs ranged from £6,300/QALY for P3 to as much as £59,500/QALY for P1. Similarly, using the utility values from Kruithof 2020 resulted in slightly higher ICERs, which ranged from £3,200/QALY for P3 to £30,600/QALY for P1.

Table 79: Summary of incremental cost-effectiveness ratios (ICERs) of intensive rehabilitation programmes under various scenarios.

Scenario	ICER of P1 plus SC vs. SC only	ICER of P2 plus SC vs. SC only	ICER of P3 plus SC vs. SC only	ICER of P4 plus SC vs. SC only
5% improvement in utility values (vs. SC) – base-case*	£24,900	£23,400	£2,600	£6,800
5% improvement in utility values (vs. SC) – no discounting	£23,600	£22,200	£2,500	£6,400
0% improvement in utility values (vs. SC)	£33,300	£31,300	£3,500	£9,100
5% improvement in utility values (vs. SC), 2 wks. duration of intensive rehabilitation (base-case 3 wks.)	£24,500	£23,300	£2,600	£5,600
5% improvement in utility values (vs. SC), 12 mos. duration of SC (base-case 15 mos.)	£27,700	£26,000	£2,900	£7,600
5% improvement in utility values (vs. SC), 24 mos. duration of SC (base-case 15 mos.)	£15,900	£15,000	£1,700	£4,400
5% improvement in utility values (vs. SC), plus care costs	£22,800	£21,300	£600	£4,700
5% improvement in utility values (vs. SC), plus Montecorne 2018 control arm utility values	£59,500	£55,900	£6,300	£16,300
5% improvement in utility values (vs. SC), plus Kruithof 2020 utility values	£30,600	£28,800	£3,200	£8,400

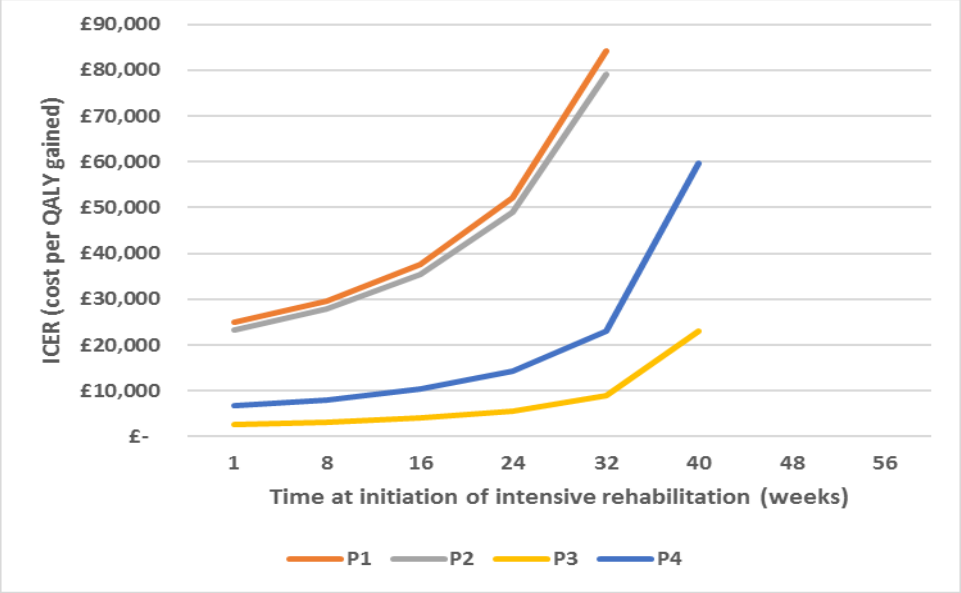
ICER: incremental cost-effectiveness ratio; P1: inpatient intensive rehabilitation (muscoleskeletal service 1); P2: inpatient intensive rehabilitation (muscoleskeletal service 2); P3: outpatient intensive rehabilitation (police physical rehabilitaion); P4: outpatient intensive rehabilitation (police physical rehabilitaion plus psychological support and travel/accommodation costs); SC: standard care

**Base-case: Monetcorne 2018 intervention arm utility values; 5% improvement in utility values for intensive rehabilitation (vs. SC); 3 wks. duration for intensive rehabilitaion; 15 months. duration for SC rehabilitation; no care costs; an individual is initiated on intensive rehabilitation at the start of their rehabilitation journey; discounting applied to costs and outcomes*

The committee explained that clinicians could initiate intensive rehabilitation anywhere along an individual's rehabilitation pathway. A further sensitivity analysis explored how changing intensive rehabilitation's starting time (relative to SC) affected its cost-effectiveness (Figure 5).

The sensitivity analysis showed that if P1 or P2 is initiated later than 8 weeks into individual's rehabilitation journey the ICERs are above NICEs upper threshold of £30,000/QALY. Similarly, if P3/P4 is initiated later than 30 weeks into individual's rehabilitation journey the ICERs are above NICEs upper threshold of £30,000/QALY. To initiate intensive rehabilitation beyond these cut-offs there is a need for more robust data on effectiveness and long-term costs to show that such an approach to rehabilitation represents a cost-effective use of scarce NHS resources.

Figure 5: Sensitivity analysis – time at initiation of an intensive rehabilitation programme



Abbreviations: P1: inpatient intensive rehabilitation (muscoleskeletal service 1); P2: inpatient intensive rehabilitation (muscoleskeletal service 2); P3: outpatient intensive rehabilitation (police physical rehabilitaion); P4: outpatient intensive rehabilitation (police physical rehabilitaion plus psychological support and travel/accommodation costs)

The analysis also modelled that individuals improve from baseline to the end of treatment health-related quality of life throughout their rehabilitation, i.e. 3 weeks and 60 weeks for intensive rehabilitation and standard care rehabilitation, respectively. Following this, individuals in both groups were modelled to improve from the end of treatment health-related quality of life to 12-month follow-up health-related quality of life, i.e. it takes 12 months post-intervention to fully recover, regardless of the intervention's initial duration. As a result, of this assumption, it would have taken a relatively long time for people in standard care arm to recover fully. To test this assumption, the sensitivity analysis was undertaken where it was modelled that people in standard care arm following the end of rehabilitation fully recover straightaway after the end of treatment, i.e. 60 weeks. The conclusions remained unchanged, with the ICERs slightly less favourable, i.e. £3,000/QALY for P3 and £28,800/QALY for P1.

Discussion – limitations of the analysis

The analysis results suggested that intensive rehabilitation could be cost-effective under certain assumptions, mainly if initiated early in an individual's rehabilitation journey and in an outpatient setting.

Providing intensive rehabilitation later along a patient's rehabilitation pathway reduces the potential for an intensive rehabilitation programme since standard care rehabilitation would have generated some benefits already. However, the committee explained that standard care physiotherapy over 1 year doesn't achieve what intensive rehabilitation does in 3 weeks. The committee member with an experience of trauma explained after 1 year of standard care physiotherapy, she was still using a wheelchair, and she felt it wasted time. It had a very detrimental effect on her quality of life. The implication of this would be that an individual with standard care physiotherapy is actually lingering at the baseline or only a very slightly higher quality of life level for months. This would mean that no or very minimal gains are achieved with standard care rehabilitation and analysis, where an individual starts at the same baseline quality of life irrespective of when intensive rehabilitation is initiated, may actually be a more representative scenario, i.e. the time at which intensive rehabilitation is initiated does not matter much as no substantial gains are achieved with standard care rehabilitation, for example, an individual who started in a wheelchair is very likely to be in a wheelchair after one year of standard care physiotherapy.

Related to the above, the committee assumed that individuals improve from baseline to the end of treatment health-related quality of life throughout their rehabilitation, i.e. 3 weeks and 60 weeks for intensive rehabilitation and standard care rehabilitation, respectively. Following this, individuals in both groups were modelled to improve from the end of treatment health-related quality of life to 12-month follow-up health-related quality of life, i.e. it takes 12 months post-intervention to fully recover, regardless of the intervention's initial duration. As a result, of this assumption, it would have taken a relatively long time for people in standard care arm to recover fully. To test this assumption, the sensitivity analysis was undertaken where it was modelled that people in standard care arm following the end of rehabilitation fully recover straightaway, i.e. after 60 weeks. The conclusions were unchanged. However, the base case analysis did assume that people improve in standard care arm throughout, but it just takes much longer and is in line with the view that standard care physiotherapy over 1 year doesn't achieve what intensive rehabilitation does in 3 weeks, with people still immobile and using a wheelchair, dependent, and unable to participate in social activities with a detrimental effect on their quality of life.

The committee discussed the applicability of quality of life scores and relatively large observed changes in scores by the end-of-treatment and follow-up. The health-related quality of life scores used in the base case analysis were based on an RCT in individuals with a hip fracture and complex rehabilitation needs (Monticone 2018). This was the only RCT included in the systematic review that reported usable data. The committee acknowledged that even though a hip fracture population may not be the best proxy, it would provide a conservative estimate of improvements in health-related quality of life expected in individuals who have the most severe injuries and complex needs and would be eligible for an intensive rehabilitation programme. This assumption was tested in an extensive sensitivity analysis by using alternative health-related quality of life scores.

The committee explained that individuals eligible for intensive rehabilitation programmes have severe injuries and complex needs and that, in their view, such large changes in health-related quality of life, as reported in Montecorne 2018, are realistic. An example would be when an individual is in a wheelchair when an intensive rehabilitation programme is initiated and comes out running 5k and ready to return to work. The committee explained that intensive rehabilitation could achieve this in 3 weeks if it is timed at the right time. This view was supported by a committee member with experience of trauma and who has received intensive rehabilitation. She explained that that the difference intensive rehabilitation made

was huge and could easily translate to the optimistic quality of life changes observed in Montecorne 2018 and even beyond. Related to this, one of the main assumptions was that it takes 60 weeks for people receiving standard care rehabilitation to achieve the same health-related quality of life as people in the intensive rehabilitation group achieve in 3 weeks. The sensitivity analysis showed that the findings for outpatient rehabilitation were robust o change in this model input. However, the findings for inpatient intensive rehabilitaion were much more sensitive to this model input.

This is an exploratory, simplified analysis characterised by many limitations, including utility scores from a small single study, effectiveness informed by the committee. An alternative scenario was tested where analysis made no relative effectiveness (except for rehabilitation duration differences) assumptions. In this scenario, inpatient intensive rehabilitation was not cost-effective with an ICER just above the NICE upper cost-effectiveness threshold of £30,000/QALY. An outpatient intensive rehabilitation remained potentially cost-effective with an ICER of less than £20,000/QALY. The outpatient programme with additional hotel and psychological support costs were borderline cost-effective using the NICE upper cost-effectiveness threshold.

The committee explained that individuals might require more than one burst of intensive rehabilitation. Given the lack of effectiveness, utility and cost data, it would be extremely challenging to show that such an approach would be cos-effective.

The committee explained that police rehabilitation costs are potentially representative of services delivered with the NHS. However, the committee noted that it was very physiotherapy based. Nevertheless, in the sensitivity analysis where the outpatient rehabilitation programme included psychological support, the results remained unchanged, i.e. it remained potentially cost-effective.

To show that intensive rehabilitation is cost-effective when initiated later on along an individual's rehabilitation journey would require robust effectiveness and cost data, i.e. impact on other health and care costs.

The committee noted that hotel stay costs might not be relevant for all people, reducing intervention cost. The committee referred to an audit of complex trauma people at the major trauma clinic, which found that the mean distance from an individual's home to the tertiary rehabilitation centre was 40-50 miles, with a range of 1-90 miles (the committee private communication). The committee explained that people could travel to a rehabilitation centre from their homes rather than stay at a hotel. However, as an example, an online search of a rehabilitation programme indicated that the recommended hotel by the programme charged approximately £70/night. This would be not much different to a cost of a 40-50 mile round-trip to and from a rehabilitation centre and would not make much difference to the costings.

References

Ara 2008

Ara, R. Brazier, J., Deriving an algorithm to convert the eight mean SF-36 dimension scores into a mean EQ-5D preference-based score from published studies (where patient level data are not available), Value in Health, 2008, 11, 1131-43.

Brooks 1996

Brooks, R., Group, E., EuroQol: the current state of play, Health policy, 1996, 37, 53-72.

Curtis 2019

Curtis, L. A. and Burns, A., Unit Costs of Health and Social Care 2019, Unit Costs of Health and Social Care, PSSRU, Kent, UK, 2019.

Janssen 2019

Janssen, M.F., Szende, A., Cabases, J., Ramos-Goñi, J.M., Vilagut, G. and König, H.H., Population norms for the EQ-5D-3L: a cross-country analysis of population surveys for 20 countries, The European Journal of Health Economics, 2019, 20, 205-216.

Kruithof 2020

Kruithof, N., Polinder, S., de Munter, L., van de Ree, C.L., Lansink, K.W., de Jongh, M.A. and BIOS-group., Health status and psychological outcomes after trauma: a prospective multicenter cohort study, PLoS one, 2020, 15, p.e0231649.

Monticone 2018

Monticone, M., Ambrosini, E., Brunati, R., Capone, A., Pagliari, G., Secci, C., Zatti, G. and Ferrante, S., How balance task-specific training contributes to improving physical function in older subjects undergoing rehabilitation following hip fracture: a randomized controlled trial. Clinical rehabilitation, 2018, 32, 340-351.

NICE 2013

NICE 2013., Guide to the Methods of Technology Appraisal 2013. London: The National Institute for Health and Care Excellence.

NICE 2014

NICE 2014., Process and methods guides. Developing NICE guidelines: the manual. London: The National Institute for Health and Care Excellence.

Turner-Stokes 1998

Turner-Stokes, L., Tonge, P., Nyein, K., The Northwick Park Dependency Score (NPDS): a measure of nursing dependency in rehabilitation, Clinical Rehabilitation, 1998, 12, 304–318.

Appendix K – Excluded studies

Excluded studies for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Clinical studies

Table 80: Excluded studies and reasons for their exclusion

Study	Reason for Exclusion
Abbott, A., Tyni-Lenne, R., Hedlund, R., The effectiveness of physiotherapeutic rehabilitation and issues of outcome prediction after lumbar fusion surgery, Physiotherapy (United Kingdom), 97, eS20-eS21, 2011	Conference abstract
Abdelbasset, W. K., Elsayed, S. H., Nambi, G., Tantawy, S. A., Kamel, D. M., Eid, M. M., Moawd, S. A., Alsubaie, S. F., Potential efficacy of sensorimotor exercise program on pain, proprioception, mobility, and quality of life in diabetic patients with foot burns: A 12-week randomized control study, Burns, 2020	Population not in PICO: Diabetic patients with burns.
Aboelmagd, Tariq, Dainty, Jack R., MacGregor, Alex, Smith, Toby O., Trajectory of physical activity after hip fracture: An analysis of community-dwelling individuals from the English Longitudinal Study of Ageing, Injury, 49, 697-701, 2018	Study design not in PICO: No intervention
Abou, L., Malala, V. D., Yarnot, R., Alluri, A., Rice, L. A., Effects of Virtual Reality Therapy on Gait and Balance Among Individuals With Spinal Cord Injury: A Systematic Review and Meta-analysis, Neurorehabilitation and Neural Repair, 34, 375-388, 2020	Systematic review: Included studies checked for relevance.
Abribat, T., Nedelec, B., Jobin, N., Garrel, D. R., Decreased serum insulin-like growth factor-I in burn patients: relationship with serum insulin-like growth factor binding protein-3 proteolysis and the influence of lipid composition in nutritional support, Critical care medicine, 28, 2366-72, 2000	Outcomes not in PICO: Serum IGF levels.
Adam, Jessalynn, De Luigi, Arthur Jason, Blunt Abdominal Trauma in Sports, Current Sports Medicine Reports, 17, 317-319, 2018	Narrative review
Adams, Melanie M., Hicks, Audrey L., Comparison of the effects of body-weight-supported treadmill training and tilt-table standing on spasticity in individuals with chronic spinal cord injury, The journal of spinal cord medicine, 34, 488-94, 2011	Study design not in PICO: Cross-over study
Agrawal, Vibhor, Gailey, Robert, O'Toole, Christopher, Gaunaurd, Ignacio, Finnieston, Adam, Influence of gait training and prosthetic foot category on external work symmetry during unilateral transtibial amputee gait, Prosthetics and Orthotics International, 37, 396-403, 2013	Outcomes not in PICO: Symmetry in external work measure
Aguayo, Pablo, Fraser, Jason D., Sharp, Susan, Holcomb, George W., 3rd, Ostlie, Daniel J., St Peter, Shawn D., Nonoperative management of blunt renal injury: a need for further study, Journal of Pediatric Surgery, 45, 1311-4, 2010	Study design not in PICO: No intervention
Aguirre-Guemez, Ana Valeria, Perez-Sanpablo, Aberto Isaac, Quinzanos-Fresnedo, Jimena, Perez-Zavala, Ramiro, Barrera-Ortiz, Aida, Walking speed is not the best outcome to	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
evaluate the effect of robotic assisted gait training in people with motor incomplete Spinal Cord Injury: A Systematic Review with meta-analysis, The journal of spinal cord medicine, 42, 142-154, 2019	
Aito, S., Pieri, A., D'Andrea, M., Marcelli, F., Cominelli, E., Primary prevention of deep venous thrombosis and pulmonary embolism in acute spinal cord injured patients, Spinal Cord, 40, 300-3, 2002	Study design not in PICO: No comparative data
Akkaya, Nuray, Ardic, Fusun, Ozgen, Merih, Akkaya, Semih, Sahin, Fusun, Kilic, Alper, Efficacy of electromyographic biofeedback and electrical stimulation following arthroscopic partial meniscectomy: a randomized controlled trial, Clinical Rehabilitation, 26, 224-36, 2012	Intervention not in PICO: Electromyographic biofeedback training and electrical stimulation therapy
Akkurt, H., Kirazli, Y., Karapolat, H., Kose, T., The effects of aerobic exercise on cardiopulmonary functions, quality of life, psychological state, disability and metabolic syndrome parameters in patients with spinal cord injury, Turkiye Fiziksel Tip ve Rehabilitasyon Dergisi, 59, 409, 2013	Turkish language paper
Alashram, A. R., Padua, E., Hammash, A. K., Lombardo, M., Annino, G., Effectiveness of virtual reality on balance ability in individuals with incomplete spinal cord injury: A systematic review, Journal of Clinical Neuroscience, 72, 322-327, 2020	Systematic review: Included studies checked for relevance.
Alcala-Cerra, G., Paternina-Caicedo, A. J., Diaz-Becerra, C., Moscote-Salazar, L. R., Fernandes-Joaquim, A., Orthosis for thoracolumbar burst fractures without neurologic deficit: A systematic review of prospective randomized controlled trials, Journal of Craniovertebral Junction and Spine, 5, 2014	Systematic review: Included studies checked for relevance.
Alcobendas-Maestro, M., Esclarín-Ruz, A., Casado-López, R. M., Muñoz-González, A., Pérez-Mateos, G., González-Valdizán, E., Martín, J. L., Lokomat robotic-assisted versus overground training within 3 to 6 months of incomplete spinal cord lesion: randomized controlled trial, Neurorehabilitation and Neural Repair, 26, 1058-1063, 2012	Intervention not in PICO: Robotic-assisted gait training
Alekna, V., Tamulaitiene, M., Sinevicius, T., Juocevicius, A., Effect of weight-bearing activities on bone mineral density in spinal cord injured patients during the period of the first two years, Spinal Cord, 46, 727-32, 2008	Study design not in PICO: Non-RCT with <100 per arm
Ali, Zizi M. Ibrahim, El-Refay, Basant H., Ali, Rania Reffat, Aerobic exercise training in modulation of aerobic physical fitness and balance of burned patients, Journal of physical therapy science, 27, 585-9, 2015	Outcomes not in PICO: Aerobic capacity and Berg Balance scale
Allison, G. T., Singer, K. P., Marshall, R. N., Transfer movement strategies of individuals with spinal cord injuries, Disability and Rehabilitation, 18, 35-41, 1996	Study design not in PICO: No intervention
Allison, K. P., Kiernan, M. N., Waters, R. A., Clement, R. M., Pulsed dye laser treatment of burn scars. Alleviation or irritation?, Burns : journal of the International Society for Burn Injuries, 29, 207-13, 2003	Outcomes not in PICO: Digital photographs, pruritis, Vancouver Scar score and histology
Almeida, L., janiele, rossi, Couto, E., Donato, B., Junior, A. C., Muscle Strengthening Exercises for the Hip Segment in The Pre-Prosthesis Amputee Population: Pilot Study, Archives of Physical Medicine and Rehabilitation, 100, e100, 2019	Conference abstract
Alsancak, S., Kenan Kose, S., Altinkaynak, H., Effect of elastic bandaging and prosthesis on the decrease in stump volume, Acta Orthopaedica et Traumatologica Turcica, 45,	Turkish language paper

Study	Reason for Exclusion
14-22, 2011	
Altut, F., Unal, A., Kurtca, M. P., Cavlak, U., Early term rehabilitation in spinal cord injury: General assesment in 10 years, Fizyoterapi Rehabilitasyon, 25, S32, 2014	Paper unavailable
Aly, M., Emran, I., Ibrahim, M., Abdel Megeed, M., Early and late weight bearing after femoral trochanteric fractures fixed by dynamic hip screw, Physiotherapy (United Kingdom), 97, eS64, 2011	Conference abstract
Amorim, S., Teixeira, V. H., Corredeira, R., Cunha, M., Maia, B., Margalho, P., Pires, J., Creatine or vitamin D supplementation in individuals with a spinal cord injury undergoing resistance training: A double-blinded, randomized pilot trial, Journal of Spinal Cord Medicine, 41, 471-478, 2018	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
Andrew, Nadine Elizabeth, Wolfe, Rory, Cameron, Peter, Richardson, Martin, Page, Richard, Bucknill, Andrew, Gabbe, Belinda J., Return to pre-injury health status and function 12 months after hospitalisation for sport and active recreation related orthopaedic injury, Injury prevention : journal of the International Society for Child and Adolescent Injury Prevention, 18, 377-84, 2012	Paper unavailable
Angleitner, C., Heise, P., Golmayer, P., Traussnigg, S., Reiter, I., Ewerth, U., Indoor geriatric early rehabilitation; a randomised outcome study of 2,308 patients, European Geriatric Medicine, 7, S141, 2016	Paper unavailable
Angleitner, C., Heise, P., Golmayer, P., Traussnigg, S., Reiter, I., Stationary geriatric early rehabilitation is well known and well organized in many countries. But is it sufficiently in outcome for patients from all assigning specialist departments? A randomized outcome trail of 1,295 patients, European Geriatric Medicine, 4, S102, 2013	Conference abstract
Angleitner, C., Heise, P., Reiter, I., Golmayr, P., Ewerth, U., Stationary geriatric early rehabilitation; A randomised outcome study of 2,025 patients, European Geriatric Medicine, 5, S175-S176, 2014	Conference abstract
Angleitner, C., Indoor geriatric early rehabilitation; A randomised outcome study of 2,579 patients, European Geriatric Medicine, 8, S169-, 2017	Paper unavailable
Angleitner, C., Stationary geriatric early rehabilitation is well known and well organized in many countries. But is it sufficiently in outcome for patients from all assigned specialists departments? A randomized outcome study of 1651 patients, Annals of Physical and Rehabilitation Medicine, 57, e150, 2014	Conference abstract
Anjum, Hadeya, Amjad, Imran, Malik, Arshad Nawaz, Effectiveness of Proprioceptive Neuromuscular Facilitation Techniques as Compared to Traditional Strength Training in Gait Training Among Transtibial Amputees, Journal of the College of Physicians and Surgeons--Pakistan : JCPSP, 26, 503-6, 2016	Paper unavailable
Anneken, V., Hanssen-Doose, A., Hirschfeld, S., Scheuer, T., Thietje, R., Influence of physical exercise on quality of life in individuals with spinal cord injury, Spinal Cord, 48, 393-9, 2010	Study design not in PICO: No intervention
Anonymous,, Effective methods for preventing pressure	Summary abstract

Study	Reason for Exclusion
ulcers, Journal of Family Practice, 55, 942, 2006	
Anonymous,, Secondary prevention of hip fractures should be standard care for patients who sustain a hip fracture, Drugs and Therapy Perspectives, 19, 14-17, 2003	Narrative review
Anthonissen, Mieke, Meirte, Jill, Moortgat, Peter, Maertens, Koen, Daly, Daniel, Fieuws, Steffen, Lafaire, Cindy, De Cuyper, Lieve, Van den Kerckhove, Eric, Influence on clinical parameters of depressomassage (part I): The effects of depressomassage on color and transepidermal water loss rate in burn scars: A pilot comparative controlled study, Burns : journal of the International Society for Burn Injuries, 44, 877-885, 2018	Study design not in PICO: Non-RCT with <100 per arm
Arazpour, M., Samadian, M., Ebrahimzadeh, K., Ahmadi Bani, M., Hutchins, S. W., The influence of orthosis options on walking parameters in spinal cord-injured patients: a literature review, Spinal Cord, 54, 412-22, 2016	Narrative review
Arazpour, Mokhtar, Bani, Monireh Ahmadi, Hutchins, Stephen W., Reciprocal gait orthoses and powered gait orthoses for walking by spinal cord injury patients, Prosthetics and Orthotics International, 37, 14-21, 2013	Narrative review
Arefian, N. M., Teymourian, H., Radpay, B., Effect of partial parenteral versus enteral nutritional therapy on serum indices in multiple trauma patients, Tanaffos, 6, 37-41, 2007	Paper unavailable
Artaza, I., Fernandez, N., Urkiza, M., Garcia, I., Uriarte, I., Agirre, E., Is the MNA an indicator of functional recovery in patients with hip fracture?, European Geriatric Medicine, 4, S106, 2013	Conference abstract
Asensio, J. A., Petrone, P., Wo, C. J., Li-Chien, C., Lu, K., Fathizadeh, P., Kimbrell, B. J., Garcia-Nunez, L. M., Shoemaker, W. C., Noninvasive hemodynamic monitoring of patients sustaining severe penetrating thoracic, abdominal and thoracoabdominal injuries for early recognition and therapy of shock, Scandinavian journal of surgery : SJS : official organ for the Finnish Surgical Society and the Scandinavian Surgical Society, 95, 152-7, 2006	Study design not in PICO: Case series
Astorino, T. A., Harness, E. T., Effect of intense activity-based therapy on body composition in persons with spinal cord injury, Archives of Physical Medicine and Rehabilitation, 96, e39-e40, 2015	Conference abstract
Astorino, T. A., Thum, J. S., Interval training elicits higher enjoyment versus moderate exercise in persons with spinal cord injury, Journal of Spinal Cord Medicine, 41, 77-84, 2018	Study design not in PICO: Cross-over study
Auais, Mohammad A., Eilayyan, Owis, Mayo, Nancy E., Extended exercise rehabilitation after hip fracture improves patients' physical function: a systematic review and meta-analysis, Physical therapy, 92, 1437-51, 2012	Systematic review: Included studies checked for relevance.
Audenaert, Amaryllis, Prims, Jente, Reniers, Genserik L. L., Weyns, Dirk, Mahieu, Peter, Audenaert, Emmanuel, Evaluation and economic impact analysis of different treatment options for ankle distortions in occupational accidents, Journal of evaluation in clinical practice, 16, 933-9, 2010	Study design not in PICO: Non-RCT with <100 per arm
Avenell, A., Handoll, H. H. G., Nutritional supplementation for hip fracture aftercare in the elderly, The Cochrane database of systematic reviews, CD001880, 2004	Systematic review: Included studies checked for relevance.
Ayhan, Cigdem, Unal, Edibe, Yakut, Yavuz, Core stabilisation	Population not in PICO:

Study	Reason for Exclusion
reduces compensatory movement patterns in patients with injury to the arm: a randomized controlled trial, Clinical Rehabilitation, 28, 36-47, 2014	Patients with simple elbow and wrist disorders
Azhar, M. M., The outcome of supracondyler fractures of elbow joint treated during different periods of time by different techniques in district population, Pakistan Journal of Medical and Health Sciences, 5, 662-667, 2011	Paper unavailable
Babajafari, Siavash, Akhlaghi, Masoumeh, Mazloomi, Seyed Mohammad, Ayaz, Mehdi, Noorafshan, Ali, Jafari, Peyman, Hojhabrimanesh, Abdollah, The effect of isolated soy protein adjunctive with flaxseed oil on markers of inflammation, oxidative stress, acute phase proteins, and wound healing of burn patients; a randomized clinical trial, Burns : journal of the International Society for Burn Injuries, 44, 140-149, 2018	Outcomes not in PICO: Serum proteins, oxidative stress markers, inflammatory markers and wound area
Bach Baunsgaard, C., Vig Nissen, U., Katrin Brust, A., Frotzler, A., Ribeill, C., Kalke, Y. B., Leon, N., Gomez, B., Samuelsson, K., Antepohl, W., Holmstrom, U., Marklund, N., Glott, T., Opheim, A., Benito, J., Murillo, N., Nachtegaal, J., Faber, W., Biering-Sorensen, F., Gait training after spinal cord injury: Safety, feasibility and gait function following 8 weeks of training with the exoskeletons from Ekso Bionics article, Spinal Cord, 56, 106-116, 2018	Study design not in PICO: No comparative data
Backus, D., Apple, D., Hudson, L., Health-related outcomes after lower extremity and walking activity-based interventions for persons with spinal cord injury: A research synthesis, Topics in Spinal Cord Injury Rehabilitation, 16, 73, 2011	Poster presentation abstract
Bailey, Christopher S., Dvorak, Marcel F., Thomas, Kenneth C., Boyd, Michael C., Paquett, Scott, Kwon, Brian K., France, John, Gurr, Kevin R., Bailey, Stewart I., Fisher, Charles G., Comparison of thoracolumbosacral orthosis and no orthosis for the treatment of thoracolumbar burst fractures: interim analysis of a multicenter randomized clinical equivalence trial, Journal of neurosurgery. Spine, 11, 295-303, 2009	Interim analyses of Bailey 2014, which has been included in this review.
Ballaz, L., Fusco, N., Cretual, A., Langella, B., Brissot, R., Peripheral Vascular Changes After Home-Based Passive Leg Cycle Exercise Training in People With Paraplegia: A Pilot Study, Archives of Physical Medicine and Rehabilitation, 89, 2162-2166, 2008	Outcomes not in PICO: Training compliance and vascular adaptations
Barbeau, H., Fung, J., Leroux, A., Ladouceur, M., A review of the adaptability and recovery of locomotion after spinal cord injury, Progress in Brain Research, 137, 9-25, 2002	Narrative review
Barbeau, H., Fung, J., Visintin, M., New approach to retrain gait in stroke and spinal cord injured subjects, Neurorehabilitation and Neural Repair, 13, 177-178, 1999	Narrative review
Barbeau, Hugues, Nadeau, Sylvie, Garneau, Christiane, Physical determinants, emerging concepts, and training approaches in gait of individuals with spinal cord injury, Journal of Neurotrauma, 23, 571-85, 2006	Narrative review
Barbosa, E., Faintuch, J., Machado Moreira, E. A., Supplementation of vitamin E, vitamin C, and zinc attenuates oxidative stress in burned children: A randomized, double-blind, placebo-controlled pilot study, Nutrition in Clinical Practice, 25, 216-218, 2010	Journal commentary
Barker, Ellen, SCI patients take a big step forward, RN, 68, 30-35, 2005	Paper unavailable
Bastian, L., Weimann, A., Bischoff, W., Meier, P. N., Grotz,	German language paper

Study	Reason for Exclusion
M., Stan, C., Regel, G., Clinical effects of supplemental enteral nutrition solution in severe polytrauma, Der Unfallchirurg, 101, 105-114, 1998	
Bastian, L., Weimann, A., Immunonutrition in patients after multiple trauma, The British journal of nutrition, 87 Suppl 1, S133-4, 2002	Narrative review
Battistella, F. D., Widergren, J. T., Anderson, J. T., Siepler, J. K., Weber, J. C., MacColl, K., Ali, J., Wiles, Iii C. E., Moore, F. A., Moncure, M., A prospective, randomized trial of intravenous fat emulsion administration in trauma victims requiring total parenteral nutrition, Journal of Trauma - Injury, Infection and Critical Care, 43, 52-60, 1997	Dates not in PICO: 1992-1994
Beale, R. J., Bryg, D. J., Bihari, D. J., Immunonutrition in the critically ill: a systematic review of clinical outcome, Critical Care Medicine, 27, 2799-805, 1999	Systematic review: Included studies checked for relevance.
Beaupre, L. A., Cinats, J. G., Senthilselvan, A., Scharfenberger, A., Johnston, D. W., Saunders, L. D., Does standardized rehabilitation and discharge planning improve functional recovery in elderly patients with hip fracture?, Archives of Physical Medicine and Rehabilitation, 86, 2231-2239, 2005	Intervention not in PICO: Standardised rehabilitation pathway and discharge planning
Beaupre, L. A., Jones, C. A., Saunders, L. D., Johnston, D. W. C., Buckingham, J., Majumdar, S. R., Best practices for elderly hip fracture patients: A systematic overview of the evidence, Journal of General Internal Medicine, 20, 1019-1025, 2005	Systematic review: Included studies checked for relevance.
Becker, R., Nieczaj, R., Egge, K., Moll, A., Meinhard, M., Schulz, R. J., Functional dysphagia therapy and PEG treatment in a clinical geriatric setting, Dysphagia, 26, 108-116, 2011	Population not in PICO: Dysphagic patients due to non-traumatic causes
Beckerman, H., Roelofsen, E. E., Knol, D. L., Lankhorst, G. J., The value of the Rehabilitation Activities Profile (RAP) as a quality sub-system in rehabilitation medicine, Disability and Rehabilitation, 26, 387-400, 2004	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for traumatic (14% SCI, 17% amputation) and non-traumatic patients
Beckmann, M., Bruun-Olsen, V., Pripp, A. H., Bergland, A., Smith, T., Heiberg, K. E., Effect of exercise interventions in the early phase to improve physical function after hip fracture - A systematic review and meta-analysis, Physiotherapy (United Kingdom), 108, 90-97, 2020	Systematic review: Included studies checked for relevance.
Beekman, C., Perry, J., Boyd, L. A., Newsam, C. J., Mulroy, S. J., The effects of a dorsiflexion-stopped ankle-foot orthosis on walking in individuals with incomplete spinal cord injury, Topics in Spinal Cord Injury Rehabilitation, 5, 54-62, 2000	Paper unavailable
Behrman, S. W., Kudsk, K. A., Brown, R. O., Vehe, K. L., Wojtysiak, S. L., The effect of growth hormone on nutritional markers in enterally fed immobilized trauma patients, JPEN. Journal of parenteral and enteral nutrition, 19, 41-6, 1995	Outcomes not in PICO: Blood nutritional markers
Bek, N., Simsek, I. E., Erel, S., Yakut, Y., Uygur, F., Home-based general versus center-based selective rehabilitation in patients with posterior tibial tendon dysfunction, Acta Orthopaedica et Traumatologica Turcica, 46, 286-292, 2012	Population not in PICO: Patients with posterior tibial tendon dysfunction
Belanger, Lise, Cobb, John, Bernardo, Arlene, Clerkin, Karen,	Paper unavailable

Study	Reason for Exclusion
Ang, Romilda, Adams, Sherri, Handfield, Shannon, In search of the "superior" cervical orthosis: Philadelphia Cervical Orthosis versus Aspen Cervical Orthosis, SCI nursing : a publication of the American Association of Spinal Cord Injury Nurses, 21, 158-60, 2004	
Bell, Jack J., Rossi, Tony, Bauer, Judith D., Capra, Sandra, Developing and evaluating interventions that are applicable and relevant to inpatients and those who care for them; a multiphase, pragmatic action research approach, BMC medical research methodology, 14, 98, 2014	Study designs not in PICO: Case series (phase I and II) and non-RCT with <100 per arm (phase III and IV)
Ben, Marsha, Harvey, Lisa, Denis, Sophie, Glinsky, Joanne, Goehl, Gerlinde, Chee, Shane, Herbert, Robert D., Does 12 weeks of regular standing prevent loss of ankle mobility and bone mineral density in people with recent spinal cord injuries?, The Australian journal of physiotherapy, 51, 251-6, 2005	Comparison not in PICO: Weight-bearing and stretch versus non-weight-bearing and no stretch. Physiotherapy stopped for duration of intervention so no standard care.
Benjamin, Nicole C., Andersen, Clark R., Herndon, David N., Suman, Oscar E., The effect of lower body burns on physical function, Burns : journal of the International Society for Burn Injuries, 41, 1653-1659, 2015	Study design not in PICO: No intervention
Berger, M. M., Baines, M., Raffoul, W., Benathan, M., Chiolero, R. L., Reeves, C., Revelly, J. P., Cayeux, M. C., Sénéchaud, I., Shenkin, A., Trace element supplementation after major burns modulates antioxidant status and clinical course by way of increased tissue trace element concentrations, American Journal of Clinical Nutrition, 85, 1293-1300, 2007	Setting not in PICO: Intensive care unit
Berger, M. M., Binnert, C., Chiolero, R. L., Taylor, W., Raffoul, W., Cayeux, M. C., Benathan, M., Shenkin, A., Tappy, L., Trace element supplementation after major burns increases burned skin trace element concentrations and modulates local protein metabolism but not whole-body substrate metabolism, American Journal of Clinical Nutrition, 85, 1301-1306, 2007	Setting not in PICO: Intensive care unit
Berger, M. M., Eggimann, P., Heyland, D. K., Chiolero, R. L., Revelly, J. P., Day, A., Raffoul, W., Shenkin, A., Reduction of nosocomial pneumonia after major burns by trace element supplementation: Aggregation of two randomised trials, Critical Care, 10, R153, 2006	Setting not in PICO: Intensive care unit
Berger, M. M., Spertini, F., Shenkin, A., Reymond, M. J., Schindler, C., Tappy, L., Wiesner, L., Menoud, V., Cavadini, C., Cayeux, C., Wardle, C. A., Gaillard, R. C., Chiolero, R. L., Clinical, immune and metabolic effects of trace element supplements in burns: a double-blind placebo-controlled trial, Clinical nutrition (Edinburgh, Scotland), 15, 94-6, 1996	Outcomes not in PICO: Serum trace element concentrations, protein concentrations, immunological parameters, infections and urine
Berggren, M., Stenvall, M., Olofsson, B., Gustafson, Y., Evaluation of a fall-prevention program in older people after femoral neck fracture: a one-year follow-up, Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, 19, 801-9, 2008	Intervention not in PICO: Active prevention, detection and treatment of fall risk factors.
Berlowitz, D., Tamplin, J., Respiratory muscle training for cervical spinal cord injury, Cochrane Database of Systematic Reviews, 2013, CD008507, 2013	Systematic review: Intervention not in PICO (respiratory muscle

Study	Reason for Exclusion
	training). Included studies checked for relevance.
Berne, John D., Norwood, Scott H., McAuley, Clyde E., Vallina, Van L., Villareal, David, Weston, Jaye, McClarty, Jerry, Erythromycin reduces delayed gastric emptying in critically ill trauma patients: a randomized, controlled trial, The Journal of trauma, 53, 422-5, 2002	Setting not in PICO: Intensive care unit
Bernier, J., Jobin, N., Emptoz-Bonneton, A., Pugeat, M. M., Garrel, D. R., Decreased corticosteroid-binding globulin in burn patients: relationship with interleukin-6 and fat in nutritional support, Critical Care Medicine, 26, 452-60, 1998	Outcomes not in PICO: TNF-alpha, TNF-beta, interleukin-6 and corticosteroid-binding globulin.
Black, J. D. J., Bhavikatti, M., Al-Hadithy, N., Hakmi, A., Kitson, J., Early weight-bearing in operatively fixed ankle fractures: a systematic review, Foot (Edinburgh, Scotland), 23, 78-85, 2013	Systematic review: Included studies checked for relevance.
Bloom, Julia, Dorsett, Pat, McLennan, Vanette, Integrated services and early intervention in the vocational rehabilitation of people with spinal cord injuries, Spinal cord series and cases, 3, 16042, 2017	Narrative review
Bochkezanian, V., Raymond, J., de Oliveira, C. Q., Davis, G. M., Can combined aerobic and muscle strength training improve aerobic fitness, muscle strength, function and quality of life in people with spinal cord injury? A systematic review, Spinal cord, 53, 418-31, 2015	Systematic review: Included studies checked for relevance.
Boldt, I., Eriks-Hoogland, I., Brinkhof, M. W. G., de Bie, R., Joggi, D., von Elm, E., Non-pharmacological interventions for chronic pain in people with spinal cord injury, Cochrane Database of Systematic Reviews, 2014	Systematic review: Intervention not in PICO (specific pain management strategies). Included studies checked for relevance.
Bong, Matthew R., Egol, Kenneth A., Leibman, Matthew, Koval, Kenneth J., A comparison of immediate postreduction splinting constructs for controlling initial displacement of fractures of the distal radius: a prospective randomized study of long-arm versus short-arm splinting, The Journal of hand surgery, 31, 766-70, 2006	Population not in PICO: Patients with distal radius fractures
Boswell-Ruys, C. L., Harvey, L. A., Barker, J. J., Ben, M., Middleton, J. W., Lord, S. R., Training unsupported sitting in people with chronic spinal cord injuries: a randomized controlled trial, Spinal cord, 48, 138-43, 2010	Comparison not in PICO: No intervention
Botella-Carretero, J. I., Iglesias, B., Balsa, J. A., Arrieta, F., Zamarron, I., Vazquez, C., Perioperative oral nutritional supplements in normally or mildly undernourished geriatric patients submitted to surgery for hip fracture: A randomized clinical trial, Clinical Nutrition, 29, 574-579, 2010	Outcomes not in PICO: Serum albumin, changes in body mass index, hospital stay length, time to mobilisation and post-operative complications
Bradley, Joel F., 3rd, Jones, Mark A., Farmer, Elizabeth A., Fann, Stephen A., Bynoe, Raymond, Swallowing dysfunction in trauma patients with cervical spine fractures treated with halo-vest fixation, The Journal of trauma, 70, 46-50, 2011	Comparison not in PICO: Severity of dysphagia
Bragaru, M., Dekker, R., Geertzen, J. H., Dijkstra, P. U., Amputees and sports: a systematic review, Sports medicine (Auckland, N.Z.), 41, 721-740, 2011	Intervention not in PICO: Specific pain management strategies
Brandis, S., Use of contract occupational therapy services to facilitate early discharge from hospital, Australian	Outcomes not in PICO: Readmission to hospital

Study	Reason for Exclusion
Occupational Therapy Journal, 45, 131-138, 1998	
Brehmer, J. L., Husband, J. B., Accelerated rehabilitation compared with a standard protocol after distal radial fractures treated with volar open reduction and internal fixation: a prospective, randomized, controlled study, Journal of bone and joint surgery. American volume, 96, 1621-1630, 2014	Intervention not in PICO: Early initiation of standard care
Brooker, C., Gord, Australian Journal of Pharmacy, 99, 32-34, 2018	Narrative review
Bruder, A., Taylor, N., Dodd, K., Shields, N., Physiotherapy for the rehabilitation of upper limb fractures in adults: A systematic review and meta-analysis, Physiotherapy (United Kingdom), 97, eS163, 2011	Conference abstract
Brumback, R. J., Toal, T. R., Jr., Murphy-Zane, M. S., Novak, V. P., Belkoff, S. M., Immediate weight-bearing after treatment of a comminuted fracture of the femoral shaft with a statically locked intramedullary nail, The Journal of bone and joint surgery. American volume, 81, 1538-44, 1999	Study design not in PICO: Non-RCT with <100 per arm
Buehner, Jeffrey J., Forrest, Gail F., Schmidt-Read, Mary, White, Susan, Tansey, Keith, Basso, D. Michele, Relationship between ASIA examination and functional outcomes in the NeuroRecovery Network Locomotor Training Program, Archives of Physical Medicine and Rehabilitation, 93, 1530-40, 2012	Study design not in PICO: No comparative data
Burlew, Clay Cothren, Moore, Ernest E., Cuschieri, Joseph, Jurkovich, Gregory J., Codner, Panna, Nirula, Ram, Millar, D., Cohen, Mitchell J., Kutcher, Matthew E., Haan, James, MacNew, Heather G., Ochsner, Gage, Rowell, Susan E., Truitt, Michael S., Moore, Forrest O., Pieracci, Fredric M., Kaups, Krista L., W. T. A. Study Group, Who should we feed? Western Trauma Association multi-institutional study of enteral nutrition in the open abdomen after injury, The journal of trauma and acute care surgery, 73, 1380-8, 2012	Study design not in PICO: No intervention
Burnfield, Judith M., Eberly, Valerie J., Gronely, Joanne K., Perry, Jacquelin, Yule, William Jared, Mulroy, Sara J., Impact of stance phase microprocessor-controlled knee prosthesis on ramp negotiation and community walking function in K2 level transfemoral amputees, Prosthetics and Orthotics International, 36, 95-104, 2012	Study design not in PICO: Cross-over study
Burns, A. S., O'Connell, C., Landry, M. D., Spinal Cord Injury in Postearthquake Haiti: Lessons Learned and Future Needs, PM and R, 2, 695-697, 2010	Narrative review
Burns, Anthony S., Marino, Ralph J., Kalsi-Ryan, Sukhvinder, Middleton, James W., Tetreault, Lindsay A., Dettori, Joseph R., Mihalovich, Kathryn E., Fehlings, Michael G., Type and Timing of Rehabilitation Following Acute and Subacute Spinal Cord Injury: A Systematic Review, Global Spine Journal, 7, 175S-194S, 2017	Intervention not in PICO: Specific pain management strategies
Bye, E. A., Harvey, L. A., Gambhir, A., Kataria, C., Glinsky, J. V., Bowden, J. L., Malik, N., Tranter, K. E., Lam, C. P., White, J. S., Gollan, E. J., Arora, M., Gandevia, S. C., Strength training for partially paralysed muscles in people with recent spinal cord injury: a within-participant randomised controlled trial, Spinal Cord, 55, 460-465, 2017	Outcomes not in PICO: Muscle strength, spasticity, fatigue, perception of function and perception of strength
Byers, P. M., Block, E. F., Albornoz, J. C., Pombo, H., Kirton, O. C., Martin, L. C., Augenstein, J. S., The need for aggressive nutritional intervention in the injured patient: the development of a predictive model, The Journal of trauma,	Dates not in PICO: 1993

Study	Reason for Exclusion
39, 1103-9, 1995	
Cameron, Ian D., Kurrle, Susan E., Uy, Cesar, Lockwood, Keri A., Au, Lydia, Schaafsma, Frederieke G., Effectiveness of oral nutritional supplementation for older women after a fracture: rationale, design and study of the feasibility of a randomized controlled study, BMC Geriatrics, 11, 32, 2011	Population not in PICO: Under nourished hip fracture patients
Cancio, J., Rhee, P., Blood flow restriction therapy after non-operative management of distal radius fracture: A randomized controlled pilot study, Journal of Hand Therapy, 31, 161, 2018	Conference abstract
Candy, Lai Hoi Yan, Cecilia, Li-Tsang Wai Ping, Ping, Zheng Yong, Effect of different pressure magnitudes on hypertrophic scar in a Chinese population, Burns : journal of the International Society for Burn Injuries, 36, 1234-41, 2010	Outcomes not in PICO: Scar thickness, scar appearance and scar plibility
Cao, H., Zhang, Y., Zhe, C., Wang, H., An, L., Effects of early rehabilitation on postoperative healing and complications in patients with spinal cord injuries, International Journal of Clinical and Experimental Medicine, 12, 658-663, 2019	Intervention not in PICO: Early initiation of standard rehabilitation, with no weight-bearing component
Cao, M. L., Zhang, J. Z., Effect of early rehabilitation therapy on the rehabilitation of limb sensation and muscle strength in patients with incomplete spinal cord injury, Chinese Journal of Clinical Rehabilitation, 8, 5473-5475, 2004	Chinese language paper
Cardenas, D. D., Felix, E. R., Cowan, R., Orell, M. F., Irwin, R., Effects of Home Exercises on Shoulder Pain and Pathology in Chronic Spinal Cord Injury: A Randomized Controlled Trial, American journal of physical medicine & rehabilitation, 99, 504-513, 2020	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
Carlsson, P., Tidermark, J., Ponzer, S., Soderqvist, A., Cederholm, T., Food habits and appetite of elderly women at the time of a femoral neck fracture and after nutritional and anabolic support, Journal of human nutrition and dietetics : the official journal of the British Dietetic Association, 18, 117-20, 2005	Outcomes not in PICO: Food and nutritional choices
Carter, N. D., Kannus, P., Khan, K. M., Exercise in the prevention of falls in older people: a systematic literature review examining the rationale and the evidence, Sports medicine (Auckland, N.Z.), 31, 427-38, 2001	Systematic review: Population not in PICO (elderly adults at risk of falling). Included studies checked for relevance.
Caschman, J., Blagg, S., Bishay, M., The efficacy of the A-V Impulse system in the treatment of posttraumatic swelling following ankle fracture: a prospective randomized controlled study, Journal of Orthopaedic Trauma, 18, 596-601, 2004	Outcomes not in PICO: Ankle swelling and post-operative complications
Cattell, V., Jewell, A., Does an evidence-based inpatient exercise intervention improve functional outcomes following hip fracture?, Age and Ageing, 41, 2012	Conference abstract
Cauley,J.A., The Women's Health Initiative: Hormone Therapy and Calcium/Vitamin D Supplementation Trials, Current Osteoporosis Reports, 11, 171-178, 2013	Outcomes not in PICO: Fracture rate and bone mineral density
Cedidi, C. Can, Ingianni, G., Compression therapy after complex soft tissue trauma, and flap coverage: optimization of scar development, swelling, function, and aesthetic result, European journal of medical research, 11, 85-9, 2006	Study design not in PICO: Case series
Celis, Mario M., Suman, Oscar E., Huang, Ted T., Yen, Peter, Herndon, David N., Effect of a supervised exercise and physiotherapy program on surgical interventions in children	Outcomes not in PICO: Number of patients requiring surgical

Study	Reason for Exclusion
with thermal injury, The Journal of burn care & rehabilitation, 24, 57-56, 2003	intervention
Cervelli, V., Gentile, P., Spallone, D., Nicoli, F., Verardi, S., Petrocelli, M., Balzani, A., Ultrapulsed fractional CO2 laser for the treatment of post-traumatic and pathological scars, Journal of Drugs in Dermatology, 9, 1328-1331, 2010	Study design not in PICO: Non-RCT with <100 per arm
Chafetz, Ross, Bracing for success, SCI nursing : a publication of the American Association of Spinal Cord Injury Nurses, 19, 196-8, 2002	Paper unavailable
Chang, P., Laubenthal, K. N., Lewis, R. W., 2nd, Rosenquist, M. D., Lindley-Smith, P., Kealey, G. P., Prospective, randomized study of the efficacy of pressure garment therapy in patients with burns, The Journal of burn care & rehabilitation, 16, 473-5, 1995	Dates not in PICO: 1991-1993
Chang, Y. J., Liang, J. N., Hsu, M. J., Lien, H. Y., Fang, C. Y., Lin, C. H., Effects of continuous passive motion on reversing the adapted spinal circuit in humans with chronic spinal cord injury, Archives of Physical Medicine and Rehabilitation, 94, 822-828, 2013	Outcomes not in PICO: Post-activation depression and muscle spasticity
Chang, Y., Shan, Z., Yuan, J., Liu, D., Zhou, J., Yan, Z., Research on the effect of underwater treadmill training on the walking gait of patients with incomplete spinal cord injury, Basic and Clinical Pharmacology and Toxicology, 124, 331, 2019	Conference abstract
Chaparro-Cardenas, Silvia L., Lozano-Guzman, Alejandro A., Ramirez-Bautista, Julian Andres, Hernandez-Zavala, Antonio, A review in gait rehabilitation devices and applied control techniques, Disability and rehabilitation. Assistive technology, 13, 819-834, 2018	Narrative review
Chen, B., Hu, N., Tan, J. H., Efficacy of home-based exercise programme on physical function after hip fracture: a systematic review and meta-analysis of randomised controlled trials, International Wound Journal, 17, 45-54, 2020	Systematic review: Included studies checked for relevance.
Chen, Xinxin, Yang, Wenhui, Wang, Xiao, Balance training can enhance hip fracture patients' independence in activities of daily living: A meta-analysis of randomized controlled trials, Medicine, 99, e19641, 2020	Systematic review: Included studies checked for relevance.
Chen, Z. H., Jin, C. D., Chen, S., Chen, X. S., Wang, Z. E., Liu, W., Lin, J. C., The application of early goal directed therapy in patients during burn shock stage, International Journal of Burns and Trauma, 7, 27-33, 2017	Study design not in PICO: Retrospective case series
Chen, Z. Y., Gu, C. Z., Wang, S. L., Yu, B., Wang, S. L., Comparative study on the enteral and parenteral nutrition during early postburn stage in burn patients, Zhonghua shao shang za zhi [Chinese journal of burns], 20, 217-219, 2004	Chinese language paper
Cheng, A. S., Use of early tactile stimulation in rehabilitation of digital nerve injuries, The American journal of occupational therapy : official publication of the American Occupational Therapy Association, 54, 159-65, 2000	Outcomes not in PICO: Cutaneous pressure threshold, moving and static 2-point discrimination
Cheng, Christiana L., Plashkes, Tova, Shen, Tian, Fallah, Nader, Humphreys, Suzanne, O'Connell, Colleen, Linassi, A. Gary, Ho, Chester, Short, Christine, Ethans, Karen, Charbonneau, Rebecca, Paquet, Jerome, Noonan, Vanessa K., Does Specialized Inpatient Rehabilitation Affect Whether or Not People with Traumatic Spinal Cord Injury Return	Outcome not in PICO: Community discharge destination

Study	Reason for Exclusion
Home?, Journal of Neurotrauma, 34, 2867-2876, 2017	
Cheng, T. J., Chen, C. N., Tang, Y. B., Lee, W. J., Chen, K. M., Endoscopically-assisted duodenal feeding tube placement using a nasogastric tube: preliminary two-year experience, Journal of the Formosan Medical Association = Taiwan yi zhi, 95, 715-8, 1996	Dates not in PICO: 1992-1994
Chester, D. L., Beale, S., Beveridge, L., Nancarrow, J. D., Titley, O. G., A prospective, controlled, randomized trial comparing early active extension with passive extension using a dynamic splint in the rehabilitation of repaired extensor tendons, Journal of Hand Surgery, 27 B, 283-288, 2002	Population not in PICO: Patients with simple finger extensor tendon division
Cheung, E. Y. Y., Yu, K. K. K., Kwan, R. L. C., Ng, C. K. M., Chau, R. M. W., Cheing, G. L. Y., Effect of EMG-biofeedback robotic-assisted body weight supported treadmill training on walking ability and cardiopulmonary function on people with subacute spinal cord injuries - A randomized controlled trial, BMC Neurology, 19, 140, 2019	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
Cheung, Eddy Y. Y., Ng, Thomas K. W., Yu, Kevin K. K., Kwan, Rachel L. C., Cheing, Gladys L. Y., Robot-Assisted Training for People With Spinal Cord Injury: A Meta-Analysis, Archives of Physical Medicine and Rehabilitation, 98, 2320-2331.e12, 2017	Intervention not in PICO: Robotic-assisted locomotor training.
Cheung, Eddy Yu Yeung, Yu, Kevin Ka Ki, Kwan, Rachel Lai Chu, Ng, Carmen Ka Man, Chau, Rosanna Mei Wa, Cheing, Gladys Lai Ying, Effect of EMG-biofeedback robotic-assisted body weight supported treadmill training on walking ability and cardiopulmonary function on people with subacute spinal cord injuries - a randomized controlled trial, BMC Neurology, 19, 140, 2019	Intervention not in PICO: EMG-biofeedback robotic-assisted locomotor training
Chiang, C. Y., Hamilton, E. J., Grossmann, M., Konstantynowicz, J., Seeman, E., Zajac, J. D., Neglect of occult vitamin D deficiency in acute hip fracture patients, Bone, 44, S74, 2009	Conference abstract
Chilov, M. N., Cameron, I. D., March, L. M., Evidence-based guidelines for fixing broken hips: An update, Medical Journal of Australia, 179, 489-493, 2003	Systematic review: Included studies checked for relevance.
Choi, J., Lee, J. A., Alimoradi, Z., Lee, M. S., Aromatherapy for the relief of symptoms in burn patients: A systematic review of randomized controlled trials, Burns, 44, 1395-1402, 2018	Systematic review: Included studies checked for relevance.
Chudyk, Anna M., Jutai, Jeffrey W., Petrella, Robert J., Speechley, Mark, Systematic review of hip fracture rehabilitation practices in the elderly, Archives of physical medicine and rehabilitation, 90, 246-62, 2009	Systematic review: Included studies checked for relevance.
Cioara, F., Nistor-Cseppento, C., Matica, A., Buntu, S., Vicas, L., Venter, A., Physical effects of exercise associated lokomat therapy rehabilitation in patients with spinal cord injury, Osteoporosis International, 26, S356, 2015	Conference abstract
Clare, T. D., de Haviland Mee, S., Belcher, H. J. C. R., Rehabilitation of digital nerve repair: is splinting necessary?, Journal of hand surgery (Edinburgh, Scotland), 29, 552-6, 2004	Study design not in PICO: Non-RCT with <100 per arm
Clayton, Robert P., Wurzer, Paul, Andersen, Clark R., Mlcak, Ronald P., Herndon, David N., Suman, Oscar E., Effects of	Outcomes not in PICO: Muscle strength, oxygen

Study	Reason for Exclusion
different duration exercise programs in children with severe burns, Burns : journal of the International Society for Burn Injuries, 43, 796-803, 2017	consumption and lean body mass
Clinical application of the computer-aided movable and measurable ankle-foot orthosis, Chinese Journal of Tissue Engineering Research, 21, 1730-1736, 2017	Chinese language paper
Collier, Bryan R., Giladi, Aviram, Dossett, Lesly A., Dyer, Lindsay, Fleming, Sloan B., Cotton, Bryan A., Impact of high-dose antioxidants on outcomes in acutely injured patients, JPEN. Journal of parenteral and enteral nutrition, 32, 384-8, 2008	Setting not in PICO: Intensive care unit
Collin, C., Collin, J., Mobility after lower-limb amputation, British Journal of Surgery, 82, 1010-1011, 1995	Narrative review
Colombo, G., Wirz, M., Dietz, V., Effect of locomotor training related to clinical and electrophysiological examinations in spinal cord injured humans, Annals of the New York Academy of Sciences, 860, 536-8, 1998	Study design not in PICO: No comparative data
Colon-Emeric, Cathleen S., Postoperative management of hip fractures: interventions associated with improved outcomes, BoneKEy reports, 1, 241, 2012	Narrative review
Colvin, M. P., Healy, M. T., Samra, G. S., Early management of the severely injured patient, Journal of the Royal Society of Medicine, 91, 26-9, 1998	Narrative review
Contreras-Vidal, J. L., Bhagat, N. A., Brantley, J., Cruz-Garza, J. G., He, Y., Manley, Q., Nakagome, S., Nathan, K., Tan, S. H., Zhu, F., Pons, J. L., Powered exoskeletons for bipedal locomotion after spinal cord injury, Journal of Neural Engineering, 13, 031001, 2016	Systematic review: Intervention not in PICO (powered exoskeletons). Included studies checked for relevance.
Corna, S., Arcolin, I., Giardini, M., Bellotti, L., Godi, M., Addition of aerobic training to conventional rehabilitation after hip fracture: a randomized, controlled, pilot feasibility study, Clinical rehabilitation, 269215520968694, 2020	Population not in PICO: Low-energy injury
Corriveau, H., Tousignant, M., Roy, P. M., Tremblay-Boudreault, V., Desrosiers, J., Dubuc, N., Hebert, R., Efficacy of supervised Tai Chi exercises compared to physiotherapy program in fall prevention for frail older adults: a randomised trial, Physiotherapy (united kingdom)., 97, eS239, 2011	Conference abstract
Cortes, M., Elder, J., Murray, L., Medeiros, A. H., Krebs, H. I., Pascual-Leone, A., Edwards, D., Improved motor performance in chronic spinal cord injury following upper-limb robotic training, Neurorehabilitation and Neural Repair, 28, NP16, 2014	Study design not in PICO: Non-RCT with <100 per arm
Cortes, M., Elder, J., Rykman, A., Murray, L., Avedissian, M., Stampa, A., Thickbroom, G. W., Pascual-Leone, A., Krebs, H. I., Valls-Sole, J., Edwards, D. J., Improved motor performance in chronic spinal cord injury following upper-limb robotic training, NeuroRehabilitation, 33, 57-65, 2013	Study design not in PICO: No comparative data
Coulter, E. H., McLean, A. N., Hasler, J. P., Allan, D. B., McFadyen, A., Paul, L., The effectiveness and satisfaction of web-based physiotherapy in people with spinal cord injury: a pilot randomised controlled trial, Spinal Cord, 55, 383-389, 2017	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for traumatic and non-traumatic patients
Cox, Catherine M., Kenardy, Justin A., Hendrikz, Joan K., A randomized controlled trial of a web-based early intervention	Outcomes not in PICO: Anxiety, PTSD,

Study	Reason for Exclusion
for children and their parents following unintentional injury, Journal of pediatric psychology, 35, 581-92, 2010	depression, anger and dissociation
Craven, Colm T. D., Gollee, Henrik, Coupaud, Sylvie, Purcell, Mariel A., Allan, David B., Investigation of robotic-assisted tilt-table therapy for early-stage spinal cord injury rehabilitation, Journal of Rehabilitation Research and Development, 50, 367-78, 2013	Study design not in PICO: No comparative data
Croce, M. A., Bee, T. K., Pritchard, E., Miller, P. R., Fabian, T. C., Does optimal timing for spine fracture fixation exist?, Annals of Surgery, 233, 851-858, 2001	Intervention not in PICO: Spinal stabilisation and fixation
Crotty, Maria, Whitehead, Craig H., Gray, Steven, Finucane, Paul M., Early discharge and home rehabilitation after hip fracture achieves functional improvements: a randomized controlled trial, Clinical Rehabilitation, 16, 406-13, 2002	Intervention not in PICO: Accelerated discharge and home-based multi-component rehabilitation
Crotty,Maria, Unroe,Kathleen, Cameron,Ian D., Miller,Michelle, Ramirez,Gilbert, Couzner,Leah, Rehabilitation interventions for improving physical and psychosocial functioning after hip fracture in older people, Cochrane Database of Systematic Reviews, -, 2010	Systematic review: Included studies checked for relevance.
Cucuzzo, N. A., Ferrando, A., Herndon, D. N., The effects of exercise programming vs traditional outpatient therapy in the rehabilitation of severely burned children, The Journal of burn care & rehabilitation, 22, 214-20, 2001	Population not in PICO: ≤ 18 years old. Included in corresponding children and young people evidence review.
Damiano, Diane L., DeJong, Stacey L., A systematic review of the effectiveness of treadmill training and body weight support in pediatric rehabilitation, Journal of neurologic physical therapy : JNPT, 33, 27-44, 2009	Systematic review: Included studies checked for relevance.
Daminov, V., Zimina, E., Uvarova, O., Kuznetsov, A., Rehabilitation of sportsmen with robotic reconstruction walk in the first months after spinal cord injury, Neurorehabilitation and Neural Repair, 26, 416, 2012	Conference abstract
D'Angelo, M., Narayanan, S., Reynolds, D. B., Kotowski, S., Page, S., Application of virtual reality to the rehabilitation field to aid amputee rehabilitation: findings from a systematic review, Disability and rehabilitation. Assistive technology, 5, 136-42, 2010	Systematic review: Included studies checked for relevance.
de Groot, P. C., Hjeltnes, N., Heijboer, A. C., Stal, W., Birkeland, K., Effect of training intensity on physical capacity, lipid profile and insulin sensitivity in early rehabilitation of spinal cord injured individuals, Spinal Cord, 41, 673-679, 2003	Outcomes not in PICO: Maximal aerobic capacity, maximum power output, insulin sensitivity and lipid profile
de Lateur, Barbara J., Magyar-Russell, Gina, Bresnick, Melissa G., Bernier, Faedra A., Ober, Michelle S., Krabak, Brian J., Ware, Linda, Hayes, Michael P., Fauerbach, James A., Augmented exercise in the treatment of deconditioning from major burn injury, Archives of Physical Medicine and Rehabilitation, 88, S18-23, 2007	Outcomes not in PICO: Accelerated periodic leg movement
De Mello, M. T., Esteves, A. M., Tufik, S., Comparison between dopaminergic agents and physical exercise as treatment for periodic limb movements in patients with spinal cord injury, Spinal Cord, 42, 218-21, 2004	Outcomes not in PICO: Periodic leg movement
DeBruler, Danielle M., Zbinden, Jacob C., Baumann, Molly E., Blackstone, Britani N., Malara, Megan M., Bailey, J. Kevin, Supp, Dorothy M., Powell, Heather M., Early cessation of pressure garment therapy results in scar contraction and	Study design not in PICO: Animal study

Study	Reason for Exclusion
thickening, PLoS ONE, 13, e0197558, 2018	
Demirdel, S., Erbahceci, F., Investigation of the Effects of Dual Task Balance Training on Gait and Balance in Transfemoral Amputees: a Randomised Controlled Trial, Archives of Physical Medicine and Rehabilitation, 2020	Mixed population: Traumatic (14/20) and non-traumatic injury (6/20) patients with results not presented separately for target population.
Demling, R. H., DeSanti, L., Increased protein intake during the recovery phase after severe burns increases body weight gain and muscle function, The Journal of burn care & rehabilitation, 19, 161-160, 1998	Study design not in PICO: Non-RCT with <100 per arm
Demling, R. H., DeSanti, L., Oxandrolone, an anabolic steroid, significantly increases the rate of weight gain in the recovery phase after major burns, The Journal of trauma, 43, 47-51, 1997	Intervention not in PICO: Anabolic steroid nutritional supplement
Demling, Robert H., DeSanti, Leslie, Oxandrolone induced lean mass gain during recovery from severe burns is maintained after discontinuation of the anabolic steroid, Burns : journal of the International Society for Burn Injuries, 29, 793-7, 2003	Intervention not in PICO: Anabolic steroid nutritional supplement
Derossi, D., Bo, A., Bergonzi, R., Scivoletto, G., Six-week administration of a mixture of ergogenic and osteotrophic ingredients (Restorfastâ„¢) improves the clinical course of elderly patients after hip fracture surgery, Trends in medicine, 9, 235-242, 2009	Italian language article
DeSanti, L., Lincoln, L., Egan, F., Demling, R., Development of a burn rehabilitation unit: impact on burn center length of stay and functional outcome, The Journal of burn care & rehabilitation, 19, 414-9, 1998	Intervention not in PICO: Implementation of burn rehabilitation unit
Devillard, X., Rimaud, D., Roche, F., Calmels, P., Effects of training programs for spinal cord injury, Annales de readaptation et de medecine physique : revue scientifique de la Societe francaise de reeducation fonctionnelle de readaptation et de medecine physique, 50, 490-9, 2007	Narrative review
Dhall, Sanjay S., Hadley, Mark N., Aarabi, Bizhan, Gelb, Daniel E., Hurlbert, R. John, Rozzelle, Curtis J., Ryken, Timothy C., Theodore, Nicholas, Walters, Beverly C., Nutritional support after spinal cord injury, Neurosurgery, 72 Suppl 2, 255-9, 2013	Narrative review
Dhillon, M. S., Panday, A. K., Aggarwal, S., Nagi, O. N., Extra articular arthroscopic release in post-traumatic stiff knees: A prospective study of endoscopic quadriceps and patellar release, Acta Orthopaedica Belgica, 71, 197-203, 2005	Study design not in PICO: No comparative data
Dickerson, Roland N., Morgan, Laurie G., Cauthen, April D., Alexander, Kathryn H., Croce, Martin A., Minard, Gayle, Brown, Rex O., Treatment of acute hypocalcemia in critically ill multiple-trauma patients, JPEN. Journal of parenteral and enteral nutrition, 29, 436-41, 2005	Setting not in PICO: Intensive care unit
Diego, Miguel A., Field, Tiffany, Hernandez-Reif, Maria, Hart, Sybil, Brucker, Bernard, Field, Tory, Burman, Iris, Spinal cord patients benefit from massage therapy, The International journal of neuroscience, 112, 133-42, 2002	Comparison not in PICO: Massage therapy versus exercise. No mention of standard care.
Dielwart, Cassandra, Harmer, Luke, Thompson, Jeremy, Seymour, Rachel B., Karunakar, Madhav A., Management of Closed Diaphyseal Humerus Fractures in Patients With Injury Severity Score >=17, Journal of Orthopaedic Trauma, 31,	Study design not in PICO: Non-RCT with <100 per arm

Study	Reason for Exclusion
220-224, 2017	
Dingwell, J. B., Davis, B. L., Frazier, D. M., Use of an instrumented treadmill for real-time gait symmetry evaluation and feedback in normal and trans-tibial amputee subjects, Prosthetics and Orthotics International, 20, 101-10, 1996	Study design not in PICO: Non-RCT with <100 per arm
Disseldorp, Laurien M., Nieuwenhuis, Marianne K., Van Baar, Margriet E., Mouton, Leonora J., Physical fitness in people after burn injury: a systematic review, Archives of Physical Medicine and Rehabilitation, 92, 1501-10, 2011	Systematic review: Included studies checked for relevance.
Ditor, D. S., Latimer, A. E., Ginis, K. A., Arbour, K. P., McCartney, N., Hicks, A. L., Maintenance of exercise participation in individuals with spinal cord injury: effects on quality of life, stress and pain, Spinal Cord, 41, 446-450, 2003	Study design not in PICO: No comparative data
Ditunno, J. F., Jr., Multicenter clinical trials to establish the benefit of early intervention in spinal cord injury, American journal of physical medicine & rehabilitation, 80, 713-6, 2001	Narrative review
Ditunno, John F., Jr., Barbeau, Hugues, Dobkin, Bruce H., Elashoff, Robert, Harkema, Susan, Marino, Ralph J., Hauck, Walter W., Apple, David, Basso, D. Michele, Behrman, Andrea, Deforge, Daniel, Fugate, Lisa, Saulino, Michael, Scott, Michael, Chung, Joanie, Spinal Cord Injury Locomotor Trial, Group, Validity of the walking scale for spinal cord injury and other domains of function in a multicenter clinical trial, Neurorehabilitation and Neural Repair, 21, 539-50, 2007	Outcomes not in PICO: Concurrent, predictive and construct validity of Walking Index for SCI
Donald, I. P., Pitt, K., Armstrong, E., Shuttleworth, H., Preventing falls on an elderly care rehabilitation ward, Clinical Rehabilitation, 14, 178-85, 2000	Population not in PICO: Adults admitted to elderly care ward with no mention of trauma.
Donati, L., Ziegler, F., Pongelli, G., Signorini, M. S., Nutritional and clinical efficacy of ornithine alpha-ketoglutarate in severe burn patients, Clinical Nutrition, 18, 307-311, 1999	Outcomes not in PICO: Nitrogen levels, nutritional status, wound healing and infection rates
Donenberg, Jennifer Glenna, Fetters, Linda, Johnson, Robert, The effects of locomotor training in children with spinal cord injury: a systematic review, Developmental neurorehabilitation, 22, 272-287, 2019	Systematic review: Included studies checked for relevance.
Dorsey, Julie, Bradshaw, Michelle, Effectiveness of Occupational Therapy Interventions for Lower-Extremity Musculoskeletal Disorders: A Systematic Review, The American journal of occupational therapy : official publication of the American Occupational Therapy Association, 71, 7101180030p1-7101180030p11, 2017	Systematic review: Included studies checked for relevance.
Dost, Gulseren, Dulgeroglu, Deniz, Yildirim, Adem, Ozgirgin, Nese, The effects of upper extremity progressive resistance and endurance exercises in patients with spinal cord injury, Journal of Back and Musculoskeletal Rehabilitation, 27, 419-26, 2014	Comparison not in PICO: Standard SCI rehabilitation plus resistance exercise versus standard SCI rehabilitation plus endurance exercises.
Drks,, ReMove-It - Efficacy study of rehabilitation with telemedical assisted movement therapy after lower extremity intervention, http://www.who.int/trialsearch/Trial2.aspx?TrialID=DRKS00010009, 2016	Study protocol
Duerinck, Saartje, Swinnen, Eva, Beyl, Pieter, Hagman, Friso, Jonkers, Ilse, Vaes, Peter, Van Roy, Peter, The added value of an actuated ankle-foot orthosis to restore normal gait	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
function in patients with spinal cord injury: a systematic review, Journal of rehabilitation medicine, 44, 299-309, 2012	
Duffell, Lynsey D., Niu, Xun, Brown, Geoffrey, Mirbagheri, Mehdi M., Variability in responsiveness to interventions in people with spinal cord injury: Do some respond better than others?, Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, 2014, 5872-5, 2014	Intervention not in PICO: Robotic-assisted locomotor training
Duncan, Donna Georgina, Beck, Susan Janet, Hood, Kerenza, Johansen, Antony, Using dietetic assistants to improve the outcome of hip fracture: a randomised controlled trial of nutritional support in an acute trauma ward, Age and Ageing, 35, 148-53, 2006	Outcomes not in PICO: Mortality, length of stay, complication rate, energy intake and nutritional status
Dunlop, R. A., An inexpensive and accessible exercise regime significantly improves balance and reduces injuries in the elderly, Focus on Alternative and Complementary Therapies, 16, 56-57, 2011	Article commentary
DuroviÄ‡, A., ZivotiÄ‡-VanoviÄ‡, M., RailiÄ‡, Z., Effects of circumferential rigid wrist orthoses in rehabilitation of patients with radius fracture at typical site, Vojnosanitetski Pregled, 62, 257-264, 2005	Serbian language article
Duzgun, I., Baltaci, G., Ahmet Atay, O., Comparison of slow and accelerated rehabilitation protocol after arthroscopic rotator cuff repair: Pain and functional activity, Acta Orthopaedica et Traumatologica Turcica, 45, 23-33, 2011	Population not in PICO: Patients with torn rotator cuff
Dvorak, M. F., Noonan, V. K., Bélanger, L., Bruun, B., Wing, P. C., Boyd, M. C., Fisher, C., Early versus late enteral feeding in patients with acute cervical spinal cord injury: a pilot study, Spine, 29, E175-80, 2004	Outcomes not in PICO: Septic complications
Eberly, Valerie J., Mulroy, Sara J., Gronley, JoAnne K., Perry, Jacquelin, Yule, William J., Burnfield, Judith M., Impact of a stance phase microprocessor-controlled knee prosthesis on level walking in lower functioning individuals with a transfemoral amputation, Prosthetics and Orthotics International, 38, 447-55, 2014	Study design not in PICO: Cross-over study
Ebid, Anwar Abdelgayed, El-Shamy, Shamekh Mohamed, Amer, Maysa Abbas, Effect of vitamin D supplementation and isokinetic training on muscle strength, explosive strength, lean body mass and gait in severely burned children: A randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 43, 357-365, 2017	Population not in PICO: ≤ 18 years old. Included in corresponding children and young people evidence review.
Ebid, Anwar Abdelgayed, El-Shamy, Shamekh Mohamed, Draz, Amira Hussin, Effect of isokinetic training on muscle strength, size and gait after healed pediatric burn: a randomized controlled study, Burns : journal of the International Society for Burn Injuries, 40, 97-105, 2014	Population not in PICO: ≤ 18 years old. Included in corresponding children and young people evidence review.
Eddy, Derrick, Congeni, J., Loud, K., A review of spine injuries and return to play, Clinical journal of sport medicine : official journal of the Canadian Academy of Sport Medicine, 15, 453-8, 2005	Narrative review
Edgar, Dale Wesley, Fish, Joel S., Gomez, Manuel, Wood, Fiona Melanie, Local and systemic treatments for acute edema after burn injury: a systematic review of the literature, Journal of burn care & research : official publication of the American Burn Association, 32, 334-47, 2011	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
Edgren, J., Rantanen, T., Heinonen, A., Portegijs, E., Alén, M., Kiviranta, I., Kallinen, M., Sipilä, S., Effects of progressive resistance training on physical disability among older community-dwelling people with history of hip fracture, Aging Clinical and Experimental Research, 24, 171-175, 2012	Population not in PICO: Older people with history of hip fracture more than 3 years prior
Edmonds, Gillian, Kirkley, Alexandra, Birmingham, Trevor B., Fowler, Peter J., The effect of early arthroscopic stabilization compared to nonsurgical treatment on proprioception after primary traumatic anterior dislocation of the shoulder, Knee surgery, sports traumatology, arthroscopy : official journal of the ESSKA, 11, 116-21, 2003	Population not in PICO: Patients with anterior shoulder dislocation
Edmondson, Sarah-Jayne, Ali Jumabhoy, Irfan, Murray, Alexandra, Time to start putting down the knife: A systematic review of burns excision tools of randomised and non-randomised trials, Burns : journal of the International Society for Burn Injuries, 44, 1721-1737, 2018	Systematic review: Intervention not in PICO (burn excision and debridement). Included studies checked for relevance.
Ekvall Hansson, Eva, Dahlberg, Leif E., Magnusson, Mans, Vestibular Rehabilitation Affects Vestibular Asymmetry among Patients with Fall-Related Wrist Fractures - A Randomized Controlled Trial, Gerontology, 61, 310-8, 2015	Population not in PICO: Patients with fall-related wrist fractures
Elbouz, L., Gillain, S., Bendavid, N., Maquet, D., Petermans, J., Contribution of the new technologies to the rehabilitation of the old fallers: a pilot study, Geriatrie ET psychologie neuropsychiatrie du vieillissement, 10, 383-390, 2012	French language paper
Ellapen, Terry J., Hammill, Henriette V., Swanepoel, Mariette, Strydom, Gert L., The benefits of hydrotherapy to patients with spinal cord injuries, African journal of disability, 7, 450, 2018	Narrative review
Eneroth, M., Olsson, U. B., Thorngren, K. G., Insufficient fluid and energy intake in hospitalised patients with hip fracture. A prospective randomised study of 80 patients, Clinical Nutrition, 24, 297-303, 2005	Outcomes not in PICO: Nutritional assessment, fluid intake and energy intake
Eneroth, M., Olsson, U. B., Thorngren, K. G., Nutritional supplementation decreases hip fracture-related complications, Clinical Orthopaedics and Related Research, 212-217, 2006	Outcomes not in PICO: Infections, mortality and surgical complications
Eng, Janice J., Getting up goals, Rehab management, 17, 34-62, 2004	Paper unavailable
Engel, J. M., Menges, T., Neuhäuser, C., Schaefer, B., Hempelmann, G., Effects of various feeding regimens in multiple trauma patients on septic complications and immune parameters, Anasthesiologie, Intensivmedizin, Notfallmedizin, Schmerztherapie, 32, 234-239, 1997	German language paper
Enoch, Stuart, Roshan, Amit, Shah, Mamta, Emergency and early management of burns and scalds, BMJ (Clinical research ed.), 338, b1037, 2009	Narrative review
Erbahceci, F., Yigiter, K., Sener, G., Bayar, K., Ulger, O., Balance training in amputees: Comparison of the outcome of two rehabilitation approaches, Artroplasti Artroskopik Cerrahi, 12, 194-198, 2001	Paper unavailable
Esclarín-Ruz, A., Alcobendas-Maestro, M., Casado-Lopez, R., Perez-Mateos, G., Florido-Sanchez, M. A., Gonzalez-Valdizan, E., Martin, J. L., A comparison of robotic walking therapy and conventional walking therapy in individuals with upper versus lower motor neuron lesions: a randomized	Population not in PICO: Mixture of traumatic (53/88) and non-traumatic (35/88) patients with results not presented

Study	Reason for Exclusion
controlled trial, Archives of Physical Medicine and Rehabilitation, 95, 1023-1031, 2014	separately for target population.
Essick, G. K., Phillips, C., Zuniga, J., Effect of facial sensory re-training on sensory thresholds, Journal of dental research, 86, 571-5, 2007	Outcomes not in PICO: Constant detection, 2-point and 2-point perception
Ethans, K., Powell, C., Rehabilitation of patients with hip fracture, Reviews in Clinical Gerontology, 6, 371-388, 1996	Narrative review
Falder, Sian, Silla, Robyn, Phillips, Michael, Rea, Suzanne, Gurfinkel, Reuven, Baur, Esther, Bartley, Anthony, Wood, Fiona M., Fear, Mark W., Thiamine supplementation increases serum thiamine and reduces pyruvate and lactate levels in burn patients, Burns : journal of the International Society for Burn Injuries, 36, 261-9, 2010	Study design not in PICO: Non-RCT with <100 per arm
Fang, C. Y., Tsai, J. L., Li, G. S., Lien, A. S. Y., Chang, Y. J., Effects of Robot-Assisted Gait Training in Individuals with Spinal Cord Injury: A Meta-analysis, BioMed Research International, 2020, 2102785, 2020	Systematic review: Included studies checked for relevance.
Faux, S., Wu, J., Harris, I., Poulos, C., Klein, L., Murray, G., Wilson, S., John, E., Early rehabilitation after hospital admission for road-trauma via an in-reach mobile team; a randomised controlled trial, Archives of Physical Medicine and Rehabilitation, 97, e15-e16, 2016	Conference abstract
Fehlings, Michael G., Tetreault, Lindsay A., Aarabi, Bizhan, Anderson, Paul, Arnold, Paul M., Brodke, Darrel S., Chiba, Kazuhiro, Dettori, Joseph R., Furlan, Julio C., Harrop, James S., Hawryluk, Gregory, Holly, Langston T., Howley, Susan, Jeji, Tara, Kalsi-Ryan, Sukhvinder, Kotter, Mark, Kurpad, Shekar, Kwon, Brian K., Marino, Ralph J., Martin, Allan R., Massicotte, Eric, Merli, Geno, Middleton, James W., Nakashima, Hiroaki, Nagoshi, Narihito, Palmieri, Katherine, Singh, Anoushka, Skelly, Andrea C., Tsai, Eve C., Vaccaro, Alexander, Wilson, Jefferson R., Yee, Albert, Burns, Anthony S., A Clinical Practice Guideline for the Management of Patients With Acute Spinal Cord Injury: Recommendations on the Type and Timing of Rehabilitation, Global spine journal, 7, 231S-238S, 2017	Systematic review: Included studies checked for relevance.
Feinberg, J., Nielsen, E. E., Korang, S. K., Halberg Engell, K., Nielsen, M. S., Zhang, K., Didriksen, M., Lund, L., Lindahl, N., Hallum, S., Liang, N., Xiong, W., Yang, X., Brunsgaard, P., Garioud, A., Safi, S., Lindschou, J., Kondrup, J., Gluud, C., Jakobsen, J. C., Nutrition support in hospitalised adults at nutritional risk, Cochrane Database of Systematic Reviews, 2017, CD011598, 2017	Systematic review: Population not in PICO (patients at nutritional risk or risk of malnutrition). Included studies checked for relevance.
Feng, K. Y., Liu, H., Wang, S. K., Early rehabilitation intervention after treatment in complex injury of knee joint, Chinese Journal of Clinical Rehabilitation, 6, 917, 2002	Conference abstract
Ferris, D. P., Sawicki, G. S., Domingo, A. R., Powered lower limb orthoses for gait rehabilitation, Topics in Spinal Cord Injury Rehabilitation, 11, 34-49, 2005	Narrative review
Field, Tiffany, Massage therapy for skin conditions in young children, Dermatologic Clinics, 23, 717-21, 2005	Outcomes not in PICO: Distress behaviours
Field-Fote, E. C., Spinal cord control of movement: implications for locomotor rehabilitation following spinal cord injury, Physical Therapy, 80, 477-84, 2000	Narrative review
Field-Fote, Edelle C., Roach, Kathryn E., Influence of a	Comparison not in PICO:

Study	Reason for Exclusion
locomotor training approach on walking speed and distance in people with chronic spinal cord injury: a randomized clinical trial, Physical Therapy, 91, 48-60, 2011	Treadmill-based training with manual assistance versus treadmill-based training with stimulation versus overground training with stimulation versus treadmill-based training with robotic assistance.
Field-Fote, Edelle Carmen, Tepavac, Dejan, Improved intralimb coordination in people with incomplete spinal cord injury following training with body weight support and electrical stimulation, Physical Therapy, 82, 707-15, 2002	Study design not in PICO: Non-RCT with <100 per arm
Fisahn, Christian, Aach, Mirko, Jansen, Oliver, Moisi, Marc, Mayadev, Angeli, Pagarigan, Krystle T., Dettori, Joseph R., Schildhauer, Thomas A., The Effectiveness and Safety of Exoskeletons as Assistive and Rehabilitation Devices in the Treatment of Neurologic Gait Disorders in Patients with Spinal Cord Injury: A Systematic Review, Global spine journal, 6, 822-841, 2016	Systematic review: Intervention not in PICO (wearable exoskeletons). Included studies checked for relevance.
Flodin, Lena, Cederholm, Tommy, Saaf, Maria, Samnegard, Eva, Ekstrom, Wilhelmina, Al-Ani, Amer N., Hedstrom, Margareta, Effects of protein-rich nutritional supplementation and bisphosphonates on body composition, handgrip strength and health-related quality of life after hip fracture: a 12-month randomized controlled study, BMC Geriatrics, 15, 149, 2015	Intervention and comparison not in PICO: Intervention group received nutritional support biphosphonate drug treatment. 2 control groups received either standard care only or biphosphonate drug treatment only.
Flores, Orlando, Tyack, Zephanie, Stockton, Kellie, Ware, Robert, Paratz, Jennifer D., Exercise training for improving outcomes post-burns: a systematic review and meta-analysis, Clinical Rehabilitation, 32, 734-746, 2018	Systematic review: Included studies checked for relevance.
Folbert, E. C., Hegeman, J. H., Vermeer, M., Regtuijt, E. M., van der Velde, D., Ten Duis, H. J., Slaets, J. P., Improved 1-year mortality in elderly patients with a hip fracture following integrated orthogeriatric treatment, Osteoporosis International, 28, 269-277, 2017	Outcomes not in PICO: Mortality
Forrest, Gail F., Hutchinson, Karen, Lorenz, Douglas J., Buehner, Jeffrey J., Vanhiel, Leslie R., Sisto, Sue Ann, Basso, D. Michele, Are the 10 meter and 6 minute walk tests redundant in patients with spinal cord injury?, PLoS ONE, 9, e94108, 2014	Study design not in PICO: No comparative data
Fortina, Mattia, Carta, Serafino, Gambera, Dario, Crainz, Edoardo, Ferrata, Paolo, Maniscalco, Pietro, Recovery of physical function and patient's satisfaction after total hip replacement (THR) surgery supported by a tailored guide-book, Acta bio-medica : Atenei Parmensis, 76, 152-6, 2005	Population not in PICO: Patients with osteoarthritis
Foss, Nicolai B., Jensen, Pia S., Kehlet, Henrik, Risk factors for insufficient perioperative oral nutrition after hip fracture surgery within a multi-modal rehabilitation programme, Age and ageing, 36, 538-43, 2007	Study design not in PICO: No comparative data
Franceschini, M., Baratta, S., Zampolini, M., Loria, D., Lotta, S., Reciprocating gait orthoses: a multicenter study of their use by spinal cord injured patients, Archives of Physical Medicine and Rehabilitation, 78, 582-6, 1997	Study design not in PICO: No comparative data

Study	Reason for Exclusion
Franczuk, B., Szwarczyk, W., Wilk, M., The impact of Continuous Passive Motion (CPM) on progress made in rehabilitation by patients with trochanteric hip fractures treated surgically with a Y-type intramedullary nail, Fizjoterapia polska, 5, 297-304, 2005	Polish language paper
Franczuk, B., Szwarczyk, W., Wilk, M., Tomaszewski, W., Rehabilitation of patients with trochanteric hip fractures treated surgically with an angular nail-plate, Ortopedia traumatologia rehabilitacja, 7, 209-217, 2005	Polish language paper
Frenkel Rutenberg, Tal, Vitenberg, Maria, Haviv, Barak, Velkes, Steven, Timing of physiotherapy following fragility hip fracture: delays cost lives, Archives of Orthopaedic and Trauma Surgery, 138, 1519-1524, 2018	Outcomes not in PICO: Mortality, length of stay, re-hospitalisations, treatment complications and orthopaedic complications
Friedstat, Jonathan S., Hultman, C. Scott, Hypertrophic burn scar management: what does the evidence show? A systematic review of randomized controlled trials, Annals of Plastic Surgery, 72, S198-201, 2014	Systematic review: Included studies checked for relevance.
Frison, Veronica B., Lanferdini, Fabio Juner, Geremia, Jeam Marcel, de Oliveira, Charlene B., Radaelli, Regis, Netto, Carlos Alexandre, Franco, Alexandre R., Vaz, Marco Aurelio, Effect of corporal suspension and pendulum exercises on neuromuscular properties and functionality in patients with medullar thoracic injury, Clinical biomechanics (Bristol, Avon), 63, 214-220, 2019	Intervention not in PICO: CHORDATA (suspension and pendulous exercises)
Frizzi, James D., Ray, Peter D., Raff, John B., Enteral nutrition by a forward surgical team in Afghanistan, Southern Medical Journal, 98, 273-8, 2005	Narrative review
Frye, Sara Kate, Ogonowska-Slodownik, Anna, Geigle, Paula Richley, Aquatic Exercise for People With Spinal Cord Injury, Archives of Physical Medicine and Rehabilitation, 98, 195-197, 2017	Narrative review
Fung, Vera, Ho, Aileen, Shaffer, Jennifer, Chung, Esther, Gomez, Manuel, Use of Nintendo Wii FitTM in the rehabilitation of outpatients following total knee replacement: a preliminary randomised controlled trial, Physiotherapy, 98, 183-8, 2012	Comparison not in PICO: WiiFit sessions vs. strengthening and balance training. No mention of standard care.
Gainforth, Heather L., Latimer-Cheung, Amy E., Athanasopoulos, Peter, Martin Ginis, Kathleen A., Examining the feasibility and effectiveness of a community-based organization implementing an event-based knowledge mobilization initiative to promote physical activity guidelines for people with spinal cord injury among support personnel, Health promotion practice, 16, 55-62, 2015	Study design not in PICO: Case study
Galea, M. P., Dunlop, S. A., Geraghty, T., Davis, G. M., Nunn, A., Olenko, L., Hurley, M., Alexander, J., Fereday, S., Goodman, C., Batty, J., Li, T., Buchanan, J., Bullick, J., Marshall, R., Clark, J., Acland, R., Nunnerley, J., SCIPA full-on: A randomized controlled trial comparing intensive whole-body exercise and upper body exercise after spinal cord injury, Neurorehabilitation and Neural Repair, 32, 557-567, 2018	Comparison not in PICO: Full-body exercise versus upper body only exercise
Galea, M. P., Levinger, P., Lythgo, N., Cimoli, C., Weller, R., Tully, E., McMeeken, J., Westh, R., A targeted home- and center-based exercise program for people after total hip replacement: a randomized clinical trial, Archives of Physical	Comparison not in PICO: Supervised versus unsupervised exercise programme

Study	Reason for Exclusion
Medicine and Rehabilitation, 89, 1442-1447, 2008	
Galea, M. P., Spinal cord injury and physical activity: preservation of the body, Spinal Cord, 50, 344-51, 2012	Narrative review
Gandhi, P., Chan, K., Verrier, M. C., Pakosh, M., Musselman, K. E., Training to Improve Walking after Pediatric Spinal Cord Injury: A Systematic Review of Parameters and Walking Outcomes, Journal of Neurotrauma, 34, 1713-1725, 2017	Systematic review: Included studies checked for relevance.
Garcia-de-Lorenzo, Abelardo, Zarazaga, Antonio, Garcia-Luna, Pedro Pablo, Gonzalez-Huix, Ferran, Lopez-Martinez, Jorge, Mijan, Alberto, Quecedo, Luis, Casimiro, Cesar, Usan, Luis, del Llano, Juan, Clinical evidence for enteral nutritional support with glutamine: a systematic review, Nutrition (Burbank, Los Angeles County, Calif.), 19, 805-11, 2003	Systematic review: Included studies checked for relevance.
Gardner, M. M., Robertson, M. C., Campbell, A. J., Exercise in preventing falls and fall related injuries in older people: a review of randomised controlled trials, British Journal of Sports Medicine, 34, 7-17, 2000	Systematic review: Included studies checked for relevance.
Geigle, Paula Richley, Kallins, Marni, Exoskeleton-Assisted Walking for People With Spinal Cord Injury, Archives of Physical Medicine and Rehabilitation, 98, 1493-1495, 2017	Narrative review
Ghalambor, A. A., Pipelzadeh, M. H., Low level CO2 laser therapy in burn scars: Which patients benefit most?, Pakistan Journal of Medical Sciences, 22, 158-161, 2006	Outcomes not in PICO: Physical appearance of burn scars
Girchenko, E. V., Shestopalov, N., Akimenko, M., Pikhlak, A. E., New methods of kinesiotherapy in program of complex rehabilitation of the elderly, International Journal of Rheumatic Diseases, 19, 26-27, 2016	Conference abstract
Glasgow, Celeste, Wilton, Judith, Tooth, Leigh, Optimal daily total end range time for contracture: resolution in hand splinting, Journal of hand therapy : official journal of the American Society of Hand Therapists, 16, 207-18, 2003	Outcomes not in PICO: Total end range time and contracture resolution
Gocen, Zeliha, Sen, Ayse, Unver, Bayram, Karatosun, Vasfi, Gunal, Izge, The effect of preoperative physiotherapy and education on the outcome of total hip replacement: a prospective randomized controlled trial, Clinical Rehabilitation, 18, 353-8, 2004	Population not in PICO: Patients with hip osteoarthritis
Godlwana, L. L., Stewart, A., Musenge, E., Mobility during the intermediate stage of rehabilitation after lower limb amputation from an under resourced community: A randomized controlled trial, Physiotherapy (United Kingdom), 101, eS458, 2015	Conference abstract
Goh, K., Tay, L., Wang, S., Aw Yang, W., Varman, S., Poon, K., Implementation and early outcomes of the valuedcare hip fracture program, Journal of the American Geriatrics Society, 64, S144, 2016	Conference abstract
Golden, Sue, A two-part success formula, Rehab management, 19, 50-57, 2006	Paper unavailable
Gomara-Toldra, Natalia, Sliwinski, Martha, Dijkers, Marcel P., Physical therapy after spinal cord injury: a systematic review of treatments focused on participation, The journal of spinal cord medicine, 37, 371-9, 2014	Systematic review: Included studies checked for relevance.
Gottschlich, M. M., Mayes, T., Khoury, J., Kagan, R., Differential effects of three vitamin D supplementation practices on clinical outcome postburn, Journal of Burn Care and Research, 32, S73, 2011	Conference abstract

Study	Reason for Exclusion
Gottschlich, Michele M., Jenkins, Marilyn E., Mayes, Theresa, Khoury, Jane, Kagan, Richard J., Warden, Glenn D., The 2002 Clinical Research Award. An evaluation of the safety of early vs delayed enteral support and effects on clinical, nutritional, and endocrine outcomes after severe burns, The Journal of burn care & rehabilitation, 23, 401-15, 2002	Setting not in PICO: Intensive care unit
Govil, Kanika, Noohu, Majumi M., Effect of EMG biofeedback training of gluteus maximus muscle on gait parameters in incomplete spinal cord injury, NeuroRehabilitation, 33, 147-52, 2013	Intervention not in PICO: EMG Biofeedback
Graf, M., Freijah, N., Early trans-tibial oedema control using polymer gel socks, Prosthetics and Orthotics International, 27, 221-6, 2003	Outcomes not in PICO: Time to prosthesis casting and rate of oedema volume reduction
Greiver, M., Practice Tips: Preventing hip fractures in elderly patients, Canadian Family Physician, 49, 430-431, 2003	Narrative review
Grimble, R. F., Immunonutrition, Current Opinion in Gastroenterology, 21, 216-222, 2005	Narrative review
Grintescu, I. M., Luca Vasiliu, I., Cucereanu Badica, I., Mirea, L., Pavelescu, D., Balanescu, A., Grintescu, I. C., The influence of parenteral glutamine supplementation on glucose homeostasis in critically ill polytrauma patients-A randomized-controlled clinical study, Clinical Nutrition, 34, 377-382, 2015	Outcomes not in PICO: Glucose homeostasis and hyperglycaemia
Grisbrook, Tiffany L., Gittings, Paul M., Wood, Fiona M., Edgar, Dale W., The effectiveness of session rating of perceived exertion to monitor resistance training load in acute burns patients, Burns : journal of the International Society for Burn Injuries, 43, 169-175, 2017	Outcome not in PICO: Correlation between session-rating of perceived exertion and exercise intensity.
Gu, Wan-Jie, Deng, Teng, Gong, Yi-Zhen, Jing, Rui, Liu, Jing-Chen, The effects of probiotics in early enteral nutrition on the outcomes of trauma: a meta-analysis of randomized controlled trials, JPEN. Journal of parenteral and enteral nutrition, 37, 310-7, 2013	Systematic review: Included studies checked for relevance.
Guney Deniz, H., Kinikli, G. I., Onal, S., Sevinc, C., Caglar, O., Yuksel, I., Comparison of kinesio tape application and manual lymphatic drainage on lower extremity oedema and functions after total knee arthroplasty, Annals of the Rheumatic Diseases, 77, 1791, 2018	Conference abstract
Guo, G. H., Deng, Z. Y., Wang, Y. X., Xing, J. J., Peng, Y., Li, G. H., Effects of glutamine enriched enteral feeding on immunoregulation in burn patients, Zhonghua shao shang za zhi [Chinese journal of burns], 23, 406-408, 2007	Chinese language paper
Guo, G. H., Xu, C., Bai, X. J., Zhan, J. H., Zhang, H. Y., Zhang, Z. A., Wang, Y. X., Fang, F., Li, G. H., Effects of arginine enriched enteral nutrition on nutritional status and cellular immunity in burn patients, Zhonghua shao shang za zhi [Chinese journal of burns], 25, 211-214, 2009	Chinese language paper
Guo, J., Gao, C., Xin, H., Li, J., Li, B., Wei, Z., Yue, Y., The application of "upper-body yoga" in elderly patients with acute hip fracture: a prospective, randomized, and single-blind study, Journal of orthopaedic surgery and research, 14, 250, 2019	Comparison not in PICO: Upper-body yoga versus abdominal breathing training. No mention of standard care.
Guo, X., Hou, X., Ding, S., Chang, S., Rehabilitation nursing for patient rehabilitation after minimally invasive spine surgery, International Journal of Clinical and Experimental Medicine, 12, 2450-2455, 2019	Paper unavailable

Study	Reason for Exclusion
Guzelkucuk, Umut, Duman, Iltekin, Taskaynatan, Mehmet Ali, Dincer, Kemal, Comparison of therapeutic activities with therapeutic exercises in the rehabilitation of young adult patients with hand injuries, The Journal of hand surgery, 32, 1429-35, 2007	Intervention not in PICO: Exercises that mimic activities of daily living
Hadley, M. N., Walters, B. C., Grabb, P. A., Oyesiku, N. M., Przybylski, G. J., Resnick, D. K., Ryken, T. C., Mielke, D. H., Guidelines for the management of acute cervical spine and spinal cord injuries, Clinical neurosurgery, 49, 407-498, 2002	Outcomes not in PICO: Results from systematic review and expert consensus focus group presented together with no way of separating data
Hadley, M. N., Walters, B. C., Grabb, P. A., Oyesiku, N. M., Przybylski, G. J., Resnick, D. K., Ryken, T. C., Nutritional support after spinal cord injury, Neurosurgery, 50, S81-4, 2002	Narrative review
Haedersdal, M., Moreau, K. E. R., Beyer, D. M., Nymann, P., Alsbjorn, B., Fractional nonablative 1540 nm laser resurfacing for thermal burn scars: A randomized controlled trial, Lasers in Surgery and Medicine, 41, 189-195, 2009	Comparison not in PICO: Laser re-surfacing versus no treatment. No mention of standard care.
Haines, Terry P., Hill, Keith D., Bennell, Kim L., Osborne, Richard H., Additional exercise for older subacute hospital inpatients to prevent falls: benefits and barriers to implementation and evaluation, Clinical Rehabilitation, 21, 742-53, 2007	Population not in PICO: Inpatients at increased risk of falling
Hall, B., Care for the patient with burns in the trauma rehabilitation setting, Critical Care Nursing Quarterly, 35, 272-80, 2012	Narrative review
Handoll, H. H. G., Ollivere, B. J., Interventions for treating proximal humeral fractures in adults, Cochrane Database of Systematic Reviews, 2010, CD000434, 2010	Systematic review: Population not in PICO (patients with proximal humeral fractures and a majority discharged straight home). Included studies checked for relevance.
Handoll, H. H. G., Sherrington, C., Mak, J. C. S., Interventions for improving mobility after hip fracture surgery in adults, Cochrane Database of Systematic Reviews, 2011	Systematic review: Included studies checked for relevance.
Handoll, H. H. G., Sherrington, C., Mobilisation strategies after hip fracture surgery in adults, The Cochrane database of systematic reviews, CD001704, 2007	Systematic review: Included studies checked for relevance.
Handoll, H. H., Brorson, S., Interventions for treating proximal humeral fractures in adults, Cochrane Database of Systematic Reviews, 2015, CD000434, 2015	Systematic review: Population not in PICO (patients with proximal humeral fractures and a majority discharged straight home). Included studies checked for relevance.
Handoll, H. H., Madhok, R., Howe, T. E., Rehabilitation for distal radial fractures in adults, The Cochrane database of systematic reviews, CD003324, 2002	Paper unavailable
Handoll, H. H., Parker, M. J., Sherrington, C., Mobilisation strategies after hip fracture surgery in adults, The Cochrane database of systematic reviews, CD001704, 2003	Systematic review: Included studies of the update of this review (Handoll 2007) checked

Study	Reason for Exclusion
	for relevance.
Handoll, H. H., Pearce, P. K., Interventions for isolated diaphyseal fractures of the ulna in adults, Cochrane database of systematic reviews (Online), CD000523, 2004	Systematic review: Population not in PICO (adults with isolated diaphyseal ulna fracture). Included studies checked for relevance.
Handoll, H. H., Sherrington, C., Parker, M. J., Mobilisation strategies after hip fracture surgery in adults, Cochrane database of systematic reviews (Online), CD001704, 2004	Systematic review: Included studies checked for relevance.
Hansen, P. B., Hansen, T. B., The treatment of fractures of the ring and little metacarpal necks. A prospective randomized study of three different types of treatment, Journal of hand surgery (Edinburgh, Scotland), 23, 245-7, 1998	Population not in PICO: Patients with simple neck fractures of ring/little metacarpals
Hanson, M. D., Gauld, M., Wathen, C. N., MacMillan, H. L., Nonpharmacological interventions for acute wound care distress in pediatric patients with burn injury: A systematic review, Journal of Burn Care and Research, 29, 730-741, 2008	Systematic review: Population not in PICO (patients with acute wound care distress). Included studies checked for relevance.
Hardee, J. P., Porter, C., Sidossis, L. S., Børsheim, E., Carson, J. A., Herndon, D. N., Suman, O. E., Early rehabilitative exercise training in the recovery from pediatric burn, Medicine and Science in Sports and Exercise, 46, 1710-1716, 2014	Outcomes not in PICO: Lean body mass, muscle strength and cardiovascular fitness
Hardee, J. P., Porter, C., Sidossis, L. S., Carson, J. A., Herndon, D. N., Suman, O. E., Effect of early outpatient exercise training on skeletal muscle mass and function in severely burned children, Journal of Burn Care and Research, 35, S196, 2014	Conference abstract
Hardee, J., Porter, C., Sidossis, L., Carson, J., Herndon, D., Suman, O., Effect of early and late outpatient exercise training on muscle mass and protein kinetics in severely burned children, FASEB Journal, 28, 2014	Conference abstract
Haren, K., Backman, C., Wiberg, M., Effect of manual lymph drainage as described by Vodder on oedema of the hand after fracture of the distal radius: a prospective clinical study, Scandinavian journal of plastic and reconstructive surgery and hand surgery, 34, 367-72, 2000	Outcomes not in PICO: Volume measurements of wrists
Harkema, Susan J., Schmidt-Read, Mary, Lorenz, Douglas J., Edgerton, V. Reggie, Behrman, Andrea L., Balance and ambulation improvements in individuals with chronic incomplete spinal cord injury using locomotor training-based rehabilitation, Archives of Physical Medicine and Rehabilitation, 93, 1508-17, 2012	Study design not in PICO: No comparative data
Harris, J. D., Griesser, M. J., Best, T. M., Ellis, T. J., Treatment of proximal hamstring ruptures - a systematic review, International Journal of Sports Medicine, 32, 490-5, 2011	Systematic review: Population not in PICO (patients with hamstring injuries). Included studies checked for relevance.
Hart, Nicholas, Laffont, Isabelle, de la Sota, Annie Perez, Lejaille, Michele, Macadou, Gilles, Polkey, Michael I., Denys, Pierre, Lofaso, Frederic, Respiratory effects of combined truncal and abdominal support in patients with spinal cord injury, Archives of Physical Medicine and Rehabilitation, 86,	Outcomes not in PICO: Borg score and measures of lung volume, dynamic abdominal compliance, and transdiaphragmatic

Study	Reason for Exclusion
1447-51, 2005	pressures
Harte, Daniel, Gordon, Jude, Shaw, Maxine, Stinson, May, Porter-Armstrong, Alison, The use of pressure and silicone in hypertrophic scar management in burns patients: a pilot randomized controlled trial, Journal of burn care & research : official publication of the American Burn Association, 30, 632-42, 2009	Outcomes not in PICO: Changes in scar presentation
Harvey, L. A., Glinsky, J. V., Bowden, J. L., The effectiveness of 22 commonly administered physiotherapy interventions for people with spinal cord injury: a systematic review, Spinal Cord, 54, 914-923, 2016	Systematic review: Included studies checked for relevance.
Harvey, L. A., Lin, C. W. C., Glinsky, J. V., De Wolf, A., The effectiveness of physical interventions for people with spinal cord injuries: A systematic review, Spinal Cord, 47, 184-195, 2009	Systematic review: Included studies checked for relevance.
Harvey, Lisa A., Ristev, Donna, Hossain, Mohammad S., Hossain, Mohammad A., Bowden, Jocelyn L., Boswell-Ruys, Claire L., Hossain, Mohammad M., Ben, Marsha, Training unsupported sitting does not improve ability to sit in people with recently acquired paraplegia: a randomised trial, Journal of physiotherapy, 57, 83-90, 2011	Comparison not in PICO: Stretching exercises versus no activity. No mention of standard care.
Harvey,L.A., Smith,M.B., Davis,G.M., Engel,S., Functional outcomes attained by T9-12 paraplegic patients with the walkabout and the isocentric reciprocal gait orthoses, Archives of Physical Medicine and Rehabilitation, 78, 706-711, 1997	Study design not in PICO: Cross-over study
Hauer, K., Pfisterer, M., Schuler, M., Bartsch, P., Oster, P., Two years later: A prospective long-term follow-up of a training intervention in geriatric patients with a history of severe falls, Archives of Physical Medicine and Rehabilitation, 84, 1426-1432, 2003	Follow-up period outside of PICO: 24 months.
Hauer, K., Specht, N., Schuler, M., Bärtsch, P., Oster, P., Intensive physical training in geriatric patients after severe falls and hip surgery, Age and Ageing, 31, 49-57, 2002	Population is a subgroup of patients in Hauer 2001/2003, which are already included
Hayes, Stephen Clive, James Wilcox, Christopher Richard, Forbes White, Hollie Samantha, Vanicek, Natalie, The effects of robot assisted gait training on temporal-spatial characteristics of people with spinal cord injuries: A systematic review, The journal of spinal cord medicine, 1-15, 2018	Intervention not in PICO: Robotic-assisted locomotor training
Hebenton, J., Colvin, J., Seenan, C., Scott, H., Models of care are associated with time taken to achieve key rehabilitation milestones in patients undergoing lower limb amputation, Physiotherapy, 102, e13, 2016	Conference abstract
Heller, Axel R., Rossler, Susann, Litz, Rainer J., Stehr, Sebastian N., Heller, Susanne C., Koch, Rainer, Koch, Thea, Omega-3 fatty acids improve the diagnosis-related clinical outcome, Critical Care Medicine, 34, 972-9, 2006	Population not in PICO: Mixture of traumatic (59 patients out of 661 sample) and non-traumatic causes with results not presented separately for target population
Henderson, K. G., Wallis, J. A., Snowdon, D. A., Active physiotherapy interventions following total knee arthroplasty in the hospital and inpatient rehabilitation settings: a systematic review and meta-analysis, Physiotherapy (United	Systematic review: Population not in PICO (patients with primary knee arthroplasty due to

Study	Reason for Exclusion
Kingdom), 104, 25-35, 2018	osteoarthritis). Included studies checked for relevance.
Hernandez-Reif, M., Field, T., Largie, S., Hart, S., Redzepi, M., Nierenberg, B., Peck, T. M., Childrens' distress during burn treatment is reduced by massage therapy, The Journal of burn care & rehabilitation, 22, 191-190, 2001	Outcomes not in PICO: Observed distress behaviours
Hicks, A. L., Adams, M. M., Martin Ginis, K., Giangregorio, L., Latimer, A., Phillips, S. M., McCartney, N., Long-term body-weight-supported treadmill training and subsequent follow-up in persons with chronic SCI: effects on functional walking ability and measures of subjective well-being, Spinal Cord, 43, 291-8, 2005	Study design not in PICO: Non-RCT with <100 per arm
Hicks, A. L., Martin Ginis, K. A., Pelletier, C. A., Ditor, D. S., Foulon, B., Wolfe, D. L., The effects of exercise training on physical capacity, strength, body composition and functional performance among adults with spinal cord injury: A systematic review, Spinal Cord, 49, 1103-1127, 2011	Systematic review: Included studies checked for relevance.
Hicks, A. L., Martin, K. A., Ditor, D. S., Latimer, A. E., Craven, C., Bugaresti, J., McCartney, N., Long-term exercise training in persons with spinal cord injury: effects on strength, arm ergometry performance and psychological well-being, Spinal cord, 41, 34-43, 2003	Comparison not in PICO: Exercise training versus education sessions. No mention of standard care.
Highsmith, M. Jason, Nelson, Leif M., Carbone, Neil T., Klenow, Tyler D., Kahle, Jason T., Hill, Owen T., Maikos, Jason T., Kartel, Mike S., Randolph, Billie J., Outcomes Associated With the Intrepid Dynamic Exoskeletal Orthosis (IDEO): A Systematic Review of the Literature, Military Medicine, 181, 69-76, 2016	Systematic review: Included studies checked for relevance.
Hill, Christopher E., Masters, James P. M., Perry, Daniel C., A systematic review of alternative splinting versus complete plaster casts for the management of childhood buckle fractures of the wrist, Journal of pediatric orthopedics. Part B, 25, 183-90, 2016	Systematic review: Population not in PICO (patients with buckle fracture of the wrist who are not generally hospitalised for this injury). Included studies checked for relevance.
Ho, W. S., Chan, H. H., Ying, S. Y., Cheng, H. S., Wong, C. S., Skin care in burn patients: A team approach, Burns, 27, 489-491, 2001	Outcomes not in PICO: Pressure garment compliance and hospital readmission
Hoh, D. J., Qureshi, S., Anderson, P. A., Arnold, P. M., Chi, J. H., Dailey, A. T., Dhall, S. S., Eichholz, K. M., Harrop, J. S., Rabb, C. H., Raksin, P. B., Kaiser, M. G., O'Toole, J. E., Congress of neurological surgeons systematic review and evidence-based guidelines on the evaluation and treatment of patients with thoracolumbar spine trauma: Nonoperative care, Neurosurgery, 84, E46-E49, 2019	Systematic review: Included studies checked for relevance.
Hoh, D. J., Qureshi, S., Anderson, P. A., Arnold, P. M., John, H. C., Dailey, A. T., Dhall, S. S., Eichholz, K. M., Harrop, J. S., Rabb, C. H., Raksin, P. B., Kaiser, M. G., O'Toole, J. E., Congress of neurological surgeons systematic review and evidence-based guidelines on the evaluation and treatment of patients with thoracolumbar spine trauma: Nonoperative care, Clinical Neurosurgery, 84, E46-E49, 2019	Systematic review: Included studies checked for relevance.
Holanda, Ledycnarf J., Silva, Patricia M. M., Amorim, Thiago C., Lacerda, Matheus O., Simao, Camila R., Morya, Edgard,	Systematic review: Intervention not in PICO

Study	Reason for Exclusion
Robotic assisted gait as a tool for rehabilitation of individuals with spinal cord injury: a systematic review, Journal of NeuroEngineering and Rehabilitation, 14, 126, 2017	(robotic-assisted locomotor training). Included studies checked for relevance.
Holavanahalli, R. K., Helm, P. A., Kowalske, K. J., Hynan, L. S., Effectiveness of Paraffin and Sustained Stretch in Treatment of Shoulder Contractures Following a Burn Injury, Archives of Physical Medicine and Rehabilitation, 101, S42-S49, 2020	Population not in PICO: ≤14 years with data not presented separately for under and over 18 years old.
Hollman, F., Wolterbeek, N., Zijl, J. A. C., van Egeraat, S. P. M., Wessel, R. N., Abduction Brace Versus Antirotation Sling After Arthroscopic Cuff Repair: the Effects on Pain and Function, Arthroscopy, 33, 1618-1626, 2017	Population not in PICO: Patients with tear of supraspinatus and/or infraspinatus tendons
Holtz, A., Early management after acute traumatic spinal cord injury, Upsala journal of medical sciences, 100, 93-123, 1995	Narrative review
Honigmann, P., Goldhahn, S., Rosenkranz, J., Audige, L., Geissmann, D., Babst, R., Aftertreatment of malleolar fractures following ORIF - Functional compared to protected functional in a vacuum-stabilized orthesis: A randomized controlled trial, Archives of Orthopaedic and Trauma Surgery, 127, 195-203, 2007	Comparison not in PICO: Splinting versus orthosis
Hornby, T. G., Campbell, D. D., Zemon, D. H., Kahn, J. H., Clinical and quantitative evaluation of robotic-assisted treadmill walking to retrain ambulation after spinal cord injury, Topics in Spinal Cord Injury Rehabilitation, 11, 1-17, 2005	Intervention not in PICO: Robotic-assisted locomotor training
Houdijk, A. P., Rijnsburger, E. R., Jansen, J., Wesdorp, R. I., Weiss, J. K., McCamish, M. A., Teerlink, T., Meuwissen, S. G., Haarman, H. J., Thijs, L. G., van Leeuwen, P. A., Randomised trial of glutamine-enriched enteral nutrition on infectious morbidity in patients with multiple trauma, Lancet (London, England), 352, 772-6, 1998	Dates not in PICO: 1992-1996 with results not presented separately for 1995-1996
Hughes, Sheila, Ni, Solomen, Wilson, Stephen, Use of removable rigid dressing for transtibial amputees rehabilitation: A Greenwich Hospital experience, The Australian journal of physiotherapy, 44, 135-137, 1998	No clinical data presented
Hui, J. H., Chen, X. J., Liang, C. P., Role of herbal fumigation in the joint functional rehabilitation after operation of bone fractures around the knee joint, China foreign medical treatment[zhong wai yi liao], 36, 181-183, 2016	Chinese language paper
Ihle, Christoph, Freude, Thomas, Bahrs, Christian, Zehendner, Eva, Braunsberger, Janick, Biesalski, Hans Konrad, Lambert, Christine, Stockle, Ulrich, Wintermeyer, Elke, Grunwald, Julia, Grunwald, Leonard, Ochs, Gunnar, Flesch, Ingo, Nussler, Andreas, Malnutrition - An underestimated factor in the inpatient treatment of traumatology and orthopedic patients: A prospective evaluation of 1055 patients, Injury, 48, 628-636, 2017	Study design not in PICO: No comparative data
Imam, Bita, Miller, William C., Finlayson, Heather, Eng, Janice J., Jarus, Tal, A randomized controlled trial to evaluate the feasibility of the Wii Fit for improving walking in older adults with lower limb amputation, Clinical Rehabilitation, 31, 82-92, 2017	Comparison not in PICO: Wii.n.Walk training versus Wii Big Brain Academy Degree. No mention of standard care.
Invernizzi, M., de Sire, A., D'Andrea, F., Carrera, D., Reno, F., Migliaccio, S., Iolascon, G., Cisari, C., Effects of essential amino acid supplementation and rehabilitation on functioning in hip fracture patients: a pilot randomized controlled trial, Aging Clinical and Experimental Research, 31, 1517-1524,	Study measured activities of daily living, changes in mobility and upper limb function but data not

Study	Reason for Exclusion
2019	presented in article.
Ipaktchi, Kyros, Arbabi, Saman, Advances in burn critical care, Critical Care Medicine, 34, S239-44, 2006	Narrative review
Ish-Shalom, S., Segal, E., Salganik, T., Raz, B., Bromberg, I. L., Vieth, R., Comparison of daily, weekly, and monthly vitamin D3 in ethanol dosing protocols for two months in elderly hip fracture patients, Journal of Clinical Endocrinology and Metabolism, 93, 3430-3435, 2008	Outcomes not in PICO: Plasma concentrations of vitamin D, calcium and parathyroid hormone
Itoi, Eiji, Hatakeyama, Yuji, Kido, Tadato, Sato, Takeshi, Minagawa, Hiroshi, Wakabayashi, Ikuko, Kobayashi, Moto, A new method of immobilization after traumatic anterior dislocation of the shoulder: a preliminary study, Journal of Shoulder and Elbow Surgery, 12, 413-5, 2003	Study design not in PICO: Non-RCT with <100 per arm
Jacobs, Patrick L., Mahoney, Edward T., Cohn, Kelly A., Sheradsky, Laurey F., Green, Barth A., Oral creatine supplementation enhances upper extremity work capacity in persons with cervical-level spinal cord injury, Archives of Physical Medicine and Rehabilitation, 83, 19-23, 2002	Study design not in PICO: Cross-over study
Jarret, G., Orpanna, A., Helbostad, J., Can a three weeks program in a rehabilitation center improve balance in elderly people? A randomized clinical controlled trial, Physiotherapy (United Kingdom), 101, eS671-eS672, 2015	Conference abstract
Javed, M. T., Nagra, Z. M., Bhatti, N., Bashir, Z., Shabbir, N., Effects of diet on body weight, haemoglobin, serum proteins and trace elements in burned children, Journal of the College of Physicians and Surgeons--Pakistan : JCPSP, 13, 592-5, 2003	Outcomes not in PICO: Body weight, haemoglobin levels and serum proteins
Jayaraman, Arun, Thompson, Christopher K., Rymer, William Z., Hornby, T. George, Short-term maximal-intensity resistance training increases volitional function and strength in chronic incomplete spinal cord injury: a pilot study, Journal of neurologic physical therapy : JNPT, 37, 112-7, 2013	Study design not in PICO: Cross-over study
Jeon, J., Mun, J., Jung, Y., Park, W., Lee, J., Jang, K., Seo, C., The effect of burn rehabilitation massage therapy on post burn scar, Journal of Burn Care and Research, 34, S186, 2013	Outcomes not in PICO: Burn scar condition parameters
Jones, Gareth R., Jakobi, Jennifer M., Taylor, Albert W., Petrella, Rob J., Vandervoort, Anthony A., Community exercise program for older adults recovering from hip fracture: a pilot study, Journal of aging and physical activity, 14, 439-55, 2006	Study design not in PICO: Non-RCT with <100 per arm
Jones, Michael L., Evans, Nicholas, Tefertiller, Candace, Backus, Deborah, Sweatman, Mark, Tansey, Keith, Morrison, Sarah, Activity-based therapy for recovery of walking in chronic spinal cord injury: results from a secondary analysis to determine responsiveness to therapy, Archives of Physical Medicine and Rehabilitation, 95, 2247-52, 2014	Intervention not in PICO: Activity-based therapy including functional electrical stimulation
Jones, Michael L., Evans, Nicholas, Tefertiller, Candace, Backus, Deborah, Sweatman, Mark, Tansey, Keith, Morrison, Sarah, Activity-based therapy for recovery of walking in individuals with chronic spinal cord injury: results from a randomized clinical trial, Archives of Physical Medicine and Rehabilitation, 95, 2239-46.e2, 2014	Intervention not in PICO: Activity-based therapy including functional electrical stimulation
Joo, S. Y., Lee, S. Y., Cho, Y. S., Seo, C. H., Clinical utility of extracorporeal shock wave therapy on hypertrophic scars of the hand caused by burn injury: A prospective, randomized,	Only change score (pre- to post-treatment) presented for outcomes

Study	Reason for Exclusion
double-blinded study, Journal of Clinical Medicine, 9, 1376, 2020	measurements. Raw data not presented.
Kapadia, N. M., Bagher, S., Popovic, M. R., Influence of different rehabilitation therapy models on patient outcomes: Hand function therapy in individuals with incomplete SCI, Journal of Spinal Cord Medicine, 37, 734-743, 2014	Intervention not in PICO: Functional electrical stimulation
Kaplan, B. A., Hoard, M. A., Park, S. S., Immediate mobilization following fixation of mandible fractures: a prospective, randomized study, The Laryngoscope, 111, 1520-4, 2001	Comparison not in PICO: Immediate mobilisation versus mandibular-maxillary fixation.
Kaplan, Mark, Daly, Darron, Stemkowski, Stephen, Early intervention of negative pressure wound therapy using Vacuum-Assisted Closure in trauma patients: impact on hospital length of stay and cost, Advances in skin & wound care, 22, 128-32, 2009	Outcomes not in PICO: Hospital stay, therapy days and cost analysis
Karagoz, Huseyin, Yuksel, Fuat, Ulkur, Ersin, Evinc, Rahmi, Comparison of efficacy of silicone gel, silicone gel sheeting, and topical onion extract including heparin and allantoin for the treatment of postburn hypertrophic scars, Burns : journal of the International Society for Burn Injuries, 35, 1097-103, 2009	Outcomes not in PICO: Scar appearance, vascularity and pliability
Karch, S. B., Lewis, T., Young, S., Ho, C. H., Surgical delays and outcomes in patients treated with pneumatic antishock garments: A population-based study, American Journal of Emergency Medicine, 13, 401-404, 1995	Dates not in PICO: 1990-1994
Karimi, Mohammad Taghi, Functional walking ability of paraplegic patients: comparison of functional electrical stimulation versus mechanical orthoses, European journal of orthopaedic surgery & traumatology : orthopedie traumatologie, 23, 631-8, 2013	Systematic review: Intervention not in PICO (functional electrical stimulation). Included studies checked for relevance.
Karimi, Mohammad Taghi, Robotic rehabilitation of spinal cord injury individual, Ortopedia, traumatologia, rehabilitacja, 15, 1-7, 2013	Narrative review
Karlsson, J., Eriksson, B. I., Sward, L., Early functional treatment for acute ligament injuries of the ankle joint, Scandinavian journal of medicine & science in sports, 6, 341-5, 1996	Population not in PICO: Patients with ankle ligament ruptures
Kattelmann, Kendra K., Hise, Mary, Russell, Mary, Charney, Pam, Stokes, Milton, Compher, Charlene, Preliminary evidence for a medical nutrition therapy protocol: enteral feedings for critically ill patients, Journal of the American Dietetic Association, 106, 1226-41, 2006	Narrative review
Kay, S., Haensel, N., Stiller, K., The effect of passive mobilisation following fractures involving the distal radius: A randomised study, Australian Journal of Physiotherapy, 46, 93-101, 2000	Population not in PICO: Patients with simple fractures of distal radius
Kay, Sandra, McMahon, Margaret, Stiller, Kathy, An advice and exercise program has some benefits over natural recovery after distal radius fracture: a randomised trial, The Australian journal of physiotherapy, 54, 253-9, 2008	Population not in PICO: Patients with distal radius fracture managed with pin or plaster cast
Keser, S., Bolukbasi, S., Bayar, A., Kanatli, U., Meray, J., Ozdemir, H., Proximal humeral fractures with minimal displacement treated conservatively, International Orthopaedics, 28, 231-234, 2004	Study design not in PICO: No comparative data
Khansa, Ibrahim, Harrison, Bridget, Janis, Jeffrey E.,	Narrative review

Study	Reason for Exclusion
Evidence-Based Scar Management: How to Improve Results with Technique and Technology, Plastic and Reconstructive Surgery, 138, 165S-78S, 2016	
Khera, Gurney, Exoskeletons to revolutionise rehabilitation, Australian nursing & midwifery journal, 22, 17, 2015	Narrative review
Khorasani, Enayatollah Nemat, Mansouri, Fariba, Effect of early enteral nutrition on morbidity and mortality in children with burns, Burns : journal of the International Society for Burn Injuries, 36, 1067-71, 2010	Outcomes not in PICO: Mortality, time to death and length of hospital stay
Khurana, Meetika, Walia, Shefali, Noohu, Majumi M., Study on the Effectiveness of Virtual Reality Game-Based Training on Balance and Functional Performance in Individuals with Paraplegia, Topics in Spinal Cord Injury Rehabilitation, 23, 263-270, 2017	Comparison not in PICO: Virtual reality based balance training versus real-world balance training.
Kilgore, Kevin L., Bryden, Anne, Keith, Michael W., Hoyen, Harry A., Hart, Ronald L., Nemunaitis, Gregory A., Peckham, P. Hunter, Evolution of Neuroprosthetic Approaches to Restoration of Upper Extremity Function in Spinal Cord Injury, Topics in Spinal Cord Injury Rehabilitation, 24, 252-264, 2018	Intervention not in PICO: Neuroprothesis
Kim, Byungchul, In, Hyunki, Lee, Dae-Young, Cho, Kyu-Jin, Development and assessment of a hand assist device: GRIPIT, Journal of NeuroEngineering and Rehabilitation, 14, 15, 2017	Study design not in PICO: No comparative data
Kim, D. I., Lee, H., Lee, B. S., Kim, J., Jeon, J. Y., Effects of a 6-Week Indoor Hand-Bike Exercise Program on Health and Fitness Levels in People With Spinal Cord Injury: A Randomized Controlled Trial Study, Archives of Physical Medicine and Rehabilitation, 96, 2033-2040, 2015	Comparison not in PICO: Hand-bike exercise programme versus no intervention. No mention of standard care.
Kim, Dong-Il, Lee, Hyelim, Lee, Bum-Suk, Kim, Jongbae, Jeon, Justin Y., Effects of a 6-Week Indoor Hand-Bike Exercise Program on Health and Fitness Levels in People With Spinal Cord Injury: A Randomized Controlled Trial Study, Archives of physical medicine and rehabilitation, 96, 2033-40.e1, 2015	Duplicate paper
Kim, S. H., Ha, K. I., Jung, M. W., Lim, M. S., Kim, Y. M., Park, J. H., Accelerated rehabilitation after arthroscopic Bankart repair for selected cases: A prospective randomized clinical study, Arthroscopy - Journal of Arthroscopic and Related Surgery, 19, 722-731, 2003	Population not in PICO: Patients undergoing arthroscopic Bankart repair
Kim, S. W., Hong, J. P., Min, W. K., Seo, D. W., Chung, Y. K., Accurate, firm stabilization using external pins: A proposal for closed reduction of unfavorable nasal bone fractures and their simple classification, Plastic and Reconstructive Surgery, 110, 1240-1246, 2002	Study design not in PICO: No comparative data
Kimmel, L. A., Edwards, E. R., Liew, S. M., Oldmeadow, L. B., Webb, M. J., Holland, A. E., Rest easy? Is bed rest really necessary after surgical repair of an ankle fracture?, Injury, 43, 766-771, 2012	Outcomes not in PICO: Length of stay, discharge destination, opioid requirement and wound condition
Kinlaw, D., Pre-/postoperative therapy for adult plexus injury, Hand Clinics, 21, 103-108, 2005	Narrative review
Klein, C. J., Wiles, Iii C. E., Evaluation of nutrition care provided to patients with traumatic injuries at risk for multiple organ dysfunction syndrome, Journal of the American Dietetic Association, 97, 1422-1424, 1997	Dates not in PICO: 1992-1994
Kloosterman, M. G. M., Snoek, G. J., Jannink, M. J. A.,	Systematic review:

Study	Reason for Exclusion
Systematic review of the effects of exercise therapy on the upper extremity of patients with spinal-cord injury, Spinal Cord, 47, 196-203, 2009	Included studies checked for relevance.
Knygsand-Roenhoej, Karin, Maribo, Thomas, A randomized clinical controlled study comparing the effect of modified manual edema mobilization treatment with traditional edema technique in patients with a fracture of the distal radius, Journal of hand therapy : official journal of the American Society of Hand Therapists, 24, 184-194, 2011	Population not in PICO: Patients with unilateral post-distal radius fracture
Koretz, Ronald L., Avenell, Alison, Lipman, Timothy O., Braunschweig, Carol L., Milne, Anne C., Does enteral nutrition affect clinical outcome? A systematic review of the randomized trials, The American journal of gastroenterology, 102, 412-468, 2007	Comparisons not in PICO: Enteral nutrition versus parenteral nutrition, enteral nutrition versus no intervention or parenteral nutrition versus no intervention. No mention of standard care.
Kozar, Rosemary A., McQuiggan, Margaret M., Moore, Ernest E., Kudsk, Kenneth A., Jurkovich, Gregory J., Moore, Frederick A., Postinjury enteral tolerance is reliably achieved by a standardized protocol, The Journal of surgical research, 104, 70-5, 2002	Outcomes not in PICO: Patient tolerance of enteral feeding
Kressler, Jochen, Burns, Patricia A., Betancourt, Louisa, Nash, Mark S., Circuit training and protein supplementation in persons with chronic tetraplegia, Medicine and science in sports and exercise, 46, 1277-84, 2014	Outcomes not in PICO: Fuel utilisation and energy expenditure
Kressler, Jochen, Cowan, Rachel E., Bigford, Gregory E., Nash, Mark S., Reducing cardiometabolic disease in spinal cord injury, Physical Medicine and Rehabilitation Clinics of North America, 25, 573-viii, 2014	Narrative review
Krishnan, Vennila, Kindig, Matthew, Mirbagheri, Mehdi, Robotic-assisted locomotor training enhances ankle performance in adults with incomplete spinal cord injury, Journal of Rehabilitation Medicine, 48, 781-786, 2016	Intervention not in PICO: Robotic-assisted locomotion training
Krull, Christine, Abramoff, Benjamin A., Jerome, Mairin, Principe, Jessica, Cai, Qingpo, Tailor, Yogita, Intervention for Increasing Vitamin D Supplementation in a Deficient Rehabilitation Population: Outcomes of a Quality Improvement Initiative, PM & R : the journal of injury, function, and rehabilitation, 11, 1093-1100, 2019	Outcomes not in PICO: Prevalence of vitamin D deficiency and vitamin D insufficiency
Kudsk, K. A., Nutrition support after abdominal trauma, Problems in General Surgery, 15, 120-131, 1998	Narrative review
Kuijlaars, I. A. R., Sweerts, L., Nijhuis-van der Sanden, M. W. G., van Balen, R., Staal, J. B., van Meeteren, N. L. U., Hoogeboom, T. J., Effectiveness of Supervised Home-Based Exercise Therapy Compared to a Control Intervention on Functions, Activities, and Participation in Older Patients After Hip Fracture: A Systematic Review and Meta-analysis, Archives of Physical Medicine and Rehabilitation, 100, 101, 2019	Systematic review: Included studies checked for relevance.
Kuisma, R., A randomized, controlled comparison of home versus institutional rehabilitation of patients with hip fracture, Clinical Rehabilitation, 16, 553-561, 2002	Comparison not in PICO: Institutional rehabilitation programme versus home rehabilitation programme
Kujawa, J., The role of rehabilitation in prevention and treatment of osteoporotic fractures, Osteoporosis	Conference abstract

Study	Reason for Exclusion
International, 29, S91-S92, 2018	
Kumar, Sunil, Kumar, Ritesh, Sharma, Suman Bala, Jain, Bhupendra Kumar, Effect of oral glutamine administration on oxidative stress, morbidity and mortality in critically ill surgical patients, Indian journal of gastroenterology : official journal of the Indian Society of Gastroenterology, 26, 70-3, 2007	Outcomes not in PICO: Serum malondialdehyde, glutathione levels, infectious complications and length of stay
Kurmis, R., Parker, A., Greenwood, J., The use of immunonutrition in burn injury care: Where are we?, Journal of Burn Care and Research, 31, 677-691, 2010	Narrative review
Kurmis, Rochelle, Greenwood, John, Aromataris, Edoardo, Trace Element Supplementation Following Severe Burn Injury: A Systematic Review and Meta-Analysis, Journal of burn care & research : official publication of the American Burn Association, 37, 143-59, 2016	Systematic review: Included studies checked for relevance.
Kwah, L. K., Webb, M. T., Goh, L., Harvey, L. A., Rigid dressings versus soft dressings for transtibial amputations, Cochrane Database of Systematic Reviews, 2019, CD012427, 2019	Systematic review: Intervention not in PICO (rigid and soft dressings). Included studies checked for relevance.
Lachiewicz, P. F., The role of continuous passive motion after total knee arthroplasty, Clinical Orthopaedics and Related Research, 144-50, 2000	Narrative review
Lajeunesse, Veronique, Vincent, Claude, Routhier, Francois, Careau, Emmanuelle, Michaud, Francois, Exoskeletons' design and usefulness evidence according to a systematic review of lower limb exoskeletons used for functional mobility by people with spinal cord injury, Disability and rehabilitation. Assistive technology, 11, 535-47, 2016	Systematic review: Intervention not in PICO (exoskeletons). Included studies checked for relevance.
Lam, N. N., Tien, N. G., Khoa, C. M., Early enteral feeding for burned patients-An effective method which should be encouraged in developing countries, Burns, 34, 192-196, 2008	Setting not in PICO: Intensive care unit
Lam, T., Pauhl, K., Ferguson, A., Malik, R. N., Krassioukov, A., Janice, J., Training with robot-applied resistance in people with motor-incomplete spinal cord injury: Pilot study, Journal of Rehabilitation Research and Development, 52, 113-130, 2015	Mixed population: Traumatic (12/15) and non-traumatic (3/15) patients with results not presented separately for target population
Lam, T., Pauhl, K., Ferguson, A., Malik, R., Krassioukov, A., Eng, J., A new training paradigm using robot-applied resistance to enhance skilled walking in people with spinal cord injury, Physiotherapy (United Kingdom), 101, eS813-eS814, 2015	Conference abstract
Lam, T., Pauhl, K., Ferguson, A., Malik, R., Krassioukov, A., Eng, J., A pilot RCT to test the effect of lokomat-applied force fields on functional walking skills in people with motor-incomplete spinal cord injury, Neurorehabilitation and Neural Repair, 28, NP1, 2014	Conference abstract
LaPrade, R. F., DePhillipo, N. N., Cram, T., Kennedy, M., Dornan, G., O'Brien, L., Non-weight bearing versus partial controlled early weight bearing after reconstruction of the fibular collateral ligament: A randomized control trial, Orthopaedic Journal of Sports Medicine, 6, 2018	Conference abstract
Lateef, Thair A., Al-Anee, Auday M., Agha, Muntasser T. Fattah, Evaluation the Efficacy of Hilotherm Cooling System in Reducing Postoperative Pain and Edema in Maxillofacial	Intervention not in PICO: Cryotherapy

Study	Reason for Exclusion
Traumatized Patients and Orthognathic Surgeries, The Journal of craniofacial surgery, 29, e697-e706, 2018	
Latham, N. K., Anderson, C. S., Lee, A., Bennett, D. A., Moseley, A., Cameron, I. D., A randomized, controlled trial of quadriceps resistance exercise and vitamin D in frail older people: The frailty interventions trial in elderly subjects (FITNESS), Journal of the American Geriatrics Society, 51, 291-299, 2003	Population not in PICO: Participants who are frail and elderly
Latimer, A. E., Ginis, K. A. M., Arbour, K. P., The efficacy of an implementation intention intervention for promoting physical activity among individuals with spinal cord injury: A randomized controlled trial, Rehabilitation Psychology, 51, 273-280, 2006	Intervention not in PICO: Implementation intervention, scheduling sessions (psychological)
Latimer, A. E., Ginis, K. A., Hicks, A. L., McCartney, N., An examination of the mechanisms of exercise-induced change in psychological well-being among people with spinal cord injury, Journal of Rehabilitation Research and Development, 41, 643-652, 2004	Intervention not in PICO: Participants not undergoing standard rehabilitation care
Lauridsen, Ulrik Birk, de la Cour, Birgit Bang D., Gottschalck, Lise, Svensson, Birthe Hjorth, Intensive physical therapy after hip fracture. A randomised clinical trial, Danish Medical Bulletin, 49, 70-2, 2002	Danish language paper
Lee, S. M., Ngim, C. K., Chan, Y. Y., Ho, M. J., A comparison of Sil-K and Epiderm in scar management, Burns : journal of the International Society for Burn Injuries, 22, 483-7, 1996	Comparison not in PICO: Different brands of silicone sheeting
Lee, S. Y., Jung, S. H., Lee, S. U., Ha, Y. C., Lim, J. Y., Effect of Balance Training After Hip Fracture Surgery: A Systematic Review and Meta-analysis of Randomized Controlled Studies, The journals of gerontology. Series A, Biological sciences and medical sciences, 74, 1679-1685, 2019	Systematic review: Included studies checked for relevance.
Lee, Sang Yoon, Yoon, Byung-Ho, Beom, Jaewon, Ha, Yong-Chan, Lim, Jae-Young, Effect of Lower-Limb Progressive Resistance Exercise After Hip Fracture Surgery: A Systematic Review and Meta-Analysis of Randomized Controlled Studies, Journal of the American Medical Directors Association, 18, 1096.e19-1096.e26, 2017	Systematic review: Included studies checked for relevance.
Lee, Y., Lee, S. H., Kim, C., Choi, H. J., Comparison of the effectiveness in pain reduction and pulmonary function between a rib splint constructed in the ER and a manufactured rib splint, Medicine, 97, e10779, 2018	Setting not in PICO: Emergency room
Lefeber, Nina, Swinnen, Eva, Kerckhofs, Eric, The immediate effects of robot-assistance on energy consumption and cardiorespiratory load during walking compared to walking without robot-assistance: a systematic review, Disability and rehabilitation. Assistive technology, 12, 657-671, 2017	Systematic review: Included studies checked for relevance.
Leijendekkers, Ruud A., van Hinte, Gerben, Frolke, Jan Paul, van de Meent, Hendrik, Nijhuis-van der Sanden, Maria W. G., Staal, J. Bart, Comparison of bone-anchored prostheses and socket prostheses for patients with a lower extremity amputation: a systematic review, Disability and rehabilitation, 39, 1045-1058, 2017	Systematic review: Included studies checked for relevance.
Lemay, M. A., Hogan, N., Van Dorsten, J. W. A., Issues in impedance selection and input devices for multijoint powered orthotics, IEEE Transactions on Rehabilitation Engineering, 6, 102-105, 1998	Study design not in PICO: Description of measurement of parameter values for powered-orthosis

Study	Reason for Exclusion
	controllers
Leszczynska, A., Daniszewska, B., Pruszynska, M., Przedborska, A., Hadala, M., Raczkowski, J. W., Effects of a health improvement programme on quality of life in elderly people after falls, Polish Annals of Medicine, 23, 129-134, 2016	Paper unavailable
Li, Chunxiao, Khoo, Selina, Adnan, Athirah, Effects of aquatic exercise on physical function and fitness among people with spinal cord injury: A systematic review, Medicine, 96, e6328, 2017	Systematic review: Included studies checked for relevance.
Li, L., Dai, J. X., Xu, L., Huang, Z. X., Pan, Q., Zhang, X., Jiang, M. Y., Chen, Z. H., The effect of a rehabilitation nursing intervention model on improving the comprehensive health status of patients with hand burns, Burns, 43, 877-885, 2017	Intervention not in PICO: Multi-component rehabilitation model which does does not incorporate any interventions listed in protocol.
Lin, Jiun-Jie, Chung, Xiu-Juan, Yang, Chung-Yih, Lau, Hui-Ling, A meta-analysis of trials using the intention to treat principle for glutamine supplementation in critically ill patients with burn, Burns : journal of the International Society for Burn Injuries, 39, 565-70, 2013	Systematic review: Included studies checked for relevance.
Linz, D. H., Shepherd, C. D., Ford, L. F., Ringley, L. L., Klekamp, J., Duncan, J. M., Effectiveness of occupational medicine center-based physical therapy, Journal of Occupational and Environmental Medicine, 44, 48-53, 2002	Study design not in PICO: No defined intervention
Liow, R. Y., Cregan, A., Nanda, R., Montgomery, R. J., Early mobilisation for minimally displaced radial head fractures is desirable. A prospective randomised study of two protocols, Injury, 33, 801-806, 2002	Population not in PICO: Patients with minimally displaced radial head fractures
Lisi, C., Caspani, P., Bruggi, M., Carlisi, E., Scole, D., Benazzo, F., Toffola, E. D., Early rehabilitation after elective total knee arthroplasty, Acta Biomedica, 88, 56-61, 2017	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for target population.
Li-Tsang, C. W., Feng, B. B., Li, K. C., Pressure therapy of hypertrophic scar after burns and related research, Zhonghua shao shang za zhi [Chinese journal of burns], 26, 411-415, 2010	Chinese language article
Li-Tsang, C. W., Lau, J. C., Choi, J., Chan, C. C., Jianan, L., A prospective randomized clinical trial to investigate the effect of silicone gel sheeting (Cica-Care) on post-traumatic hypertrophic scar among the Chinese population, Burns, 32, 678-683, 2006	Outcomes not in PICO: Scar appearance, pliability and itchiness. Pain measured but not reported.
Littman, Alyson J., Haselkorn, Jodie K., Arterburn, David E., Boyko, Edward J., Pilot randomized trial of a telephone-delivered physical activity and weight management intervention for individuals with lower extremity amputation, Disability and Health Journal, 12, 43-50, 2019	Population not in PICO: Overweight patients with lower extremity amputation. No mention of trauma.
Liu, Austin, Moy, Ronald L., Ozog, David M., Current methods employed in the prevention and minimization of surgical scars, Dermatologic surgery : official publication for American Society for Dermatologic Surgery [et al.], 37, 1740-6, 2011	Narrative review
Liu, H. Y., Tseng, M. Y., Li, H. J., Wu, C. C., Cheng, H. S., Yang, C. T., Chou, S. W., Chen, C. Y., Shyu, Y. I., Comprehensive care improves physical recovery of hip-	Population not in PICO: Elderly hip fracture patients with poor

Study	Reason for Exclusion
fractured elderly Taiwanese patients with poor nutritional status, Journal of the American Medical Directors Association, 15, 416-422, 2014	nutritional status at hospital discharge
Long, C. L., Maull, K. I., Krishnan, R. S., Laws, H. L., Geiger, J. W., Borghesi, L., Franks, W., Lawson, T. C., Sauberlich, H. E., Ascorbic acid dynamics in the seriously ill and injured, The Journal of surgical research, 109, 144-8, 2003	Setting not in PICO: Intensive care unit
Long-term intensive family rehabilitation training for postoperative functional recovery in elderly hip fracture patients, Chinese journal of tissue engineering research, 24, 2158-2163, 2020	Chinese language paper
Lovas, J., Craig, A., Tran, Y., Middleton, J., The role of massage therapy in managing secondary conditions associated with spinal cord injury: An integrative model, Topics in Spinal Cord Injury Rehabilitation, 14, 61-75, 2008	Narrative review
Lovas, J., Tran, Y., Middleton, J., Bartrop, R., Moore, N., Craig, A., Managing pain and fatigue in people with spinal cord injury: a randomized controlled trial feasibility study examining the efficacy of massage therapy, Spinal Cord, 55, 162-166, 2017	Intervention not in PICO: Specific pain management intervention
Lowe, W., Orthopedic massage: a model for alternative treatment of cumulative trauma disorders, AAOHN journal : official journal of the American Association of Occupational Health Nurses, 47, 175-6, 1999	Narrative review
Lu, Xiao, Battistuzzo, Camilla R., Zoghi, Maryam, Galea, Mary P., Effects of training on upper limb function after cervical spinal cord injury: a systematic review, Clinical rehabilitation, 29, 3-13, 2015	Systematic review: Included studies checked for relevance.
Lucke, K. T., Coccia, H., Goode, J. S., Lucke, J. F., Quality of life in spinal cord injured individuals and their caregivers during the initial 6 months following rehabilitation, Quality of Life Research, 13, 97-110, 2004	Study design not in PICO: No intervention
Ma, D. N., Zhang, X. Q., Ying, J., Chen, Z. J., Li, L. X., Efficacy and safety of 9 nonoperative regimens for the treatment of spinal cord injury: A network meta-analysis, Medicine (United States), 96, e8679, 2017	Systematic review: Included studies checked for relevance.
Madsen, Ulla Riis, Hommel, Ami, Berthelsen, Connie Bottcher, Baath, Carina, Systematic review describing the effect of early mobilisation after dysvascular major lower limb amputations, Journal of clinical nursing, 26, 3286-3297, 2017	Systematic review: Population not in PICO (amputation due to vascular disease). Included studies checked for relevance.
Magaziner, Jay, Mangione, Kathleen K., Orwig, Denise, Baumgarten, Mona, Magder, Laurence, Terrin, Michael, Fortinsky, Richard H., Gruber-Baldini, Ann L., Beamer, Brock A., Tosteson, Anna N. A., Kenny, Anne M., Shardell, Michelle, Binder, Ellen F., Koval, Kenneth, Resnick, Barbara, Miller, Ram, Forman, Sandra, McBride, Ruth, Craik, Rebecca L., Effect of a Multicomponent Home-Based Physical Therapy Intervention on Ambulation After Hip Fracture in Older Adults: The CAP Randomized Clinical Trial, JAMA, 322, 946-956, 2019	Comparison not in PICO: Multicomponent home-based physical therapy intervention versus transcutaneous electrical nerve stimulation.
Mahomed, N. N., Davis, A. M., Hawker, G., Badley, E., Davey, J. R., Syed, K. A., Coyte, P. C., Gandhi, R., Wright, J. G., Inpatient compared with home-based rehabilitation following primary unilateral total hip or knee replacement: A randomized controlled trial, Journal of Bone and Joint Surgery	Population not in PICO: Patients undergoing hip or knee replacement due to osteoarthritis

Study	Reason for Exclusion
- Series A, 90, 1673-1680, 2008	
Majewski-Schrage, Tricia, Snyder, Kelli, The Effectiveness of Manual Lymphatic Drainage in Patients With Orthopedic Injuries, Journal of Sport Rehabilitation, 25, 91-7, 2016	Systematic review: Included studies checked for relevance.
Mangione, Kathleen K., Craik, Rebecca L., Palombaro, Kerstin M., Tomlinson, Susan S., Hofmann, Mary T., Home-based leg-strengthening exercise improves function 1 year after hip fracture: a randomized controlled study, Journal of the American Geriatrics Society, 58, 1911-7, 2010	Comparison not in PICO: Control group received transcutaneous electrical stimulation
Mangione, Kathleen K., Craik, Rebecca L., Tomlinson, Susan S., Palombaro, Kerstin M., Can elderly patients who have had a hip fracture perform moderate- to high-intensity exercise at home?, Physical Therapy, 85, 727-39, 2005	Population not in PICO: Already completed physical therapy rehabilitation after hip fracture.
Marcotte, Joseph, Hazelton, Joshua P., Arya, Chirag, Dalton, Michael, Batool, Amber, Gaughan, John, Nguyen, Linh, Porter, John, Fox, Nicole, A selective placement strategy for surgical feeding tubes benefits trauma patients, The journal of trauma and acute care surgery, 85, 135-139, 2018	Setting not in PICO: Intensive care unit
Mard, M., Vaha, J., Heinonen, A., Portegijs, E., Sakari-Rantala, R., Kallinen, M., Alen, M., Kiviranta, I., Sipila, S., The effects of muscle strength and power training on mobility among older hip fracture patients, Advances in Physiotherapy, 10, 195-202, 2008	Population not in PICO: Not undergoing standard rehabilitation care
Martin Ginis, K. A., Latimer, A. E., McKechnie, K., Ditor, D. S., McCartney, N., Hicks, A. L., Bugaresti, J., Craven, B. C., Using exercise to enhance subjective well-being among people with spinal cord injury: The mediating influences of stress and pain, Rehabilitation psychology, 48, 157-164, 2003	Population not in PICO: Already completed physical therapy rehabilitation after hip fracture
Martinez, Stephanie A., Nguyen, Nhuquynh D., Bailey, Eric, Doyle-Green, Denis, Hauser, Henry A., Handrakis, John P., Knezevic, Steven, Marett, Casey, Weinman, Jennifer, Romero, Angelica F., Santiago, Tiffany M., Yang, Ajax H., Yung, Lok, Asselin, Pierre K., Weir, Joseph P., Kornfeld, Stephen D., Bauman, William A., Spungen, Ann M., Harel, Noam Y., Multimodal cortical and subcortical exercise compared with treadmill training for spinal cord injury, PLoS ONE, 13, e0202130, 2018	Study design not in PICO: Cross-over study
Martin-Martin, Lydia M., Valenza-Demet, Gerald, Ariza-Vega, Patrocinio, Valenza, Carmen, Castellote-Caballero, Yolanda, Jimenez-Moleon, Jose Juan, Effectiveness of an occupational therapy intervention in reducing emotional distress in informal caregivers of hip fracture patients: A randomized controlled trial, Clinical Rehabilitation, 28, 772-783, 2014	Outcome not in PICO: Distress in caregivers
Martin-Martin, Lydia M., Valenza-Demet, Gerald, Jimenez-Moleon, Jose Juan, Cabrera-Martos, Irene, Revelles-Moyano, Francisco Javier, Valenza, Marie Carmen, Effect of occupational therapy on functional and emotional outcomes after hip fracture treatment: a randomized controlled trial, Clinical Rehabilitation, 28, 541-51, 2014	Intervention not in PICO: Occupational therapy
Maslaris, Alexander, Brinkmann, Olaf, Bungartz, Matthias, Krettek, Christian, Jagodzinski, Michael, Liodakis, Emmanouil, Management of knee dislocation prior to ligament reconstruction: What is the current evidence? Update of a universal treatment algorithm, European journal of orthopaedic surgery & traumatology : orthopedie traumatologie, 28, 1001-1015, 2018	Study design not in PICO: Journal bibliometric analysis

Study	Reason for Exclusion
Mason, D. L., Dickens, V. A., Vail, A., Rehabilitation for hamstring injuries, Cochrane Database of Systematic Reviews, 2012	Systematic review: Population not in PICO (patients with hamstring injuries). Included studies checked for relevance.
Masters, B., Aarabi, S., Sidhwa, F., Wood, F., High-carbohydrate, high-protein, low-fat versus low-carbohydrate, high-protein, high-fat enteral feeds for burns, Cochrane Database of Systematic Reviews, 2012	Systematic review: Included studies checked for relevance.
Mathews, J. J., Aleem, R. F., Gamelli, R. L., Cost reduction strategies in burn nutrition services: Adjustments in dietary treatment of patients with hyponatremia and hypophosphatemia, Journal of Burn Care and Rehabilitation, 20, 80-79, 1999	Paper unavailable
Mavrogenis, A. F., Spyridonos, S. G., Antonopoulos, D., Soucacos, P. N., Papagelopoulos, P. J., Effect of Sensory Re-Education After Low Median Nerve Complete Transection and Repair, Journal of Hand Surgery, 34, 1210-1215, 2009	Population not in PICO: Patients with minor trauma
Mayes, Theresa, Gottschlich, Michele M., James, Laura E., Allgeier, Chris, Weitz, Julie, Kagan, Richard J., Clinical safety and efficacy of probiotic administration following burn injury, Journal of burn care & research : official publication of the American Burn Association, 36, 92-9, 2015	Outcomes not in PICO: Sepsis, infection, use of antibiotics and antifungal treatment, gastrointestinal complications, length of stay and mortality
Mazari, F. A., Mockford, K., Barnett, C., Khan, J. A., Brown, B., Smith, L., Polman, R. C., Hancock, A., Vanicek, N. K., Chetter, I. C., Hull early walking aid for rehabilitation of transtibial amputees--randomized controlled trial (HEART), Journal of Vascular Surgery, 52, 1564-1571, 2010	Population not in PICO: Non-traumatic causes of amputation
McGarvey, Aoife C., Hoffman, Gary R., Osmotherly, Peter G., Chiarelli, Pauline E., Maximizing shoulder function after accessory nerve injury and neck dissection surgery: A multicenter randomized controlled trial, Head & neck, 37, 1022-31, 2015	Population not in PICO: Patients who had undergone a neck dissection following diagnosis of a carcinoma of the head and neck region
McLeod, J. C., Diana, H., Hicks, A. L., Sprint interval training versus moderate-intensity continuous training during inpatient rehabilitation after spinal cord injury: a randomized trial, Spinal Cord, 58, 106-115, 2020	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
McMurdo, M. E. T., Mole, P. A., Paterson, C. R., Controlled trial of weight bearing exercise in older women in relation to bone density and falls, British Medical Journal, 314, 569, 1997	Summary article
McQuiggan, Margaret, Kozar, Rosemary, Sailors, R. Matthew, Ahn, Chul, McKinley, Bruce, Moore, Frederick, Enteral glutamine during active shock resuscitation is safe and enhances tolerance of enteral feeding, JPEN. Journal of parenteral and enteral nutrition, 32, 28-35, 2008	Setting not in PICO: Intensive care unit
Means, K. M., Rodell, D. E., O'Sullivan, P. S., Cranford, L. A., Rehabilitation of elderly fallers: pilot study of a low to moderate intensity exercise program, Archives of Physical Medicine and Rehabilitation, 77, 1030-6, 1996	Population not in PICO: Elderly, ambulatory participants. No mention of trauma.

Study	Reason for Exclusion
Mehrholz, J., Harvey, L. A., Thomas, S., Elsner, B., Is body-weight-supported treadmill training or robotic-assisted gait training superior to overground gait training and other forms of physiotherapy in people with spinal cord injury? A systematic review, Spinal Cord, 55, 722-729, 2017	Systematic review: Included studies checked for relevance.
Mehrholz, Jan, Kugler, Joachim, Pohl, Marcus, Locomotor training for walking after spinal cord injury, The Cochrane database of systematic reviews, 11, CD006676, 2012	Systematic review: Included studies checked for relevance.
Meijer, Henriette A., Graafland, Maurits, Goslings, J. Carel, Schijven, Marlies P., Systematic Review on the Effects of Serious Games and Wearable Technology Used in Rehabilitation of Patients With Traumatic Bone and Soft Tissue Injuries, Archives of Physical Medicine and Rehabilitation, 99, 1890-1899, 2018	Systematic review: Included studies checked for relevance.
Middleton,J.W., Sinclair,P.J., Smith,R.M., Davis,G.M., Postural control during stance in paraplegia: Effects of medially linked versus unlinked knee-ankle-foot orthoses, Archives of Physical Medicine and Rehabilitation, 80, 1558-1565, 1999	Study design not in PICO: Case-control study
Midik, M., Paker, N., Bugdayci, D., Midik, A. C., Effects of robot-assisted gait training on lower extremity strength, functional independence, and walking function in men with incomplete traumatic spinal cord injury, Turkish Journal of Physical Medicine and Rehabilitation, 66, 54-59, 2020	Intervention not in PICO: Robot-assisted gait training.
Miller, Michelle D., Crotty, Maria, Whitehead, Craig, Bannerman, Elaine, Daniels, Lynne A., Nutritional supplementation and resistance training in nutritionally at risk older adults following lower limb fracture: a randomized controlled trial, Clinical Rehabilitation, 20, 311-23, 2006	Population not in PICO: Elderly malnourished adults
Mills, Gavin L., Tennent, David J., Aldrete, Joseph F., Johnson, Anthony E., Martial arts-based high intensity interval training in the rehabilitation of combat amputees, U.S. Army Medical Department journal, 53-56, 2017	Narrative review
Mohsen, M. A. M., Borhan, W. H., Swar, S. A. G., Ali, K. M., Effect of suggested physical therapy program on renal functions for burned patients, International Journal of PharmTech Research, 9, 221-227, 2016	Paper unavailable
Momeni, Mahnoush, Hafezi, Farhad, Rahbar, Hossein, Karimi, Hamid, Effects of silicone gel on burn scars, Burns : journal of the International Society for Burn Injuries, 35, 70-4, 2009	Comparison not in PICO: Slicone sheeting versus placebo.
Morawietz, Christina, Moffat, Fiona, Effects of locomotor training after incomplete spinal cord injury: a systematic review, Archives of physical medicine and rehabilitation, 94, 2297-308, 2013	Systematic review: Included studies checked for relevance.
Moseley, A. M., Herbert, R. D., Nightingale, E. J., Taylor, D. A., Evans, T. M., Robertson, G. J., Gupta, S. K., Penn, J., Passive stretching does not enhance outcomes in patients with plantarflexion contracture after cast immobilization for ankle fracture: A randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 86, 1118-1126, 2005	Population not in PICO: Patients with ankle fracture treated with cast immobilisation who are unlikely to be admitted to hospital.
Moufarrij, S., Deghayli, L., Raffoul, W., Hirt-Burri, N., Michetti, M., de Buys Roessingh, A., Norberg, M., Applegate, L. A., How important is hydrotherapy? Effects of dynamic action of hot spring water as a rehabilitative treatment for burn patients in Switzerland, Annals of burns and fire disasters, 27, 184-91,	Study design not in PICO: Case series

Study	Reason for Exclusion
2014	
Moulart, C., Rienmeyer, H., Tron, I., Nutritional care for elderly burned patients in rehabilitation units, Annals of Physical and Rehabilitation Medicine, 57, e215, 2014	Conference abstract
Muller, M. G. S., Poolman, R. W., van Hoogstraten, M. J., Steller, E. P., Immediate mobilization gives good results in boxer's fractures with volar angulation up to 70 degrees: A prospective randomized trial comparing immediate mobilization with cast immobilization, Archives of Orthopaedic and Trauma Surgery, 123, 534-537, 2003	Population not in PICO: Patients with Boxer's fractures who are unlikely to be admitted to hospital
Myint, M. W., Wu, J., Wong, E., Chan, S. P., To, T. S., Chau, M. W., Ting, K. H., Fung, P. M., Au, K. S., Clinical benefits of oral nutritional supplementation for elderly hip fracture patients: a single blind randomised controlled trial, Age and Ageing, 42, 39-45, 2013	Population not in PICO: Patients with osteoporotic fracture of proximal femur
Nam, K. Y., Kim, H. J., Kwon, B. S., Park, J. W., Lee, H. J., Yoo, A., Robot-assisted gait training (Lokomat) improves walking function and activity in people with spinal cord injury: a systematic review, Journal of NeuroEngineering and Rehabilitation, 14, 24, 2017	Systematic review: Intervention not in PICO (robot-assisted gait training). Included studies checked for relevance.
Nasser, Mona, Pandis, Nikolaos, Fleming, Padhraig S., Fedorowicz, Zbys, Ellis, Edward, Ali, Kamran, Interventions for the management of mandibular fractures, The Cochrane database of systematic reviews, CD006087, 2013	Systematic review: Included studies checked for relevance.
Navarrete-Opazo, A., Cuitino, P., Salas, I., Effectiveness of dietary supplements in spinal cord injury subjects, Disability and Health Journal, 10, 183-197, 2017	Systematic review: Included studies checked for relevance.
Neefkes-Zonneveld, C. R., Bakkum, A. J., Bishop, N. C., Van Tulder, M. W., Janssen, T. W., Effect of long-term physical activity and acute exercise on markers of systemic inflammation in persons with chronic spinal cord injury: A systematic review, Archives of Physical Medicine and Rehabilitation, 96, 30-42, 2015	Systematic review: Included studies checked for relevance.
Neugebauer, Christine Tuden, Serghiou, Michael, Herndon, David N., Suman, Oscar E., Effects of a 12-week rehabilitation program with music & exercise groups on range of motion in young children with severe burns, Journal of burn care & research : official publication of the American Burn Association, 29, 939-48, 2008	Study design not in PICO: Non-RCT with <100 per arm
Nightingale, T. E., Rouse, P. C., Walhin, J. P., Thompson, D., Bilzon, J. L. J., Home-Based Exercise Enhances Health-Related Quality of Life in Persons With Spinal Cord Injury: a Randomized Controlled Trial, Archives of Physical Medicine and Rehabilitation, 99, 1998-2006.e1, 2018	Population not in PICO: Patients with general spinal cord injury. No mention of trauma.
Niu, Xun, Varoqui, Deborah, Kindig, Matthew, Mirbagheri, Mehdi M., Prediction of gait recovery in spinal cord injured individuals trained with robotic gait orthosis, Journal of NeuroEngineering and Rehabilitation, 11, 42, 2014	Intervention not in PICO: Robotic gait orthosis
Nolan, Lee, A training programme to improve hip strength in persons with lower limb amputation, Journal of Rehabilitation Medicine, 44, 241-8, 2012	Outcomes not in PICO: Muscle strength and oxygen consumption
Nooijen, C. F., Ter Hoeve, N., Field-Fote, E. C., Gait quality is improved by locomotor training in individuals with SCI regardless of training approach, Journal of NeuroEngineering and Rehabilitation, 6, 36, 2009	Intervention not in PICO: Electrical stimulation and robot-assisted locomotor training
Ohana, N., Sheinis, D., Rath, E., Sasson, A., Atar, D., Is there	Dates not in PICO: 1990-

Study	Reason for Exclusion
a need for lumbar orthosis in mild compression fractures of the thoracolumbar spine?: A retrospective study comparing the radiographic results between early ambulation with and without lumbar orthosis, Journal of spinal disorders, 13, 305-8, 2000	1995
O'Keefe, G. E., Shelton, M., Cuschieri, J., Moore, E. E., Lowry, S. F., Harbrecht, B. G., Maier, R. V., Inflammation and the host response to injury, a large-scale collaborative project: patient-oriented research core--standard operating procedures for clinical care VIII--Nutritional support of the trauma patient, The Journal of trauma, 65, 1520-1528, 2008	Study design not in PICO: Standard operating procedure
Okuno, Ryuhei, Yoshida, Masaki, Akazawa, Kenzo, Compliant grasp in a myoelectric hand prosthesis. Controlling flexion angle and compliance with electromyogram signals, IEEE engineering in medicine and biology magazine : the quarterly magazine of the Engineering in Medicine & Biology Society, 24, 48-56, 2005	Description of intervention development. No results presented.
Omar, M. T., Hegazy, F. A., Mokashi, S. P., Influences of purposeful activity versus rote exercise on improving pain and hand function in pediatric burn, Burns, 38, 261-268, 2012	Comparison not in PICO: Purposeful exercises versus rote exercises
Onat, Sule Sahin, Unsal-Delialioglu, Sibel, Ozel, Sumru, The importance of orthoses on activities of daily living in patients with unilateral lower limb amputations, Journal of back and musculoskeletal rehabilitation, 30, 829-833, 2017	Comparator not in PICO: Level of amputation
One-Year Comparison of a Community-Based Exercise Program Versus a Day Hospital-Based Exercise Program on Quality of Life and Mental Health in Severely Burned Children, Archives of Physical Medicine and Rehabilitation, 2018	Comparison not in PICO: Hospital-based exercise programme versus community-based exercise programme
Onushko, Tanya, Mahtani, Gordhan B., Brazg, Gabrielle, Hornby, T. George, Schmit, Brian D., Exercise-Induced Alterations in Sympathetic-Somatomotor Coupling in Incomplete Spinal Cord Injury, Journal of Neurotrauma, 36, 2688-2697, 2019	Outcomes not in PICO: Sympathetic reflex activity
O'Rourke, M., Massage therapy in dance medicine, Medical Problems of Performing Artists, 13, 61-65, 1998	Narrative review
Ortiz, Dionisio, 3rd, Blair, James A., Dromsky, David M., Pyo, Jay, Owens, Johnny G., Hsu, Joseph R., Skeletal Trauma Research, Consortium, Collaborative Establishment of an Integrated Orthotic and Rehabilitation Pathway, Journal of surgical orthopaedic advances, 24, 155-8, 2015	Study design not in PICO: No comparative data
Orwig, Denise L., Hochberg, Marc, Yu-Yahiro, Janet, Resnick, Barbara, Hawkes, William G., Shardell, Michelle, Hebel, J. Richard, Colvin, Perry, Miller, Ram R., Golden, Justine, Zimmerman, Sheryl, Magaziner, Jay, Delivery and outcomes of a yearlong home exercise program after hip fracture: a randomized controlled trial, Archives of Internal Medicine, 171, 323-31, 2011	Outcome data presented in graph form. Unable to extract reliably.
Ottenbacher, Kenneth J., Smith, Pamela M., Illig, Sandra B., Linn, Richard T., Gonzales, Vera A., Ostir, Glenn V., Granger, Carl V., Disparity in health services and outcomes for persons with hip fracture and lower extremity joint replacement, Medical care, 41, 232-41, 2003	Study design not in PICO: No comparative data
Oud, T., Beelen, A., Eijffinger, E., Nollet, F., Sensory re-education after nerve injury of the upper limb: A systematic review, Clinical Rehabilitation, 21, 483-494, 2007	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
Panisset, M. G., Galea, M. P., El-Ansary, D., Does early exercise attenuate muscle atrophy or bone loss after spinal cord injury?, Spinal cord, 54, 84-92, 2016	Systematic review: Included studies checked for relevance.
Parent, Stefan, Dimar, John, Dekutoski, Mark, Roy-Beaudry, Marjolaine, Unique features of pediatric spinal cord injury, Spine, 35, S202-8, 2010	Systematic review: Included studies checked for relevance.
Parker, Matthew, Delahunty, Brett, Heberlein, Nicolas, Devenish, Neale, Wood, Fiona M., Jackson, Teresa, Carter, Theresa, Edgar, Dale W., Interactive gaming consoles reduced pain during acute minor burn rehabilitation: A randomized, pilot trial, Burns : journal of the International Society for Burn Injuries, 42, 91-96, 2016	Population not in PICO: Burns <10% total body surface area. Unlikely to be hospitalised.
Parry, Ingrid S., Schneider, Jeffrey C., Yelvington, Miranda, Sharp, Patricia, Serghiou, Michael, Ryan, Colleen M., Richardson, Elizabeth, Pontius, Kara, Niszczak, Jonathan, McMahon, Margaret, Macdonald, Lori E., Lorello, David, Knox Kehrer, Catherine, Godleski, Matthew, Forbes, Lisa, Duch, Sarah, Crump, Donna, Chouinard, Annick, Calva, Valerie, Bills, Sara, Benavides, Lynne, Acharya, Hernish J., de Oliveira, Ana, Boruff, Jill, Nedelec, Bernadette, Systematic Review and Expert Consensus on the Use of Orthoses (Splints and Casts) with Adults and Children after Burn Injury to Determine Practice Guidelines, Journal of burn care & research : official publication of the American Burn Association, 2019	Systematic review: Included studies checked for relevance.
Parry, Ingrid, Painting, Lynda, Bagley, Anita, Kawada, Jason, Molitor, Fred, Sen, Soman, Greenhalgh, David G., Palmieri, Tina L., A Pilot Prospective Randomized Control Trial Comparing Exercises Using Videogame Therapy to Standard Physical Therapy: 6 Months Follow-Up, Journal of burn care & research : official publication of the American Burn Association, 36, 534-44, 2015	Intervention not in PICO: Videogame therapy
Patel, S. P., Nguyen, H. V., Mannschreck, D., Redett, R. J., Puttgen, K. B., Stewart, F. D., Fractional CO 2 Laser Treatment Outcomes for Pediatric Hypertrophic Burn Scars, Journal of Burn Care and Research, 40, 386-391, 2019	Study design not in PICO: Non-RCT with <100 per arm
Patzkowski, Jeanne C., Blanck, Ryan V., Owens, Johnny G., Wilken, Jason M., Kirk, Kevin L., Wenke, Joseph C., Hsu, Joseph R., Skeletal Trauma Research, Consortium, Comparative effect of orthosis design on functional performance, The Journal of bone and joint surgery. American volume, 94, 507-15, 2012	Population not in PICO: Patients with unilateral lower-extremity dorsiflexion and/or plantar flexion weakness
Peeters, Charles M. M., Visser, Eva, Van de Ree, Cornelis L. P., Gosens, Taco, Den Oudsten, Brenda L., De Vries, Jolanda, Quality of life after hip fracture in the elderly: A systematic literature review, Injury, 47, 1369-82, 2016	Systematic review: Intervention not in PICO (surgical intervention). Included studies checked for relevance.
Pelletier, C. A., Totosy de Zepetnek, J. O., MacDonald, M. J., Hicks, A. L., A 16-week randomized controlled trial evaluating the physical activity guidelines for adults with spinal cord injury, Spinal Cord, 53, 363-7, 2015	Comparison not in PICO: twice weekly supervised exercise programme informed by physical activity guidelines versus twice weekly community exercise programme
Pena, R., Herndon, D. N., Elliott, T., Meyer Iii, W. J., Suman, O. E., Effects of community based exercise in children with severe burns, Journal of burn care and research., 35, S76,	Comparison not in PICO: Hospital-based exercise programme versus

Study	Reason for Exclusion
2014	community-based exercise programme
Peña, R., Ramirez, L. L., Crandall, C. G., Wolf, S. E., Herndon, D. N., Suman, O. E., Effects of community-based exercise in children with severe burns: a randomized trial, Burns, 42, 41-47, 2016	Comparison not in PICO: Hospital-based exercise programme versus community-based exercise programme
Penrod, J. D., Boockvar, K. S., Litke, A., Magaziner, J., Hannan, E. L., Halm, E. A., Silberzweig, S. B., Morrison, R. S., Orosz, G. M., Koval, K. J., Siu, A. L., Physical therapy and mobility 2 and 6 months after hip fracture, Journal of the American Geriatrics Society, 52, 1114-1120, 2004	Only relationship between intervention and mobility presented, reported using Ordinary Least Squares Coefficient. Untransformed data not provided.
Perlman, R., Callum, J., Laflamme, C., Tien, H., Nascimento, B., Beckett, A., Alam, A., A recommended early goal-directed management guideline for the prevention of hypothermia-related transfusion, morbidity, and mortality in severely injured trauma patients, Critical Care, 20, 107, 2016	Narrative review
Perret, C., Mueller, G., Knecht, H., Influence of creatine supplementation on 800 m wheelchair performance: a pilot study, Spinal cord, 44, 275-279, 2006	Study design not in PICO: Cross-over study
Peterson, M. G. E., Ganz, S. B., Allegrante, J. P., Cornell, C. N., High-intensity exercise training following hip fracture, Topics in Geriatric Rehabilitation, 20, 273-284, 2004	Data for control group either not presented in paper, only presented in graph form which was unreliable to read, or only presented for 1st and 2nd assessments (out of 4).
Pfeifer, M., Minne, H. W., Musculoskeletal rehabilitation after hip fracture: A review, Archives of Osteoporosis, 5, 49-59, 2010	Narrative review
Phadke, Chetan P., Vierira, Luciana, Mathur, Sunita, Cipriano, Gerson, Jr., Ismail, Farooq, Boulias, Chris, Impact of Passive Leg Cycling in Persons With Spinal Cord Injury: A Systematic Review, Topics in Spinal Cord Injury Rehabilitation, 25, 83-96, 2019	Systematic review: Included studies checked for relevance.
Phillips, A. A., Cote, A. T., Warburton, D. E. R., A systematic review of exercise as a therapeutic intervention to improve arterial function in persons living with spinal cord injury, Spinal Cord, 49, 702-14, 2011	Systematic review: Included studies checked for relevance.
Piira, A., Lannem, A. M., Gjesdal, K., Knutsen, R., Jorgensen, L., Glott, T., Hjeltnes, N., Knutsen, S. F., Sorensen, M., Quality of life and psychological outcomes of body-weight supported locomotor training in spinal cord injured persons with long-standing incomplete lesions, Spinal Cord, 58, 560-569, 2020	Mixed population: Traumatic (21/37) and non-traumatic injury (16/37) patients with results not presented separately for target population.
Piira, A., Lannem, A. M., Sorensen, M., Glott, T., Knutsen, R., Gjesdal, N., Hjeltnes, N., Knutsen, S. F., Effects of locomotor training in subjects with incomplete sci-a randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 98, e60-e61, 2017	Conference abstract
Piira, A., Lannem, A. M., Sorensen, M., Glott, T., Knutsen, R., Jorgensen, L., Gjesdal, K., Hjeltnes, N., Knutsen, S. F., Robot-assisted locomotor training did not improve walking function in patients with chronic incomplete spinal cord injury:	Mixed population: Traumatic (12/24), non-traumatic (7/24) and not reported (5/24) patients

Study	Reason for Exclusion
A randomized clinical trial, Journal of rehabilitation medicine, 51, 385-389, 2019	with results not presented separately for target population.
Piira, A., Lannem, A. M., Sørensen, M., Glott, T., Knutsen, R., Jørgensen, L., Gjesdal, K., Hjeltnes, N., Knutsen, S. F., Robot-assisted locomotor training did not improve walking function in patients with chronic incomplete spinal cord injury: a randomized clinical trial, Journal of Rehabilitation Medicine, 51, 385-389, 2019	Intervention not in PICO: Tobot-assisted locomotor training
Pillastrini, P., Mugnai, R., Bonfiglioli, R., Curti, S., Mattioli, S., Maioli, M. G., Bazzocchi, G., Menarini, M., Vannini, R., Violante, F. S., Evaluation of an occupational therapy program for patients with spinal cord injury, Spinal Cord, 46, 78-81, 2008	Study design not in PICO: Non-RCT with <100 per arm
Pope, Sue, Vickerstaff, A. L., Wareham, A. P., Lessons learned from early rehabilitation of complex trauma at the Royal Centre for Defence Medicine, Journal of the Royal Army Medical Corps, 163, 124-131, 2017	Narrative review
Portegijs, Erja, Kallinen, Mauri, Rantanen, Taina, Heinonen, Ari, Sihvonen, Sanna, Alen, Markku, Kiviranta, Ilkka, Sipila, Sarianna, Effects of resistance training on lower-extremity impairments in older people with hip fracture, Archives of physical medicine and rehabilitation, 89, 1667-74, 2008	Comparison not in PICO: Exercise programme versus no training programme. No mention of standard care.
Pouplin, Samuel, Bensmail, Djamel, Vaugier, Isabelle, Gelineau, Axelle, Pottier, Sandra, Roche, Nicolas, Influence of training protocols on text input speed on a computer in individuals with cervical spinal cord injury: a randomised controlled trial, Spinal Cord, 2019	Intervention not in PICO: Writing exercises
Prahm, C., Kayali, F., Sturma, A., Aszmann, O., PlayBionic: Game-Based Interventions to Encourage Patient Engagement and Performance in Prosthetic Motor Rehabilitation, PM and R, 10, 1252-1260, 2018	Outcomes not in PICO: Muscle strength, muscle separation and endurance
Prestmo, A., Sletvold, O., Thingstad, P., Taraldsen, K., Johnsen, L. G., Helbostad, J., Saltvedt, I., Outcomes of activities of daily living, cognition and mobility in the Trondheim Hip Fracture Trial. A randomized controlled trial, European Geriatric Medicine, 3, S56, 2012	Conference abstract
Pritchett, Kelly, Pritchett, Robert C., Stark, Lauren, Broad, Elizabeth, LaCroix, Melissa, Effect of Vitamin D Supplementation on 25(OH)D Status in Elite Athletes With Spinal Cord Injury, International journal of sport nutrition and exercise metabolism, 29, 18-23, 2019	Study design not in PICO: No comparative data
Pu, Hong, Doig, Gordon S., Heighes, Philippa T., Allingstrup, Matilde J., Early Enteral Nutrition Reduces Mortality and Improves Other Key Outcomes in Patients With Major Burn Injury: A Meta-Analysis of Randomized Controlled Trials, Critical Care Medicine, 46, 2036-2042, 2018	Systematic review: Included studies checked for relevance.
Qi, Yan, Zhang, Xian, Zhao, YiChao, Xie, HaiXia, Shen, XueYun, Niu, WenXin, Wang, YuBin, The effect of wheelchair Tai Chi on balance control and quality of life among survivors of spinal cord injuries: A randomized controlled trial, Complementary Therapies in Clinical Practice, 33, 7-11, 2018	Population not in PICO: Patients with general spinal cord injury. No mention of trauma.
Quach, J., Alappat, C., Flett, H., Guy, K., Verrier, M. C., Postural control in individuals with spinal cord injury:What do we knowabout assessments and rehabilitation interventions?, Journal of Spinal Cord Medicine, 37, 653-654, 2014	Poster presentation

Study	Reason for Exclusion
Quel de Oliveira, Camila, Refshauge, Kathryn, Middleton, James, de Jong, Lysanne, Davis, Glen M., Effects of Activity-Based Therapy Interventions on Mobility, Independence, and Quality of Life for People with Spinal Cord Injuries: A Systematic Review and Meta-Analysis, Journal of neurotrauma, 34, 1726-1743, 2017	Systematic review: Included studies checked for relevance.
R. B. R. h2pr, Effect of video games on rehabilitation in patients in the burn therapy unit in sergipe, http://www.who.int/trialsearch/Trial2.aspx?TrialID=RBR-77h2pr, 2018	Ongoing clinical trial
Radosavljevic, N., Lazovic, M., Nikolic, D., Radosavljevic, Z., Factors influencing balance restoration in elderlyafter hip fracture, Osteoporosis International, 25, S417-S418, 2014	Conference abstract
Raithatha, R., Carrico, C., Powell, E. S., Westgate, P. M., Chelette, K. C., Lee, K., Dunsmore, L., Salles, S., Sawaki, L., Non-invasive brain stimulation and robot-assisted gait training after incomplete spinal cord injury: A randomized pilot study, NeuroRehabilitation, 38, 15-25, 2016	Intervention not in PICO: Electrical stimulation and robotic-assisted locomotor training
Rapidi, C. A., Tederko, P., Moslavac, S., Popa, D., Branco, C. A., Kiekens, C., Varela Donoso, E., Christodoulou, N., Evidence-based position paper on Physical and Rehabilitation Medicine (PRM) professional practice for persons with spinal cord injury. The European PRM position (UEMS PRM Section), European Journal of Physical and Rehabilitation Medicine, 54, 797-807, 2018	Outcomes not in PICO: Professional practice recommendations
Rayegani, Seyed Mansoor, Shojaee, Hadi, Sedighipour, Leyla, Soroush, Mohammad Reza, Baghbani, Mohammad, Amirani, Omm'ol Banin, The effect of electrical passive cycling on spasticity in war veterans with spinal cord injury, Frontiers in Neurology, 2, 39, 2011	No comparative data as control group results not reported
Raymond, M. J. M., Jeffs, K. J., Winter, A., Soh, S. E., Hunter, P., Holland, A. E., The effects of a high-intensity functional exercise group on clinical outcomes in hospitalised older adults: An assessor-blinded, randomisedcontrolled trial, Age and Ageing, 46, 208-214, 2017	Population not in PICO: Mixture of traumatic (253 participants out of 468 total sample) and non-traumatic causes with results not presented separately for target population
Rechtine, G. R., 2nd, Cahill, D., Chrin, A. M., Treatment of thoracolumbar trauma: comparison of complications of operative versus nonoperative treatment, Journal of spinal disorders, 12, 406-9, 1999	Outcomes not in PICO: Complications after treatment
Ribeiro, K. M., Freitas, R. V., Ferreira, L. M., Deshpande, N., Guerra, R. O., Effects of balance Vestibular Rehabilitation Therapy in elderly with Benign Paroxysmal Positional Vertigo: a randomized controlled trial, Disability and Rehabilitation, 39, 1198-1206, 2017	Population not in PICO: Patients with chronic Benign Paroxysmal Positional Vertigo
Richard, Reg, Santos-Lozada, Alexis R., Burn Patient Acuity Demographics, Scar Contractures, and Rehabilitation Treatment Time Related to Patient Outcomes: The ACT Study, Journal of burn care & research : official publication of the American Burn Association, 38, 230-242, 2017	Study design not in PICO: No intervention
Richardson, C., Upton, D., Rippon, M., Treatment for wound pruritus following burns, Journal of Wound Care, 23, 227-3, 2014	Narrative review
Rietman, J. S., Postema, K., Geertzen, J. H. B., Gait analysis	Narrative review

Study	Reason for Exclusion
in prosthetics: opinions, ideas and conclusions, Prosthetics and Orthotics International, 26, 50-7, 2002	
Rimmer, James H., Wang, Edward, Pellegrini, Christine A., Lullo, Carolyn, Gerber, Ben S., Telehealth weight management intervention for adults with physical disabilities: a randomized controlled trial, American journal of physical medicine & rehabilitation, 92, 1084-94, 2013	Population not in PICO: Mixture of traumatic (24 participants out of 91 total sample) and non-traumatic causes with results not presented separately for target population
Ringe, J. D., The effect of Vitamin D on falls and fractures, Scandinavian Journal of Clinical and Laboratory Investigation, 72, 73-78, 2012	Narrative review
Roberts, H. C., Pickering, R. M., Onslow, E., Clancy, M., Powell, J., Roberts, A., Hughes, K., Coulson, D., Bray, J., The effectiveness of implementing a care pathway for femoral neck fracture in older people: A prospective controlled before and after study, Age and Ageing, 33, 178-184, 2004	Intervention not in PICO: Integrated care pathway
Roffman, Caroline E., Buchanan, John, Allison, Garry T., Locomotor Performance During Rehabilitation of People With Lower Limb Amputation and Prosthetic Nonuse 12 Months After Discharge, Physical Therapy, 96, 985-94, 2016	Outcomes not in PICO: Prosthetic compliance
Rosenberg, Marta, Celis, Mario M., Meyer, Walter, 3rd, Tropez-Arceneaux, Lisa, McEntire, Serina J., Fuchs, Helen, Richardson, Lisa, Holzer, Charles, 3rd, Herndon, David N., Suman, Oscar E., Effects of a hospital based Wellness and Exercise program on quality of life of children with severe burns, Burns : journal of the International Society for Burn Injuries, 39, 599-609, 2013	Population not in PICO: Patients who were admitted to intensive care unit.
Rousseau, A. F., Foidart-Desalle, M., Ledoux, D., Remy, C., Croisier, J. L., Damas, P., Cavalier, E., Effects of cholecalciferol supplementation and optimized calcium intakes on vitamin D status, muscle strength and bone health: A one-year pilot randomized controlled trial in adults with severe burns, Burns, 41, 317-325, 2015	Outcomes not in PICO: Vitamin D status, bone health and muscle strength
Rrecaj, Shkurta, Hysenaj, Hajrie, Martinaj, Merita, Murtezani, Ardiana, Ibrahimi-Kacuri, Dafina, Haxhiu, Bekim, Buja, Zene, OUTCOME OF PHYSICAL THERAPY AND SPLINTING IN HAND BURNS INJURY. OUR LAST FOUR YEARS' EXPERIENCE, Materia socio-medica, 27, 380-2, 2015	Study design not in PICO: No comparative data
Ruchlin, H. S., Elkin, E. B., Allegrante, J. P., The economic impact of a multifactorial intervention to improve postoperative rehabilitation of hip fracture patients, 45, 446-52, 2001	Outcomes not in PICO: Intervention costs and cost-benefit findings
Sadeghi, Heydar, Banitalebi, Ebrahim, Raeisi Dehkordi, Mehdi, The Effect of Body-Weight-Supported Training Exercises on Functional Ambulation Profile in Patients with Paraplegic Spinal Cord Injury, USWR, 4, 205-212, 2015	Study design not in PICO: Non-RCT with <100 per arm
Saffle, J. R., Wiebke, G., Jennings, K., Morris, S. E., Barton, R. G., Randomized trial of immune-enhancing enteral nutrition in burn patients, The Journal of trauma, 42, 793-800; discussion 800-2, 1997	Dates not in PICO: 1993-?
Salpakoski, Anu, Tormakangas, Timo, Edgren, Johanna, Kallinen, Mauri, Sihvonen, Sanna E., Pesola, Maija, Vanhatalo, Jukka, Arkela, Marja, Rantanen, Taina, Sipila, Sarianna, Effects of a multicomponent home-based physical rehabilitation program on mobility recovery after hip fracture:	Intervention not in PICO: Multicomponent home-based rehabilitation including environmental evaluation, self-walking

Study	Reason for Exclusion
a randomized controlled trial, Journal of the American Medical Directors Association, 15, 361-8, 2014	guidance, pain management and home exercise program.
Sandler, Evan B., Roach, Kathryn E., Field-Fote, Edelle C., Dose-Response Outcomes Associated with Different Forms of Locomotor Training in Persons with Chronic Motor-Incomplete Spinal Cord Injury, Journal of Neurotrauma, 34, 1903-1908, 2017	Intervention not in PICO: Treadmill-based training with electrical stimulation
Schiffman, Brett, Summers, Hobie, Bernstein, Mitchell, DiSilvio, Frank, Foyil, Sarah, Lack, William, Hypovitaminosis D in Orthopaedic Trauma: Which Guidelines Should Be Followed?, Journal of Orthopaedic Trauma, 32, e295-e299, 2018	Study design not in PICO: No intervention
Schouten, H. J., Nieuwenhuis, M. K., van Zuijlen, P. P. M., A review on static splinting therapy to prevent burn scar contracture: do clinical and experimental data warrant its clinical application?, Burns : journal of the International Society for Burn Injuries, 38, 19-25, 2012	Narrative review
Scivoletto, G., Morganti, B., Cosentino, E., Molinari, M., Utility of delayed spinal cord injury rehabilitation: An Italian study, Neurological Sciences, 27, 86-90, 2006	Study design not in PICO: No intervention
Scivoletto, G., Morganti, B., Ditunno, P., Ditunno, J. F., Molinari, M., Effects on age on spinal cord lesion patients' rehabilitation, Spinal Cord, 41, 457-64, 2003	Study design not in PICO: No intervention
Scivoletto, G., Petrelli, A., Di Lucente, L., Giannantoni, A., Fuoco, U., D'Ambrosio, F., Filippini, V., One year follow up of spinal cord injury patients using a reciprocating gait orthosis: Preliminary report, Spinal Cord, 38, 555-558, 2000	Study design not in PICO: Non-RCT with <100 per arm
Seffrin, C. B., Cattano, N. M., Reed, M. A., Gardiner-Shires, A. M., Instrument-Assisted Soft Tissue Mobilization: A Systematic Review and Effect-Size Analysis, Journal of athletic training, 54, 808-821, 2019	Systematic review: Included studies checked for relevance.
Seguin, Jade, Brody, Daniel, Li, Patricia, Nationwide survey on current management strategies of toddler's fractures, CJEM, 20, 739-745, 2018	Setting not in PICO: Emergency department
Selles, Ruud W., Janssens, Peter J., Jongenengel, Cor D., Bussmann, Johannes B., A randomized controlled trial comparing functional outcome and cost efficiency of a total surface-bearing socket versus a conventional patellar tendon-bearing socket in transtibial amputees, Archives of Physical Medicine and Rehabilitation, 86, 154-180, 2005	Comparison not in PICO: Total surface-bearing socket versus conventional patellar tendon-bearing prothesis
Senthilvelkumar, Thangavelu, Magimairaj, Henry, Fletcher, Jebaraj, Tharion, George, George, Jacob, Comparison of body weight-supported treadmill training versus body weight-supported overground training in people with incomplete tetraplegia: a pilot randomized trial, Clinical Rehabilitation, 29, 42-9, 2015	Comparison not in PICO: Body weight-supported treadmill training versus body weight-supported overground training
Serino, Joseph, Mohamadi, Amin, Orman, Sebastian, McCormick, Brian, Hanna, Philip, Weaver, Michael J., Harris, Mitchel B., Nazarian, Ara, von Keudell, Arvind, Comparison of adverse events and postoperative mobilization following knee extensor mechanism rupture repair: A systematic review and network meta-analysis, Injury, 48, 2793-2799, 2017	Systematic review: Included studies checked for relevance.
Seyyed-Rasooli, A., Salehi, F., Mohammadpoorasl, A., Goljaryan, S., Seyyedi, Z., Thomson, B., Comparing the effects of aromatherapy massage and inhalation	Intervention not in PICO: Specific pain management intervention

Study	Reason for Exclusion
aromatherapy on anxiety and pain in burn patients: A single-blind randomized clinical trial, Burns, 42, 1774-1780, 2016	
Shackleton, C., Evans, R., Shamley, D., West, S., Albertus, Y., Effectiveness of over-ground robotic locomotor training in improving walking performance, cardiovascular demands, secondary complications and user-satisfaction in individuals with spinal cord injuries: A systematic review, Journal of rehabilitation medicine, 51, 723-733, 2019	Systematic review: Included studies checked for relevance.
Shackleton, Claire, Evans, Robert, Shamley, Delva, West, Sacha, Albertus, Yumna, Effectiveness of over-ground robotic locomotor training in improving walking performance, cardiovascular demands, secondary complications and user-satisfaction in individuals with spinal cord injuries: a systematic review, Journal of Rehabilitation Medicine, 2019	Intervention not in PICO: Robot-assisted locomotor training
Sharp, Patricia A., Pan, Brian, Yakuboff, Kevin P., Rothchild, Dawn, Development of a Best Evidence Statement for the Use of Pressure Therapy for Management of Hypertrophic Scarring, Journal of burn care & research : official publication of the American Burn Association, 37, 255-64, 2016	Systematic review: Included studies checked for relevance.
Sheel, A. W., Reid, W. D., Townson, A. F., Ayas, N. T., Konnyu, K. J., Effects of exercise training and inspiratory muscle training in spinal cord injury: A systematic review, Journal of Spinal Cord Medicine, 31, 500-508, 2008	Systematic review: Intervention not in PICO (inspiratory muscle training). Included studies checked for relevance.
Shemshaki, Hamid Reza, Mousavi, Hamid, Salehi, Ghasem, Eshaghi, Mohammad Amin, Titanium elastic nailing versus hip spica cast in treatment of femoral-shaft fractures in children, Journal of orthopaedics and traumatology : official journal of the Italian Society of Orthopaedics and Traumatology, 12, 45-8, 2011	Population not in PICO: Patients with simple femoral-shaft fractures who are unlikely to be admitted to hospital
Shen, W. J., Liu, T. J., Shen, Y. S., Nonoperative treatment versus posterior fixation for thoracolumbar junction burst fractures without neurologic deficit, Spine, 26, 1038-45, 2001	Dates not in PICO: 1994-1996 with results not presented separately for 1995-1996
Sheridan, R. L., Baryza, M. J., Pessina, M. A., O'Neill, K. M., Hilary, M. C., Donelan, M. B., Ryan, C. M., Schulz, J. T., Schnitzer, J. J., Tompkins, R. G., Acute hand burns in children: Management and long-term outcome based on a 10-year experience with 698 injured hands, Annals of Surgery, 229, 558-564, 1999	Dates not in PICO: 1987-1996 with results not presented separately for 1995-1996
Sheridan, R. L., Prelack, K., Cunningham, J. J., Physiologic hypoalbuminemia is well tolerated by severely burned children, The Journal of trauma, 43, 448-52, 1997	Dates not in PICO: 1991-1993
Sherrington, Catherine, Lord, Stephen R., Herbert, Robert D., A randomized controlled trial of weight-bearing versus non-weight-bearing exercise for improving physical ability after usual care for hip fracture, Archives of physical medicine and rehabilitation, 85, 710-6, 2004	Population not in PICO: Already completed standard rehabilitation after hip fracture
Shin, Ji Cheol, Kim, Ji Yong, Park, Han Kyul, Kim, Na Young, Effect of robotic-assisted gait training in patients with incomplete spinal cord injury, Annals of rehabilitation medicine, 38, 719-25, 2014	Intervention not in PICO: Robotic-assisted locomotor training
Shojaei, Mir Hatef, Alavinia, Seyed Mohammad, Craven, B. Catharine, Management of obesity after spinal cord injury: a systematic review, The journal of spinal cord medicine, 40, 783-794, 2017	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
Silva, Rafael Duarte, Teixeira, Luciana Mundim, Moreira, Tarcisio Santos, Teixeira-Salmela, Luci Fuscaldi, de Resende, Marcos Antonio, Effects of Anteroposterior Talus Mobilization on Range of Motion, Pain, and Functional Capacity in Participants With Subacute and Chronic Ankle Injuries: A Controlled Trial, Journal of Manipulative and Physiological Therapeutics, 40, 273-283, 2017	Comparison not in PICO: Mobilisation versus. Placebo. No mention of standard care.
Silverman, S. R., Schertz, L. A., Yuen, H. K., Lowman, J. D., Bickel, C. S., Systematic review of the methodological quality and outcome measures utilized in exercise interventions for adults with spinal cord injury, Spinal Cord, 50, 718-27, 2012	Systematic review: Included studies checked for relevance.
Sindhu, Kunal, DeFroda, Steven F., Harris, Andrew P., Gil, Joseph A., Management of partial fingertip amputation in adults: Operative and non operative treatment, Injury, 48, 2643-2649, 2017	Narrative review
Siu, Albert L., Penrod, Joan D., Boockvar, Kenneth S., Koval, Kenneth, Strauss, Elton, Morrison, R. Sean, Early ambulation after hip fracture: effects on function and mortality, Archives of internal medicine, 166, 766-71, 2006	Outcomes not in PICO: Association between length of immobilisation and long-term sequelae of hip fracture
Smith, Douglas G., McFarland, Lynne V., Sangeorzan, Bruce J., Reiber, Gayle E., Czerniecki, Joseph M., Postoperative dressing and management strategies for transtibial amputations: a critical review, Journal of Rehabilitation Research and Development, 40, 213-24, 2003	Narrative review
Smith, William K., Wu, Yeongchi, Pitkin, Mark, Rehabilitation after landmine injury, Pain medicine (Malden, Mass.), 7 Suppl 2, S218-21, 2006	Narrative review
Souer, J. Sebastiaan, Buijze, Geert, Ring, David, A prospective randomized controlled trial comparing occupational therapy with independent exercises after volar plate fixation of a fracture of the distal part of the radius, The Journal of bone and joint surgery. American volume, 93, 1761-6, 2011	Population not in PICO: Patients with distal radial fracture who are unlikely to be admitted to hospital.
Soyer, Kardem, Unver, Banu, Tamer, Seval, Ulger, Ozlem, The importance of rehabilitation concerning upper extremity amputees: A Systematic review, Pakistan Journal of Medical Sciences, 32, 1312-1319, 2016	Systematic review: Included studies checked for relevance.
Spicka, J., Lostak, J., Gallo, J., Langova, K., Influence of enhanced recovery regime on early outcomes of total knee arthroplasty, Acta Chirurgiae Orthopaedicae et Traumatologiae Cechoslovaca, 84, 361-367, 2017	Czech language article
Spindler-Vesel, Alenka, Bengmark, Stig, Vovk, Irena, Cerovic, Ognjen, Kompan, Lidija, Synbiotics, prebiotics, glutamine, or peptide in early enteral nutrition: a randomized study in trauma patients, JPEN. Journal of parenteral and enteral nutrition, 31, 119-26, 2007	Setting not in PICO: Intensive care unit
Staiano, Amanda E., Flynn, Rachel, Therapeutic Uses of Active Videogames: A Systematic Review, Games for health journal, 3, 351-65, 2014	Systematic review: Included studies checked for relevance.
Stampacchia, Giulia, Rustici, Alessandro, Bigazzi, Samuele, Gerini, Adriana, Tombini, Tullia, Mazzoleni, Stefano, Walking with a powered robotic exoskeleton: Subjective experience, spasticity and pain in spinal cord injured persons, NeuroRehabilitation, 39, 277-83, 2016	Intervention not in PICO: Robotic-assisted locomotor training
Stankorb, Susan M., Salgueiro, Marybeth, Grediagin, Ann,	Study design not in PICO:

Study	Reason for Exclusion
Enteral feeding practices for U.S. service members in a deployed combat support hospital, Military Medicine, 174, 685-8, 2009	No intervention
Stavrev, Vladimir P., Ilieva, Elena M., The holistic approach to rehabilitation of patients after total hip joint replacement, Folia medica, 45, 16-21, 2003	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for target population.
Steinstraesser, L., Flak, E., Witte, B., Ring, A., Tilkorn, D., Hauser, J., Langer, S., Steinau, H. U., Al-Benna, S., Pressure garment therapy alone and in combination with silicone for the prevention of hypertrophic scarring: randomized controlled trial with intraindividual comparison, Plastic and Reconstructive Surgery, 128, 306e-313e, 2011	Comparison not in PICO: Compression versus compression with silicone gel sheet or spray therapy
Stemmle, J., Marzel, A., Chocano-Bedoya, P. O., Orav, E. J., Dawson-Hughes, B., Freystaetter, G., Egli, A., Theiler, R., Staehelin, H. B., Bischoff-Ferrari, H. A., Effect of 800 IU Versus 2000 IU Vitamin D3 With or Without a Simple Home Exercise Program on Functional Recovery After Hip Fracture: A Randomized Controlled Trial, Journal of the American Medical Directors Association, 20, 530, 2019	Population not in PICO: Patients with reduced range of movement traumatic ankle injuries who are unlikely to be admitted to hospital.
Stevens, S., Holbrook, E., Ishikawa, S., Caputo, J., Fuller, D., Morgan, D., Impact of underwater treadmill training on walking performance in adults with incomplete spinal cord injury, Topics in Spinal Cord Injury Rehabilitation, 16, 35, 2011	Study design not in PICO: No comparison group
Stevens, Sandra L., Caputo, Jennifer L., Fuller, Dana K., Morgan, Don W., Effects of underwater treadmill training on leg strength, balance, and walking performance in adults with incomplete spinal cord injury, The journal of spinal cord medicine, 38, 91-101, 2015	Study design not in PICO: No comparative data
Stockle, U., Hoffmann, R., Schutz, M., von Fournier, C., Sudkamp, N. P., Haas, N., Fastest reduction of posttraumatic edema: continuous cryotherapy or intermittent impulse compression?, Foot & ankle international, 18, 432-8, 1997	Outcomes not in PICO: Average joint circumference
Su, Bowen, Newson, Roger, Soljak, Harry, Soljak, Michael, Associations between post-operative rehabilitation of hip fracture and outcomes: national database analysis, BMC Musculoskeletal Disorders, 19, 211, 2018	Comparison no in PICO: Type of provider of rehabilitation
Sullivan, D. H., Nelson, C. L., Bopp, M. M., Puskarich-May, C. L., Walls, R. C., Nightly enteral nutrition support of elderly hip fracture patients: a phase I trial, Journal of the American College of Nutrition, 17, 155-61, 1998	Outcomes not in PICO: Post-operative complications, discharge destination and mortality
Sullivan, Dennis H., Nelson, Carl L., Klimberg, V. Suzanne, Bopp, Melinda M., Nightly enteral nutrition support of elderly hip fracture patients: a pilot study, Journal of the American College of Nutrition, 23, 683-91, 2004	Outcomes not in PICO: Post-operative complications, discharge destination, mortality and length of hospitalisation
Suman, O. E., Spies, R. J., Celis, M. M., Mlcak, R. P., Herndon, D. N., Effects of a 12-wk resistance exercise program on skeletal muscle strength in children with burn injuries, Journal of applied physiology (Bethesda, Md. : 1985), 91, 1168-75, 2001	Outcomes not in PICO: Muscle strength
Suman, Oscar E., Herndon, David N., Effects of cessation of a structured and supervised exercise conditioning program on lean mass and muscle strength in severely burned children,	Outcomes not in PICO: Muscle strength and lean

Study	Reason for Exclusion
Archives of Physical Medicine and Rehabilitation, 88, S24-9, 2007	body mass
Sun, W., Li, J., Treatment for injury of superior clunial nerves by triple puncture needling with massage, Journal of Traditional Chinese Medicine, 22, 24-25, 2002	Study design not in PICO: No comparison group
Sunderland, S., Discussion on the value of medical baths for invalid soldiers, Journal of the Royal Society of Medicine, 108, 145-150, 2015	Opinion piece
Suominen, Tuuli H., Edgren, Johanna, Salpakoski, Anu, Arkela, Marja, Kallinen, Mauri, Cervinka, Tomas, Rantalainen, Timo, Tormakangas, Timo, Heinonen, Ari, Sipila, Sarianna, Effects of a Home-Based Physical Rehabilitation Program on Tibial Bone Structure, Density, and Strength After Hip Fracture: A Secondary Analysis of a Randomized Controlled Trial, JBMR plus, 3, e10175, 2019	Outcomes not in PICO: Bone properties
Swanson, C. E., Day, G. A., Yelland, C. E., Broome, J. R., Massey, L., Richardson, H. R., Dimitri, K., Marsh, A., The management of elderly patients with femoral fractures. A randomised controlled trial of early intervention versus standard care, The Medical journal of Australia, 169, 515-8, 1998	Intervention not in PICO: Early surgery with standard rehabilitation
Swinnen, E., Duerinck, S., Baeyens, J. P., Meeusen, R., Kerckhofs, E., Effectiveness of robot-assisted gait training in persons with spinal cord injury: a systematic review, Journal of rehabilitation medicine : official journal of the UEMS European Board of Physical and Rehabilitation Medicine, 42, 520-526, 2010	Intervention not in PICO: Robotic-assisted locomotor training
Taheriazam, A., Hashemi, S. M., Esmailiejah, A. A., Keyhani, S., Abbasian, M., Moradi, S., Pur, A. M., Safdari, F., Outcomes of nonoperative treatment of forefoot fractures: Casting versus off-loading shoes, Trauma Monthly, 22, e27533, 2017	Population not in PICO: Patients with metatarsal fractures who are unlikely to be admitted to hospital.
Tak, S., Choi, W., Lee, S., Game-based virtual reality training improves sitting balance after spinal cord injury: A single-blinded, randomized controlled trial, Medical Science Technology, 56, 53-59, 2015	Outcomes not in PICO: Sway distance, sway velocity and functional reach test
Takahashi, K., Momosaki, R., Yasufuku, Y., Nakamura, N., Maeda, K., Nutritional Therapy in Older Patients With Hip Fractures Undergoing Rehabilitation: A Systematic Review and Meta-Analysis, Journal of the American Medical Directors Association, 21, 1364, 2020	Systematic review: Included studies checked for relevance.
Tamburella, F., Scivoletto, G., Molinari, M., Somatosensory inputs by application of KinesioTaping: Effects on spasticity, balance, and gait in chronic spinal cord injury, Frontiers in Human Neuroscience, 8, 367, 2014	Study design not in PICO: Cross-over study
Tamir, L., Hendel, D., Neyman, C., Eshkenazi, A. U., Ben-Zvi, Y., Zomer, R., Sequential foot compression reduces lower limb swelling and pain after total knee arthroplasty, Journal of Arthroplasty, 14, 333-338, 1999	Population not in PICO: Patients undergoing knee arthroplasty. No mention of trauma.
Tan, Hannah B., Danilla, Stefan, Murray, Alexandra, Serra, Ramon, El Dib, Regina, Henderson, Tom O. W., Wasiak, Jason, Immunonutrition as an adjuvant therapy for burns, The Cochrane database of systematic reviews, CD007174, 2014	Systematic review: Included studies checked for relevance.
Tan, Pey June, Khoo, Ee Ming, Chinna, Karuthan, Saedon, Nor I'zzati, Zakaria, Mohd Idzwan, Ahmad Zahedi, Ahmad Zulkarnain, Ramli, Norlina, Khalidin, Nurliza, Mazlan, Mazlina,	Outcomes not in PICO: Fall rate, time to first fall and mortality

Study	Reason for Exclusion
Chee, Kok Han, Zainal Abidin, Imran, Nalathamby, Nemala, Mat, Sumaiyah, Jaafar, Mohamad Hasif, Khor, Hui Min, Khannas, Norfazilah Mohamad, Majid, Lokman Abdul, Tan, Kit Mun, Chin, Ai-Vyrn, Kamaruzzaman, Shahrul Bahyah, Poi, Philip, Morgan, Karen, Hill, Keith D., MacKenzie, Lynette, Tan, Maw Pin, Individually-tailored multifactorial intervention to reduce falls in the Malaysian Falls Assessment and Intervention Trial (MyFAIT): A randomized controlled trial, PLoS ONE, 13, e0199219, 2018	
Tang, D., Li-Tsang, C. W. P., Au, R. K. C., Li, K. C., Yi, X. F., Liao, L. R., Cao, H. Y., Feng, Y. N., Liu, C. S., Functional Outcomes of Burn Patients with or Without Rehabilitation in Mainland China, Hong Kong Journal of Occupational Therapy, 26, 15-23, 2015	Study design not in PICO: Non-RCT with <100 per arm
Tassiopoulos, A. K., Nutritional support of the patient with severe burn injury, Nutrition (Burbank, Los Angeles County, Calif.), 15, 956-7, 1999	Opinion piece
Taylor-Schroeder, S., LaBarbera, J., McDowell, S., Zanca, J. M., Natales, A., Mumma, S., Gassaway, J., Backus, D., Physical therapy treatment time during inpatient spinal cord injury rehabilitation, Journal of Spinal Cord Medicine, 34, 149-161, 2011	Comparison not in PICO: Level of spinal cord injury
Thieme, H., Morkisch, N., Rietz, C., Dohle, C., Borgetto, B., The efficacy of movement representation techniques for treatment of limb pain - A systematic review and meta-analysis, Journal of Pain, 17, 167-180, 2016	Systematic review: Intervention not in PICO (specific pain management interventions). Included studies checked for relevance.
Tihista, S., Echavarría, E., Effect of omega 3 polyunsaturated fatty acids derived from fish oil in major burn patients: a prospective randomized controlled pilot trial, Clinical nutrition (Edinburgh, Scotland), 37, 107-112, 2018	Outcomes not in PICO: Infectious complications, gastrointestinal complications and other complications
Topuz, S., Ulger, O., Bakar, Y., Sener, G., Comparison of the effects of complex decongestive physiotherapy and conventional bandaging on edema of geriatric amputees: a pilot study, Topics in geriatric rehabilitation, 28, 275-280, 2012	Outcomes not in PICO: Length of hospitalisation and time to permanent prosthesis
Treacy, Daniel, Schurr, Karl, Lloyd, Bradley, Sherrington, Catherine, Additional standing balance circuit classes during inpatient rehabilitation improved balance outcomes: an assessor-blinded randomised controlled trial, Age and Ageing, 44, 580-6, 2015	Mixed population: 58/162 in PICO, 76/162 not in PICO and 28/162 unknown with results not presented separately for target population.
Tricco, A. C., Antony, J., Vafaei, A., Khan, P. A., Harrington, A., Cogo, E., Wilson, C., Perrier, L., Hui, W., Straus, S. E., Seeking effective interventions to treat complex wounds: An overview of systematic reviews, BMC Medicine, 13, 89, 2015	Systematic review: Population not in PICO (patients with complex wounds associated with pathologies). Included studies checked for relevance.
Trudelle-Jackson, E., Smith, S. S., Effects of a late-phase exercise program after total hip arthroplasty: A randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 85, 1056-1062, 2004	Population not in PICO: Fracture due to pathological causes
Tsao, S. S., Dover, J. S., Arndt, K. A., Kaminer, M. S., Scar	Narrative review

Study	Reason for Exclusion
management: keloid, hypertrophic, atrophic, and acne scars, Seminars in Cutaneous Medicine and Surgery, 21, 46-75, 2002	
Tsauo, J. Y., Leu, W. S., Chen, Y. T., Yang, R. S., Effects on function and quality of life of postoperative home-based physical therapy for patients with hip fracture, Archives of Physical Medicine and Rehabilitation, 86, 1953-1957, 2005	Intervention not in PICO: Physical therapy only
Tseng, M. Y., Liang, J., Shyu, Y. I. L., Wu, C. C., Cheng, H. S., Chen, C. Y., Yang, S. F., Effects of interventions on trajectories of health-related quality of life among older patients with hip fracture: A prospective randomized controlled trial, BMC Musculoskeletal Disorders, 17, 114, 2016	Interventions not in PICO: Interdisciplinary care and comprehensive care. Multicomponent interventions do not include any interventions listed in protocol.
Turunen, K., Salpakoski, A., Edgren, J., Törmäkangas, T., Arkela, M., Kallinen, M., Pesola, M., Hartikainen, S., Nikander, R., Sipilä, S., Physical Activity After a Hip Fracture: effect of a Multicomponent Home-Based Rehabilitation Program-A Secondary Analysis of a Randomized Controlled Trial, Archives of Physical Medicine and Rehabilitation, 98, 981-988, 2017	Intervention not in PICO: Multicomponent home rehabilitation intervention including modification of environmental hazards, walking guidance for safe walking, pain management, progressive home exercise program and counselling.
Unger, J., Singh, H., Mansfield, A., Craven, B. C., Masani, K., Musselman, K., Chan, K., Does Balance Training Impact Fear of Falling and Balance Confidence After Incomplete Spinal Cord Injury?, Archives of Physical Medicine and Rehabilitation, 100, e64, 2019	Conference abstract
Vacheva, D., Medical rehabilitation and occupational therapy in patients with lesion of plexus brachialis, Acta Medica Bulgarica, 42, 56-62, 2015	Population not in PICO: Patients with lesion of plexus brachialis
Valenzano, Teresa J., Waito, Ashley A., Steele, Catriona M., A Review of Dysphagia Presentation and Intervention Following Traumatic Spinal Injury: An Understudied Population, Dysphagia, 31, 598-609, 2016	Systematic review: Included studies checked for relevance.
van den Berg, Maayken, Sherrington, Catherine, Killington, Maggie, Smith, Stuart, Bongers, Bert, Hassett, Leanne, Crotty, Maria, Video and computer-based interactive exercises are safe and improve task-specific balance in geriatric and neurological rehabilitation: a randomised trial, Journal of physiotherapy, 62, 20-8, 2016	Mixed population: 20/58 in PICO, 12/58 not in PICO and 26/58 unknown, with results not presented separately for target population.
van den Berg, R., de Groot, S., Swart, K. M., van der Woude, L. H., Physical capacity after 7 weeks of low-intensity wheelchair training, Disability and Rehabilitation, 32, 2244-2252, 2010	Population not in PICO: Able-bodied volunteers
van der Scheer, J. W., de Groot, S., Tepper, M., Faber, W., Veeger, D. H., van der Woude, L. H., Low-intensity wheelchair training in inactive people with long-term spinal cord injury: A randomized controlled trial on fitness, wheelchair skill performance and physical activity levels, Journal of Rehabilitation Medicine, 48, 33-42, 2016	Comparison not in PICO: Low-intensity exercise versus no intervention. No mention of standard care.
van der Scheer, J. W., de Groot, S., Vegter, R. J., Hartog, J., Tepper, M., Slootman, H., Veeger, D. H., van der Woude, L. H., Low-Intensity Wheelchair Training in Inactive People with Long-Term Spinal Cord Injury: A Randomized Controlled Trial on Propulsion Technique, American journal of physical	Comparison not in PICO: Low-intensity exercise versus no intervention. No mention of standard care.

Study	Reason for Exclusion
medicine & rehabilitation / Association of Academic Physiatrists, 94, 975-986, 2015	
van der Wal, Martijn B. A., van Zuijlen, Paul P., van de Ven, Peter, Middelkoop, Esther, Topical silicone gel versus placebo in promoting the maturation of burn scars: a randomized controlled trial, Plastic and reconstructive surgery, 126, 524-31, 2010	Comparison not in PICO: Silicone gel versus placebo. No mention of standard care.
van der Woude, L. H., de Groot, S., Postema, K., Bussmann, J. B., Janssen, T. W., Post, M. W., Active LifestyLe Rehabilitation interventions in aging spinal cord injury (ALLRISC): a multicentre research program, Disability and Rehabilitation, 35, 1097-1103, 2013	Protocol for multi-centre multidisciplinary 4-study research programme
van Dijk, Monique, O'Flaherty, Linda Anne, Hoedemaker, Tessa, van Rosmalen, Joost, Rode, Heinz, Massage has no observable effect on distress in children with burns: A randomized, observer-blinded trial, Burns : journal of the International Society for Burn Injuries, 44, 99-107, 2018	Outcomes not in PICO: Level of relaxation, level of distress, heart rate and oxygen saturation levels
van Laarhoven, C. J., Meeuwis, J. D., van der Werken, C., Postoperative treatment of internally fixed ankle fractures: a prospective randomised study, The Journal of bone and joint surgery. British volume, 78, 395-9, 1996	Dates not in PICO: 1991-1993
Van Middendorp, J. J., Hosman, A. J., Donders, A. R. T., Pouw, M. H., Ditunno Jr, J. F., Curt, A., Geurts, A. C., Van De Meent, H., A clinical prediction rule for ambulation outcomes after traumatic spinal cord injury: A longitudinal cohort study, The Lancet, 377, 1004-1010, 2011	Study design not in PICO: No intervention
Varoqui, Deborah, Niu, Xun, Mirbagheri, Mehdi M., Ankle voluntary movement enhancement following robotic-assisted locomotor training in spinal cord injury, Journal of NeuroEngineering and Rehabilitation, 11, 46, 2014	Intervention not in PICO: Robotic-assisted locomotor training
Venter, M., Rode, H., Sive, A., Visser, M., Enteral resuscitation and early enteral feeding in children with major burns-Effect on McFarlane response to stress, Burns, 33, 464-471, 2007	Outcomes not in PICO: Plasma concentrations of insulin, IGF-1, glucagon, cortisone and growth hormone, energy expenditure and bowel permeability
Vicic, Vesna Kovacic, Radman, Maja, Kovacic, Vedran, Early initiation of enteral nutrition improves outcomes in burn disease, Asia Pacific Journal of Clinical Nutrition, 22, 543-7, 2013	Outcomes not in PICO: Change in body mass index, serum concentrations and complications.
Vigier, S., Casillas, J. M., Dulieu, V., Rouhier-Marcer, I., D'Athis, P., Didier, J. P., Healing of open stump wounds after vascular below-knee amputation: plaster cast socket with silicone sleeve versus elastic compression, Archives of Physical Medicine and Rehabilitation, 80, 1327-30, 1999	Population not in PICO: Patients undergoing amputation due to arterial disease
Vioreanu, Mihai, Dudeney, Sean, Hurson, Brian, Kelly, Eamon, O'Rourke, Kieran, Quinlan, William, Early mobilization in a removable cast compared with immobilization in a cast after operative treatment of ankle fractures: a prospective randomized study, Foot & ankle international, 28, 13-9, 2007	Population not in PICO: Young, healthy patients with stable ankle fracture which are unlikely to be admitted to hospital.
Vipond, Nicole, Taylor, William, Rider, Mark, Postoperative splinting for isolated digital nerve injuries in the hand, Journal of hand therapy : official journal of the American Society of	Population not in PICO: Patients with suspected complete transection

Study	Reason for Exclusion
Hand Therapists, 20, 222-231, 2007	digital nerve injury
Viton, J. M., Mouchnino, L., Mille, M. L., Cincera, M., Delarque, A., Pedotti, A., Bardot, A., Massion, J., Equilibrium and movement control strategies in trans-tibial amputees, Prosthetics and Orthotics International, 24, 108-16, 2000	Study design not in PICO: Case-control study
Vogler, C. M., Sherrington, C., Ogle, S. J., Lord, S. R., Reducing Risk of Falling in Older People Discharged From Hospital: A Randomized Controlled Trial Comparing Seated Exercises, Weight-Bearing Exercises, and Social Visits, Archives of Physical Medicine and Rehabilitation, 90, 1317-1324, 2009	Population not in PICO: Patients age >65 years recently discharged from hospital. No mention of truama.
Vogler, Constance M., Menant, Jasmine C., Sherrington, Catherine, Ogle, Susan J., Lord, Stephen R., Evidence of detraining after 12-week home-based exercise programs designed to reduce fall-risk factors in older people recently discharged from hospital, Archives of Physical Medicine and Rehabilitation, 93, 1685-91, 2012	Population not in PICO: Patients age >65 years recently discharged from hospital. No mention of truama.
Voon, K., Silberstein, I., Eranki, A., Phillips, M., Wood, F. M., Edgar, D. W., Xbox Kinectâ„¢ based rehabilitation as a feasible adjunct for minor upper limb burns rehabilitation: a pilot RCT, Burns, 42, 1797-1804, 2016	Intervention not in PICO: Xbox Kinect Sports Pack
Wan, L., Wang, G. X., Bian, R., Evaluation of the effect of maneuver for treatment of ankle injury, Chinese Journal of Clinical Rehabilitation, 9, 126-127, 2005	Chinese language article
Wang, S., Wang, S., Li, A., A clinical study of early enteral feeding to protect the gut function in burned patients, Zhonghua zheng xing shao shang wai ke za zhi = zhonghua zheng xing shao shang waikf [i.e. waike] zazhi = chinese journal of plastic surgery and burns, 13, 267-271, 1997	Chinese language article
Wangdell, J., Friden, J., Satisfaction and performance in patient selected goals after grip reconstruction in tetraplegia, The Journal of hand surgery, European volume, 35, 563-8, 2010	Intervention not in PICO: Surgical grip reconstruction
Wasiak, J., Cleland, H., Jeffery, R., Early versus delayed enteral nutrition support for burn injuries, Cochrane Database of Systematic Reviews, 2006	Systematic review: Included studies checked for relevance.
Wasiak, J., Cleland, H., Jeffery, R., Early versus late enteral nutritional support in adults with burn injury: a systematic review, Journal of human nutrition and dietetics : the official journal of the British Dietetic Association, 20, 75-83, 2007	Systematic review: Included studies checked for relevance.
Waza, M., Maeda, K., Katsuragawa, C., Sugita, A., Tanaka, R., Ohtsuka, A., Matsui, T., Kitagawa, K., Kishimoto, T., Fukui, H., Kawai, K., Yamamoto, M., Isono, M., Comprehensive Tool to Assess Oral Feeding Support for Functional Recovery in Post-acute Rehabilitation, Journal of the American Medical Directors Association, 20, 426-431, 2019	Intervention not in PICO: Kuchi-kara Taberu index (new assessment tool)
Weingartmann, G., Fridrich, P., Mauritz, W., Gotzinger, P., Mittlbock, M., Germann, P., Karner, J., Roth, E., Safety and efficacy of increasing dosages of glycyl-glutamine for total parenteral nutrition in polytrauma patients, Wiener Klinische Wochenschrift, 108, 683-8, 1996	Setting not in PICO: Intensive care unit
Wernig, A., Nanassy, A., Muller, S., Laufband (LB) therapy in spinal cord lesioned persons, Progress in brain research, 128, 89-97, 2000	Study design not in PICO: No comparison group
Wessels, Monique, Lucas, Cees, Eriks, Inge, de Groot, Sonja,	Systematic review:

Study	Reason for Exclusion
Body weight-supported gait training for restoration of walking in people with an incomplete spinal cord injury: a systematic review, Journal of rehabilitation medicine, 42, 513-9, 2010	Included studies checked for relevance.
Wibbenmeyer, Lucy A., Mitchell, Melanie A., Newel, Ingrid M., Faucher, Lee D., Amelon, Margery J., Ruffin, Timothy O., Lewis, Robert D., 2nd, Latenser, Barbara A., Kealey, Patrick G., Effect of a fish oil and arginine-fortified diet in thermally injured patients, Journal of burn care & research : official publication of the American Burn Association, 27, 694-702, 2006	Outcomes not in PICO: Diet tolerance, wound healing, infections and hospital course
Williams, T. G., Ehsanian, R., Shem, K. L., Wright, J., Isaac, L., Crew, J., The effect of vitamin d supplementation on pain, mood, depression, and strength in patients with spinal cord injury, PM and R, 8, S153, 2016	Conference abstract
Windle, E. Mark, Glutamine supplementation in critical illness: evidence, recommendations, and implications for clinical practice in burn care, Journal of burn care & research : official publication of the American Burn Association, 27, 764-72, 2006	Narrative review
Wirz, M., Colombo, G., Dietz, V., Long term effects of locomotor training in spinal humans, Journal of neurology, neurosurgery, and psychiatry, 71, 93-6, 2001	Outcomes not in PICO: Leg extensor muscle electromyography activity
Wiseman, J., Ware, R. S., Simons, M., McPhail, S., Kimble, R., Dotta, A., Tyack, Z., Effectiveness of topical silicone gel and pressure garment therapy for burn scar prevention and management in children: a randomized controlled trial, Clinical rehabilitation, 34, 120-131, 2020	Outcomes not in PICO: Burn-specific quality of life, caregiver report for other measures
Wong, Christopher Kevin, Ehrlich, Julie E., Ersing, Jennifer C., Maroldi, Nicholas J., Stevenson, Catharine E., Varca, Matthew J., Exercise programs to improve gait performance in people with lower limb amputation: A systematic review, Prosthetics and orthotics international, 40, 8-17, 2016	Systematic review: Included studies checked for relevance.
Wu, J. Q., Mao, L. B., Wu, J., Efficacy of balance training for hip fracture patients: a meta-analysis of randomized controlled trials, Journal of orthopaedic surgery and research, 14, 83, 2019	Systematic review: Included studies checked for relevance.
Wu, Jane, Faux, Steven G., Estell, John, Wilson, Stephen, Harris, Ian, Poulos, Christopher J., Klein, Linda, Early rehabilitation after hospital admission for road trauma using an in-reach multidisciplinary team: a randomised controlled trial, Clinical Rehabilitation, 31, 1189-1200, 2017	Intervention not in PICO: Increase in intensity of standard care
Wu, M., Landry, J. M., Schmit, B. D., Hornby, T. G., Yen, S. C., Robotic resistance treadmill training improves locomotor function in human spinal cord injury: A pilot study, Archives of Physical Medicine and Rehabilitation, 93, 782-789, 2012	Study design not in PICO: Cross-over study
Wu, Yah-Ting, Chen, Kuo-Hu, Ban, Shiun-Lei, Tung, Kwang-Yi, Chen, Li-Ru, Evaluation of leap motion control for hand rehabilitation in burn patients: An experience in the dust explosion disaster in Formosa Fun Coast, Burns : journal of the International Society for Burn Injuries, 45, 157-164, 2019	Study design not in PICO: Non-RCT with <100 per arm
Wurzer, P., Voigt, C. D., Andersen, C. R., Mlcak, R. P., Kamolz, L. P., Herndon, N., Suman, O. E., A 12-week exercise program after acute hospitalization is beneficial, but are benefits present 2 years post burn?, Journal of Burn Care and Research, 37, S119, 2016	Conference abstract
Wutzler, S., Sturm, K., Lustenberger, T., Wyen, H.,	Setting not in PICO:

Study	Reason for Exclusion
Zacharowksi, K., Marzi, I., Bingold, T., Kinetic therapy in multiple trauma patients with severe thoracic trauma: a treatment option to reduce ventilator time and improve outcome, European journal of trauma and emergency surgery : official publication of the European Trauma Society, 43, 155-161, 2017	Intensive care unit
Wyers, C. E., Reijven, P. L. M., Breedveld-Peters, J. J. L., Denissen, K. F. M., Schotanus, M. G. M., van Dongen, Mcjm, Eussen, Sjpm, Heyligers, I. C., van den Brandt, P. A., Willems, P. C., et al.,, Efficacy of Nutritional Intervention in Elderly After Hip Fracture: a Multicenter Randomized Controlled Trial, Journals of gerontology. Series A, Biological sciences and medical sciences, 73, 1429-1437, 2018	Population not in PICO: Hip fracture patients with bone disease
Wyers, C. E., Reijven, P. L., Breedveld-Peters, J. J., Van Helden, S., Schotanus, M., Meesters, B., Van Dongen, M. C., Van Den Brandt, P. A., Willems, P. C., Dagnelie, P. C., Effect of nutritional intervention on length of stay, postoperative complications, functional status and mortality in hip fracture patients: A multi-centre randomised controlled trial (RCT), Clinical Nutrition, Supplement, 7, 51, 2012	Outcomes not in PICO: Length of hospital stay, nutritional status, post-operative complications, fracture rates and morality. Quality of life is measured but results not reported in article.
Wyers, C. E., Reijven, P. L., Evers, S. M., Willems, P. C., Heyligers, I. C., Verburg, A. D., van Helden, S., Dagnelie, P. C., Cost-effectiveness of nutritional intervention in elderly subjects after hip fracture. A randomized controlled trial, Osteoporosis International, 24, 151-162, 2013	Outcomes not in PICO: Weight, quality-adjusted life years and cost-effectiveness
Xie, L. Q., Deng, Y. L., Zhang, J. P., Richmond, C. J., Tang, Y., Zhou, J., Effects of Progressive Muscle Relaxation Intervention in Extremity Fracture Surgery Patients, Western Journal of Nursing Research, 38, 155-168, 2016	Intervention not in PICO: Progressive muscle relaxation technique
Xing, D. R., The early enteral feeding and rehabilitation of severely burned patients, Chinese Journal of Clinical Rehabilitation, 6, 3461, 2002	Chinese language article
Yang, Jaynie F., Musselman, Kristin E., Livingstone, Donna, Brunton, Kelly, Hendricks, Gregory, Hill, Denise, Gorassini, Monica, Repetitive mass practice or focused precise practice for retraining walking after incomplete spinal cord injury? A pilot randomized clinical trial, Neurorehabilitation and neural repair, 28, 314-24, 2014	Study design not in PICO: Cross-over study
Yang, Jaynie F., Musselman, Kristin E., Training to achieve over ground walking after spinal cord injury: a review of who, what, when, and how, The journal of spinal cord medicine, 35, 293-304, 2012	Narrative review
Yang, Mingliang, Li, Jianjun, Guan, Xinyu, Gao, Lianjun, Gao, Feng, Du, Liangjie, Zhao, Hongmei, Yang, Degang, Yu, Yan, Wang, Qimin, Wang, Rencheng, Ji, Linhong, Effectiveness of an innovative hip energy storage walking orthosis for improving paraplegic walking: A pilot randomized controlled study, Gait & posture, 57, 91-96, 2017	Study design not in PICO: Cross-over study
Yeung, D. E., Jia, X., Miller, C. A., Barker, S. L., Interventions for treating ankle fractures in children, Cochrane Database of Systematic Reviews, 2016	Systematic review: Included studies checked for relevance.
Yildirim, Mustafa Aziz, Ones, Kadriye, Goksenoglu, Goksen, Early term effects of robotic assisted gait training on ambulation and functional capacity in patients with spinal cord injury, Turkish journal of medical sciences, 49, 2019	Mixed population: Included traumatic (68/88) and non-traumatic (20/88) causes of injury with results not reported

Study	Reason for Exclusion
	separately for target population.
Yohannan, Sam K., Tufaro, Patricia A., Hunter, Hope, Orleman, Lauren, Palmatier, Sara, Sang, Canace, Gorga, Delia I., Yurt, Roger W., The utilization of Nintendo WiiTM during burn rehabilitation: a pilot study, Journal of burn care & research : official publication of the American Burn Association, 33, 36-45, 2012	Study design not in PICO: Non-RCT with <100 per arm
Yuan, Y., Yu, X., Therapeutic effects of rehabilitation training methods on spinal cord injury: a meta-analysis, The Lancet, 394, S27, 2019	Poster abstract
Yu-Yahiro, Janet A., Resnick, Barbara, Orwig, Denise, Hicks, Gregory, Magaziner, Jay, Design and implementation of a home-based exercise program post-hip fracture: the Baltimore hip studies experience, PM & R : the journal of injury, function, and rehabilitation, 1, 308-18, 2009	Outcomes not in PICO: Feasibility and intervention adherence
Zanca, Jeanne M., Natale, Audrey, Labarbera, Jacqueline, Schroeder, Sally Taylor, Gassaway, Julie, Backus, Deborah, Group physical therapy during inpatient rehabilitation for acute spinal cord injury: findings from the SCIRehab Study, Physical Therapy, 91, 1877-91, 2011	Study design not in PICO: No comparative data
Zeckey, C., Wendt, K., Mommsen, P., Winkelmann, M., Fromke, C., Weidemann, J., Stubig, T., Krettek, C., Hildebrand, F., Kinetic therapy in multiple trauma patients with severe blunt chest trauma: an analysis at a level-1 trauma center, Technology and health care : official journal of the European Society for Engineering and Medicine, 23, 63-73, 2015	Setting not in PICO: Intensive care unit
Zhang, M., Zhou, J. J., Zhang, Y. M., Wang, J. H., Zhang, Q. Y., Chen, W., Clinical Effectiveness of Scapulothoracic Joint Control Training Exercises on Shoulder Joint Dysfunction, Cell biochemistry and biophysics, 72, 83-87, 2015	Population not in PICO: No complex rehabilitation needs
Zhang, X. Y., Wang, J. H., Prevention against deformity induced by contraction of axillary fossa after burn: comparison of comprehensive rehabilitation and routine rehabilitation therapy, Chinese Journal of Clinical Rehabilitation, 8, 6320-6322, 2004	Conference abstract
Zhang, Zhuo, Wang, Xiaolin, Wang, Yitong, Hao, Jingcheng, Rapid-Forming and Self-Healing Agarose-Based Hydrogels for Tissue Adhesives and Potential Wound Dressings, Biomacromolecules, 19, 980-988, 2018	Study design not in PICO: Animal study
Zhao, R., Feng, F., Wang, X., Exercise interventions and prevention of fall-related fractures in older people: A meta-analysis of randomized controlled trials, International Journal of Epidemiology, 46, 149-161, 2017	Systematic review: Population not in PICO (elderly adults at risk of falling). Included studies checked for relevance.
Zheng, X, Wu, H, Zhang, X, Liu, L, Effects of visual feedback balance training with MTD balance assessment and training system on the equilibrium function and the mobility function in hip fracture patients, Chinese Journal of Rehabilitation, 25, 197-199, 2010	Chinese language article
Zhou, Rui, Alvarado, Laura, Ogilvie, Robert, Chong, Su Ling, Shaw, Oriana, Mushahwar, Vivian K., Non-gait-specific intervention for the rehabilitation of walking after SCI: role of the arms, Journal of Neurophysiology, 119, 2194-2211, 2018	Intervention not in PICO: Arm and leg functional electrical stimulation training
Zhou, Y. P., Jiang, Z. M., Sun, Y. H., Wang, X. R., Ma, E. L.,	Outcomes not in PICO:

Study	Reason for Exclusion
Wilmore, D., The effect of supplemental enteral glutamine on plasma levels, gut function, and outcome in severe burns: a randomized, double-blind, controlled clinical trial, JPEN. Journal of parenteral and enteral nutrition, 27, 241-245, 2003	Plasma glutamine, lactulose/mannitol ratio, body weight, rate of wound healing and length of hospitalisation
Ziden, L., Asplin, G., Kjellby Wendt, G., Early coordinated rehabilitation in acute phase after hip fracture-a new model for increased patient participation, independence and self-confidence, Physiotherapy (United Kingdom), 101, eS1717-eS1718, 2015	Conference abstract
Ziden, Lena, Frandin, Kerstin, Kreuter, Margareta, Home rehabilitation after hip fracture. A randomized controlled study on balance confidence, physical function and everyday activities, Clinical Rehabilitation, 22, 1019-33, 2008	Intervention not in PICO: Supported discharge
Ziden, Lena, Kreuter, Margareta, Frandin, Kerstin, Long-term effects of home rehabilitation after hip fracture - 1-year follow-up of functioning, balance confidence, and health-related quality of life in elderly people, Disability and rehabilitation, 32, 18-32, 2010	Intervention not in PICO: Home rehabilitation
Zoghi, Maryam, Galea, Mary, Brain Motor Control Assessment Post Early Intensive Hand Rehabilitation After Spinal Cord Injury, Topics in Spinal Cord Injury Rehabilitation, 24, 157-166, 2018	Intervention not in PICO: Functional electrical stimulation
Zusman, Enav Z., Dawes, Martin G., Edwards, Nicola, Ashe, Maureen C., A systematic review of evidence for older adults' sedentary behavior and physical activity after hip fracture, Clinical Rehabilitation, 32, 679-691, 2018	Systematic review: Included studies checked for relevance.
Zwicker, Jill G., Mayson, Tanja A., Effectiveness of treadmill training in children with motor impairments: an overview of systematic reviews, Pediatric physical therapy : the official publication of the Section on Pediatrics of the American Physical Therapy Association, 22, 361-77, 2010	Systematic review: Included studies checked for relevance.
Zyto, K., Ahrengart, L., Sperber, A., Tornkvist, H., Treatment of displaced proximal humeral fractures in elderly patients, The Journal of bone and joint surgery. British volume, 79, 412-7, 1997	Intervention not in PICO: Tension-band surgery

Economic studies

No economic evidence was identified for this review. See supplementary material D for further information.

Excluded studies for review question: B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Clinical studies

Table 81: Excluded studies and reasons for their exclusion

Study	Reason for Exclusion
Abbott, A., Tyni-Lenne, R., Hedlund, R., The effectiveness of physiotherapeutic rehabilitation and issues of outcome prediction after lumbar fusion surgery, Physiotherapy (United Kingdom), 97, eS20-eS21, 2011	Conference abstract
Abdelbasset, W. K., Elsayed, S. H., Nambi, G., Tantawy, S. A.,	Population not in PICO:

Study	Reason for Exclusion
Kamel, D. M., Eid, M. M., Moawd, S. A., Alsubaie, S. F., Potential efficacy of sensorimotor exercise program on pain, proprioception, mobility, and quality of life in diabetic patients with foot burns: A 12-week randomized control study, Burns, 2020	Diabetic patients with burns.
Aboelmagd, Tariq, Dainty, Jack R., MacGregor, Alex, Smith, Toby O., Trajectory of physical activity after hip fracture: An analysis of community-dwelling individuals from the English Longitudinal Study of Ageing, Injury, 49, 697-701, 2018	Study design not in PICO: No intervention
Abou, L., Malala, V. D., Yarnot, R., Alluri, A., Rice, L. A., Effects of Virtual Reality Therapy on Gait and Balance Among Individuals With Spinal Cord Injury: A Systematic Review and Meta-analysis, Neurorehabilitation and Neural Repair, 34, 375-388, 2020	Systematic review: Included studies checked for relevance.
Abribat, T., Nedelec, B., Jobin, N., Garrel, D. R., Decreased serum insulin-like growth factor-I in burn patients: relationship with serum insulin-like growth factor binding protein-3 proteolysis and the influence of lipid composition in nutritional support, Critical care medicine, 28, 2366-72, 2000	Outcomes not in PICO: Serum IGF levels.
Adam, Jessalynn, De Luigi, Arthur Jason, Blunt Abdominal Trauma in Sports, Current Sports Medicine Reports, 17, 317-319, 2018	Narrative review
Adams, Melanie M., Hicks, Audrey L., Comparison of the effects of body-weight-supported treadmill training and tilt-table standing on spasticity in individuals with chronic spinal cord injury, The journal of spinal cord medicine, 34, 488-94, 2011	Study design not in PICO: Cross-over study
Agrawal, Vibhor, Gailey, Robert, O'Toole, Christopher, Gaunaurd, Ignacio, Finnieston, Adam, Influence of gait training and prosthetic foot category on external work symmetry during unilateral transtibial amputee gait, Prosthetics and Orthotics International, 37, 396-403, 2013	Outcomes not in PICO: Symmetry in external work measure
Aguayo, Pablo, Fraser, Jason D., Sharp, Susan, Holcomb, George W., 3rd, Ostlie, Daniel J., St Peter, Shawn D., Nonoperative management of blunt renal injury: a need for further study, Journal of Pediatric Surgery, 45, 1311-4, 2010	Study design not in PICO: No intervention
Aguirre-Guemez, Ana Valeria, Perez-Sanpablo, Aberto Isaac, Quinzanos-Fresnedo, Jimena, Perez-Zavala, Ramiro, Barrera-Ortiz, Aida, Walking speed is not the best outcome to evaluate the effect of robotic assisted gait training in people with motor incomplete Spinal Cord Injury: A Systematic Review with meta-analysis, The journal of spinal cord medicine, 42, 142-154, 2019	Systematic review: Included studies checked for relevance.
Aito, S., Pieri, A., D'Andrea, M., Marcelli, F., Cominelli, E., Primary prevention of deep venous thrombosis and pulmonary embolism in acute spinal cord injured patients, Spinal Cord, 40, 300-3, 2002	Study design not in PICO: No comparative data
Akkaya, Nuray, Ardic, Fusun, Ozgen, Merih, Akkaya, Semih, Sahin, Fusun, Kilic, Alper, Efficacy of electromyographic biofeedback and electrical stimulation following arthroscopic partial meniscectomy: a randomized controlled trial, Clinical Rehabilitation, 26, 224-36, 2012	Intervention not in PICO: Electromyographic biofeedback training and electrical stimulation therapy
Akkurt, H., Kirazli, Y., Karapolat, H., Kose, T., The effects of aerobic exercise on cardiopulmonary functions, quality of life, psychological state, disability and metabolic syndrome parameters in patients with spinal cord injury, Turkiye Fiziksel Tip ve Rehabilitasyon Dergisi, 59, 409, 2013	Turkish language paper
Akkurt, Halil, Karapolat, Hale U., Kirazli, Yesim, Kose, Timur, The effects of upper extremity aerobic exercise in patients with spinal cord injury: a randomized controlled study, European Journal of Physical and Rehabilitation Medicine, 53, 219-227, 2017	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Alashram, A. R., Padua, E., Hammash, A. K., Lombardo, M., Annino,	Systematic review:

Study	Reason for Exclusion
G., Effectiveness of virtual reality on balance ability in individuals with incomplete spinal cord injury: A systematic review, Journal of Clinical Neuroscience, 72, 322-327, 2020	Included studies checked for relevance.
Alcala-Cerra, G., Paternina-Caicedo, A. J., Diaz-Becerra, C., Moscote-Salazar, L. R., Fernandes-Joaquim, A., Orthosis for thoracolumbar burst fractures without neurologic deficit: A systematic review of prospective randomized controlled trials, Journal of Craniovertebral Junction and Spine, 5, 2014	Systematic review: Included studies checked for relevance.
Alcobendas-Maestro, M., Esclarín-Ruz, A., Casado-López, R. M., Muñoz-González, A., Pérez-Mateos, G., González-Valdizán, E., Martín, J. L., Lokomat robotic-assisted versus overground training within 3 to 6 months of incomplete spinal cord lesion: randomized controlled trial, Neurorehabilitation and Neural Repair, 26, 1058-1063, 2012	Intervention not in PICO: Robotic-assisted gait training
Alekna, V., Tamulaitiene, M., Sinevicius, T., Juocevicius, A., Effect of weight-bearing activities on bone mineral density in spinal cord injured patients during the period of the first two years, Spinal Cord, 46, 727-32, 2008	Study design not in PICO: Non-RCT with <100 per arm
Ali, Zizi M. Ibrahim, El-Refay, Basant H., Ali, Rania Reffat, Aerobic exercise training in modulation of aerobic physical fitness and balance of burned patients, Journal of physical therapy science, 27, 585-9, 2015	Outcomes not in PICO: Aerobic capacity and Berg Balance scale
Allison, G. T., Singer, K. P., Marshall, R. N., Transfer movement strategies of individuals with spinal cord injuries, Disability and Rehabilitation, 18, 35-41, 1996	Study design not in PICO: No intervention
Allison, K. P., Kiernan, M. N., Waters, R. A., Clement, R. M., Pulsed dye laser treatment of burn scars. Alleviation or irritation?, Burns : journal of the International Society for Burn Injuries, 29, 207-13, 2003	Outcomes not in PICO: Digital photographs, pruritis, Vancouver Scar score and histology
Almeida, L., janiele, rossi, Couto, E., Donato, B., Junior, A. C., Muscle Strengthening Exercises for the Hip Segment in The Pre-Prosthesis Amputee Population: Pilot Study, Archives of Physical Medicine and Rehabilitation, 100, e100, 2019	Conference abstract
Alsancak, S., Kenan Kose, S., Altinkaynak, H., Effect of elastic bandaging and prosthesis on the decrease in stump volume, Acta Orthopaedica et Traumatologica Turcica, 45, 14-22, 2011	Turkish language paper
Altut, F., Unal, A., Kurtca, M. P., Cavlak, U., Early term rehabilitation in spinal cord injury: General assesment in 10 years, Fizyoterapi Rehabilitasyon, 25, S32, 2014	Paper unavailable
Aly, M., Emran, I., Ibrahim, M., Abdel Megeed, M., Early and late weight bearing after femoral trochanteric fractures fixed by dynamic hip screw, Physiotherapy (United Kingdom), 97, eS64, 2011	Conference abstract
Amorim, S., Teixeira, V. H., Corredeira, R., Cunha, M., Maia, B., Margalho, P., Pires, J., Creatine or vitamin D supplementation in individuals with a spinal cord injury undergoing resistance training: A double-blinded, randomized pilot trial, Journal of Spinal Cord Medicine, 41, 471-478, 2018	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
Andrew, Nadine Elizabeth, Wolfe, Rory, Cameron, Peter, Richardson, Martin, Page, Richard, Bucknill, Andrew, Gabbe, Belinda J., Return to pre-injury health status and function 12 months after hospitalisation for sport and active recreation related orthopaedic injury, Injury prevention : journal of the International Society for Child and Adolescent Injury Prevention, 18, 377-84, 2012	Paper unavailable
Angleitner, C., Heise, P., Golmayer, P., Traussnigg, S., Reiter, I.,	Paper unavailable

Study	Reason for Exclusion
Ewerth, U., Indoor geriatric early rehabilitation; a randomised outcome study of 2,308 patients, European Geriatric Medicine, 7, S141, 2016	
Angleitner, C., Heise, P., Golmayer, P., Traussnigg, S., Reiter, I., Stationary geriatric early rehabilitation is well known and well organized in many countries. But is it sufficiently in outcome for patients from all assigning specialist departments? A randomized outcome trail of 1,295 patients, European Geriatric Medicine, 4, S102, 2013	Conference abstract
Angleitner, C., Heise, P., Reiter, I., Golmayr, P., Ewerth, U., Stationary geriatric early rehabilitation; A randomised outcome study of 2,025 patients, European Geriatric Medicine, 5, S175-S176, 2014	Conference abstract
Angleitner, C., Indoor geriatric early rehabilitation; A randomised outcome study of 2,579 patients, European Geriatric Medicine, 8, S169-, 2017	Paper unavailable
Angleitner, C., Stationary geriatric early rehabilitation is well known and well organized in many countries. But is it sufficiently in outcome for patients from all assigned specialists departments? A randomized outcome study of 1651 patients, Annals of Physical and Rehabilitation Medicine, 57, e150, 2014	Conference abstract
Anjum, Hadeya, Amjad, Imran, Malik, Arshad Nawaz, Effectiveness of Proprioceptive Neuromuscular Facilitation Techniques as Compared to Traditional Strength Training in Gait Training Among Transtibial Amputees, Journal of the College of Physicians and Surgeons--Pakistan : JCPSP, 26, 503-6, 2016	Paper unavailable
Anneken, V., Hanssen-Doose, A., Hirschfeld, S., Scheuer, T., Thietje, R., Influence of physical exercise on quality of life in individuals with spinal cord injury, Spinal Cord, 48, 393-9, 2010	Study design not in PICO: No intervention
Anonymous,, Effective methods for preventing pressure ulcers, Journal of Family Practice, 55, 942, 2006	Summary abstract
Anonymous,, Secondary prevention of hip fractures should be standard care for patients who sustain a hip fracture, Drugs and Therapy Perspectives, 19, 14-17, 2003	Narrative review
Anthonissen, Mieke, Meirte, Jill, Moortgat, Peter, Maertens, Koen, Daly, Daniel, Fieuws, Steffen, Lafaire, Cindy, De Cuyper, Lieve, Van den Kerckhove, Eric, Influence on clinical parameters of depressomassage (part I): The effects of depressomassage on color and transepidermal water loss rate in burn scars: A pilot comparative controlled study, Burns : journal of the International Society for Burn Injuries, 44, 877-885, 2018	Study design not in PICO: Non-RCT with <100 per arm
Aquilani, R., Zuccarelli Ginetto, C., Rutili, C., Pisano, P., Pasini, E., Baldissarro, E., Verri, M., Boschi, F., Supplemented amino acids may enhance the walking recovery of elderly subjects after hip fracture surgery, Aging Clinical and Experimental Research, 31, 157-160, 2019	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Arazpour, M., Samadian, M., Ebrahimzadeh, K., Ahmadi Bani, M., Hutchins, S. W., The influence of orthosis options on walking parameters in spinal cord-injured patients: a literature review, Spinal Cord, 54, 412-22, 2016	Narrative review
Arazpour, Mokhtar, Bani, Monireh Ahmadi, Hutchins, Stephen W., Reciprocal gait orthoses and powered gait orthoses for walking by spinal cord injury patients, Prosthetics and Orthotics International, 37, 14-21, 2013	Narrative review
Arefian, N. M., Teymourian, H., Radpay, B., Effect of partial parenteral versus enteral nutritional therapy on serum indices in multiple trauma patients, Tanaffos, 6, 37-41, 2007	Paper unavailable

Study	Reason for Exclusion
Artaza, I., Fernandez, N., Urkiza, M., Garcia, I., Uriarte, I., Agirre, E., Is the MNA an indicator of functional recovery in patients with hip fracture?, European Geriatric Medicine, 4, S106, 2013	Conference abstract
Asensio, J. A., Petrone, P., Wo, C. J., Li-Chien, C., Lu, K., Fathizadeh, P., Kimbrell, B. J., Garcia-Nunez, L. M., Shoemaker, W. C., Noninvasive hemodynamic monitoring of patients sustaining severe penetrating thoracic, abdominal and thoracoabdominal injuries for early recognition and therapy of shock, Scandinavian journal of surgery : SJS : official organ for the Finnish Surgical Society and the Scandinavian Surgical Society, 95, 152-7, 2006	Study design not in PICO: Case series
Astorino, T. A., Harness, E. T., Effect of intense activity-based therapy on body composition in persons with spinal cord injury, Archives of Physical Medicine and Rehabilitation, 96, e39-e40, 2015	Conference abstract
Astorino, T. A., Thum, J. S., Interval training elicits higher enjoyment versus moderate exercise in persons with spinal cord injury, Journal of Spinal Cord Medicine, 41, 77-84, 2018	Study design not in PICO: Cross-over study
Auais, Mohammad A., Eilayyan, Owis, Mayo, Nancy E., Extended exercise rehabilitation after hip fracture improves patients' physical function: a systematic review and meta-analysis, Physical therapy, 92, 1437-51, 2012	Systematic review: Included studies checked for relevance.
Audenaert, Amaryllis, Prims, Jente, Reniers, Genserik L. L., Weyns, Dirk, Mahieu, Peter, Audenaert, Emmanuel, Evaluation and economic impact analysis of different treatment options for ankle distortions in occupational accidents, Journal of evaluation in clinical practice, 16, 933-9, 2010	Study design not in PICO: Non-RCT with <100 per arm
Avenell, A., Handoll, H. H. G., Nutritional supplementation for hip fracture aftercare in the elderly, The Cochrane database of systematic reviews, CD001880, 2004	Systematic review: Included studies checked for relevance.
Ayhan, Cigdem, Unal, Edibe, Yakut, Yavuz, Core stabilisation reduces compensatory movement patterns in patients with injury to the arm: a randomized controlled trial, Clinical Rehabilitation, 28, 36-47, 2014	Population not in PICO: Patients with simple elbow and wrist disorders
Azhar, M. M., The outcome of supracondyler fractures of elbow joint treated during different periods of time by different techniques in district population, Pakistan Journal of Medical and Health Sciences, 5, 662-667, 2011	Paper unavailable
Babajafari, Siavash, Akhlaghi, Masoumeh, Mazloomi, Seyed Mohammad, Ayaz, Mehdi, Noorafshan, Ali, Jafari, Peyman, Hojhabrimanesh, Abdollah, The effect of isolated soy protein adjunctive with flaxseed oil on markers of inflammation, oxidative stress, acute phase proteins, and wound healing of burn patients; a randomized clinical trial, Burns : journal of the International Society for Burn Injuries, 44, 140-149, 2018	Outcomes not in PICO: Serum proteins, oxidative stress markers, inflammatory markers and wound area
Bach Baunsgaard, C., Vig Nissen, U., Katrin Brust, A., Frotzler, A., Ribeill, C., Kalke, Y. B., Leon, N., Gomez, B., Samuelsson, K., Antepohl, W., Holmstrom, U., Marklund, N., Glott, T., Opheim, A., Benito, J., Murillo, N., Nachtegaal, J., Faber, W., Biering-Sorensen, F., Gait training after spinal cord injury: Safety, feasibility and gait function following 8 weeks of training with the exoskeletons from Ekso Bionics article, Spinal Cord, 56, 106-116, 2018	Study design not in PICO: No comparative data
Backus, D., Apple, D., Hudson, L., Health-related outcomes after lower extremity and walking activity-based interventions for persons with spinal cord injury: A research synthesis, Topics in Spinal Cord Injury Rehabilitation, 16, 73, 2011	Poster presentation abstract
Bailey, C. S., Urquhart, J. C., Dvorak, M. F., Nadeau, M., Boyd, M. C., Thomas, K. C., Kwon, B. K., Gurr, K. R., Bailey, S. I., Fisher, C.	Population not in PICO: Adults aged ≥ 18 years old.

Study	Reason for Exclusion
G., Orthosis versus no orthosis for the treatment of thoracolumbar burst fractures without neurologic injury: a multicenter prospective randomized equivalence trial, Spine Journal, 14, 2557-2564, 2014	Included in corresponding adult evidence review.
Bailey, Christopher S., Dvorak, Marcel F., Thomas, Kenneth C., Boyd, Michael C., Paquett, Scott, Kwon, Brian K., France, John, Gurr, Kevin R., Bailey, Stewart I., Fisher, Charles G., Comparison of thoracolumbosacral orthosis and no orthosis for the treatment of thoracolumbar burst fractures: interim analysis of a multicenter randomized clinical equivalence trial, Journal of neurosurgery. Spine, 11, 295-303, 2009	Interim analyses of Bailey 2014 which has been included in this review.
Ballaz, L., Fusco, N., Cretual, A., Langella, B., Brissot, R., Peripheral Vascular Changes After Home-Based Passive Leg Cycle Exercise Training in People With Paraplegia: A Pilot Study, Archives of Physical Medicine and Rehabilitation, 89, 2162-2166, 2008	Outcomes not in PICO: Training compliance and vascular adaptations
Barbeau, H., Fung, J., Leroux, A., Ladouceur, M., A review of the adaptability and recovery of locomotion after spinal cord injury, Progress in Brain Research, 137, 9-25, 2002	Narrative review
Barbeau, H., Fung, J., Visintin, M., New approach to retrain gait in stroke and spinal cord injured subjects, Neurorehabilitation and Neural Repair, 13, 177-178, 1999	Narrative review
Barbeau, Hugues, Nadeau, Sylvie, Garneau, Christiane, Physical determinants, emerging concepts, and training approaches in gait of individuals with spinal cord injury, Journal of Neurotrauma, 23, 571-85, 2006	Narrative review
Barbosa, E., Faintuch, J., Machado Moreira, E. A., Supplementation of vitamin E, vitamin C, and zinc attenuates oxidative stress in burned children: A randomized, double-blind, placebo-controlled pilot study, Nutrition in Clinical Practice, 25, 216-218, 2010	Journal commentary
Barker, Ellen, SCI patients take a big step forward, RN, 68, 30-35, 2005	Paper unavailable
Bastian, L., Weimann, A., Bischoff, W., Meier, P. N., Grotz, M., Stan, C., Regel, G., Clinical effects of supplemental enteral nutrition solution in severe polytrauma, Der Unfallchirurg, 101, 105-114, 1998	German language paper
Bastian, L., Weimann, A., Immunonutrition in patients after multiple trauma, The British journal of nutrition, 87 Suppl 1, S133-4, 2002	Narrative review
Battistella, F. D., Widergren, J. T., Anderson, J. T., Siepler, J. K., Weber, J. C., MacColl, K., Ali, J., Wiles, Iii C. E., Moore, F. A., Moncure, M., A prospective, randomized trial of intravenous fat emulsion administration in trauma victims requiring total parenteral nutrition, Journal of Trauma - Injury, Infection and Critical Care, 43, 52-60, 1997	Dates not in PICO: 1992-1994
Beale, R. J., Bryg, D. J., Bihari, D. J., Immunonutrition in the critically ill: a systematic review of clinical outcome, Critical Care Medicine, 27, 2799-805, 1999	Systematic review: Included studies checked for relevance.
Beaupre, L. A., Cinats, J. G., Senthilselvan, A., Scharfenberger, A., Johnston, D. W., Saunders, L. D., Does standardized rehabilitation and discharge planning improve functional recovery in elderly patients with hip fracture?, Archives of Physical Medicine and Rehabilitation, 86, 2231-2239, 2005	Intervention not in PICO: Standardised rehabilitation pathway and discharge planning
Beaupre, L. A., Jones, C. A., Saunders, L. D., Johnston, D. W. C., Buckingham, J., Majumdar, S. R., Best practices for elderly hip fracture patients: A systematic overview of the evidence, Journal of General Internal Medicine, 20, 1019-1025, 2005	Systematic review: Included studies checked for relevance.
Becker, R., Nieczaj, R., Egge, K., Moll, A., Meinhard, M., Schulz, R. J., Functional dysphagia therapy and PEG treatment in a clinical	Population not in PICO: Dysphagic patients due to

Study	Reason for Exclusion
geriatric setting, Dysphagia, 26, 108-116, 2011	non-traumatic causes
Beckerman, H., Roelofsen, E. E., Knol, D. L., Lankhorst, G. J., The value of the Rehabilitation Activities Profile (RAP) as a quality sub-system in rehabilitation medicine, Disability and Rehabilitation, 26, 387-400, 2004	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for traumatic (14% SCI, 17% amputation) and non-traumatic patients
Beckmann, M., Bruun-Olsen, V., Pripp, A. H., Bergland, A., Smith, T., Heiberg, K. E., Effect of exercise interventions in the early phase to improve physical function after hip fracture - A systematic review and meta-analysis, Physiotherapy (United Kingdom), 108, 90-97, 2020	Systematic review: Included studies checked for relevance.
Beekman, C., Perry, J., Boyd, L. A., Newsam, C. J., Mulroy, S. J., The effects of a dorsiflexion-stopped ankle-foot orthosis on walking in individuals with incomplete spinal cord injury, Topics in Spinal Cord Injury Rehabilitation, 5, 54-62, 2000	Paper unavailable
Behrman, S. W., Kudsk, K. A., Brown, R. O., Vehe, K. L., Wojtysiak, S. L., The effect of growth hormone on nutritional markers in enterally fed immobilized trauma patients, JPEN. Journal of parenteral and enteral nutrition, 19, 41-6, 1995	Outcomes not in PICO: Blood nutritional markers
Bek, N., Simsek, I. E., Erel, S., Yakut, Y., Uygur, F., Home-based general versus center-based selective rehabilitation in patients with posterior tibial tendon dysfunction, Acta Orthopaedica et Traumatologica Turcica, 46, 286-292, 2012	Population not in PICO: Patients with posterior tibial tendon dysfunction
Belanger, Lise, Cobb, John, Bernardo, Arlene, Clerkin, Karen, Ang, Romilda, Adams, Sherri, Handfield, Shannon, In search of the "superior" cervical orthosis: Philadelphia Cervical Orthosis versus Aspen Cervical Orthosis, SCI nursing : a publication of the American Association of Spinal Cord Injury Nurses, 21, 158-60, 2004	Paper unavailable
Bell, Jack J., Rossi, Tony, Bauer, Judith D., Capra, Sandra, Developing and evaluating interventions that are applicable and relevant to inpatients and those who care for them; a multiphase, pragmatic action research approach, BMC medical research methodology, 14, 98, 2014	Study designs not in PICO: Case series (phase I and II) and non-RCT with <100 per arm (phase III and IV)
Ben, Marsha, Harvey, Lisa, Denis, Sophie, Glinsky, Joanne, Goehl, Gerlinde, Chee, Shane, Herbert, Robert D., Does 12 weeks of regular standing prevent loss of ankle mobility and bone mineral density in people with recent spinal cord injuries?, The Australian journal of physiotherapy, 51, 251-6, 2005	Comparison not in PICO: Weight-bearing and stretch versus non-weight-bearing and no stretch. Physiotherapy stopped for duration of intervention so no standard care.
Benjamin, Nicole C., Andersen, Clark R., Herndon, David N., Suman, Oscar E., The effect of lower body burns on physical function, Burns : journal of the International Society for Burn Injuries, 41, 1653-1659, 2015	Study design not in PICO: No intervention
Berger, M. M., Baines, M., Raffoul, W., Benathan, M., Chiolero, R. L., Reeves, C., Revelly, J. P., Cayeux, M. C., Sénéchaud, I., Shenkin, A., Trace element supplementation after major burns modulates antioxidant status and clinical course by way of increased tissue trace element concentrations, American Journal of Clinical Nutrition, 85, 1293-1300, 2007	Setting not in PICO: Intensive care unit
Berger, M. M., Binnert, C., Chiolero, R. L., Taylor, W., Raffoul, W., Cayeux, M. C., Benathan, M., Shenkin, A., Tappy, L., Trace element supplementation after major burns increases burned skin trace element concentrations and modulates local protein metabolism but not whole-body substrate metabolism, American Journal of Clinical	Setting not in PICO: Intensive care unit

Study	Reason for Exclusion
Nutrition, 85, 1301-1306, 2007	
Berger, M. M., Eggimann, P., Heyland, D. K., Chiolero, R. L., Revelly, J. P., Day, A., Raffoul, W., Shenkin, A., Reduction of nosocomial pneumonia after major burns by trace element supplementation: Aggregation of two randomised trials, Critical Care, 10, R153, 2006	Setting not in PICO: Intensive care unit
Berger, M. M., Spertini, F., Shenkin, A., Reymond, M. J., Schindler, C., Tappy, L., Wiesner, L., Menoud, V., Cavadini, C., Cayeux, C., Wardle, C. A., Gaillard, R. C., Chiolero, R. L., Clinical, immune and metabolic effects of trace element supplements in burns: a double-blind placebo-controlled trial, Clinical nutrition (Edinburgh, Scotland), 15, 94-6, 1996	Outcomes not in PICO: Serum trace element concentrations, protein concentrations, immunological parameters, infections and urine
Berggren, M., Stenvall, M., Olofsson, B., Gustafson, Y., Evaluation of a fall-prevention program in older people after femoral neck fracture: a one-year follow-up, Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, 19, 801-9, 2008	Intervention not in PICO: Active prevention, detection and treatment of fall risk factors.
Berlowitz, D., Tamplin, J., Respiratory muscle training for cervical spinal cord injury, Cochrane Database of Systematic Reviews, 2013, CD008507, 2013	Systematic review: Intervention not in PICO (respiratory muscle training). Included studies checked for relevance.
Berne, John D., Norwood, Scott H., McAuley, Clyde E., Vallina, Van L., Villareal, David, Weston, Jaye, McClarty, Jerry, Erythromycin reduces delayed gastric emptying in critically ill trauma patients: a randomized, controlled trial, The Journal of trauma, 53, 422-5, 2002	Setting not in PICO: Intensive care unit
Bernier, J., Jobin, N., Emptoz-Bonneton, A., Pugeat, M. M., Garrel, D. R., Decreased corticosteroid-binding globulin in burn patients: relationship with interleukin-6 and fat in nutritional support, Critical Care Medicine, 26, 452-60, 1998	Outcomes not in PICO: TNF-alpha, TNF-beta, interleukin-6 and corticosteroid-binding globulin.
Binder, Ellen F., Brown, Marybeth, Sinacore, David R., Steger-May, Karen, Yarasheski, Kevin E., Schechtman, Kenneth B., Effects of extended outpatient rehabilitation after hip fracture: a randomized controlled trial, JAMA, 292, 837-46, 2004	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Black, J. D. J., Bhavikatti, M., Al-Hadithy, N., Hakmi, A., Kitson, J., Early weight-bearing in operatively fixed ankle fractures: a systematic review, Foot (Edinburgh, Scotland), 23, 78-85, 2013	Systematic review: Included studies checked for relevance.
Bloom, Julia, Dorsett, Pat, McLennan, Vanette, Integrated services and early intervention in the vocational rehabilitation of people with spinal cord injuries, Spinal cord series and cases, 3, 16042, 2017	Narrative review
Bochkezanian, V., Raymond, J., de Oliveira, C. Q., Davis, G. M., Can combined aerobic and muscle strength training improve aerobic fitness, muscle strength, function and quality of life in people with spinal cord injury? A systematic review, Spinal cord, 53, 418-31, 2015	Systematic review: Included studies checked for relevance.
Boldt, I., Eriks-Hoogland, I., Brinkhof, M. W. G., de Bie, R., Joggi, D., von Elm, E., Non-pharmacological interventions for chronic pain in people with spinal cord injury, Cochrane Database of Systematic Reviews, 2014	Systematic review: Intervention not in PICO (specific pain management strategies). Included studies checked for relevance.
Bong, Matthew R., Egol, Kenneth A., Leibman, Matthew, Koval, Kenneth J., A comparison of immediate postreduction splinting constructs for controlling initial displacement of fractures of the distal radius: a prospective randomized study of long-arm versus short-arm	Population not in PICO: Patients with distal radius fractures

Study	Reason for Exclusion
splinting, The Journal of hand surgery, 31, 766-70, 2006	
Boswell-Ruys, C. L., Harvey, L. A., Barker, J. J., Ben, M., Middleton, J. W., Lord, S. R., Training unsupported sitting in people with chronic spinal cord injuries: a randomized controlled trial, Spinal cord, 48, 138-43, 2010	Comparison not in PICO: No intervention
Botella-Carretero, J. I., Iglesias, B., Balsa, J. A., Arrieta, F., Zamarron, I., Vazquez, C., Perioperative oral nutritional supplements in normally or mildly undernourished geriatric patients submitted to surgery for hip fracture: A randomized clinical trial, Clinical Nutrition, 29, 574-579, 2010	Outcomes not in PICO: Serum albumin, changes in body mass index, hospital stay length, time to mobilisation and post-operative complications
Bradley, Joel F., 3rd, Jones, Mark A., Farmer, Elizabeth A., Fann, Stephen A., Bynoe, Raymond, Swallowing dysfunction in trauma patients with cervical spine fractures treated with halo-vest fixation, The Journal of trauma, 70, 46-50, 2011	Comparison not in PICO: Severity of dysphagia
Bragaru, M., Dekker, R., Geertzen, J. H., Dijkstra, P. U., Amputees and sports: a systematic review, Sports medicine (Auckland, N.Z.), 41, 721-740, 2011	Intervention not in PICO: Specific pain management strategies
Brandis, S., Use of contract occupational therapy services to facilitate early discharge from hospital, Australian Occupational Therapy Journal, 45, 131-138, 1998	Outcomes not in PICO: Readmission to hospital
Brehmer, J. L., Husband, J. B., Accelerated rehabilitation compared with a standard protocol after distal radial fractures treated with volar open reduction and internal fixation: a prospective, randomized, controlled study, Journal of bone and joint surgery. American volume, 96, 1621-1630, 2014	Intervention not in PICO: Early initiation of standard care
Brooker, C., Gord, Australian Journal of Pharmacy, 99, 32-34, 2018	Narrative review
Bruder, A., Taylor, N., Dodd, K., Shields, N., Physiotherapy for the rehabilitation of upper limb fractures in adults: A systematic review and meta-analysis, Physiotherapy (United Kingdom), 97, eS163, 2011	Conference abstract
Brumback, R. J., Toal, T. R., Jr., Murphy-Zane, M. S., Novak, V. P., Belkoff, S. M., Immediate weight-bearing after treatment of a comminuted fracture of the femoral shaft with a statically locked intramedullary nail, The Journal of bone and joint surgery. American volume, 81, 1538-44, 1999	Study design not in PICO: Non-RCT with <100 per arm
Buehner, Jeffrey J., Forrest, Gail F., Schmidt-Read, Mary, White, Susan, Tansey, Keith, Basso, D. Michele, Relationship between ASIA examination and functional outcomes in the NeuroRecovery Network Locomotor Training Program, Archives of Physical Medicine and Rehabilitation, 93, 1530-40, 2012	Study design not in PICO: No comparative data
Burlew, Clay Cothren, Moore, Ernest E., Cuschieri, Joseph, Jurkovich, Gregory J., Codner, Panna, Nirula, Ram, Millar, D., Cohen, Mitchell J., Kutcher, Matthew E., Haan, James, MacNew, Heather G., Ochsner, Gage, Rowell, Susan E., Truitt, Michael S., Moore, Forrest O., Pieracci, Fredric M., Kaups, Krista L., W. T. A. Study Group, Who should we feed? Western Trauma Association multi-institutional study of enteral nutrition in the open abdomen after injury, The journal of trauma and acute care surgery, 73, 1380-8, 2012	Study design not in PICO: No intervention
Burnfield, Judith M., Eberly, Valerie J., Gronely, Joanne K., Perry, Jacquelin, Yule, William Jared, Mulroy, Sara J., Impact of stance phase microprocessor-controlled knee prosthesis on ramp negotiation and community walking function in K2 level transfemoral amputees, Prosthetics and Orthotics International, 36, 95-104, 2012	Study design not in PICO: Cross-over study
Burns, A. S., O'Connell, C., Landry, M. D., Spinal Cord Injury in	Narrative review

Study	Reason for Exclusion
Postearthquake Haiti: Lessons Learned and Future Needs, PM and R, 2, 695-697, 2010	
Burns, Anthony S., Marino, Ralph J., Kalsi-Ryan, Sukhvinder, Middleton, James W., Tetreault, Lindsay A., Dettori, Joseph R., Mihalovich, Kathryn E., Fehlings, Michael G., Type and Timing of Rehabilitation Following Acute and Subacute Spinal Cord Injury: A Systematic Review, Global Spine Journal, 7, 175S-194S, 2017	Intervention not in PICO: Specific pain management strategies
Bye, E. A., Harvey, L. A., Gambhir, A., Kataria, C., Glinsky, J. V., Bowden, J. L., Malik, N., Tranter, K. E., Lam, C. P., White, J. S., Gollan, E. J., Arora, M., Gandevia, S. C., Strength training for partially paralysed muscles in people with recent spinal cord injury: a within-participant randomised controlled trial, Spinal Cord, 55, 460-465, 2017	Outcomes not in PICO: Muscle strength, spasticity, fatigue, perception of function and perception of strength
Byers, P. M., Block, E. F., Albornoz, J. C., Pombo, H., Kirton, O. C., Martin, L. C., Augenstein, J. S., The need for aggressive nutritional intervention in the injured patient: the development of a predictive model, The Journal of trauma, 39, 1103-9, 1995	Dates not in PICO: 1993
Calthorpe, Sara, Barber, Elizabeth A., Holland, Anne E., Kimmel, Lara, Webb, Melissa J., Hodgson, Carol, Gruen, Russell L., An intensive physiotherapy program improves mobility for trauma patients, The journal of trauma and acute care surgery, 76, 101-6, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Cameron, Ian D., Kurrle, Susan E., Uy, Cesar, Lockwood, Keri A., Au, Lydia, Schaafsma, Frederieke G., Effectiveness of oral nutritional supplementation for older women after a fracture: rationale, design and study of the feasibility of a randomized controlled study, BMC Geriatrics, 11, 32, 2011	Population not in PICO: Under nourished hip fracture patients
Cancio, J., Rhee, P., Blood flow restriction therapy after non-operative management of distal radius fracture: A randomized controlled pilot study, Journal of Hand Therapy, 31, 161, 2018	Conference abstract
Candy, Lai Hoi Yan, Cecilia, Li-Tsang Wai Ping, Ping, Zheng Yong, Effect of different pressure magnitudes on hypertrophic scar in a Chinese population, Burns : journal of the International Society for Burn Injuries, 36, 1234-41, 2010	Outcomes not in PICO: Scar thickness, scar appearance and scar plibility
Cao, H., Zhang, Y., Zhe, C., Wang, H., An, L., Effects of early rehabilitation on postoperative healing and complications in patients with spinal cord injuries, International Journal of Clinical and Experimental Medicine, 12, 658-663, 2019	Intervention not in PICO: Early initiation of standard rehabilitation, with no weight-bearing component
Cao, M. L., Zhang, J. Z., Effect of early rehabilitation therapy on the rehabilitation of limb sensation and muscle strength in patients with incomplete spinal cord injury, Chinese Journal of Clinical Rehabilitation, 8, 5473-5475, 2004	Chinese language paper
Cardenas, D. D., Felix, E. R., Cowan, R., Orell, M. F., Irwin, R., Effects of Home Exercises on Shoulder Pain and Pathology in Chronic Spinal Cord Injury: A Randomized Controlled Trial, American journal of physical medicine & rehabilitation, 99, 504-513, 2020	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
Carlsson, P., Tidermark, J., Ponzer, S., Soderqvist, A., Cederholm, T., Food habits and appetite of elderly women at the time of a femoral neck fracture and after nutritional and anabolic support, Journal of human nutrition and dietetics : the official journal of the British Dietetic Association, 18, 117-20, 2005	Outcomes not in PICO: Food and nutritional choices
Carter, N. D., Kannus, P., Khan, K. M., Exercise in the prevention of falls in older people: a systematic literature review examining the	Systematic review: Population not in PICO

Study	Reason for Exclusion
rationale and the evidence, Sports medicine (Auckland, N.Z.), 31, 427-38, 2001	(elderly adults at risk of falling). Included studies checked for relevance.
Caschman, J., Blagg, S., Bishay, M., The efficacy of the A-V Impulse system in the treatment of posttraumatic swelling following ankle fracture: a prospective randomized controlled study, Journal of Orthopaedic Trauma, 18, 596-601, 2004	Outcomes not in PICO: Ankle swelling and post-operative complications
Cattell, V., Jewell, A., Does an evidence-based inpatient exercise intervention improve functional outcomes following hip fracture?, Age and Ageing, 41, 2012	Conference abstract
Cauley,J.A., The Women's Health Initiative: Hormone Therapy and Calcium/Vitamin D Supplementation Trials, Current Osteoporosis Reports, 11, 171-178, 2013	Outcomes not in PICO: Fracture rate and bone mineral density
Cedidi, C. Can, Ingianni, G., Compression therapy after complex soft tissue trauma, and flap coverage: optimization of scar development, swelling, function, and aesthetic result, European journal of medical research, 11, 85-9, 2006	Study design not in PICO: Case series
Celis, Mario M., Suman, Oscar E., Huang, Ted T., Yen, Peter, Herndon, David N., Effect of a supervised exercise and physiotherapy program on surgical interventions in children with thermal injury, The Journal of burn care & rehabilitation, 24, 57-56, 2003	Outcomes not in PICO: Number of patients requiring surgical intervention
Cervelli, V., Gentile, P., Spallone, D., Nicoli, F., Verardi, S., Petrocelli, M., Balzani, A., Ultrapulsed fractional CO2 laser for the treatment of post-traumatic and pathological scars, Journal of Drugs in Dermatology, 9, 1328-1331, 2010	Study design not in PICO: Non-RCT with <100 per arm
Chafetz, Ross, Bracing for success, SCI nursing : a publication of the American Association of Spinal Cord Injury Nurses, 19, 196-8, 2002	Paper unavailable
Chang, P., Laubenthal, K. N., Lewis, R. W., 2nd, Rosenquist, M. D., Lindley-Smith, P., Kealey, G. P., Prospective, randomized study of the efficacy of pressure garment therapy in patients with burns, The Journal of burn care & rehabilitation, 16, 473-5, 1995	Dates not in PICO: 1991-1993
Chang, Y. J., Liang, J. N., Hsu, M. J., Lien, H. Y., Fang, C. Y., Lin, C. H., Effects of continuous passive motion on reversing the adapted spinal circuit in humans with chronic spinal cord injury, Archives of Physical Medicine and Rehabilitation, 94, 822-828, 2013	Outcomes not in PICO: Post-activation depression and muscle spasticity
Chang, Y., Shan, Z., Yuan, J., Liu, D., Zhou, J., Yan, Z., Research on the effect of underwater treadmill training on the walking gait of patients with incomplete spinal cord injury, Basic and Clinical Pharmacology and Toxicology, 124, 331, 2019	Conference abstract
Chaparro-Cardenas, Silvia L., Lozano-Guzman, Alejandro A., Ramirez-Bautista, Julian Andres, Hernandez-Zavala, Antonio, A review in gait rehabilitation devices and applied control techniques, Disability and rehabilitation. Assistive technology, 13, 819-834, 2018	Narrative review
Chen, B., Hu, N., Tan, J. H., Efficacy of home-based exercise programme on physical function after hip fracture: a systematic review and meta-analysis of randomised controlled trials, International Wound Journal, 17, 45-54, 2020	Systematic review: Included studies checked for relevance.
Chen, Xinxin, Yang, Wenhui, Wang, Xiao, Balance training can enhance hip fracture patients' independence in activities of daily living: A meta-analysis of randomized controlled trials, Medicine, 99, e19641, 2020	Systematic review: Included studies checked for relevance.
Chen, Z. H., Jin, C. D., Chen, S., Chen, X. S., Wang, Z. E., Liu, W., Lin, J. C., The application of early goal directed therapy in patients during burn shock stage, International Journal of Burns and Trauma, 7, 27-33, 2017	Study design not in PICO: Retrospective case series

Study	Reason for Exclusion
Chen, Z. Y., Gu, C. Z., Wang, S. L., Yu, B., Wang, S. L., Comparative study on the enteral and parenteral nutrition during early postburn stage in burn patients, Zhonghua shao shang za zhi [Chinese journal of burns], 20, 217-219, 2004	Chinese language paper
Cheng, A. S., Use of early tactile stimulation in rehabilitation of digital nerve injuries, The American journal of occupational therapy : official publication of the American Occupational Therapy Association, 54, 159-65, 2000	Outcomes not in PICO: Cutaneous pressure threshold, moving and static 2-point discrimination
Cheng, Christiana L., Plashkes, Tova, Shen, Tian, Fallah, Nader, Humphreys, Suzanne, O'Connell, Colleen, Linassi, A. Gary, Ho, Chester, Short, Christine, Ethans, Karen, Charbonneau, Rebecca, Paquet, Jerome, Noonan, Vanessa K., Does Specialized Inpatient Rehabilitation Affect Whether or Not People with Traumatic Spinal Cord Injury Return Home?, Journal of Neurotrauma, 34, 2867-2876, 2017	Outcome not in PICO: Community discharge destination
Cheng, T. J., Chen, C. N., Tang, Y. B., Lee, W. J., Chen, K. M., Endoscopically-assisted duodenal feeding tube placement using a nasogastric tube: preliminary two-year experience, Journal of the Formosan Medical Association = Taiwan yi zhi, 95, 715-8, 1996	Dates not in PICO: 1992-1994
Chester, D. L., Beale, S., Beveridge, L., Nancarrow, J. D., Titley, O. G., A prospective, controlled, randomized trial comparing early active extension with passive extension using a dynamic splint in the rehabilitation of repaired extensor tendons, Journal of Hand Surgery, 27 B, 283-288, 2002	Population not in PICO: Patients with simple finger extensor tendon division
Cheung, E. Y. Y., Yu, K. K. K., Kwan, R. L. C., Ng, C. K. M., Chau, R. M. W., Cheing, G. L. Y., Effect of EMG-biofeedback robotic-assisted body weight supported treadmill training on walking ability and cardiopulmonary function on people with subacute spinal cord injuries - A randomized controlled trial, BMC Neurology, 19, 140, 2019	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
Cheung, Eddy Y. Y., Ng, Thomas K. W., Yu, Kevin K. K., Kwan, Rachel L. C., Cheing, Gladys L. Y., Robot-Assisted Training for People With Spinal Cord Injury: A Meta-Analysis, Archives of Physical Medicine and Rehabilitation, 98, 2320-2331.e12, 2017	Intervention not in PICO: Robotic-assisted locomotor training.
Cheung, Eddy Yu Yeung, Yu, Kevin Ka Ki, Kwan, Rachel Lai Chu, Ng, Carmen Ka Man, Chau, Rosanna Mei Wa, Cheing, Gladys Lai Ying, Effect of EMG-biofeedback robotic-assisted body weight supported treadmill training on walking ability and cardiopulmonary function on people with subacute spinal cord injuries - a randomized controlled trial, BMC Neurology, 19, 140, 2019	Intervention not in PICO: EMG-biofeedback robotic-assisted locomotor training
Chiang, C. Y., Hamilton, E. J., Grossmann, M., Konstantynowicz, J., Seeman, E., Zajac, J. D., Neglect of occult vitamin D deficiency in acute hip fracture patients, Bone, 44, S74, 2009	Conference abstract
Chilov, M. N., Cameron, I. D., March, L. M., Evidence-based guidelines for fixing broken hips: An update, Medical Journal of Australia, 179, 489-493, 2003	Systematic review: Included studies checked for relevance.
Cho, Yoon Soo, Jeon, Jong Hyun, Hong, Aram, Yang, Hyeong Tae, Yim, Haejun, Cho, Yong Suk, Kim, Do-Hern, Hur, Jun, Kim, Jong Hyun, Chun, Wook, Lee, Boung Chul, Seo, Cheong Hoon, The effect of burn rehabilitation massage therapy on hypertrophic scar after burn: a randomized controlled trial, Burns : journal of the International Society for Burn Injuries, 40, 1513-20, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Choi, J., Lee, J. A., Alimoradi, Z., Lee, M. S., Aromatherapy for the relief of symptoms in burn patients: A systematic review of randomized controlled trials, Burns, 44, 1395-1402, 2018	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
Choi, Ji Soo, Mun, Jeong Hyeon, Lee, Ju Youn, Jeon, Jong Hyun, Jung, Yun Jae, Seo, Cheong Hoon, Jang, Ki Un, Effects of modified dynamic metacarpophalangeal joint flexion orthoses after hand burn, Annals of rehabilitation medicine, 35, 880-6, 2011	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Chudyk, Anna M., Jutai, Jeffrey W., Petrella, Robert J., Speechley, Mark, Systematic review of hip fracture rehabilitation practices in the elderly, Archives of physical medicine and rehabilitation, 90, 246-62, 2009	Systematic review: Included studies checked for relevance.
Cioara, F., Nistor-Cseppento, C., Matica, A., Buntu, S., Vicas, L., Venter, A., Physical effects of exercise associated lokomat therapy rehabilitation in patients with spinal cord injury, Osteoporosis International, 26, S356, 2015	Conference abstract
Clare, T. D., de Haviland Mee, S., Belcher, H. J. C. R., Rehabilitation of digital nerve repair: is splinting necessary?, Journal of hand surgery (Edinburgh, Scotland), 29, 552-6, 2004	Study design not in PICO: Non-RCT with <100 per arm
Clayton, Robert P., Wurzer, Paul, Andersen, Clark R., Mlcak, Ronald P., Herndon, David N., Suman, Oscar E., Effects of different duration exercise programs in children with severe burns, Burns : journal of the International Society for Burn Injuries, 43, 796-803, 2017	Outcomes not in PICO: Muscle strength, oxygen consumption and lean body mass
Clinical application of the computer-aided movable and measurable ankle-foot orthosis, Chinese Journal of Tissue Engineering Research, 21, 1730-1736, 2017	Chinese language paper
Collier, Bryan R., Giladi, Aviram, Dossett, Lesly A., Dyer, Lindsay, Fleming, Sloan B., Cotton, Bryan A., Impact of high-dose antioxidants on outcomes in acutely injured patients, JPEN. Journal of parenteral and enteral nutrition, 32, 384-8, 2008	Setting not in PICO: Intensive care unit
Collin, C., Collin, J., Mobility after lower-limb amputation, British Journal of Surgery, 82, 1010-1011, 1995	Narrative review
Colombo, G., Wirz, M., Dietz, V., Effect of locomotor training related to clinical and electrophysiological examinations in spinal cord injured humans, Annals of the New York Academy of Sciences, 860, 536-8, 1998	Study design not in PICO: No comparative data
Colon-Emeric, Cathleen S., Postoperative management of hip fractures: interventions associated with improved outcomes, BoneKEy reports, 1, 241, 2012	Narrative review
Colvin, M. P., Healy, M. T., Samra, G. S., Early management of the severely injured patient, Journal of the Royal Society of Medicine, 91, 26-9, 1998	Narrative review
Contreras-Vidal, J. L., Bhagat, N. A., Brantley, J., Cruz-Garza, J. G., He, Y., Manley, Q., Nakagome, S., Nathan, K., Tan, S. H., Zhu, F., Pons, J. L., Powered exoskeletons for bipedal locomotion after spinal cord injury, Journal of Neural Engineering, 13, 031001, 2016	Systematic review: Intervention not in PICO (powered exoskeletons). Included studies checked for relevance.
Corna, S., Arcolin, I., Giardini, M., Bellotti, L., Godi, M., Addition of aerobic training to conventional rehabilitation after hip fracture: a randomized, controlled, pilot feasibility study, Clinical rehabilitation, 269215520968694, 2020	Population not in PICO: Low-energy injury.
Corriveau, H., Tousignant, M., Roy, P. M., Tremblay-Boudreault, V., Desrosiers, J., Dubuc, N., Hebert, R., Efficacy of supervised Tai Chi exercises compared to physiotherapy program in fall prevention for frail older adults: a randomised trial, Physiotherapy (united kingdom)., 97, eS239, 2011	Conference abstract
Cortes, M., Elder, J., Murray, L., Medeiros, A. H., Krebs, H. I., Pascual-Leone, A., Edwards, D., Improved motor performance in chronic spinal cord injury following upper-limb robotic training,	Study design not in PICO: Non-RCT with <100 per arm

Study	Reason for Exclusion
Neurorehabilitation and Neural Repair, 28, NP16, 2014	
Cortes, M., Elder, J., Rykman, A., Murray, L., Avedissian, M., Stampa, A., Thickbroom, G. W., Pascual-Leone, A., Krebs, H. I., Valls-Sole, J., Edwards, D. J., Improved motor performance in chronic spinal cord injury following upper-limb robotic training, NeuroRehabilitation, 33, 57-65, 2013	Study design not in PICO: No comparative data
Coulter, E. H., McLean, A. N., Hasler, J. P., Allan, D. B., McFadyen, A., Paul, L., The effectiveness and satisfaction of web-based physiotherapy in people with spinal cord injury: a pilot randomised controlled trial, Spinal Cord, 55, 383-389, 2017	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for traumatic and non-traumatic patients
Cox, Catherine M., Kenardy, Justin A., Hendrikz, Joan K., A randomized controlled trial of a web-based early intervention for children and their parents following unintentional injury, Journal of pediatric psychology, 35, 581-92, 2010	Outcomes not in PICO: Anxiety, PTSD, depression, anger and dissociation
Craven, Colm T. D., Gollee, Henrik, Coupaud, Sylvie, Purcell, Mariel A., Allan, David B., Investigation of robotic-assisted tilt-table therapy for early-stage spinal cord injury rehabilitation, Journal of Rehabilitation Research and Development, 50, 367-78, 2013	Study design not in PICO: No comparative data
Croce, M. A., Bee, T. K., Pritchard, E., Miller, P. R., Fabian, T. C., Does optimal timing for spine fracture fixation exist?, Annals of Surgery, 233, 851-858, 2001	Intervention not in PICO: Spinal stabilisation and fixation
Crotty, Maria, Whitehead, Craig H., Gray, Steven, Finucane, Paul M., Early discharge and home rehabilitation after hip fracture achieves functional improvements: a randomized controlled trial, Clinical Rehabilitation, 16, 406-13, 2002	Intervention not in PICO: Accelerated discharge and home-based multi-component rehabilitation
Crotty,Maria, Unroe,Kathleen, Cameron,Ian D., Miller,Michelle, Ramirez,Gilbert, Couzner,Leah, Rehabilitation interventions for improving physical and psychosocial functioning after hip fracture in older people, Cochrane Database of Systematic Reviews, -, 2010	Systematic review: Included studies checked for relevance.
Damiano, Diane L., DeJong, Stacey L., A systematic review of the effectiveness of treadmill training and body weight support in pediatric rehabilitation, Journal of neurologic physical therapy : JNPT, 33, 27-44, 2009	Systematic review: Included studies checked for relevance.
Daminov, V., Zimina, E., Uvarova, O., Kuznetsov, A., Rehabilitation of sportsmen with robotic reconstruction walk in the first months after spinal cord injury, Neurorehabilitation and Neural Repair, 26, 416, 2012	Conference abstract
D'Angelo, M., Narayanan, S., Reynolds, D. B., Kotowski, S., Page, S., Application of virtual reality to the rehabilitation field to aid amputee rehabilitation: findings from a systematic review, Disability and rehabilitation. Assistive technology, 5, 136-42, 2010	Systematic review: Included studies checked for relevance.
de Groot, P. C., Hjeltnes, N., Heijboer, A. C., Stal, W., Birkeland, K., Effect of training intensity on physical capacity, lipid profile and insulin sensitivity in early rehabilitation of spinal cord injured individuals, Spinal Cord, 41, 673-679, 2003	Outcomes not in PICO: Maximal aerobic capacity, maximum power output, insulin sensitivity and lipid profile
de Lateur, Barbara J., Magyar-Russell, Gina, Bresnick, Melissa G., Bernier, Faedra A., Ober, Michelle S., Krabak, Brian J., Ware, Linda, Hayes, Michael P., Fauerbach, James A., Augmented exercise in the treatment of deconditioning from major burn injury, Archives of Physical Medicine and Rehabilitation, 88, S18-23, 2007	Outcomes not in PICO: Accelerated periodic leg movement
De Mello, M. T., Esteves, A. M., Tufik, S., Comparison between dopaminergic agents and physical exercise as treatment for periodic limb movements in patients with spinal cord injury, Spinal Cord, 42,	Outcomes not in PICO: Periodic leg movement

Study	Reason for Exclusion
218-21, 2004	
DeBruler, Danielle M., Zbinden, Jacob C., Baumann, Molly E., Blackstone, Britani N., Malara, Megan M., Bailey, J. Kevin, Supp, Dorothy M., Powell, Heather M., Early cessation of pressure garment therapy results in scar contraction and thickening, PLoS ONE, 13, e0197558, 2018	Study design not in PICO: Animal study
Dehghan, Niloofar, McKee, Michael D., Jenkinson, Richard J., Schemitsch, Emil H., Stas, Venessa, Nauth, Aaron, Hall, Jeremy A., Stephen, David J., Kreder, Hans J., Early Weight-bearing and Range of Motion Versus Non-Weight-bearing and Immobilization After Open Reduction and Internal Fixation of Unstable Ankle Fractures: A Randomized Controlled Trial, Journal of Orthopaedic Trauma, 30, 345-52, 2016	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Demirdel, S., Erbahceci, F., Investigation of the Effects of Dual Task Balance Training on Gait and Balance in Transfemoral Amputees: a Randomised Controlled Trial, Archives of Physical Medicine and Rehabilitation, 2020	Mixed population: Traumatic (14/20) and non-traumatic injury (6/20) patients with results not presented separately for target population.
Demling, R. H., DeSanti, L., Increased protein intake during the recovery phase after severe burns increases body weight gain and muscle function, The Journal of burn care & rehabilitation, 19, 161-160, 1998	Study design not in PICO: Non-RCT with <100 per arm
Demling, R. H., DeSanti, L., Oxandrolone, an anabolic steroid, significantly increases the rate of weight gain in the recovery phase after major burns, The Journal of trauma, 43, 47-51, 1997	Intervention not in PICO: Anabolic steroid nutritional supplement
Demling, Robert H., DeSanti, Leslie, Oxandrolone induced lean mass gain during recovery from severe burns is maintained after discontinuation of the anabolic steroid, Burns : journal of the International Society for Burn Injuries, 29, 793-7, 2003	Intervention not in PICO: Anabolic steroid nutritional supplement
Derossi, D., Bo, A., Bergonzi, R., Scivoletto, G., Six-week administration of a mixture of ergogenic and osteotrophic ingredients (Restorfastâ„¢) improves the clinical course of elderly patients after hip fracture surgery, Trends in medicine, 9, 235-242, 2009	Italian language article
DeSanti, L., Lincoln, L., Egan, F., Demling, R., Development of a burn rehabilitation unit: impact on burn center length of stay and functional outcome, The Journal of burn care & rehabilitation, 19, 414-9, 1998	Intervention not in PICO: Implementation of burn rehabilitation unit
Devillard, X., Rimaud, D., Roche, F., Calmels, P., Effects of training programs for spinal cord injury, Annales de readaptation et de medecine physique : revue scientifique de la Societe francaise de reeducation fonctionnelle de readaptation et de medecine physique, 50, 490-9, 2007	Narrative review
Dhall, Sanjay S., Hadley, Mark N., Aarabi, Bizhan, Gelb, Daniel E., Hurlbert, R. John, Rozzelle, Curtis J., Ryken, Timothy C., Theodore, Nicholas, Walters, Beverly C., Nutritional support after spinal cord injury, Neurosurgery, 72 Suppl 2, 255-9, 2013	Narrative review
Dhillon, M. S., Panday, A. K., Aggarwal, S., Nagi, O. N., Extra articular arthroscopic release in post-traumatic stiff knees: A prospective study of endoscopic quadriceps and patellar release, Acta Orthopaedica Belgica, 71, 197-203, 2005	Study design not in PICO: No comparative data
Dickerson, Roland N., Morgan, Laurie G., Cauthen, April D., Alexander, Kathryn H., Croce, Martin A., Minard, Gayle, Brown, Rex O., Treatment of acute hypocalcemia in critically ill multiple-trauma patients, JPEN. Journal of parenteral and enteral nutrition, 29, 436-41, 2005	Setting not in PICO: Intensive care unit

Study	Reason for Exclusion
Diego, Miguel A., Field, Tiffany, Hernandez-Reif, Maria, Hart, Sybil, Brucker, Bernard, Field, Tory, Burman, Iris, Spinal cord patients benefit from massage therapy, The International journal of neuroscience, 112, 133-42, 2002	Comparison not in PICO: Massage therapy versus exercise. No mention of standard care.
Dielwart, Cassandra, Harmer, Luke, Thompson, Jeremy, Seymour, Rachel B., Karunakar, Madhav A., Management of Closed Diaphyseal Humerus Fractures in Patients With Injury Severity Score >=17, Journal of Orthopaedic Trauma, 31, 220-224, 2017	Study design not in PICO: Non-RCT with <100 per arm
Dingwell, J. B., Davis, B. L., Frazier, D. M., Use of an instrumented treadmill for real-time gait symmetry evaluation and feedback in normal and trans-tibial amputee subjects, Prosthetics and Orthotics International, 20, 101-10, 1996	Study design not in PICO: Non-RCT with <100 per arm
Disseldorp, Laurien M., Nieuwenhuis, Marianne K., Van Baar, Margriet E., Mouton, Leonora J., Physical fitness in people after burn injury: a systematic review, Archives of Physical Medicine and Rehabilitation, 92, 1501-10, 2011	Systematic review: Included studies checked for relevance.
Ditor, D. S., Latimer, A. E., Ginis, K. A., Arbour, K. P., McCartney, N., Hicks, A. L., Maintenance of exercise participation in individuals with spinal cord injury: effects on quality of life, stress and pain, Spinal Cord, 41, 446-450, 2003	Study design not in PICO: No comparative data
Ditunno, J. F., Jr., Multicenter clinical trials to establish the benefit of early intervention in spinal cord injury, American journal of physical medicine & rehabilitation, 80, 713-6, 2001	Narrative review
Ditunno, John F., Jr., Barbeau, Hugues, Dobkin, Bruce H., Elashoff, Robert, Harkema, Susan, Marino, Ralph J., Hauck, Walter W., Apple, David, Basso, D. Michele, Behrman, Andrea, Deforge, Daniel, Fugate, Lisa, Saulino, Michael, Scott, Michael, Chung, Joanie, Spinal Cord Injury Locomotor Trial, Group, Validity of the walking scale for spinal cord injury and other domains of function in a multicenter clinical trial, Neurorehabilitation and Neural Repair, 21, 539-50, 2007	Outcomes not in PICO: Concurrent, predictive and construct validity of Walking Index for SCI
Dobkin, B., Apple, D., Barbeau, H., Basso, M., Behrman, A., Deforge, D., Ditunno, J., Dudley, G., Elashoff, R., Fugate, L., Harkema, S., Saulino, M., Scott, M., Weight-supported treadmill vs over-ground training for walking after acute incomplete SCI, Neurology, 66, 484-492, 2006	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Dobkin, B., Barbeau, H., Deforge, D., Ditunno, J., Elashoff, R., Apple, D., Basso, M., Behrman, A., Harkema, S., Saulino, M., Scott, M., Spinal Cord Injury Locomotor Trial, Group, The evolution of walking-related outcomes over the first 12 weeks of rehabilitation for incomplete traumatic spinal cord injury: the multicenter randomized Spinal Cord Injury Locomotor Trial, Neurorehabilitation and Neural Repair, 21, 25-35, 2007	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Donald, I. P., Pitt, K., Armstrong, E., Shuttleworth, H., Preventing falls on an elderly care rehabilitation ward, Clinical Rehabilitation, 14, 178-85, 2000	Population not in PICO: Adults admitted to elderly care ward with no mention of trauma.
Donati, L., Ziegler, F., Pongelli, G., Signorini, M. S., Nutritional and clinical efficacy of ornithine alpha-ketoglutarate in severe burn patients, Clinical Nutrition, 18, 307-311, 1999	Outcomes not in PICO: Nitrogen levels, nutritional status, wound healing and infection rates
Donenberg, Jennifer Glenna, Fetters, Linda, Johnson, Robert, The effects of locomotor training in children with spinal cord injury: a systematic review, Developmental neurorehabilitation, 22, 272-287, 2019	Systematic review: Included studies checked for relevance.
Dorsey, Julie, Bradshaw, Michelle, Effectiveness of Occupational Therapy Interventions for Lower-Extremity Musculoskeletal	Systematic review: Included studies checked

Study	Reason for Exclusion
Disorders: A Systematic Review, The American journal of occupational therapy : official publication of the American Occupational Therapy Association, 71, 7101180030p1-7101180030p11, 2017	for relevance.
Dost, Gulseren, Dulgeroglu, Deniz, Yildirim, Adem, Ozgirgin, Nese, The effects of upper extremity progressive resistance and endurance exercises in patients with spinal cord injury, Journal of Back and Musculoskeletal Rehabilitation, 27, 419-26, 2014	Comparison not in PICO: Standard SCI rehabilitation plus resistance exercise versus standard SCI rehabilitation plus endurance exercises.
Drks,, ReMove-It - Efficacy study of rehabilitation with telemedical assisted movement therapy after lower extremity intervention, http://www.who.int/trialsearch/Trial2.aspx?TrialID=DRKS00010009, 2016	Study protocol
Duerinck, Saartje, Swinnen, Eva, Beyl, Pieter, Hagman, Friso, Jonkers, Ilse, Vaes, Peter, Van Roy, Peter, The added value of an actuated ankle-foot orthosis to restore normal gait function in patients with spinal cord injury: a systematic review, Journal of rehabilitation medicine, 44, 299-309, 2012	Systematic review: Included studies checked for relevance.
Duffell, Lynsey D., Niu, Xun, Brown, Geoffrey, Mirbagheri, Mehdi M., Variability in responsiveness to interventions in people with spinal cord injury: Do some respond better than others?, Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, 2014, 5872-5, 2014	Intervention not in PICO: Robotic-assisted locomotor training
Duncan, Donna Georgina, Beck, Susan Janet, Hood, Kerenza, Johansen, Antony, Using dietetic assistants to improve the outcome of hip fracture: a randomised controlled trial of nutritional support in an acute trauma ward, Age and Ageing, 35, 148-53, 2006	Outcomes not in PICO: Mortality, length of stay, complication rate, energy intake and nutritional status
Dunlop, R. A., An inexpensive and accessible exercise regime significantly improves balance and reduces injuries in the elderly, Focus on Alternative and Complementary Therapies, 16, 56-57, 2011	Article commentary
DuroviÄ‡, A., ZivotiÄ‡-VanoviÄ‡, M., RailiÄ‡, Z., Effects of circumferential rigid wrist orthoses in rehabilitation of patients with radius fracture at typical site, Vojnosanitetski Pregled, 62, 257-264, 2005	Serbian language article
Duzgun, I., Baltaci, G., Ahmet Atay, O., Comparison of slow and accelerated rehabilitation protocol after arthroscopic rotator cuff repair: Pain and functional activity, Acta Orthopaedica et Traumatologica Turcica, 45, 23-33, 2011	Population not in PICO: Patients with torn rotator cuff
Dvorak, M. F., Noonan, V. K., Bélanger, L., Bruun, B., Wing, P. C., Boyd, M. C., Fisher, C., Early versus late enteral feeding in patients with acute cervical spinal cord injury: a pilot study, Spine, 29, E175-80, 2004	Outcomes not in PICO: Septic complications
Eberly, Valerie J., Mulroy, Sara J., Gronley, JoAnne K., Perry, Jacquelin, Yule, William J., Burnfield, Judith M., Impact of a stance phase microprocessor-controlled knee prosthesis on level walking in lower functioning individuals with a transfemoral amputation, Prosthetics and Orthotics International, 38, 447-55, 2014	Study design not in PICO: Cross-over study
Ebid, A. A., Ibrahim, A. R., Omar, M. T., El Baky, A. M. A., Long-term effects of pulsed high-intensity laser therapy in the treatment of post-burn pruritus: a double-blind, placebo-controlled, randomized study, Lasers in Medical Science, 32, 693-701, 2017	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Eddy, Derrick, Congeni, J., Loud, K., A review of spine injuries and return to play, Clinical journal of sport medicine : official journal of the	Narrative review

Study	Reason for Exclusion
Canadian Academy of Sport Medicine, 15, 453-8, 2005	
Edgar, Dale Wesley, Fish, Joel S., Gomez, Manuel, Wood, Fiona Melanie, Local and systemic treatments for acute edema after burn injury: a systematic review of the literature, Journal of burn care & research : official publication of the American Burn Association, 32, 334-47, 2011	Systematic review: Included studies checked for relevance.
Edgren, J., Rantanen, T., Heinonen, A., Portegijs, E., Alén, M., Kiviranta, I., Kallinen, M., Sipilä, S., Effects of progressive resistance training on physical disability among older community-dwelling people with history of hip fracture, Aging Clinical and Experimental Research, 24, 171-175, 2012	Population not in PICO: Older people with history of hip fracture more than 3 years prior
Edmonds, Gillian, Kirkley, Alexandra, Birmingham, Trevor B., Fowler, Peter J., The effect of early arthroscopic stabilization compared to nonsurgical treatment on proprioception after primary traumatic anterior dislocation of the shoulder, Knee surgery, sports traumatology, arthroscopy : official journal of the ESSKA, 11, 116-21, 2003	Population not in PICO: Patients with anterior shoulder dislocation
Edmondson, Sarah-Jayne, Ali Jumabhoy, Irfan, Murray, Alexandra, Time to start putting down the knife: A systematic review of burns excision tools of randomised and non-randomised trials, Burns : journal of the International Society for Burn Injuries, 44, 1721-1737, 2018	Systematic review: Intervention not in PICO (burn excision and debridement). Included studies checked for relevance.
Ekvall Hansson, Eva, Dahlberg, Leif E., Magnusson, Mans, Vestibular Rehabilitation Affects Vestibular Asymmetry among Patients with Fall-Related Wrist Fractures - A Randomized Controlled Trial, Gerontology, 61, 310-8, 2015	Population not in PICO: Patients with fall-related wrist fractures
Elbouz, L., Gillain, S., Bendavid, N., Maquet, D., Petermans, J., Contribution of the new technologies to the rehabilitation of the old fallers: a pilot study, Geriatrie ET psychologie neuropsychiatrie du vieillissement, 10, 383-390, 2012	French language paper
Ellapen, Terry J., Hammill, Henriette V., Swanepoel, Mariette, Strydom, Gert L., The benefits of hydrotherapy to patients with spinal cord injuries, African journal of disability, 7, 450, 2018	Narrative review
Eneroth, M., Olsson, U. B., Thorngren, K. G., Insufficient fluid and energy intake in hospitalised patients with hip fracture. A prospective randomised study of 80 patients, Clinical Nutrition, 24, 297-303, 2005	Outcomes not in PICO: Nutritional assessment, fluid intake and energy intake
Eneroth, M., Olsson, U. B., Thorngren, K. G., Nutritional supplementation decreases hip fracture-related complications, Clinical Orthopaedics and Related Research, 212-217, 2006	Outcomes not in PICO: Infections, mortality and surgical complications
Eng, Janice J., Getting up goals, Rehab management, 17, 34-62, 2004	Paper unavailable
Engel, J. M., Menges, T., Neuhäuser, C., Schaefer, B., Hempelmann, G., Effects of various feeding regimens in multiple trauma patients on septic complications and immune parameters, Anasthesiologie, Intensivmedizin, Notfallmedizin, Schmerztherapie, 32, 234-239, 1997	German language paper
Enoch, Stuart, Roshan, Amit, Shah, Mamta, Emergency and early management of burns and scalds, BMJ (Clinical research ed.), 338, b1037, 2009	Narrative review
Erbahceci, F., Yigiter, K., Sener, G., Bayar, K., Ulger, O., Balance training in amputees: Comparison of the outcome of two rehabilitation approaches, Artroplasti Artroskopik Cerrahi, 12, 194-198, 2001	Paper unavailable
Esclarín-Ruz, A., Alcobendas-Maestro, M., Casado-Lopez, R., Perez-Mateos, G., Florido-Sanchez, M. A., Gonzalez-Valdizan, E., Martin, J. L., A comparison of robotic walking therapy and conventional walking	Population not in PICO: Mixture of traumatic (53/88) and non-traumatic (35/88)

Study	Reason for Exclusion
therapy in individuals with upper versus lower motor neuron lesions: a randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 95, 1023-1031, 2014	patients with results not presented separately for target population.
Essick, G. K., Phillips, C., Zuniga, J., Effect of facial sensory re-training on sensory thresholds, Journal of dental research, 86, 571-5, 2007	Outcomes not in PICO: Constant detection, 2-point and 2-point perception
Ethans, K., Powell, C., Rehabilitation of patients with hip fracture, Reviews in Clinical Gerontology, 6, 371-388, 1996	Narrative review
Falder, Sian, Silla, Robyn, Phillips, Michael, Rea, Suzanne, Gurfinkel, Reuven, Baur, Esther, Bartley, Anthony, Wood, Fiona M., Fear, Mark W., Thiamine supplementation increases serum thiamine and reduces pyruvate and lactate levels in burn patients, Burns : journal of the International Society for Burn Injuries, 36, 261-9, 2010	Study design not in PICO: Non-RCT with <100 per arm
Fang, C. Y., Tsai, J. L., Li, G. S., Lien, A. S. Y., Chang, Y. J., Effects of Robot-Assisted Gait Training in Individuals with Spinal Cord Injury: A Meta-analysis, BioMed Research International, 2020, 2102785, 2020	Systematic review: Included studies checked for relevance.
Faqih, A. I., Bedekar, N., Shyam, A., Sancheti, P., Effects of muscle energy technique on pain, range of motion and function in patients with post-surgical elbow stiffness: A randomized controlled trial, Hong Kong Physiotherapy Journal, 39, 25-33, 2019	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Faux, S., Wu, J., Harris, I., Poulos, C., Klein, L., Murray, G., Wilson, S., John, E., Early rehabilitation after hospital admission for road-trauma via an in-reach mobile team; a randomised controlled trial, Archives of Physical Medicine and Rehabilitation, 97, e15-e16, 2016	Conference abstract
Fehlings, Michael G., Tetreault, Lindsay A., Aarabi, Bizhan, Anderson, Paul, Arnold, Paul M., Brodke, Darrel S., Chiba, Kazuhiro, Dettori, Joseph R., Furlan, Julio C., Harrop, James S., Hawryluk, Gregory, Holly, Langston T., Howley, Susan, Jeji, Tara, Kalsi-Ryan, Sukhvinder, Kotter, Mark, Kurpad, Shekar, Kwon, Brian K., Marino, Ralph J., Martin, Allan R., Massicotte, Eric, Merli, Geno, Middleton, James W., Nakashima, Hiroaki, Nagoshi, Narihito, Palmieri, Katherine, Singh, Anoushka, Skelly, Andrea C., Tsai, Eve C., Vaccaro, Alexander, Wilson, Jefferson R., Yee, Albert, Burns, Anthony S., A Clinical Practice Guideline for the Management of Patients With Acute Spinal Cord Injury: Recommendations on the Type and Timing of Rehabilitation, Global spine journal, 7, 231S-238S, 2017	Systematic review: Included studies checked for relevance.
Feinberg, J., Nielsen, E. E., Korang, S. K., Halberg Engell, K., Nielsen, M. S., Zhang, K., Didriksen, M., Lund, L., Lindahl, N., Hallum, S., Liang, N., Xiong, W., Yang, X., Brunsgaard, P., Garioud, A., Safi, S., Lindschou, J., Kondrup, J., Gluud, C., Jakobsen, J. C., Nutrition support in hospitalised adults at nutritional risk, Cochrane Database of Systematic Reviews, 2017, CD011598, 2017	Systematic review: Population not in PICO (patients at nutritional risk or risk of malnutrition). Included studies checked for relevance.
Feng, K. Y., Liu, H., Wang, S. K., Early rehabilitation intervention after treatment in complex injury of knee joint, Chinese Journal of Clinical Rehabilitation, 6, 917, 2002	Conference abstract
Ferris, D. P., Sawicki, G. S., Domingo, A. R., Powered lower limb orthoses for gait rehabilitation, Topics in Spinal Cord Injury Rehabilitation, 11, 34-49, 2005	Narrative review
Field, Tiffany, Massage therapy for skin conditions in young children, Dermatologic Clinics, 23, 717-21, 2005	Outcomes not in PICO: Distress behaviours
Field-Fote, E. C., Spinal cord control of movement: implications for locomotor rehabilitation following spinal cord injury, Physical Therapy, 80, 477-84, 2000	Narrative review
Field-Fote, Edelle C., Roach, Kathryn E., Influence of a locomotor	Comparison not in PICO:

Study	Reason for Exclusion
training approach on walking speed and distance in people with chronic spinal cord injury: a randomized clinical trial, Physical Therapy, 91, 48-60, 2011	Treadmill-based training with manual assistance versus treadmill-based training with stimulation versus overground training with stimulation versus treadmill-based training with robotic assistance.
Field-Fote, Edelle Carmen, Tepavac, Dejan, Improved intralimb coordination in people with incomplete spinal cord injury following training with body weight support and electrical stimulation, Physical Therapy, 82, 707-15, 2002	Study design not in PICO: Non-RCT with <100 per arm
Fisahn, Christian, Aach, Mirko, Jansen, Oliver, Moisi, Marc, Mayadev, Angeli, Pagarigan, Krystle T., Dettori, Joseph R., Schildhauer, Thomas A., The Effectiveness and Safety of Exoskeletons as Assistive and Rehabilitation Devices in the Treatment of Neurologic Gait Disorders in Patients with Spinal Cord Injury: A Systematic Review, Global spine journal, 6, 822-841, 2016	Systematic review: Intervention not in PICO (wearable exoskeletons). Included studies checked for relevance.
Flodin, Lena, Cederholm, Tommy, Saaf, Maria, Samnegard, Eva, Ekstrom, Wilhelmina, Al-Ani, Amer N., Hedstrom, Margareta, Effects of protein-rich nutritional supplementation and bisphosphonates on body composition, handgrip strength and health-related quality of life after hip fracture: a 12-month randomized controlled study, BMC Geriatrics, 15, 149, 2015	Intervention and comparison not in PICO: Intervention group received nutritional support biphosphonate drug treatment. 2 control groups received either standard care only or biphosphonate drug treatment only.
Flores, Orlando, Tyack, Zephanie, Stockton, Kellie, Ware, Robert, Paratz, Jennifer D., Exercise training for improving outcomes post-burns: a systematic review and meta-analysis, Clinical Rehabilitation, 32, 734-746, 2018	Systematic review: Included studies checked for relevance.
Folbert, E. C., Hegeman, J. H., Vermeer, M., Regtuijt, E. M., van der Velde, D., Ten Duis, H. J., Slaets, J. P., Improved 1-year mortality in elderly patients with a hip fracture following integrated orthogeriatric treatment, Osteoporosis International, 28, 269-277, 2017	Outcomes not in PICO: Mortality
Forrest, Gail F., Hutchinson, Karen, Lorenz, Douglas J., Buehner, Jeffrey J., Vanhiel, Leslie R., Sisto, Sue Ann, Basso, D. Michele, Are the 10 meter and 6 minute walk tests redundant in patients with spinal cord injury?, PLoS ONE, 9, e94108, 2014	Study design not in PICO: No comparative data
Fortina, Mattia, Carta, Serafino, Gambera, Dario, Crainz, Edoardo, Ferrata, Paolo, Maniscalco, Pietro, Recovery of physical function and patient's satisfaction after total hip replacement (THR) surgery supported by a tailored guide-book, Acta bio-medica : Atenei Parmensis, 76, 152-6, 2005	Population not in PICO: Patients with osteoarthritis
Foss, Nicolai B., Jensen, Pia S., Kehlet, Henrik, Risk factors for insufficient perioperative oral nutrition after hip fracture surgery within a multi-modal rehabilitation programme, Age and ageing, 36, 538-43, 2007	Study design not in PICO: No comparative data
Franceschini, M., Baratta, S., Zampolini, M., Loria, D., Lotta, S., Reciprocating gait orthoses: a multicenter study of their use by spinal cord injured patients, Archives of Physical Medicine and Rehabilitation, 78, 582-6, 1997	Study design not in PICO: No comparative data
Franczuk, B., Szwarczyk, W., Wilk, M., The impact of Continuous Passive Motion (CPM) on progress made in rehabilitation by patients with trochanteric hip fractures treated surgically with a Y-type intramedullary nail, Fizjoterapia polska, 5, 297-304, 2005	Polish language paper

Study	Reason for Exclusion
Franczuk, B., Szwarczyk, W., Wilk, M., Tomaszewski, W., Rehabilitation of patients with trochanteric hip fractures treated surgically with an angular nail-plate, Ortopedia traumatologia rehabilitacja, 7, 209-217, 2005	Polish language paper
Frenkel Rutenberg, Tal, Vitenberg, Maria, Haviv, Barak, Velkes, Steven, Timing of physiotherapy following fragility hip fracture: delays cost lives, Archives of Orthopaedic and Trauma Surgery, 138, 1519-1524, 2018	Outcomes not in PICO: Mortality, length of stay, re-hospitalisations, treatment complications and orthopaedic complications
Friedstat, Jonathan S., Hultman, C. Scott, Hypertrophic burn scar management: what does the evidence show? A systematic review of randomized controlled trials, Annals of Plastic Surgery, 72, S198-201, 2014	Systematic review: Included studies checked for relevance.
Frison, Veronica B., Lanferdini, Fabio Juner, Geremia, Jeam Marcel, de Oliveira, Charlene B., Radaelli, Regis, Netto, Carlos Alexandre, Franco, Alexandre R., Vaz, Marco Aurelio, Effect of corporal suspension and pendulum exercises on neuromuscular properties and functionality in patients with medullar thoracic injury, Clinical biomechanics (Bristol, Avon), 63, 214-220, 2019	Intervention not in PICO: CHORDATA (suspension and pendulous exercises)
Frizzi, James D., Ray, Peter D., Raff, John B., Enteral nutrition by a forward surgical team in Afghanistan, Southern Medical Journal, 98, 273-8, 2005	Narrative review
Frye, Sara Kate, Ogonowska-Slodownik, Anna, Geigle, Paula Richley, Aquatic Exercise for People With Spinal Cord Injury, Archives of Physical Medicine and Rehabilitation, 98, 195-197, 2017	Narrative review
Fung, Vera, Ho, Aileen, Shaffer, Jennifer, Chung, Esther, Gomez, Manuel, Use of Nintendo Wii FitTM in the rehabilitation of outpatients following total knee replacement: a preliminary randomised controlled trial, Physiotherapy, 98, 183-8, 2012	Comparison not in PICO: WiiFit sessions vs. strengthening and balance training. No mention of standard care.
Gainforth, Heather L., Latimer-Cheung, Amy E., Athanasopoulos, Peter, Martin Ginis, Kathleen A., Examining the feasibility and effectiveness of a community-based organization implementing an event-based knowledge mobilization initiative to promote physical activity guidelines for people with spinal cord injury among support personnel, Health promotion practice, 16, 55-62, 2015	Study design not in PICO: Case study
Galea, M. P., Dunlop, S. A., Geraghty, T., Davis, G. M., Nunn, A., Olenko, L., Hurley, M., Alexander, J., Fereday, S., Goodman, C., Batty, J., Li, T., Buchanan, J., Bullick, J., Marshall, R., Clark, J., Acland, R., Nunnerley, J., SCIPA full-on: A randomized controlled trial comparing intensive whole-body exercise and upper body exercise after spinal cord injury, Neurorehabilitation and Neural Repair, 32, 557-567, 2018	Comparison not in PICO: Full-body exercise versus upper body only exercise
Galea, M. P., Levinger, P., Lythgo, N., Cimoli, C., Weller, R., Tully, E., McMeeken, J., Westh, R., A targeted home- and center-based exercise program for people after total hip replacement: a randomized clinical trial, Archives of Physical Medicine and Rehabilitation, 89, 1442-1447, 2008	Comparison not in PICO: Supervised versus unsupervised exercise programme
Galea, M. P., Spinal cord injury and physical activity: preservation of the body, Spinal Cord, 50, 344-51, 2012	Narrative review
Gandhi, P., Chan, K., Verrier, M. C., Pakosh, M., Musselman, K. E., Training to Improve Walking after Pediatric Spinal Cord Injury: A Systematic Review of Parameters and Walking Outcomes, Journal of Neurotrauma, 34, 1713-1725, 2017	Systematic review: Included studies checked for relevance.
Garcia-de-Lorenzo, Abelardo, Zarazaga, Antonio, Garcia-Luna, Pedro Pablo, Gonzalez-Huix, Ferran, Lopez-Martinez, Jorge, Mijan,	Systematic review: Included studies checked

Study	Reason for Exclusion
Alberto, Quecedo, Luis, Casimiro, Cesar, Usan, Luis, del Llano, Juan, Clinical evidence for enteral nutritional support with glutamine: a systematic review, Nutrition (Burbank, Los Angeles County, Calif.), 19, 805-11, 2003	for relevance.
Gardner, M. M., Robertson, M. C., Campbell, A. J., Exercise in preventing falls and fall related injuries in older people: a review of randomised controlled trials, British Journal of Sports Medicine, 34, 7-17, 2000	Systematic review: Included studies checked for relevance.
Geigle, Paula Richley, Kallins, Marni, Exoskeleton-Assisted Walking for People With Spinal Cord Injury, Archives of Physical Medicine and Rehabilitation, 98, 1493-1495, 2017	Narrative review
Ghalambor, A. A., Pipelzadeh, M. H., Low level CO2 laser therapy in burn scars: Which patients benefit most?, Pakistan Journal of Medical Sciences, 22, 158-161, 2006	Outcomes not in PICO: Physical appearance of burn scars
Girchenko, E. V., Shestopalov, N., Akimenko, M., Pikhlak, A. E., New methods of kinesiotherapy in program of complex rehabilitation of the elderly, International Journal of Rheumatic Diseases, 19, 26-27, 2016	Conference abstract
Glasgow, Celeste, Wilton, Judith, Tooth, Leigh, Optimal daily total end range time for contracture: resolution in hand splinting, Journal of hand therapy : official journal of the American Society of Hand Therapists, 16, 207-18, 2003	Outcomes not in PICO: Total end range time and contracture resolution
Glinsky, Joanne, Harvey, Lisa, Korten, Monique, Drury, Craig, Chee, Shane, Gandevia, Simon C., Short-term progressive resistance exercise may not be effective at increasing wrist strength in people with tetraplegia: a randomised controlled trial, The Australian journal of physiotherapy, 54, 103-8, 2008	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Gocen, Zeliha, Sen, Ayse, Unver, Bayram, Karatosun, Vasfi, Gunal, Izge, The effect of preoperative physiotherapy and education on the outcome of total hip replacement: a prospective randomized controlled trial, Clinical Rehabilitation, 18, 353-8, 2004	Population not in PICO: Patients with hip osteoarthritis
Godlwana, L. L., Stewart, A., Musenge, E., Mobility during the intermediate stage of rehabilitation after lower limb amputation from an under resourced community: A randomized controlled trial, Physiotherapy (United Kingdom), 101, eS458, 2015	Conference abstract
Goh, K., Tay, L., Wang, S., Aw Yang, W., Varman, S., Poon, K., Implementation and early outcomes of the valuedcare hip fracture program, Journal of the American Geriatrics Society, 64, S144, 2016	Conference abstract
Golden, Sue, A two-part success formula, Rehab management, 19, 50-57, 2006	Paper unavailable
Gomara-Toldra, Natalia, Sliwinski, Martha, Dijkers, Marcel P., Physical therapy after spinal cord injury: a systematic review of treatments focused on participation, The journal of spinal cord medicine, 37, 371-9, 2014	Systematic review: Included studies checked for relevance.
Gottschlich, M. M., Mayes, T., Khoury, J., Kagan, R., Differential effects of three vitamin D supplementation practices on clinical outcome postburn, Journal of Burn Care and Research, 32, S73, 2011	Conference abstract
Gottschlich, Michele M., Jenkins, Marilyn E., Mayes, Theresa, Khoury, Jane, Kagan, Richard J., Warden, Glenn D., The 2002 Clinical Research Award. An evaluation of the safety of early vs delayed enteral support and effects on clinical, nutritional, and endocrine outcomes after severe burns, The Journal of burn care & rehabilitation, 23, 401-15, 2002	Setting not in PICO: Intensive care unit
Govil, Kanika, Noohu, Majumi M., Effect of EMG biofeedback training of gluteus maximus muscle on gait parameters in incomplete spinal cord injury, NeuroRehabilitation, 33, 147-52, 2013	Intervention not in PICO: EMG Biofeedback

Study	Reason for Exclusion
Graf, M., Freijah, N., Early trans-tibial oedema control using polymer gel socks, Prosthetics and Orthotics International, 27, 221-6, 2003	Outcomes not in PICO: Time to prosthesis casting and rate of oedema volume reduction
Greiver, M., Practice Tips: Preventing hip fractures in elderly patients, Canadian Family Physician, 49, 430-431, 2003	Narrative review
Grimble, R. F., Immunonutrition, Current Opinion in Gastroenterology, 21, 216-222, 2005	Narrative review
Grintescu, I. M., Luca Vasiliu, I., Cucereanu Badica, I., Mirea, L., Pavelescu, D., Balanescu, A., Grintescu, I. C., The influence of parenteral glutamine supplementation on glucose homeostasis in critically ill polytrauma patients-A randomized-controlled clinical study, Clinical Nutrition, 34, 377-382, 2015	Outcomes not in PICO: Glucose homeostasis and hyperglycaemia
Grisbrook, Tiffany L., Gittings, Paul M., Wood, Fiona M., Edgar, Dale W., The effectiveness of session rating of perceived exertion to monitor resistance training load in acute burns patients, Burns : journal of the International Society for Burn Injuries, 43, 169-175, 2017	Outcome not in PICO: Correlation between session-rating of perceived exertion and exercise intensity.
Gu, Wan-Jie, Deng, Teng, Gong, Yi-Zhen, Jing, Rui, Liu, Jing-Chen, The effects of probiotics in early enteral nutrition on the outcomes of trauma: a meta-analysis of randomized controlled trials, JPEN. Journal of parenteral and enteral nutrition, 37, 310-7, 2013	Systematic review: Included studies checked for relevance.
Guney Deniz, H., Kinikli, G. I., Onal, S., Sevinc, C., Caglar, O., Yuksel, I., Comparison of kinesio tape application and manual lymphatic drainage on lower extremity oedema and functions after total knee arthroplasty, Annals of the Rheumatic Diseases, 77, 1791, 2018	Conference abstract
Guo, G. H., Deng, Z. Y., Wang, Y. X., Xing, J. J., Peng, Y., Li, G. H., Effects of glutamine enriched enteral feeding on immunoregulation in burn patients, Zhonghua shao shang za zhi [Chinese journal of burns], 23, 406-408, 2007	Chinese language paper
Guo, G. H., Xu, C., Bai, X. J., Zhan, J. H., Zhang, H. Y., Zhang, Z. A., Wang, Y. X., Fang, F., Li, G. H., Effects of arginine enriched enteral nutrition on nutritional status and cellular immunity in burn patients, Zhonghua shao shang za zhi [Chinese journal of burns], 25, 211-214, 2009	Chinese language paper
Guo, J., Gao, C., Xin, H., Li, J., Li, B., Wei, Z., Yue, Y., The application of "upper-body yoga" in elderly patients with acute hip fracture: a prospective, randomized, and single-blind study, Journal of orthopaedic surgery and research, 14, 250, 2019	Comparison not in PICO: Upper-body yoga versus abdominal breathing training. No mention of standard care.
Guo, X., Hou, X., Ding, S., Chang, S., Rehabilitation nursing for patient rehabilitation after minimally invasive spine surgery, International Journal of Clinical and Experimental Medicine, 12, 2450-2455, 2019	Paper unavailable
Guzelkucuk, Umut, Duman, Iltekin, Taskaynatan, Mehmet Ali, Dincer, Kemal, Comparison of therapeutic activities with therapeutic exercises in the rehabilitation of young adult patients with hand injuries, The Journal of hand surgery, 32, 1429-35, 2007	Intervention not in PICO: Exercises that mimic activities of daily living
Hadley, M. N., Walters, B. C., Grabb, P. A., Oyesiku, N. M., Przybylski, G. J., Resnick, D. K., Ryken, T. C., Mielke, D. H., Guidelines for the management of acute cervical spine and spinal cord injuries, Clinical neurosurgery, 49, 407-498, 2002	Outcomes not in PICO: Results from systematic review and expert consensus focus group presented together with no way of separating data
Hadley, M. N., Walters, B. C., Grabb, P. A., Oyesiku, N. M.,	Narrative review

Study	Reason for Exclusion
Przybylski, G. J., Resnick, D. K., Ryken, T. C., Nutritional support after spinal cord injury, Neurosurgery, 50, S81-4, 2002	
Haedersdal, M., Moreau, K. E. R., Beyer, D. M., Nymann, P., Alsbjorn, B., Fractional nonablative 1540 nm laser resurfacing for thermal burn scars: A randomized controlled trial, Lasers in Surgery and Medicine, 41, 189-195, 2009	Comparison not in PICO: Laser re-surfacing versus no treatment. No mention of standard care.
Haines, Terry P., Hill, Keith D., Bennell, Kim L., Osborne, Richard H., Additional exercise for older subacute hospital inpatients to prevent falls: benefits and barriers to implementation and evaluation, Clinical Rehabilitation, 21, 742-53, 2007	Population not in PICO: Inpatients at increased risk of falling
Hall, B., Care for the patient with burns in the trauma rehabilitation setting, Critical Care Nursing Quarterly, 35, 272-80, 2012	Narrative review
Handoll, H. H. G., Ollivere, B. J., Interventions for treating proximal humeral fractures in adults, Cochrane Database of Systematic Reviews, 2010, CD000434, 2010	Systematic review: Population not in PICO (patients with proximal humeral fractures and a majority discharged straight home). Included studies checked for relevance.
Handoll, H. H. G., Sherrington, C., Mak, J. C. S., Interventions for improving mobility after hip fracture surgery in adults, Cochrane Database of Systematic Reviews, 2011	Systematic review: Included studies checked for relevance.
Handoll, H. H. G., Sherrington, C., Mobilisation strategies after hip fracture surgery in adults, The Cochrane database of systematic reviews, CD001704, 2007	Systematic review: Included studies checked for relevance.
Handoll, H. H., Brorson, S., Interventions for treating proximal humeral fractures in adults, Cochrane Database of Systematic Reviews, 2015, CD000434, 2015	Systematic review: Population not in PICO (patients with proximal humeral fractures and a majority discharged straight home). Included studies checked for relevance.
Handoll, H. H., Madhok, R., Howe, T. E., Rehabilitation for distal radial fractures in adults, The Cochrane database of systematic reviews, CD003324, 2002	Paper unavailable
Handoll, H. H., Parker, M. J., Sherrington, C., Mobilisation strategies after hip fracture surgery in adults, The Cochrane database of systematic reviews, CD001704, 2003	Systematic review: Included studies of the update of this review (Handoll 2007) checked for relevance.
Handoll, H. H., Pearce, P. K., Interventions for isolated diaphyseal fractures of the ulna in adults, Cochrane database of systematic reviews (Online), CD000523, 2004	Systematic review: Population not in PICO (adults with isolated diaphyseal ulna fracture). Included studies checked for relevance.
Handoll, H. H., Sherrington, C., Parker, M. J., Mobilisation strategies after hip fracture surgery in adults, Cochrane database of systematic reviews (Online), CD001704, 2004	Systematic review: Included studies checked for relevance.
Hansen, P. B., Hansen, T. B., The treatment of fractures of the ring and little metacarpal necks. A prospective randomized study of three different types of treatment, Journal of hand surgery (Edinburgh, Scotland), 23, 245-7, 1998	Population not in PICO: Patients with simple neck fractures of ring/little metacarpals
Hanson, M. D., Gauld, M., Wathen, C. N., MacMillan, H. L., Nonpharmacological interventions for acute wound care distress in pediatric patients with burn injury: A systematic review, Journal of	Systematic review: Population not in PICO (patients with acute wound

Study	Reason for Exclusion
Burn Care and Research, 29, 730-741, 2008	care distress). Included studies checked for relevance.
Hardee, J. P., Porter, C., Sidossis, L. S., Børsheim, E., Carson, J. A., Herndon, D. N., Suman, O. E., Early rehabilitative exercise training in the recovery from pediatric burn, Medicine and Science in Sports and Exercise, 46, 1710-1716, 2014	Outcomes not in PICO: Lean body mass, muscle strength and cardiovascular fitness
Hardee, J. P., Porter, C., Sidossis, L. S., Carson, J. A., Herndon, D. N., Suman, O. E., Effect of early outpatient exercise training on skeletal muscle mass and function in severely burned children, Journal of Burn Care and Research, 35, S196, 2014	Conference abstract
Hardee, J., Porter, C., Sidossis, L., Carson, J., Herndon, D., Suman, O., Effect of early and late outpatient exercise training on muscle mass and protein kinetics in severely burned children, FASEB Journal, 28, 2014	Conference abstract
Haren, K., Backman, C., Wiberg, M., Effect of manual lymph drainage as described by Vodder on oedema of the hand after fracture of the distal radius: a prospective clinical study, Scandinavian journal of plastic and reconstructive surgery and hand surgery, 34, 367-72, 2000	Outcomes not in PICO: Volume measurements of wrists
Harkema, Susan J., Schmidt-Read, Mary, Lorenz, Douglas J., Edgerton, V. Reggie, Behrman, Andrea L., Balance and ambulation improvements in individuals with chronic incomplete spinal cord injury using locomotor training-based rehabilitation, Archives of Physical Medicine and Rehabilitation, 93, 1508-17, 2012	Study design not in PICO: No comparative data
Harris, J. D., Griesser, M. J., Best, T. M., Ellis, T. J., Treatment of proximal hamstring ruptures - a systematic review, International Journal of Sports Medicine, 32, 490-5, 2011	Systematic review: Population not in PICO (patients with hamstring injuries). Included studies checked for relevance.
Hart, Nicholas, Laffont, Isabelle, de la Sota, Annie Perez, Lejaille, Michele, Macadou, Gilles, Polkey, Michael I., Denys, Pierre, Lofaso, Frederic, Respiratory effects of combined truncal and abdominal support in patients with spinal cord injury, Archives of Physical Medicine and Rehabilitation, 86, 1447-51, 2005	Outcomes not in PICO: Borg score and measures of lung volume, dynamic abdominal compliance, and transdiaphragmatic pressures
Harte, Daniel, Gordon, Jude, Shaw, Maxine, Stinson, May, Porter-Armstrong, Alison, The use of pressure and silicone in hypertrophic scar management in burns patients: a pilot randomized controlled trial, Journal of burn care & research : official publication of the American Burn Association, 30, 632-42, 2009	Outcomes not in PICO: Changes in scar presentation
Harvey, L. A., Batty, J., Crosbie, J., Poulter, S., Herbert, R. D., A randomized trial assessing the effects of 4 weeks of daily stretching on ankle mobility in patients with spinal cord injuries, Archives of physical medicine and rehabilitation, 81, 1340-7, 2000	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Harvey, L. A., Glinsky, J. V., Bowden, J. L., The effectiveness of 22 commonly administered physiotherapy interventions for people with spinal cord injury: a systematic review, Spinal Cord, 54, 914-923, 2016	Systematic review: Included studies checked for relevance.
Harvey, L. A., Herbert, R. D., Glinsky, J., Moseley, A. M., Bowden, J., Effects of 6 months of regular passive movements on ankle joint mobility in people with spinal cord injury: a randomized controlled trial, Spinal Cord, 47, 62-6, 2009	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Harvey, L. A., Lin, C. W. C., Glinsky, J. V., De Wolf, A., The effectiveness of physical interventions for people with spinal cord injuries: A systematic review, Spinal Cord, 47, 184-195, 2009	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
Harvey, Lisa A., Byak, Adrian J., Ostrovskaya, Marsha, Glinsky, Joanne, Katte, Lyndall, Herbert, Robert D., Randomised trial of the effects of four weeks of daily stretch on extensibility of hamstring muscles in people with spinal cord injuries, The Australian journal of physiotherapy, 49, 176-81, 2003	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Harvey, Lisa A., Ristev, Donna, Hossain, Mohammad S., Hossain, Mohammad A., Bowden, Jocelyn L., Boswell-Ruys, Claire L., Hossain, Mohammad M., Ben, Marsha, Training unsupported sitting does not improve ability to sit in people with recently acquired paraplegia: a randomised trial, Journal of physiotherapy, 57, 83-90, 2011	Comparison not in PICO: Stretching exercises versus no activity. No mention of standard care.
Harvey,L.A., Smith,M.B., Davis,G.M., Engel,S., Functional outcomes attained by T9-12 paraplegic patients with the walkabout and the isocentric reciprocal gait orthoses, Archives of Physical Medicine and Rehabilitation, 78, 706-711, 1997	Study design not in PICO: Cross-over study
Harwood, R. H., Sahota, O., Gaynor, K., Masud, T., Hosking, D. J., A randomised, controlled comparison of different calcium and vitamin D supplementation regimens in elderly women after hip fracture: The Nottingham Neck of Femur (NoNOF) study, Age and Ageing, 33, 45-51, 2004	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Hauer, K., Pfisterer, M., Schuler, M., Bartsch, P., Oster, P., Two years later: A prospective long-term follow-up of a training intervention in geriatric patients with a history of severe falls, Archives of Physical Medicine and Rehabilitation, 84, 1426-1432, 2003	Follow-up period outside of PICO: 24 months.
Hauer, K., Rost, B., Rutschle, K., Opitz, H., Specht, N., Bartsch, P., Oster, P., Schlierf, G., Exercise training for rehabilitation and secondary prevention of falls in geriatric patients with a history of injurious falls, Journal of the American Geriatrics Society, 49, 10-20, 2001	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Hauer, K., Specht, N., Schuler, M., Bärtsch, P., Oster, P., Intensive physical training in geriatric patients after severe falls and hip surgery, Age and Ageing, 31, 49-57, 2002	Population is a subgroup of patients in Hauer 2001/2003, which are already included
Hayes, Stephen Clive, James Wilcox, Christopher Richard, Forbes White, Hollie Samantha, Vanicek, Natalie, The effects of robot assisted gait training on temporal-spatial characteristics of people with spinal cord injuries: A systematic review, The journal of spinal cord medicine, 1-15, 2018	Intervention not in PICO: Robotic-assisted locomotor training
Hebenton, J., Colvin, J., Seenan, C., Scott, H., Models of care are associated with time taken to achieve key rehabilitation milestones in patients undergoing lower limb amputation, Physiotherapy, 102, e13, 2016	Conference abstract
Heller, Axel R., Rossler, Susann, Litz, Rainer J., Stehr, Sebastian N., Heller, Susanne C., Koch, Rainer, Koch, Thea, Omega-3 fatty acids improve the diagnosis-related clinical outcome, Critical Care Medicine, 34, 972-9, 2006	Population not in PICO: Mixture of traumatic (59 patients out of 661 sample) and non-traumatic causes with results not presented separately for target population
Henderson, K. G., Wallis, J. A., Snowdon, D. A., Active physiotherapy interventions following total knee arthroplasty in the hospital and inpatient rehabilitation settings: a systematic review and meta-analysis, Physiotherapy (United Kingdom), 104, 25-35, 2018	Systematic review: Population not in PICO (patients with primary knee arthroplasty due to osteoarthritis). Included studies checked for relevance.

Study	Reason for Exclusion
Hernandez-Reif, M., Field, T., Largie, S., Hart, S., Redzepi, M., Nierenberg, B., Peck, T. M., Childrens' distress during burn treatment is reduced by massage therapy, The Journal of burn care & rehabilitation, 22, 191-190, 2001	Outcomes not in PICO: Observed distress behaviours
Hicks, A. L., Adams, M. M., Martin Ginis, K., Giangregorio, L., Latimer, A., Phillips, S. M., McCartney, N., Long-term body-weight-supported treadmill training and subsequent follow-up in persons with chronic SCI: effects on functional walking ability and measures of subjective well-being, Spinal Cord, 43, 291-8, 2005	Study design not in PICO: Non-RCT with <100 per arm
Hicks, A. L., Martin Ginis, K. A., Pelletier, C. A., Ditor, D. S., Foulon, B., Wolfe, D. L., The effects of exercise training on physical capacity, strength, body composition and functional performance among adults with spinal cord injury: A systematic review, Spinal Cord, 49, 1103-1127, 2011	Systematic review: Included studies checked for relevance.
Hicks, A. L., Martin, K. A., Ditor, D. S., Latimer, A. E., Craven, C., Bugaresti, J., McCartney, N., Long-term exercise training in persons with spinal cord injury: effects on strength, arm ergometry performance and psychological well-being, Spinal cord, 41, 34-43, 2003	Comparison not in PICO: Exercise training versus education sessions. No mention of standard care.
Highsmith, M. Jason, Nelson, Leif M., Carbone, Neil T., Klenow, Tyler D., Kahle, Jason T., Hill, Owen T., Maikos, Jason T., Kartel, Mike S., Randolph, Billie J., Outcomes Associated With the Intrepid Dynamic Exoskeletal Orthosis (IDEO): A Systematic Review of the Literature, Military Medicine, 181, 69-76, 2016	Systematic review: Included studies checked for relevance.
Hill, Christopher E., Masters, James P. M., Perry, Daniel C., A systematic review of alternative splinting versus complete plaster casts for the management of childhood buckle fractures of the wrist, Journal of pediatric orthopedics. Part B, 25, 183-90, 2016	Systematic review: Population not in PICO (patients with buckle fracture of the wrist who are not generally hospitalised for this injury). Included studies checked for relevance.
Ho, W. S., Chan, H. H., Ying, S. Y., Cheng, H. S., Wong, C. S., Skin care in burn patients: A team approach, Burns, 27, 489-491, 2001	Outcomes not in PICO: Pressure garment compliance and hospital readmission
Hoh, D. J., Qureshi, S., Anderson, P. A., Arnold, P. M., Chi, J. H., Dailey, A. T., Dhall, S. S., Eichholz, K. M., Harrop, J. S., Rabb, C. H., Raksin, P. B., Kaiser, M. G., O'Toole, J. E., Congress of neurological surgeons systematic review and evidence-based guidelines on the evaluation and treatment of patients with thoracolumbar spine trauma: Nonoperative care, Neurosurgery, 84, E46-E49, 2019	Systematic review: Included studies checked for relevance.
Hoh, D. J., Qureshi, S., Anderson, P. A., Arnold, P. M., John, H. C., Dailey, A. T., Dhall, S. S., Eichholz, K. M., Harrop, J. S., Rabb, C. H., Raksin, P. B., Kaiser, M. G., O'Toole, J. E., Congress of neurological surgeons systematic review and evidence-based guidelines on the evaluation and treatment of patients with thoracolumbar spine trauma: Nonoperative care, Clinical Neurosurgery, 84, E46-E49, 2019	Systematic review: Included studies checked for relevance.
Holanda, Ledycnarf J., Silva, Patricia M. M., Amorim, Thiago C., Lacerda, Matheus O., Simao, Camila R., Morya, Edgard, Robotic assisted gait as a tool for rehabilitation of individuals with spinal cord injury: a systematic review, Journal of NeuroEngineering and Rehabilitation, 14, 126, 2017	Systematic review: Intervention not in PICO (robotic-assisted locomotor training). Included studies checked for relevance.
Holavanahalli, R. K., Helm, P. A., Kowalske, K. J., Hynan, L. S., Effectiveness of Paraffin and Sustained Stretch in Treatment of Shoulder Contractures Following a Burn Injury, Archives of Physical	Population not in PICO: ≤14 years with data not presented separately for

Study	Reason for Exclusion
Medicine and Rehabilitation, 101, S42-S49, 2020	under and over 18 years old.
Hollman, F., Wolterbeek, N., Zijl, J. A. C., van Egeraat, S. P. M., Wessel, R. N., Abduction Brace Versus Antirotation Sling After Arthroscopic Cuff Repair: the Effects on Pain and Function, Arthroscopy, 33, 1618-1626, 2017	Population not in PICO: Patients with tear of supraspinatus and/or infraspinatus tendons
Holtz, A., Early management after acute traumatic spinal cord injury, Upsala journal of medical sciences, 100, 93-123, 1995	Narrative review
Honigmann, P., Goldhahn, S., Rosenkranz, J., Audige, L., Geissmann, D., Babst, R., Aftertreatment of malleolar fractures following ORIF - Functional compared to protected functional in a vacuum-stabilized orthesis: A randomized controlled trial, Archives of Orthopaedic and Trauma Surgery, 127, 195-203, 2007	Comparison not in PICO: Splinting versus orthosis
Hornby, T. G., Campbell, D. D., Zemon, D. H., Kahn, J. H., Clinical and quantitative evaluation of robotic-assisted treadmill walking to retrain ambulation after spinal cord injury, Topics in Spinal Cord Injury Rehabilitation, 11, 1-17, 2005	Intervention not in PICO: Robotic-assisted locomotor training
Houdijk, A. P., Rijnsburger, E. R., Jansen, J., Wesdorp, R. I., Weiss, J. K., McCamish, M. A., Teerlink, T., Meuwissen, S. G., Haarman, H. J., Thijs, L. G., van Leeuwen, P. A., Randomised trial of glutamine-enriched enteral nutrition on infectious morbidity in patients with multiple trauma, Lancet (London, England), 352, 772-6, 1998	Dates not in PICO: 1992-1996 with results not presented separately for 1995-1996
Hughes, Sheila, Ni, Solomen, Wilson, Stephen, Use of removable rigid dressing for transtibial amputees rehabilitation: A Greenwich Hospital experience, The Australian journal of physiotherapy, 44, 135-137, 1998	No clinical data presented
Hui, J. H., Chen, X. J., Liang, C. P., Role of herbal fumigation in the joint functional rehabilitation after operation of bone fractures around the knee joint, China foreign medical treatment[zhong wai yi liao], 36, 181-183, 2016	Chinese language paper
Ihle, Christoph, Freude, Thomas, Bahrs, Christian, Zehendner, Eva, Braunsberger, Janick, Biesalski, Hans Konrad, Lambert, Christine, Stockle, Ulrich, Wintermeyer, Elke, Grunwald, Julia, Grunwald, Leonard, Ochs, Gunnar, Flesch, Ingo, Nussler, Andreas, Malnutrition - An underestimated factor in the inpatient treatment of traumatology and orthopedic patients: A prospective evaluation of 1055 patients, Injury, 48, 628-636, 2017	Study design not in PICO: No comparative data
Imam, Bita, Miller, William C., Finlayson, Heather, Eng, Janice J., Jarus, Tal, A randomized controlled trial to evaluate the feasibility of the Wii Fit for improving walking in older adults with lower limb amputation, Clinical Rehabilitation, 31, 82-92, 2017	Comparison not in PICO: Wii.n.Walk training versus Wii Big Brain Academy Degree. No mention of standard care.
Invernizzi, M., de Sire, A., D'Andrea, F., Carrera, D., Reno, F., Migliaccio, S., Iolascon, G., Cisari, C., Effects of essential amino acid supplementation and rehabilitation on functioning in hip fracture patients: a pilot randomized controlled trial, Aging Clinical and Experimental Research, 31, 1517-1524, 2019	Study measured activities of daily living, changes in mobility and upper limb function but data not presented in article.
Ipaktchi, Kyros, Arbabi, Saman, Advances in burn critical care, Critical Care Medicine, 34, S239-44, 2006	Narrative review
Ish-Shalom, S., Segal, E., Salganik, T., Raz, B., Bromberg, I. L., Vieth, R., Comparison of daily, weekly, and monthly vitamin D3 in ethanol dosing protocols for two months in elderly hip fracture patients, Journal of Clinical Endocrinology and Metabolism, 93, 3430-3435, 2008	Outcomes not in PICO: Plasma concentrations of vitamin D, calcium and parathyroid hormone
Itoi, Eiji, Hatakeyama, Yuji, Kido, Tadato, Sato, Takeshi, Minagawa, Hiroshi, Wakabayashi, Ikuko, Kobayashi, Moto, A new method of	Study design not in PICO: Non-RCT with <100 per

Study	Reason for Exclusion
immobilization after traumatic anterior dislocation of the shoulder: a preliminary study, Journal of Shoulder and Elbow Surgery, 12, 413-5, 2003	arm
Jacobs, Patrick L., Mahoney, Edward T., Cohn, Kelly A., Sheradsky, Laurey F., Green, Barth A., Oral creatine supplementation enhances upper extremity work capacity in persons with cervical-level spinal cord injury, Archives of Physical Medicine and Rehabilitation, 83, 19-23, 2002	Study design not in PICO: Cross-over study
Jang, Ki Un, Choi, Ji Soo, Mun, Jeong Hyeon, Jeon, Jong Hyun, Seo, Cheong Hoon, Kim, Jong Hyeon, Multi-axis shoulder abduction splint in acute burn rehabilitation: a randomized controlled pilot trial, Clinical Rehabilitation, 29, 439-46, 2015	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Jansen, H., Jordan, M., Frey, S., Hölscher-Doht, S., Meffert, R., Heintel, T., Active controlled motion in early rehabilitation improves outcome after ankle fractures: a randomized controlled trial, Clinical Rehabilitation, 32, 312-318, 2018	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Jarret, G., Orpanna, A., Helbostad, J., Can a three weeks program in a rehabilitation center improve balance in elderly people? A randomized clinical controlled trial, Physiotherapy (United Kingdom), 101, eS671-eS672, 2015	Conference abstract
Javed, M. T., Nagra, Z. M., Bhatti, N., Bashir, Z., Shabbir, N., Effects of diet on body weight, haemoglobin, serum proteins and trace elements in burned children, Journal of the College of Physicians and Surgeons--Pakistan : JCPSP, 13, 592-5, 2003	Outcomes not in PICO: Body weight, haemoglobin levels and serum proteins
Jayaraman, Arun, Thompson, Christopher K., Rymer, William Z., Hornby, T. George, Short-term maximal-intensity resistance training increases volitional function and strength in chronic incomplete spinal cord injury: a pilot study, Journal of neurologic physical therapy : JNPT, 37, 112-7, 2013	Study design not in PICO: Cross-over study
Jeon, J., Mun, J., Jung, Y., Park, W., Lee, J., Jang, K., Seo, C., The effect of burn rehabilitation massage therapy on post burn scar, Journal of Burn Care and Research, 34, S186, 2013	Outcomes not in PICO: Burn scar condition parameters
Jones, Gareth R., Jakobi, Jennifer M., Taylor, Albert W., Petrella, Rob J., Vandervoort, Anthony A., Community exercise program for older adults recovering from hip fracture: a pilot study, Journal of aging and physical activity, 14, 439-55, 2006	Study design not in PICO: Non-RCT with <100 per arm
Jones, Michael L., Evans, Nicholas, Tefertiller, Candace, Backus, Deborah, Sweatman, Mark, Tansey, Keith, Morrison, Sarah, Activity-based therapy for recovery of walking in chronic spinal cord injury: results from a secondary analysis to determine responsiveness to therapy, Archives of Physical Medicine and Rehabilitation, 95, 2247-52, 2014	Intervention not in PICO: Activity-based therapy including functional electrical stimulation
Jones, Michael L., Evans, Nicholas, Tefertiller, Candace, Backus, Deborah, Sweatman, Mark, Tansey, Keith, Morrison, Sarah, Activity-based therapy for recovery of walking in individuals with chronic spinal cord injury: results from a randomized clinical trial, Archives of Physical Medicine and Rehabilitation, 95, 2239-46.e2, 2014	Intervention not in PICO: Activity-based therapy including functional electrical stimulation
Joo, S. Y., Lee, S. Y., Cho, Y. S., Seo, C. H., Clinical utility of extracorporeal shock wave therapy on hypertrophic scars of the hand caused by burn injury: A prospective, randomized, double-blinded study, Journal of Clinical Medicine, 9, 1376, 2020	Only change score (pre- to post-treatment) presented for outcomes measurements. Raw data not presented.
Kapadia, N. M., Bagher, S., Popovic, M. R., Influence of different rehabilitation therapy models on patient outcomes: Hand function therapy in individuals with incomplete SCI, Journal of Spinal Cord Medicine, 37, 734-743, 2014	Intervention not in PICO: Functional electrical stimulation

Study	Reason for Exclusion
Kaplan, B. A., Hoard, M. A., Park, S. S., Immediate mobilization following fixation of mandible fractures: a prospective, randomized study, The Laryngoscope, 111, 1520-4, 2001	Comparison not in PICO: Immediate mobilisation versus mandibular-maxillary fixation.
Kaplan, Mark, Daly, Darron, Stemkowski, Stephen, Early intervention of negative pressure wound therapy using Vacuum-Assisted Closure in trauma patients: impact on hospital length of stay and cost, Advances in skin & wound care, 22, 128-32, 2009	Outcomes not in PICO: Hospital stay, therapy days and cost analysis
Karagoz, Huseyin, Yuksel, Fuat, Ulkur, Ersin, Evinc, Rahmi, Comparison of efficacy of silicone gel, silicone gel sheeting, and topical onion extract including heparin and allantoin for the treatment of postburn hypertrophic scars, Burns : journal of the International Society for Burn Injuries, 35, 1097-103, 2009	Outcomes not in PICO: Scar appearance, vascularity and pliability
Karch, S. B., Lewis, T., Young, S., Ho, C. H., Surgical delays and outcomes in patients treated with pneumatic antishock garments: A population-based study, American Journal of Emergency Medicine, 13, 401-404, 1995	Dates not in PICO: 1990-1994
Karimi, Mohammad Taghi, Functional walking ability of paraplegic patients: comparison of functional electrical stimulation versus mechanical orthoses, European journal of orthopaedic surgery & traumatology : orthopedie traumatologie, 23, 631-8, 2013	Systematic review: Intervention not in PICO (functional electrical stimulation). Included studies checked for relevance.
Karimi, Mohammad Taghi, Robotic rehabilitation of spinal cord injury individual, Ortopedia, traumatologia, rehabilitacja, 15, 1-7, 2013	Narrative review
Karlsson, J., Eriksson, B. I., Sward, L., Early functional treatment for acute ligament injuries of the ankle joint, Scandinavian journal of medicine & science in sports, 6, 341-5, 1996	Population not in PICO: Patients with ankle ligament ruptures
Kasuga, S., Momosaki, R., Hasebe, K., Sawabe, M., Sawaguchi, A., Effectiveness of self-exercise on elderly patients after hip fracture: A retrospective cohort study, Journal of Medical Investigation, 66, 178-181, 2019	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Kattelmann, Kendra K., Hise, Mary, Russell, Mary, Charney, Pam, Stokes, Milton, Compher, Charlene, Preliminary evidence for a medical nutrition therapy protocol: enteral feedings for critically ill patients, Journal of the American Dietetic Association, 106, 1226-41, 2006	Narrative review
Kay, S., Haensel, N., Stiller, K., The effect of passive mobilisation following fractures involving the distal radius: A randomised study, Australian Journal of Physiotherapy, 46, 93-101, 2000	Population not in PICO: Patients with simple fractures of distal radius
Kay, Sandra, McMahon, Margaret, Stiller, Kathy, An advice and exercise program has some benefits over natural recovery after distal radius fracture: a randomised trial, The Australian journal of physiotherapy, 54, 253-9, 2008	Population not in PICO: Patients with distal radius fracture managed with pin or plaster cast
Keser, S., Bolukbasi, S., Bayar, A., Kanatli, U., Meray, J., Ozdemir, H., Proximal humeral fractures with minimal displacement treated conservatively, International Orthopaedics, 28, 231-234, 2004	Study design not in PICO: No comparative data
Khansa, Ibrahim, Harrison, Bridget, Janis, Jeffrey E., Evidence-Based Scar Management: How to Improve Results with Technique and Technology, Plastic and Reconstructive Surgery, 138, 165S-78S, 2016	Narrative review
Khera, Gurney, Exoskeletons to revolutionise rehabilitation, Australian nursing & midwifery journal, 22, 17, 2015	Narrative review
Khorasani, Enayatollah Nemat, Mansouri, Fariba, Effect of early enteral nutrition on morbidity and mortality in children with burns,	Outcomes not in PICO: Mortality, time to death and

Study	Reason for Exclusion
Burns : journal of the International Society for Burn Injuries, 36, 1067-71, 2010	length of hospital stay
Khurana, Meetika, Walia, Shefali, Noohu, Majumi M., Study on the Effectiveness of Virtual Reality Game-Based Training on Balance and Functional Performance in Individuals with Paraplegia, Topics in Spinal Cord Injury Rehabilitation, 23, 263-270, 2017	Comparison not in PICO: Virtual reality based balance training versus real-world balance training.
Kilgore, Kevin L., Bryden, Anne, Keith, Michael W., Hoyen, Harry A., Hart, Ronald L., Nemunaitis, Gregory A., Peckham, P. Hunter, Evolution of Neuroprosthetic Approaches to Restoration of Upper Extremity Function in Spinal Cord Injury, Topics in Spinal Cord Injury Rehabilitation, 24, 252-264, 2018	Intervention not in PICO: Neuroprothesis
Kim, Byungchul, In, Hyunki, Lee, Dae-Young, Cho, Kyu-Jin, Development and assessment of a hand assist device: GRIPIT, Journal of NeuroEngineering and Rehabilitation, 14, 15, 2017	Study design not in PICO: No comparative data
Kim, D. I., Lee, H., Lee, B. S., Kim, J., Jeon, J. Y., Effects of a 6-Week Indoor Hand-Bike Exercise Program on Health and Fitness Levels in People With Spinal Cord Injury: A Randomized Controlled Trial Study, Archives of Physical Medicine and Rehabilitation, 96, 2033-2040, 2015	Comparison not in PICO: Hand-bike exercise programme versus no intervention. No mention of standard care.
Kim, Dong-Il, Lee, Hyelim, Lee, Bum-Suk, Kim, Jongbae, Jeon, Justin Y., Effects of a 6-Week Indoor Hand-Bike Exercise Program on Health and Fitness Levels in People With Spinal Cord Injury: A Randomized Controlled Trial Study, Archives of physical medicine and rehabilitation, 96, 2033-40.e1, 2015	Duplicate paper
Kim, S. H., Ha, K. I., Jung, M. W., Lim, M. S., Kim, Y. M., Park, J. H., Accelerated rehabilitation after arthroscopic Bankart repair for selected cases: A prospective randomized clinical study, Arthroscopy - Journal of Arthroscopic and Related Surgery, 19, 722-731, 2003	Population not in PICO: Patients undergoing arthroscopic Bankart repair
Kim, S. W., Hong, J. P., Min, W. K., Seo, D. W., Chung, Y. K., Accurate, firm stabilization using external pins: A proposal for closed reduction of unfavorable nasal bone fractures and their simple classification, Plastic and Reconstructive Surgery, 110, 1240-1246, 2002	Study design not in PICO: No comparative data
Kimmel, L. A., Edwards, E. R., Liew, S. M., Oldmeadow, L. B., Webb, M. J., Holland, A. E., Rest easy? Is bed rest really necessary after surgical repair of an ankle fracture?, Injury, 43, 766-771, 2012	Outcomes not in PICO: Length of stay, discharge destination, opioid requirement and wound condition
Kinlaw, D., Pre-/postoperative therapy for adult plexus injury, Hand Clinics, 21, 103-108, 2005	Narrative review
Klein, C. J., Wiles, Iii C. E., Evaluation of nutrition care provided to patients with traumatic injuries at risk for multiple organ dysfunction syndrome, Journal of the American Dietetic Association, 97, 1422-1424, 1997	Dates not in PICO: 1992-1994
Kloosterman, M. G. M., Snoek, G. J., Jannink, M. J. A., Systematic review of the effects of exercise therapy on the upper extremity of patients with spinal-cord injury, Spinal Cord, 47, 196-203, 2009	Systematic review: Included studies checked for relevance.
Knygsand-Roenhoej, Karin, Maribo, Thomas, A randomized clinical controlled study comparing the effect of modified manual edema mobilization treatment with traditional edema technique in patients with a fracture of the distal radius, Journal of hand therapy : official journal of the American Society of Hand Therapists, 24, 184-194, 2011	Population not in PICO: Patients with unilateral post-distal radius fracture
Koretz, Ronald L., Avenell, Alison, Lipman, Timothy O., Braunschweig, Carol L., Milne, Anne C., Does enteral nutrition affect clinical outcome? A systematic review of the randomized trials, The	Comparisons not in PICO: Enteral nutrition versus parenteral nutrition, enteral

Study	Reason for Exclusion
American journal of gastroenterology, 102, 412-468, 2007	nutrition versus no intervention or parenteral nutrition versus no intervention. No mention of standard care.
Kozar, Rosemary A., McQuiggan, Margaret M., Moore, Ernest E., Kudsk, Kenneth A., Jurkovich, Gregory J., Moore, Frederick A., Postinjury enteral tolerance is reliably achieved by a standardized protocol, The Journal of surgical research, 104, 70-5, 2002	Outcomes not in PICO: Patient tolerance of enteral feeding
Kressler, Jochen, Burns, Patricia A., Betancourt, Louisa, Nash, Mark S., Circuit training and protein supplementation in persons with chronic tetraplegia, Medicine and science in sports and exercise, 46, 1277-84, 2014	Outcomes not in PICO: Fuel utilisation and energy expenditure
Kressler, Jochen, Cowan, Rachel E., Bigford, Gregory E., Nash, Mark S., Reducing cardiometabolic disease in spinal cord injury, Physical Medicine and Rehabilitation Clinics of North America, 25, 573-viii, 2014	Narrative review
Krishnan, Vennila, Kindig, Matthew, Mirbagheri, Mehdi, Robotic-assisted locomotor training enhances ankle performance in adults with incomplete spinal cord injury, Journal of Rehabilitation Medicine, 48, 781-786, 2016	Intervention not in PICO: Robotic-assisted locomotion training
Kronborg, Lise, Bandholm, Thomas, Palm, Henrik, Kehlet, Henrik, Kristensen, Morten Tange, Effectiveness of acute in-hospital physiotherapy with knee-extension strength training in reducing strength deficits in patients with a hip fracture: A randomised controlled trial, PLoS ONE, 12, e0179867, 2017	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Krull, Christine, Abramoff, Benjamin A., Jerome, Mairin, Principe, Jessica, Cai, Qingpo, Tailor, Yogita, Intervention for Increasing Vitamin D Supplementation in a Deficient Rehabilitation Population: Outcomes of a Quality Improvement Initiative, PM & R : the journal of injury, function, and rehabilitation, 11, 1093-1100, 2019	Outcomes not in PICO: Prevalence of vitamin D deficiency and vitamin D insufficiency
Kudsk, K. A., Nutrition support after abdominal trauma, Problems in General Surgery, 15, 120-131, 1998	Narrative review
Kuijlaars, I. A. R., Sweerts, L., Nijhuis-van der Sanden, M. W. G., van Balen, R., Staal, J. B., van Meeteren, N. L. U., Hoogeboom, T. J., Effectiveness of Supervised Home-Based Exercise Therapy Compared to a Control Intervention on Functions, Activities, and Participation in Older Patients After Hip Fracture: A Systematic Review and Meta-analysis, Archives of Physical Medicine and Rehabilitation, 100, 101, 2019	Systematic review: Included studies checked for relevance.
Kuisma, R., A randomized, controlled comparison of home versus institutional rehabilitation of patients with hip fracture, Clinical Rehabilitation, 16, 553-561, 2002	Comparison not in PICO: Institutional rehabilitation programme versus home rehabilitation programme
Kujawa, J., The role of rehabilitation in prevention and treatment of osteoporotic fractures, Osteoporosis International, 29, S91-S92, 2018	Conference abstract
Kumar, Sunil, Kumar, Ritesh, Sharma, Suman Bala, Jain, Bhupendra Kumar, Effect of oral glutamine administration on oxidative stress, morbidity and mortality in critically ill surgical patients, Indian journal of gastroenterology : official journal of the Indian Society of Gastroenterology, 26, 70-3, 2007	Outcomes not in PICO: Serum malondialdehyde, glutathione levels, infectious complications and length of stay
Kurmis, R., Parker, A., Greenwood, J., The use of immunonutrition in burn injury care: Where are we?, Journal of Burn Care and Research, 31, 677-691, 2010	Narrative review
Kurmis, Rochelle, Greenwood, John, Aromataris, Edoardo, Trace Element Supplementation Following Severe Burn Injury: A	Systematic review: Included studies checked

Study	Reason for Exclusion
Systematic Review and Meta-Analysis, Journal of burn care & research : official publication of the American Burn Association, 37, 143-59, 2016	for relevance.
Kwah, L. K., Webb, M. T., Goh, L., Harvey, L. A., Rigid dressings versus soft dressings for transtibial amputations, Cochrane Database of Systematic Reviews, 2019, CD012427, 2019	Systematic review: Intervention not in PICO (rigid and soft dressings). Included studies checked for relevance.
Lachiewicz, P. F., The role of continuous passive motion after total knee arthroplasty, Clinical Orthopaedics and Related Research, 144-50, 2000	Narrative review
Lajeunesse, Veronique, Vincent, Claude, Routhier, Francois, Careau, Emmanuelle, Michaud, Francois, Exoskeletons' design and usefulness evidence according to a systematic review of lower limb exoskeletons used for functional mobility by people with spinal cord injury, Disability and rehabilitation. Assistive technology, 11, 535-47, 2016	Systematic review: Intervention not in PICO (exoskeletons). Included studies checked for relevance.
Lam, N. N., Tien, N. G., Khoa, C. M., Early enteral feeding for burned patients-An effective method which should be encouraged in developing countries, Burns, 34, 192-196, 2008	Setting not in PICO: Intensive care unit
Lam, T., Pauhl, K., Ferguson, A., Malik, R. N., Krassioukov, A., Janice, J., Training with robot-applied resistance in people with motor-incomplete spinal cord injury: Pilot study, Journal of Rehabilitation Research and Development, 52, 113-130, 2015	Mixed population: Traumatic (12/15) and non-traumatic (3/15) patients with results not presented separately for target population
Lam, T., Pauhl, K., Ferguson, A., Malik, R., Krassioukov, A., Eng, J., A new training paradigm using robot-applied resistance to enhance skilled walking in people with spinal cord injury, Physiotherapy (United Kingdom), 101, eS813-eS814, 2015	Conference abstract
Lam, T., Pauhl, K., Ferguson, A., Malik, R., Krassioukov, A., Eng, J., A pilot RCT to test the effect of lokomat-applied force fields on functional walking skills in people with motor-incomplete spinal cord injury, Neurorehabilitation and Neural Repair, 28, NP1, 2014	Conference abstract
LaPrade, R. F., DePhillipo, N. N., Cram, T., Kennedy, M., Dornan, G., O'Brien, L., Non-weight bearing versus partial controlled early weight bearing after reconstruction of the fibular collateral ligament: A randomized control trial, Orthopaedic Journal of Sports Medicine, 6, 2018	Conference abstract
Lateef, Thair A., Al-Anee, Auday M., Agha, Muntasser T. Fattah, Evaluation the Efficacy of Hilotherm Cooling System in Reducing Postoperative Pain and Edema in Maxillofacial Traumatized Patients and Orthognathic Surgeries, The Journal of craniofacial surgery, 29, e697-e706, 2018	Intervention not in PICO: Cryotherapy
Latham, N. K., Anderson, C. S., Lee, A., Bennett, D. A., Moseley, A., Cameron, I. D., A randomized, controlled trial of quadriceps resistance exercise and vitamin D in frail older people: The frailty interventions trial in elderly subjects (FITNESS), Journal of the American Geriatrics Society, 51, 291-299, 2003	Population not in PICO: Participants who are frail and elderly
Latimer, A. E., Ginis, K. A. M., Arbour, K. P., The efficacy of an implementation intention intervention for promoting physical activity among individuals with spinal cord injury: A randomized controlled trial, Rehabilitation Psychology, 51, 273-280, 2006	Intervention not in PICO: Implementation intervention, scheduling sessions (psychological)
Latimer, A. E., Ginis, K. A., Hicks, A. L., McCartney, N., An examination of the mechanisms of exercise-induced change in psychological well-being among people with spinal cord injury,	Intervention not in PICO: Participants not undergoing standard rehabilitation care

Study	Reason for Exclusion
Journal of Rehabilitation Research and Development, 41, 643-652, 2004	
Lauridsen, Ulrik Birk, de la Cour, Birgit Bang D., Gottschalck, Lise, Svensson, Birthe Hjorth, Intensive physical therapy after hip fracture. A randomised clinical trial, Danish Medical Bulletin, 49, 70-2, 2002	Danish language paper
Lee, S. M., Ngim, C. K., Chan, Y. Y., Ho, M. J., A comparison of Sil-K and Epiderm in scar management, Burns : journal of the International Society for Burn Injuries, 22, 483-7, 1996	Comparison not in PICO: Different brands of silicone sheeting
Lee, S. Y., Jung, S. H., Lee, S. U., Ha, Y. C., Lim, J. Y., Effect of Balance Training After Hip Fracture Surgery: A Systematic Review and Meta-analysis of Randomized Controlled Studies, The journals of gerontology. Series A, Biological sciences and medical sciences, 74, 1679-1685, 2019	Systematic review: Included studies checked for relevance.
Lee, Sang Yoon, Yoon, Byung-Ho, Beom, Jaewon, Ha, Yong-Chan, Lim, Jae-Young, Effect of Lower-Limb Progressive Resistance Exercise After Hip Fracture Surgery: A Systematic Review and Meta-Analysis of Randomized Controlled Studies, Journal of the American Medical Directors Association, 18, 1096.e19-1096.e26, 2017	Systematic review: Included studies checked for relevance.
Lee, Y., Lee, S. H., Kim, C., Choi, H. J., Comparison of the effectiveness in pain reduction and pulmonary function between a rib splint constructed in the ER and a manufactured rib splint, Medicine, 97, e10779, 2018	Setting not in PICO: Emergency room
Lefeber, Nina, Swinnen, Eva, Kerckhofs, Eric, The immediate effects of robot-assistance on energy consumption and cardiorespiratory load during walking compared to walking without robot-assistance: a systematic review, Disability and rehabilitation. Assistive technology, 12, 657-671, 2017	Systematic review: Included studies checked for relevance.
Leijendekkers, Ruud A., van Hinte, Gerben, Frolke, Jan Paul, van de Meent, Hendrik, Nijhuis-van der Sanden, Maria W. G., Staal, J. Bart, Comparison of bone-anchored prostheses and socket prostheses for patients with a lower extremity amputation: a systematic review, Disability and rehabilitation, 39, 1045-1058, 2017	Systematic review: Included studies checked for relevance.
Lemay, M. A., Hogan, N., Van Dorsten, J. W. A., Issues in impedance selection and input devices for multijoint powered orthotics, IEEE Transactions on Rehabilitation Engineering, 6, 102-105, 1998	Study design not in PICO: Description of measurement of parameter values for powered-orthosis controllers
Leszczynska, A., Daniszewska, B., Pruszynska, M., Przedborska, A., Hadala, M., Raczkowski, J. W., Effects of a health improvement programme on quality of life in elderly people after falls, Polish Annals of Medicine, 23, 129-134, 2016	Paper unavailable
Li, Chunxiao, Khoo, Selina, Adnan, Athirah, Effects of aquatic exercise on physical function and fitness among people with spinal cord injury: A systematic review, Medicine, 96, e6328, 2017	Systematic review: Included studies checked for relevance.
Li, L., Dai, J. X., Xu, L., Huang, Z. X., Pan, Q., Zhang, X., Jiang, M. Y., Chen, Z. H., The effect of a rehabilitation nursing intervention model on improving the comprehensive health status of patients with hand burns, Burns, 43, 877-885, 2017	Intervention not in PICO: Multi-component rehabilitation model which does does not incorporate any interventions listed in protocol.
Lin, Jiun-Jie, Chung, Xiu-Juan, Yang, Chung-Yih, Lau, Hui-Ling, A meta-analysis of trials using the intention to treat principle for glutamine supplementation in critically ill patients with burn, Burns : journal of the International Society for Burn Injuries, 39, 565-70, 2013	Systematic review: Included studies checked for relevance.
Linz, D. H., Shepherd, C. D., Ford, L. F., Ringley, L. L., Klekamp, J., Duncan, J. M., Effectiveness of occupational medicine center-based	Study design not in PICO: No defined intervention

Study	Reason for Exclusion
physical therapy, Journal of Occupational and Environmental Medicine, 44, 48-53, 2002	
Liow, R. Y., Cregan, A., Nanda, R., Montgomery, R. J., Early mobilisation for minimally displaced radial head fractures is desirable. A prospective randomised study of two protocols, Injury, 33, 801-806, 2002	Population not in PICO: Patients with minimally displaced radial head fractures
Lisi, C., Caspani, P., Bruggi, M., Carlisi, E., Scole, D., Benazzo, F., Toffola, E. D., Early rehabilitation after elective total knee arthroplasty, Acta Biomedica, 88, 56-61, 2017	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for target population.
Li-Tsang, C. W., Feng, B. B., Li, K. C., Pressure therapy of hypertrophic scar after burns and related research, Zhonghua shao shang za zhi [Chinese journal of burns], 26, 411-415, 2010	Chinese language article
Li-Tsang, C. W., Lau, J. C., Choi, J., Chan, C. C., Jianan, L., A prospective randomized clinical trial to investigate the effect of silicone gel sheeting (Cica-Care) on post-traumatic hypertrophic scar among the Chinese population, Burns, 32, 678-683, 2006	Outcomes not in PICO: Scar appearance, pliability and itchiness. Pain measured but not reported.
Li-Tsang, Cecilia Wai Ping, Zheng, Yong Ping, Lau, Joy C. M., A randomized clinical trial to study the effect of silicone gel dressing and pressure therapy on posttraumatic hypertrophic scars, Journal of burn care & research : official publication of the American Burn Association, 31, 448-57, 2010	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Littman, Alyson J., Haselkorn, Jodie K., Arterburn, David E., Boyko, Edward J., Pilot randomized trial of a telephone-delivered physical activity and weight management intervention for individuals with lower extremity amputation, Disability and Health Journal, 12, 43-50, 2019	Population not in PICO: Overweight patients with lower extremity amputation. No mention of trauma.
Liu, Austin, Moy, Ronald L., Ozog, David M., Current methods employed in the prevention and minimization of surgical scars, Dermatologic surgery : official publication for American Society for Dermatologic Surgery [et al.], 37, 1740-6, 2011	Narrative review
Liu, H. Y., Tseng, M. Y., Li, H. J., Wu, C. C., Cheng, H. S., Yang, C. T., Chou, S. W., Chen, C. Y., Shyu, Y. I., Comprehensive care improves physical recovery of hip-fractured elderly Taiwanese patients with poor nutritional status, Journal of the American Medical Directors Association, 15, 416-422, 2014	Population not in PICO: Elderly hip fracture patients with poor nutritional status at hospital discharge
Liu, Hongju, Li, Jianjun, Du, Liangjie, Yang, Mingliang, Yang, Degang, Li, Jun, Gao, Feng, Ma, Ke, Short-term effects of core stability training on the balance and ambulation function of individuals with chronic spinal cord injury: a pilot randomized controlled trial, Minerva Medica, 110, 216-223, 2019	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Long, C. L., Maull, K. I., Krishnan, R. S., Laws, H. L., Geiger, J. W., Borghesi, L., Franks, W., Lawson, T. C., Sauberlich, H. E., Ascorbic acid dynamics in the seriously ill and injured, The Journal of surgical research, 109, 144-8, 2003	Setting not in PICO: Intensive care unit
Long-term intensive family rehabilitation training for postoperative functional recovery in elderly hip fracture patients, Chinese journal of tissue engineering research, 24, 2158-2163, 2020	Chinese language paper
Lovas, J., Craig, A., Tran, Y., Middleton, J., The role of massage therapy in managing secondary conditions associated with spinal cord injury: An integrative model, Topics in Spinal Cord Injury Rehabilitation, 14, 61-75, 2008	Narrative review
Lovas, J., Tran, Y., Middleton, J., Bartrop, R., Moore, N., Craig, A., Managing pain and fatigue in people with spinal cord injury: a	Intervention not in PICO: Specific pain management

Study	Reason for Exclusion
randomized controlled trial feasibility study examining the efficacy of massage therapy, Spinal Cord, 55, 162-166, 2017	intervention
Lowe, W., Orthopedic massage: a model for alternative treatment of cumulative trauma disorders, AAOHN journal : official journal of the American Association of Occupational Health Nurses, 47, 175-6, 1999	Narrative review
Lu, Xiao, Battistuzzo, Camilla R., Zoghi, Maryam, Galea, Mary P., Effects of training on upper limb function after cervical spinal cord injury: a systematic review, Clinical rehabilitation, 29, 3-13, 2015	Systematic review: Included studies checked for relevance.
Lucareli, P. R., Lima, M. O., Lima, F. P. S., de Almeida, J. G., Brech, G. C., D'Andrea Greve, J. M., Gait analysis following treadmill training with body-weight support versus conventional physical therapy: a prospective randomized controlled single blind study, Spinal cord, 49, 1001-7, 2011	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Lucke, K. T., Coccia, H., Goode, J. S., Lucke, J. F., Quality of life in spinal cord injured individuals and their caregivers during the initial 6 months following rehabilitation, Quality of Life Research, 13, 97-110, 2004	Study design not in PICO: No intervention
Ma, D. N., Zhang, X. Q., Ying, J., Chen, Z. J., Li, L. X., Efficacy and safety of 9 nonoperative regimens for the treatment of spinal cord injury: A network meta-analysis, Medicine (United States), 96, e8679, 2017	Systematic review: Included studies checked for relevance.
Madsen, Ulla Riis, Hommel, Ami, Berthelsen, Connie Bottcher, Baath, Carina, Systematic review describing the effect of early mobilisation after dysvascular major lower limb amputations, Journal of clinical nursing, 26, 3286-3297, 2017	Systematic review: Population not in PICO (amputation due to vascular disease). Included studies checked for relevance.
Magaziner, Jay, Mangione, Kathleen K., Orwig, Denise, Baumgarten, Mona, Magder, Laurence, Terrin, Michael, Fortinsky, Richard H., Gruber-Baldini, Ann L., Beamer, Brock A., Tosteson, Anna N. A., Kenny, Anne M., Shardell, Michelle, Binder, Ellen F., Koval, Kenneth, Resnick, Barbara, Miller, Ram, Forman, Sandra, McBride, Ruth, Craik, Rebecca L., Effect of a Multicomponent Home-Based Physical Therapy Intervention on Ambulation After Hip Fracture in Older Adults: The CAP Randomized Clinical Trial, JAMA, 322, 946-956, 2019	Comparison not in PICO: Multicomponent home-based physical therapy intervention versus transcutaneous electrical nerve stimulation.
Mahomed, N. N., Davis, A. M., Hawker, G., Badley, E., Davey, J. R., Syed, K. A., Coyte, P. C., Gandhi, R., Wright, J. G., Inpatient compared with home-based rehabilitation following primary unilateral total hip or knee replacement: A randomized controlled trial, Journal of Bone and Joint Surgery - Series A, 90, 1673-1680, 2008	Population not in PICO: Patients undergoing hip or knee replacement due to osteoarthritis
Majewski-Schrage, Tricia, Snyder, Kelli, The Effectiveness of Manual Lymphatic Drainage in Patients With Orthopedic Injuries, Journal of Sport Rehabilitation, 25, 91-7, 2016	Systematic review: Included studies checked for relevance.
Mangione, Kathleen K., Craik, Rebecca L., Palombaro, Kerstin M., Tomlinson, Susan S., Hofmann, Mary T., Home-based leg-strengthening exercise improves function 1 year after hip fracture: a randomized controlled study, Journal of the American Geriatrics Society, 58, 1911-7, 2010	Comparison not in PICO: Control group received transcutaneous electrical stimulation
Mangione, Kathleen K., Craik, Rebecca L., Tomlinson, Susan S., Palombaro, Kerstin M., Can elderly patients who have had a hip fracture perform moderate- to high-intensity exercise at home?, Physical Therapy, 85, 727-39, 2005	Population not in PICO: Already completed physical therapy rehabilitation after hip fracture.
Marcotte, Joseph, Hazelton, Joshua P., Arya, Chirag, Dalton, Michael, Batool, Amber, Gaughan, John, Nguyen, Linh, Porter, John, Fox, Nicole, A selective placement strategy for surgical feeding tubes	Setting not in PICO: Intensive care unit

Study	Reason for Exclusion
benefits trauma patients, The journal of trauma and acute care surgery, 85, 135-139, 2018	
Mard, M., Vaha, J., Heinonen, A., Portegijs, E., Sakari-Rantala, R., Kallinen, M., Alen, M., Kiviranta, I., Sipila, S., The effects of muscle strength and power training on mobility among older hip fracture patients, Advances in Physiotherapy, 10, 195-202, 2008	Population not in PICO: Not undergoing standard rehabilitation care
Martin Ginis, K. A., Latimer, A. E., McKechnie, K., Ditor, D. S., McCartney, N., Hicks, A. L., Bugaresti, J., Craven, B. C., Using exercise to enhance subjective well-being among people with spinal cord injury: The mediating influences of stress and pain, Rehabilitation psychology, 48, 157-164, 2003	Population not in PICO: Already completed physical therapy rehabilitation after hip fracture
Martinez, Stephanie A., Nguyen, Nhuquynh D., Bailey, Eric, Doyle-Green, Denis, Hauser, Henry A., Handrakis, John P., Knezevic, Steven, Marett, Casey, Weinman, Jennifer, Romero, Angelica F., Santiago, Tiffany M., Yang, Ajax H., Yung, Lok, Asselin, Pierre K., Weir, Joseph P., Kornfeld, Stephen D., Bauman, William A., Spungen, Ann M., Harel, Noam Y., Multimodal cortical and subcortical exercise compared with treadmill training for spinal cord injury, PLoS ONE, 13, e0202130, 2018	Study design not in PICO: Cross-over study
Martin-Martin, Lydia M., Valenza-Demet, Gerald, Ariza-Vega, Patrocinio, Valenza, Carmen, Castellote-Caballero, Yolanda, Jimenez-Moleon, Jose Juan, Effectiveness of an occupational therapy intervention in reducing emotional distress in informal caregivers of hip fracture patients: A randomized controlled trial, Clinical Rehabilitation, 28, 772-783, 2014	Outcome not in PICO: Distress in caregivers
Martin-Martin, Lydia M., Valenza-Demet, Gerald, Jimenez-Moleon, Jose Juan, Cabrera-Martos, Irene, Revelles-Moyano, Francisco Javier, Valenza, Marie Carmen, Effect of occupational therapy on functional and emotional outcomes after hip fracture treatment: a randomized controlled trial, Clinical Rehabilitation, 28, 541-51, 2014	Intervention not in PICO: Occupational therapy
Maslaris, Alexander, Brinkmann, Olaf, Bungartz, Matthias, Krettek, Christian, Jagodzinski, Michael, Liodakis, Emmanouil, Management of knee dislocation prior to ligament reconstruction: What is the current evidence? Update of a universal treatment algorithm, European journal of orthopaedic surgery & traumatology : orthopedie traumatologie, 28, 1001-1015, 2018	Study design not in PICO: Journal bibliometric analysis
Mason, D. L., Dickens, V. A., Vail, A., Rehabilitation for hamstring injuries, Cochrane Database of Systematic Reviews, 2012	Systematic review: Population not in PICO (patients with hamstring injuries). Included studies checked for relevance.
Masters, B., Aarabi, S., Sidhwa, F., Wood, F., High-carbohydrate, high-protein, low-fat versus low-carbohydrate, high-protein, high-fat enteral feeds for burns, Cochrane Database of Systematic Reviews, 2012	Systematic review: Included studies checked for relevance.
Mathews, J. J., Aleem, R. F., Gamelli, R. L., Cost reduction strategies in burn nutrition services: Adjustments in dietary treatment of patients with hyponatremia and hypophosphatemia, Journal of Burn Care and Rehabilitation, 20, 80-79, 1999	Paper unavailable
Mavrogenis, A. F., Spyridonos, S. G., Antonopoulos, D., Soucacos, P. N., Papagelopoulos, P. J., Effect of Sensory Re-Education After Low Median Nerve Complete Transection and Repair, Journal of Hand Surgery, 34, 1210-1215, 2009	Population not in PICO: Patients with minor trauma
Mayes, Theresa, Gottschlich, Michele M., James, Laura E., Allgeier, Chris, Weitz, Julie, Kagan, Richard J., Clinical safety and efficacy of probiotic administration following burn injury, Journal of burn care & research : official publication of the American Burn Association, 36,	Outcomes not in PICO: Sepsis, infection, use of antibiotics and antifungal treatment, gastrointestinal

Study	Reason for Exclusion
92-9, 2015	complications, length of stay and mortality
Mazari, F. A., Mockford, K., Barnett, C., Khan, J. A., Brown, B., Smith, L., Polman, R. C., Hancock, A., Vanicek, N. K., Chetter, I. C., Hull early walking aid for rehabilitation of transtibial amputees--randomized controlled trial (HEART), Journal of Vascular Surgery, 52, 1564-1571, 2010	Population not in PICO: Non-traumatic causes of amputation
McGarvey, Aoife C., Hoffman, Gary R., Osmotherly, Peter G., Chiarelli, Pauline E., Maximizing shoulder function after accessory nerve injury and neck dissection surgery: A multicenter randomized controlled trial, Head & neck, 37, 1022-31, 2015	Population not in PICO: Patients who had undergone a neck dissection following diagnosis of a carcinoma of the head and neck region
McLeod, J. C., Diana, H., Hicks, A. L., Sprint interval training versus moderate-intensity continuous training during inpatient rehabilitation after spinal cord injury: a randomized trial, Spinal Cord, 58, 106-115, 2020	Mixed population: Traumatic and non-traumatic injury patients (proportion not reported) with results not presented separately for target population.
McMurdo, M. E. T., Mole, P. A., Paterson, C. R., Controlled trial of weight bearing exercise in older women in relation to bone density and falls, British Medical Journal, 314, 569, 1997	Summary article
McQuiggan, Margaret, Kozar, Rosemary, Sailors, R. Matthew, Ahn, Chul, McKinley, Bruce, Moore, Frederick, Enteral glutamine during active shock resuscitation is safe and enhances tolerance of enteral feeding, JPEN. Journal of parenteral and enteral nutrition, 32, 28-35, 2008	Setting not in PICO: Intensive care unit
Means, K. M., Rodell, D. E., O'Sullivan, P. S., Cranford, L. A., Rehabilitation of elderly fallers: pilot study of a low to moderate intensity exercise program, Archives of Physical Medicine and Rehabilitation, 77, 1030-6, 1996	Population not in PICO: Elderly, ambulatory participants. No mention of trauma.
Mehrholz, J., Harvey, L. A., Thomas, S., Elsner, B., Is body-weight-supported treadmill training or robotic-assisted gait training superior to overground gait training and other forms of physiotherapy in people with spinal cord injury? A systematic review, Spinal Cord, 55, 722-729, 2017	Systematic review: Included studies checked for relevance.
Mehrholz, Jan, Kugler, Joachim, Pohl, Marcus, Locomotor training for walking after spinal cord injury, The Cochrane database of systematic reviews, 11, CD006676, 2012	Systematic review: Included studies checked for relevance.
Meijer, Henriette A., Graafland, Maurits, Goslings, J. Carel, Schijven, Marlies P., Systematic Review on the Effects of Serious Games and Wearable Technology Used in Rehabilitation of Patients With Traumatic Bone and Soft Tissue Injuries, Archives of Physical Medicine and Rehabilitation, 99, 1890-1899, 2018	Systematic review: Included studies checked for relevance.
Mendelsohn, Marissa E., Overend, Tom J., Connelly, Denise M., Petrella, Robert J., Improvement in aerobic fitness during rehabilitation after hip fracture, Archives of Physical Medicine and Rehabilitation, 89, 609-17, 2008	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Middleton,J.W., Sinclair,P.J., Smith,R.M., Davis,G.M., Postural control during stance in paraplegia: Effects of medially linked versus unlinked knee-ankle-foot orthoses, Archives of Physical Medicine and Rehabilitation, 80, 1558-1565, 1999	Study design not in PICO: Case-control study
Midik, M., Paker, N., Bugdayci, D., Midik, A. C., Effects of robot-assisted gait training on lower extremity strength, functional independence, and walking function in men with incomplete traumatic	Intervention not in PICO: Robot-assisted gait training. Included in spinal

Study	Reason for Exclusion
spinal cord injury, Turkish Journal of Physical Medicine and Rehabilitation, 66, 54-59, 2020	cord injury review.
Miller, Michelle D., Crotty, Maria, Whitehead, Craig, Bannerman, Elaine, Daniels, Lynne A., Nutritional supplementation and resistance training in nutritionally at risk older adults following lower limb fracture: a randomized controlled trial, Clinical Rehabilitation, 20, 311-23, 2006	Population not in PICO: Elderly malnourished adults
Mills, Gavin L., Tennent, David J., Aldrete, Joseph F., Johnson, Anthony E., Martial arts-based high intensity interval training in the rehabilitation of combat amputees, U.S. Army Medical Department journal, 53-56, 2017	Narrative review
Mohsen, M. A. M., Borhan, W. H., Swar, S. A. G., Ali, K. M., Effect of suggested physical therapy program on renal functions for burned patients, International Journal of PharmTech Research, 9, 221-227, 2016	Paper unavailable
Momeni, Mahnoush, Hafezi, Farhad, Rahbar, Hossein, Karimi, Hamid, Effects of silicone gel on burn scars, Burns : journal of the International Society for Burn Injuries, 35, 70-4, 2009	Comparison not in PICO: Slicone sheeting versus placebo.
Monticone, Marco, Ambrosini, Emilia, Brunati, Roberto, Capone, Antonio, Pagliari, Giulia, Secci, Claudio, Zatti, Giovanni, Ferrante, Simona, How balance task-specific training contributes to improving physical function in older subjects undergoing rehabilitation following hip fracture: a randomized controlled trial, Clinical Rehabilitation, 32, 340-351, 2018	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Morawietz, Christina, Moffat, Fiona, Effects of locomotor training after incomplete spinal cord injury: a systematic review, Archives of physical medicine and rehabilitation, 94, 2297-308, 2013	Systematic review: Included studies checked for relevance.
Moseley, A. M., Herbert, R. D., Nightingale, E. J., Taylor, D. A., Evans, T. M., Robertson, G. J., Gupta, S. K., Penn, J., Passive stretching does not enhance outcomes in patients with plantarflexion contracture after cast immobilization for ankle fracture: A randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 86, 1118-1126, 2005	Population not in PICO: Patients with ankle fracture treated with cast immobilisation who are unlikely to be admitted to hospital.
Moseley, Anne M., Sherrington, Catherine, Lord, Stephen R., Barraclough, Elizabeth, St George, Rebecca J., Cameron, Ian D., Mobility training after hip fracture: a randomised controlled trial, Age and ageing, 38, 74-80, 2009	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Moufarrij, S., Deghayli, L., Raffoul, W., Hirt-Burri, N., Michetti, M., de Buys Roessingh, A., Norberg, M., Applegate, L. A., How important is hydrotherapy? Effects of dynamic action of hot spring water as a rehabilitative treatment for burn patients in Switzerland, Annals of burns and fire disasters, 27, 184-91, 2014	Study design not in PICO: Case series
Moulart, C., Rienmeyer, H., Tron, I., Nutritional care for elderly burned patients in rehabilitation units, Annals of Physical and Rehabilitation Medicine, 57, e215, 2014	Conference abstract
Muller, M. G. S., Poolman, R. W., van Hoogstraten, M. J., Steller, E. P., Immediate mobilization gives good results in boxer's fractures with volar angulation up to 70 degrees: A prospective randomized trial comparing immediate mobilization with cast immobilization, Archives of Orthopaedic and Trauma Surgery, 123, 534-537, 2003	Population not in PICO: Patients with Boxer's fractures who are unlikely to be admitted to hospital
Myint, M. W., Wu, J., Wong, E., Chan, S. P., To, T. S., Chau, M. W., Ting, K. H., Fung, P. M., Au, K. S., Clinical benefits of oral nutritional supplementation for elderly hip fracture patients: a single blind randomised controlled trial, Age and Ageing, 42, 39-45, 2013	Population not in PICO: Patients with osteoporotic fracture of proximal femur
Nam, K. Y., Kim, H. J., Kwon, B. S., Park, J. W., Lee, H. J., Yoo, A., Robot-assisted gait training (Lokomat) improves walking function and	Systematic review: Intervention not in PICO

Study	Reason for Exclusion
activity in people with spinal cord injury: a systematic review, Journal of NeuroEngineering and Rehabilitation, 14, 24, 2017	(robot-assisted gait training). Included studies checked for relevance.
Nasser, Mona, Pandis, Nikolaos, Fleming, Padhraig S., Fedorowicz, Zbys, Ellis, Edward, Ali, Kamran, Interventions for the management of mandibular fractures, The Cochrane database of systematic reviews, CD006087, 2013	Systematic review: Included studies checked for relevance.
Navarrete-Opazo, A., Cuitino, P., Salas, I., Effectiveness of dietary supplements in spinal cord injury subjects, Disability and Health Journal, 10, 183-197, 2017	Systematic review: Included studies checked for relevance.
Neefkes-Zonneveld, C. R., Bakkum, A. J., Bishop, N. C., Van Tulder, M. W., Janssen, T. W., Effect of long-term physical activity and acute exercise on markers of systemic inflammation in persons with chronic spinal cord injury: A systematic review, Archives of Physical Medicine and Rehabilitation, 96, 30-42, 2015	Systematic review: Included studies checked for relevance.
Neugebauer, Christine Tuden, Serghiou, Michael, Herndon, David N., Suman, Oscar E., Effects of a 12-week rehabilitation program with music & exercise groups on range of motion in young children with severe burns, Journal of burn care & research : official publication of the American Burn Association, 29, 939-48, 2008	Study design not in PICO: Non-RCT with <100 per arm
Nightingale, T. E., Rouse, P. C., Walhin, J. P., Thompson, D., Bilzon, J. L. J., Home-Based Exercise Enhances Health-Related Quality of Life in Persons With Spinal Cord Injury: a Randomized Controlled Trial, Archives of Physical Medicine and Rehabilitation, 99, 1998-2006.e1, 2018	Population not in PICO: Patients with general spinal cord injury. No mention of trauma.
Niitsu, Masaya, Ichinose, Daisuke, Hirooka, Taku, Mitsutomi, Kazuhiko, Morimoto, Yoshitaka, Sarukawa, Junichiro, Nishikino, Shoichi, Yamauchi, Katsuya, Yamazaki, Kaoru, Effects of combination of whey protein intake and rehabilitation on muscle strength and daily movements in patients with hip fracture in the early postoperative period, Clinical nutrition (Edinburgh, Scotland), 35, 943-9, 2016	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Niu, Xun, Varoqui, Deborah, Kindig, Matthew, Mirbagheri, Mehdi M., Prediction of gait recovery in spinal cord injured individuals trained with robotic gait orthosis, Journal of NeuroEngineering and Rehabilitation, 11, 42, 2014	Intervention not in PICO: Robotic gait orthosis
Nolan, Lee, A training programme to improve hip strength in persons with lower limb amputation, Journal of Rehabilitation Medicine, 44, 241-8, 2012	Outcomes not in PICO: Muscle strength and oxygen consumption
Nooijen, C. F., Ter Hoeve, N., Field-Fote, E. C., Gait quality is improved by locomotor training in individuals with SCI regardless of training approach, Journal of NeuroEngineering and Rehabilitation, 6, 36, 2009	Intervention not in PICO: Electrical stimulation and robot-assisted locomotor training
Norouzi Javidan, A., Sabour, H., Latifi, S., Abrishamkar, M., Soltani, Z., Shidfar, F., Emami Razavi, H., Does consumption of polyunsaturated fatty acids influence on neurorehabilitation in traumatic spinal cord-injured individuals? a double-blinded clinical trial, Spinal Cord, 52, 378-382, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Ohana, N., Sheinis, D., Rath, E., Sasson, A., Atar, D., Is there a need for lumbar orthosis in mild compression fractures of the thoracolumbar spine?: A retrospective study comparing the radiographic results between early ambulation with and without lumbar orthosis, Journal of spinal disorders, 13, 305-8, 2000	Dates not in PICO: 1990-1995
O'Keefe, G. E., Shelton, M., Cuschieri, J., Moore, E. E., Lowry, S. F., Harbrecht, B. G., Maier, R. V., Inflammation and the host response to injury, a large-scale collaborative project: patient-oriented research	Study design not in PICO: Standard operating procedure

Study	Reason for Exclusion
core--standard operating procedures for clinical care VIII--Nutritional support of the trauma patient, The Journal of trauma, 65, 1520-1528, 2008	
Okuno, Ryuhei, Yoshida, Masaki, Akazawa, Kenzo, Compliant grasp in a myoelectric hand prosthesis. Controlling flexion angle and compliance with electromyogram signals, IEEE engineering in medicine and biology magazine : the quarterly magazine of the Engineering in Medicine & Biology Society, 24, 48-56, 2005	Description of intervention development. No results presented.
Oldmeadow, Leonie B., Edwards, Elton R., Kimmel, Lara A., Kipen, Eva, Robertson, Val J., Bailey, Michael J., No rest for the wounded: early ambulation after hip surgery accelerates recovery, ANZ Journal of Surgery, 76, 607-11, 2006	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Omar, M. T., Hegazy, F. A., Mokashi, S. P., Influences of purposeful activity versus rote exercise on improving pain and hand function in pediatric burn, Burns, 38, 261-268, 2012	Comparison not in PICO: Purposeful exercises versus rote exercises
Onat, Sule Sahin, Unsal-Delialioglu, Sibel, Ozel, Sumru, The importance of orthoses on activities of daily living in patients with unilateral lower limb amputations, Journal of back and musculoskeletal rehabilitation, 30, 829-833, 2017	Comparator not in PICO: Level of amputation
One-Year Comparison of a Community-Based Exercise Program Versus a Day Hospital-Based Exercise Program on Quality of Life and Mental Health in Severely Burned Children, Archives of Physical Medicine and Rehabilitation, 2018	Comparison not in PICO: Hospital-based exercise programme versus community-based exercise programme
Onushko, Tanya, Mahtani, Gordhan B., Brazg, Gabrielle, Hornby, T. George, Schmit, Brian D., Exercise-Induced Alterations in Sympathetic-Somatomotor Coupling in Incomplete Spinal Cord Injury, Journal of Neurotrauma, 36, 2688-2697, 2019	Outcomes not in PICO: Sympathetic reflex activity
O'Rourke, M., Massage therapy in dance medicine, Medical Problems of Performing Artists, 13, 61-65, 1998	Narrative review
Ortiz, Dionisio, 3rd, Blair, James A., Dromsky, David M., Pyo, Jay, Owens, Johnny G., Hsu, Joseph R., Skeletal Trauma Research, Consortium, Collaborative Establishment of an Integrated Orthotic and Rehabilitation Pathway, Journal of surgical orthopaedic advances, 24, 155-8, 2015	Study design not in PICO: No comparative data
Orwig, Denise L., Hochberg, Marc, Yu-Yahiro, Janet, Resnick, Barbara, Hawkes, William G., Shardell, Michelle, Hebel, J. Richard, Colvin, Perry, Miller, Ram R., Golden, Justine, Zimmerman, Sheryl, Magaziner, Jay, Delivery and outcomes of a yearlong home exercise program after hip fracture: a randomized controlled trial, Archives of Internal Medicine, 171, 323-31, 2011	Outcome data presented in graph form. Unable to extract reliably.
Ottenbacher, Kenneth J., Smith, Pamela M., Illig, Sandra B., Linn, Richard T., Gonzales, Vera A., Ostir, Glenn V., Granger, Carl V., Disparity in health services and outcomes for persons with hip fracture and lower extremity joint replacement, Medical care, 41, 232-41, 2003	Study design not in PICO: No comparative data
Oud, T., Beelen, A., Eijffinger, E., Nollet, F., Sensory re-education after nerve injury of the upper limb: A systematic review, Clinical Rehabilitation, 21, 483-494, 2007	Systematic review: Included studies checked for relevance.
Panisset, M. G., Galea, M. P., El-Ansary, D., Does early exercise attenuate muscle atrophy or bone loss after spinal cord injury?, Spinal cord, 54, 84-92, 2016	Systematic review: Included studies checked for relevance.
Parent, Stefan, Dimar, John, Dekutoski, Mark, Roy-Beaudry, Marjolaine, Unique features of pediatric spinal cord injury, Spine, 35, S202-8, 2010	Systematic review: Included studies checked for relevance.
Parker, Matthew, Delahunty, Brett, Heberlein, Nicolas, Devenish,	Population not in PICO:

Study	Reason for Exclusion
Neale, Wood, Fiona M., Jackson, Teresa, Carter, Theresa, Edgar, Dale W., Interactive gaming consoles reduced pain during acute minor burn rehabilitation: A randomized, pilot trial, Burns : journal of the International Society for Burn Injuries, 42, 91-96, 2016	Burns <10% total body surface area. Unlikely to be hospitalised.
Parry, Ingrid S., Schneider, Jeffrey C., Yelvington, Miranda, Sharp, Patricia, Serghiou, Michael, Ryan, Colleen M., Richardson, Elizabeth, Pontius, Kara, Niszczak, Jonathan, McMahon, Margaret, Macdonald, Lori E., Lorello, David, Knox Kehrer, Catherine, Godleski, Matthew, Forbes, Lisa, Duch, Sarah, Crump, Donna, Chouinard, Annick, Calva, Valerie, Bills, Sara, Benavides, Lynne, Acharya, Hernish J., de Oliveira, Ana, Boruff, Jill, Nedelec, Bernadette, Systematic Review and Expert Consensus on the Use of Orthoses (Splints and Casts) with Adults and Children after Burn Injury to Determine Practice Guidelines, Journal of burn care & research : official publication of the American Burn Association, 2019	Systematic review: Included studies checked for relevance.
Parry, Ingrid, Painting, Lynda, Bagley, Anita, Kawada, Jason, Molitor, Fred, Sen, Soman, Greenhalgh, David G., Palmieri, Tina L., A Pilot Prospective Randomized Control Trial Comparing Exercises Using Videogame Therapy to Standard Physical Therapy: 6 Months Follow-Up, Journal of burn care & research : official publication of the American Burn Association, 36, 534-44, 2015	Intervention not in PICO: Videogame therapy
Patel, S. P., Nguyen, H. V., Mannschreck, D., Redett, R. J., Puttgen, K. B., Stewart, F. D., Fractional CO 2 Laser Treatment Outcomes for Pediatric Hypertrophic Burn Scars, Journal of Burn Care and Research, 40, 386-391, 2019	Study design not in PICO: Non-RCT with <100 per arm
Patzkowski, Jeanne C., Blanck, Ryan V., Owens, Johnny G., Wilken, Jason M., Kirk, Kevin L., Wenke, Joseph C., Hsu, Joseph R., Skeletal Trauma Research, Consortium, Comparative effect of orthosis design on functional performance, The Journal of bone and joint surgery. American volume, 94, 507-15, 2012	Population not in PICO: Patients with unilateral lower-extremity dorsiflexion and/or plantar flexion weakness
Peeters, Charles M. M., Visser, Eva, Van de Ree, Cornelis L. P., Gosens, Taco, Den Oudsten, Brenda L., De Vries, Jolanda, Quality of life after hip fracture in the elderly: A systematic literature review, Injury, 47, 1369-82, 2016	Systematic review: Intervention not in PICO (surgical intervention). Included studies checked for relevance.
Pelletier, C. A., Totosy de Zepetnek, J. O., MacDonald, M. J., Hicks, A. L., A 16-week randomized controlled trial evaluating the physical activity guidelines for adults with spinal cord injury, Spinal Cord, 53, 363-7, 2015	Comparison not in PICO: twice weekly supervised exercise programme informed by physical activity guidelines versus twice weekly community exercise programme
Pena, R., Herndon, D. N., Elliott, T., Meyer Iii, W. J., Suman, O. E., Effects of community based exercise in children with severe burns, Journal of burn care and research., 35, S76, 2014	Comparison not in PICO: Hospital-based exercise programme versus community-based exercise programme
Peña, R., Ramirez, L. L., Crandall, C. G., Wolf, S. E., Herndon, D. N., Suman, O. E., Effects of community-based exercise in children with severe burns: a randomized trial, Burns, 42, 41-47, 2016	Comparison not in PICO: Hospital-based exercise programme versus community-based exercise programme
Penrod, J. D., Boockvar, K. S., Litke, A., Magaziner, J., Hannan, E. L., Halm, E. A., Silberzweig, S. B., Morrison, R. S., Orosz, G. M., Koval, K. J., Siu, A. L., Physical therapy and mobility 2 and 6 months after hip fracture, Journal of the American Geriatrics Society, 52, 1114-1120, 2004	Only relationship between intervention and mobility presented, reported using Ordinary Least Squares Coefficient. Untransformed

Study	Reason for Exclusion
	data not provided.
Perlman, R., Callum, J., Laflamme, C., Tien, H., Nascimento, B., Beckett, A., Alam, A., A recommended early goal-directed management guideline for the prevention of hypothermia-related transfusion, morbidity, and mortality in severely injured trauma patients, Critical Care, 20, 107, 2016	Narrative review
Perret, C., Mueller, G., Knecht, H., Influence of creatine supplementation on 800 m wheelchair performance: a pilot study, Spinal cord, 44, 275-279, 2006	Study design not in PICO: Cross-over study
Peterson, M. G. E., Ganz, S. B., Allegrante, J. P., Cornell, C. N., High-intensity exercise training following hip fracture, Topics in Geriatric Rehabilitation, 20, 273-284, 2004	Data for control group either not presented in paper, only presented in graph form which was unreliable to read, or only presented for 1st and 2nd assessments (out of 4).
Pfeifer, M., Minne, H. W., Musculoskeletal rehabilitation after hip fracture: A review, Archives of Osteoporosis, 5, 49-59, 2010	Narrative review
Phadke, Chetan P., Vierira, Luciana, Mathur, Sunita, Cipriano, Gerson, Jr., Ismail, Farooq, Boulias, Chris, Impact of Passive Leg Cycling in Persons With Spinal Cord Injury: A Systematic Review, Topics in Spinal Cord Injury Rehabilitation, 25, 83-96, 2019	Systematic review: Included studies checked for relevance.
Phillips, A. A., Cote, A. T., Warburton, D. E. R., A systematic review of exercise as a therapeutic intervention to improve arterial function in persons living with spinal cord injury, Spinal Cord, 49, 702-14, 2011	Systematic review: Included studies checked for relevance.
Piira, A., Lannem, A. M., Gjesdal, K., Knutsen, R., Jorgensen, L., Glott, T., Hjeltnes, N., Knutsen, S. F., Sorensen, M., Quality of life and psychological outcomes of body-weight supported locomotor training in spinal cord injured persons with long-standing incomplete lesions, Spinal Cord, 58, 560-569, 2020	Mixed population: Traumatic (21/37) and non-traumatic injury (16/37) patients with results not presented separately for target population.
Piira, A., Lannem, A. M., Sorensen, M., Glott, T., Knutsen, R., Gjesdal, N., Hjeltnes, N., Knutsen, S. F., Effects of locomotor training in subjects with incomplete sci-a randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 98, e60-e61, 2017	Conference abstract
Piira, A., Lannem, A. M., Sorensen, M., Glott, T., Knutsen, R., Jorgensen, L., Gjesdal, K., Hjeltnes, N., Knutsen, S. F., Robot-assisted locomotor training did not improve walking function in patients with chronic incomplete spinal cord injury: A randomized clinical trial, Journal of rehabilitation medicine, 51, 385-389, 2019	Mixed population: Traumatic (12/24), non-traumatic (7/24) and non reported (5/24) patients with results not presented separately for target population.
Piira, A., Lannem, A. M., Sørensen, M., Glott, T., Knutsen, R., Jørgensen, L., Gjesdal, K., Hjeltnes, N., Knutsen, S. F., Robot-assisted locomotor training did not improve walking function in patients with chronic incomplete spinal cord injury: a randomized clinical trial, Journal of Rehabilitation Medicine, 51, 385-389, 2019	Intervention not in PICO: Tobot-assisted locomotor training
Pillastrini, P., Mugnai, R., Bonfiglioli, R., Curti, S., Mattioli, S., Maioli, M. G., Bazzocchi, G., Menarini, M., Vannini, R., Violante, F. S., Evaluation of an occupational therapy program for patients with spinal cord injury, Spinal Cord, 46, 78-81, 2008	Study design not in PICO: Non-RCT with <100 per arm
Pope, Sue, Vickerstaff, A. L., Wareham, A. P., Lessons learned from early rehabilitation of complex trauma at the Royal Centre for Defence Medicine, Journal of the Royal Army Medical Corps, 163, 124-131, 2017	Narrative review
Portegijs, Erja, Kallinen, Mauri, Rantanen, Taina, Heinonen, Ari,	Comparison not in PICO:

Study	Reason for Exclusion
Sihvonen, Sanna, Alen, Markku, Kiviranta, Ilkka, Sipila, Sarianna, Effects of resistance training on lower-extremity impairments in older people with hip fracture, Archives of physical medicine and rehabilitation, 89, 1667-74, 2008	Exercise programme versus no training programme. No mention of standard care.
Pouplin, Samuel, Bensmail, Djamel, Vaugier, Isabelle, Gelineau, Axelle, Pottier, Sandra, Roche, Nicolas, Influence of training protocols on text input speed on a computer in individuals with cervical spinal cord injury: a randomised controlled trial, Spinal Cord, 2019	Intervention not in PICO: Writing exercises
Prahm, C., Kayali, F., Sturma, A., Aszmann, O., PlayBionic: Game-Based Interventions to Encourage Patient Engagement and Performance in Prosthetic Motor Rehabilitation, PM and R, 10, 1252-1260, 2018	Outcomes not in PICO: Muscle strength, muscle separation and endurance
Prestmo, A., Sletvold, O., Thingstad, P., Taraldsen, K., Johnsen, L. G., Helbostad, J., Saltvedt, I., Outcomes of activities of daily living, cognition and mobility in the Trondheim Hip Fracture Trial. A randomized controlled trial, European Geriatric Medicine, 3, S56, 2012	Conference abstract
Pritchett, Kelly, Pritchett, Robert C., Stark, Lauren, Broad, Elizabeth, LaCroix, Melissa, Effect of Vitamin D Supplementation on 25(OH)D Status in Elite Athletes With Spinal Cord Injury, International journal of sport nutrition and exercise metabolism, 29, 18-23, 2019	Study design not in PICO: No comparative data
Pu, Hong, Doig, Gordon S., Heighes, Philippa T., Allingstrup, Matilde J., Early Enteral Nutrition Reduces Mortality and Improves Other Key Outcomes in Patients With Major Burn Injury: A Meta-Analysis of Randomized Controlled Trials, Critical Care Medicine, 46, 2036-2042, 2018	Systematic review: Included studies checked for relevance.
Qi, Yan, Zhang, Xian, Zhao, YiChao, Xie, HaiXia, Shen, XueYun, Niu, WenXin, Wang, YuBin, The effect of wheelchair Tai Chi on balance control and quality of life among survivors of spinal cord injuries: A randomized controlled trial, Complementary Therapies in Clinical Practice, 33, 7-11, 2018	Population not in PICO: Patients with general spinal cord injury. No mention of trauma.
Quach, J., Alappat, C., Flett, H., Guy, K., Verrier, M. C., Postural control in individuals with spinal cord injury:What do we knowabout assessments and rehabilitation interventions?, Journal of Spinal Cord Medicine, 37, 653-654, 2014	Poster presentation
Quel de Oliveira, Camila, Refshauge, Kathryn, Middleton, James, de Jong, Lysanne, Davis, Glen M., Effects of Activity-Based Therapy Interventions on Mobility, Independence, and Quality of Life for People with Spinal Cord Injuries: A Systematic Review and Meta-Analysis, Journal of neurotrauma, 34, 1726-1743, 2017	Systematic review: Included studies checked for relevance.
R. B. R. h2pr, Effect of video games on rehabilitation in patients in the burn therapy unit in sergipe, http://www.who.int/trialsearch/Trial2.aspx?TrialID=RBR-77h2pr, 2018	Ongoing clinical trial
Radosavljevic, N., Lazovic, M., Nikolic, D., Radosavljevic, Z., Factors influencing balance restoration in elderlyafter hip fracture, Osteoporosis International, 25, S417-S418, 2014	Conference abstract
Raithatha, R., Carrico, C., Powell, E. S., Westgate, P. M., Chelette, K. C., Lee, K., Dunsmore, L., Salles, S., Sawaki, L., Non-invasive brain stimulation and robot-assisted gait training after incomplete spinal cord injury: A randomized pilot study, NeuroRehabilitation, 38, 15-25, 2016	Intervention not in PICO: Electrical stimulation and robotic-assisted locomotor training
Rapidi, C. A., Tederko, P., Moslavac, S., Popa, D., Branco, C. A., Kiekens, C., Varela Donoso, E., Christodoulou, N., Evidence-based position paper on Physical and Rehabilitation Medicine (PRM) professional practice for persons with spinal cord injury. The	Outcomes not in PICO: Professional practice recommendations

Study	Reason for Exclusion
European PRM position (UEMS PRM Section), European Journal of Physical and Rehabilitation Medicine, 54, 797-807, 2018	
Rau, B., Bonvin, F., de Bie, R., Short-term effect of physiotherapy rehabilitation on functional performance of lower limb amputees, Prosthetics and Orthotics International, 31, 258-70, 2007	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Rayegani, Seyed Mansoor, Shojaee, Hadi, Sedighipour, Leyla, Soroush, Mohammad Reza, Baghbani, Mohammad, Amirani, Omm'ol Banin, The effect of electrical passive cycling on spasticity in war veterans with spinal cord injury, Frontiers in Neurology, 2, 39, 2011	No comparative data as control group results not reported
Raymond, M. J. M., Jeffs, K. J., Winter, A., Soh, S. E., Hunter, P., Holland, A. E., The effects of a high-intensity functional exercise group on clinical outcomes in hospitalised older adults: An assessor-blinded, randomisedcontrolled trial, Age and Ageing, 46, 208-214, 2017	Population not in PICO: Mixture of traumatic (253 participants out of 468 total sample) and non-traumatic causes with results not presented separately for target population
Rechtine, G. R., 2nd, Cahill, D., Chrin, A. M., Treatment of thoracolumbar trauma: comparison of complications of operative versus nonoperative treatment, Journal of spinal disorders, 12, 406-9, 1999	Outcomes not in PICO: Complications after treatment
Renerts, K., Fischer, K., Dawson-Hughes, B., Orav, E. J., Freystaetter, G., Simmen, H. P., Pape, H. C., Egli, A., Theiler, R., Bischoff-Ferrari, H. A., Effects of a simple home exercise program and vitamin D supplementation on health-related quality of life after a hip fracture: a randomized controlled trial, Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation, 28, 1377-1386, 2019	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Resnick, Barbara, Orwig, Denise, Yu-Yahiro, Janet, Hawkes, William, Shardell, Michelle, Hebel, J. Richard, Zimmerman, Sheryl, Golden, Justine, Werner, Michele, Magaziner, Jay, Testing the effectiveness of the exercise plus program in older women post-hip fracture, Annals of behavioral medicine : a publication of the Society of Behavioral Medicine, 34, 67-76, 2007	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Ribeiro, K. M., Freitas, R. V., Ferreira, L. M., Deshpande, N., Guerra, R. O., Effects of balance Vestibular Rehabilitation Therapy in elderly with Benign Paroxysmal Positional Vertigo: a randomized controlled trial, Disability and Rehabilitation, 39, 1198-1206, 2017	Population not in PICO: Patients with chronic Benign Paroxysmal Positional Vertigo
Richard, Reg, Santos-Lozada, Alexis R., Burn Patient Acuity Demographics, Scar Contractures, and Rehabilitation Treatment Time Related to Patient Outcomes: The ACT Study, Journal of burn care & research : official publication of the American Burn Association, 38, 230-242, 2017	Study design not in PICO: No intervention
Richardson, C., Upton, D., Rippon, M., Treatment for wound pruritus following burns, Journal of Wound Care, 23, 227-3, 2014	Narrative review
Rietman, J. S., Postema, K., Geertzen, J. H. B., Gait analysis in prosthetics: opinions, ideas and conclusions, Prosthetics and Orthotics International, 26, 50-7, 2002	Narrative review
Rigot, Stephanie, Worobey, Lynn, Boninger, Michael L., Gait Training in Acute Spinal Cord Injury Rehabilitation-Utilization and Outcomes Among Nonambulatory Individuals: Findings From the SCIRehab Project, Archives of Physical Medicine and Rehabilitation, 99, 1591-1598, 2018	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Rimmer, James H., Wang, Edward, Pellegrini, Christine A., Lullo, Carolyn, Gerber, Ben S., Telehealth weight management intervention for adults with physical disabilities: a randomized controlled trial,	Population not in PICO: Mixture of traumatic (24 participants out of 91 total

Study	Reason for Exclusion
American journal of physical medicine & rehabilitation, 92, 1084-94, 2013	sample) and non-traumatic causes with results not presented separately for target population
Ringe, J. D., The effect of Vitamin D on falls and fractures, Scandinavian Journal of Clinical and Laboratory Investigation, 72, 73-78, 2012	Narrative review
Roberts, H. C., Pickering, R. M., Onslow, E., Clancy, M., Powell, J., Roberts, A., Hughes, K., Coulson, D., Bray, J., The effectiveness of implementing a care pathway for femoral neck fracture in older people: A prospective controlled before and after study, Age and Ageing, 33, 178-184, 2004	Intervention not in PICO: Integrated care pathway
Roffman, Caroline E., Buchanan, John, Allison, Garry T., Locomotor Performance During Rehabilitation of People With Lower Limb Amputation and Prosthetic Nonuse 12 Months After Discharge, Physical Therapy, 96, 985-94, 2016	Outcomes not in PICO: Prosthetic compliance
Rohner-Spengler, Manuela, Frotzler, Angela, Honigmann, Philipp, Babst, Reto, Effective Treatment of Posttraumatic and Postoperative Edema in Patients with Ankle and Hindfoot Fractures: A Randomized Controlled Trial Comparing Multilayer Compression Therapy and Intermittent Impulse Compression with the Standard Treatment with Ice, The Journal of bone and joint surgery. American volume, 96, 1263-1271, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Rosenberg, Marta, Celis, Mario M., Meyer, Walter, 3rd, Tropez-Arceneaux, Lisa, McEntire, Serina J., Fuchs, Helen, Richardson, Lisa, Holzer, Charles, 3rd, Herndon, David N., Suman, Oscar E., Effects of a hospital based Wellness and Exercise program on quality of life of children with severe burns, Burns : journal of the International Society for Burn Injuries, 39, 599-609, 2013	Population not in PICO: Patients who were admitted to intensive care unit.
Rousseau, A. F., Foidart-Desalle, M., Ledoux, D., Remy, C., Croisier, J. L., Damas, P., Cavalier, E., Effects of cholecalciferol supplementation and optimized calcium intakes on vitamin D status, muscle strength and bone health: A one-year pilot randomized controlled trial in adults with severe burns, Burns, 41, 317-325, 2015	Outcomes not in PICO: Vitamin D status, bone health and muscle strength
Rrecaj, Shkurta, Hysenaj, Hajrie, Martinaj, Merita, Murtezani, Ardiana, Ibrahimi-Kacuri, Dafina, Haxhiu, Bekim, Buja, Zene, OUTCOME OF PHYSICAL THERAPY AND SPLINTING IN HAND BURNS INJURY. OUR LAST FOUR YEARS' EXPERIENCE, Materia socio-medica, 27, 380-2, 2015	Study design not in PICO: No comparative data
Ruchlin, H. S., Elkin, E. B., Allegrante, J. P., The economic impact of a multifactorial intervention to improve postoperative rehabilitation of hip fracture patients, 45, 446-52, 2001	Outcomes not in PICO: Intervention costs and cost-benefit findings
Sadeghi, Heydar, Banitalebi, Ebrahim, Raeisi Dehkordi, Mehdi, The Effect of Body-Weight-Supported Training Exercises on Functional Ambulation Profile in Patients with Paraplegic Spinal Cord Injury, USWR, 4, 205-212, 2015	Study design not in PICO: Non-RCT with <100 per arm
Saffle, J. R., Wiebke, G., Jennings, K., Morris, S. E., Barton, R. G., Randomized trial of immune-enhancing enteral nutrition in burn patients, The Journal of trauma, 42, 793-800; discussion 800-2, 1997	Dates not in PICO: 1993-?
Salpakoski, Anu, Tormakangas, Timo, Edgren, Johanna, Kallinen, Mauri, Sihvonen, Sanna E., Pesola, Maija, Vanhatalo, Jukka, Arkela, Marja, Rantanen, Taina, Sipila, Sarianna, Effects of a multicomponent home-based physical rehabilitation program on mobility recovery after hip fracture: a randomized controlled trial, Journal of the American Medical Directors Association, 15, 361-8, 2014	Intervention not in PICO: Multicomponent home-based rehabilitation including environmental evaluation, self-walking guidance, pain management and home

Study	Reason for Exclusion
	exercise program.
Samhan, Ahmed Fathy, Abdelhalim, Nermeen Mohamed, Impacts of low-energy extracorporeal shockwave therapy on pain, pruritus, and health-related quality of life in patients with burn: A randomized placebo-controlled study, Burns : journal of the International Society for Burn Injuries, 45, 1094-1101, 2019	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Sandler, Evan B., Roach, Kathryn E., Field-Fote, Edelle C., Dose-Response Outcomes Associated with Different Forms of Locomotor Training in Persons with Chronic Motor-Incomplete Spinal Cord Injury, Journal of Neurotrauma, 34, 1903-1908, 2017	Intervention not in PICO: Treadmill-based training with electrical stimulation
Schiffman, Brett, Summers, Hobie, Bernstein, Mitchell, DiSilvio, Frank, Foyil, Sarah, Lack, William, Hypovitaminosis D in Orthopaedic Trauma: Which Guidelines Should Be Followed?, Journal of Orthopaedic Trauma, 32, e295-e299, 2018	Study design not in PICO: No intervention
Schouten, H. J., Nieuwenhuis, M. K., van Zuijlen, P. P. M., A review on static splinting therapy to prevent burn scar contracture: do clinical and experimental data warrant its clinical application?, Burns : journal of the International Society for Burn Injuries, 38, 19-25, 2012	Narrative review
Scivoletto, G., Morganti, B., Cosentino, E., Molinari, M., Utility of delayed spinal cord injury rehabilitation: An Italian study, Neurological Sciences, 27, 86-90, 2006	Study design not in PICO: No intervention
Scivoletto, G., Morganti, B., Ditunno, P., Ditunno, J. F., Molinari, M., Effects on age on spinal cord lesion patients' rehabilitation, Spinal Cord, 41, 457-64, 2003	Study design not in PICO: No intervention
Scivoletto, G., Petrelli, A., Di Lucente, L., Giannantoni, A., Fuoco, U., D'Ambrosio, F., Filippini, V., One year follow up of spinal cord injury patients using a reciprocating gait orthosis: Preliminary report, Spinal Cord, 38, 555-558, 2000	Study design not in PICO: Non-RCT with <100 per arm
Seffrin, C. B., Cattano, N. M., Reed, M. A., Gardiner-Shires, A. M., Instrument-Assisted Soft Tissue Mobilization: A Systematic Review and Effect-Size Analysis, Journal of athletic training, 54, 808-821, 2019	Systematic review: Included studies checked for relevance.
Seguin, Jade, Brody, Daniel, Li, Patricia, Nationwide survey on current management strategies of toddler's fractures, CJEM, 20, 739-745, 2018	Setting not in PICO: Emergency department
Selles, Ruud W., Janssens, Peter J., Jongenengel, Cor D., Bussmann, Johannes B., A randomized controlled trial comparing functional outcome and cost efficiency of a total surface-bearing socket versus a conventional patellar tendon-bearing socket in transtibial amputees, Archives of Physical Medicine and Rehabilitation, 86, 154-180, 2005	Comparison not in PICO: Total surface-bearing socket versus conventional patellar tendon-bearing prothesis
Senthilvelkumar, Thangavelu, Magimairaj, Henry, Fletcher, Jebaraj, Tharion, George, George, Jacob, Comparison of body weight-supported treadmill training versus body weight-supported overground training in people with incomplete tetraplegia: a pilot randomized trial, Clinical Rehabilitation, 29, 42-9, 2015	Comparison not in PICO: Body weight-supported treadmill training versus body weight-supported overground training
Serino, Joseph, Mohamadi, Amin, Orman, Sebastian, McCormick, Brian, Hanna, Philip, Weaver, Michael J., Harris, Mitchel B., Nazarian, Ara, von Keudell, Arvind, Comparison of adverse events and postoperative mobilization following knee extensor mechanism rupture repair: A systematic review and network meta-analysis, Injury, 48, 2793-2799, 2017	Systematic review: Included studies checked for relevance.
Seyyed-Rasooli, A., Salehi, F., Mohammadpoorasl, A., Goljaryan, S., Seyyedi, Z., Thomson, B., Comparing the effects of aromatherapy massage and inhalation aromatherapy on anxiety and pain in burn patients: A single-blind randomized clinical trial, Burns, 42, 1774-	Intervention not in PICO: Specific pain management intervention

Study	Reason for Exclusion
1780, 2016	
Shackleton, C., Evans, R., Shamley, D., West, S., Albertus, Y., Effectiveness of over-ground robotic locomotor training in improving walking performance, cardiovascular demands, secondary complications and user-satisfaction in individuals with spinal cord injuries: A systematic review, Journal of rehabilitation medicine, 51, 723-733, 2019	Systematic review: Included studies checked for relevance.
Shackleton, Claire, Evans, Robert, Shamley, Delva, West, Sacha, Albertus, Yumna, Effectiveness of over-ground robotic locomotor training in improving walking performance, cardiovascular demands, secondary complications and user-satisfaction in individuals with spinal cord injuries: a systematic review, Journal of Rehabilitation Medicine, 2019	Intervention not in PICO: Robot-assisted locomotor training
Shamji, M. F., Roffey, D. M., Young, D. K., Reindl, R., Wai, E. K., A pilot evaluation of the role of bracing in stable thoracolumbar burst fractures without neurological deficit, Journal of Spinal Disorders and Techniques, 27, 370-375, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Sharp, Patricia A., Pan, Brian, Yakuboff, Kevin P., Rothchild, Dawn, Development of a Best Evidence Statement for the Use of Pressure Therapy for Management of Hypertrophic Scarring, Journal of burn care & research : official publication of the American Burn Association, 37, 255-64, 2016	Systematic review: Included studies checked for relevance.
Sheel, A. W., Reid, W. D., Townson, A. F., Ayas, N. T., Konnyu, K. J., Effects of exercise training and inspiratory muscle training in spinal cord injury: A systematic review, Journal of Spinal Cord Medicine, 31, 500-508, 2008	Systematic review: Intervention not in PICO (inspiratory muscle training). Included studies checked for relevance.
Shemshaki, Hamid Reza, Mousavi, Hamid, Salehi, Ghasem, Eshaghi, Mohammad Amin, Titanium elastic nailing versus hip spica cast in treatment of femoral-shaft fractures in children, Journal of orthopaedics and traumatology : official journal of the Italian Society of Orthopaedics and Traumatology, 12, 45-8, 2011	Population not in PICO: Patients with simple femoral-shaft fractures who are unlikely to be admitted to hospital
Shen, W. J., Liu, T. J., Shen, Y. S., Nonoperative treatment versus posterior fixation for thoracolumbar junction burst fractures without neurologic deficit, Spine, 26, 1038-45, 2001	Dates not in PICO: 1994-1996 with results not presented separately for 1995-1996
Sheridan, R. L., Baryza, M. J., Pessina, M. A., O'Neill, K. M., Hilary, M. C., Donelan, M. B., Ryan, C. M., Schulz, J. T., Schnitzer, J. J., Tompkins, R. G., Acute hand burns in children: Management and long-term outcome based on a 10-year experience with 698 injured hands, Annals of Surgery, 229, 558-564, 1999	Dates not in PICO: 1987-1996 with results not presented separately for 1995-1996
Sheridan, R. L., Prelack, K., Cunningham, J. J., Physiologic hypoalbuminemia is well tolerated by severely burned children, The Journal of trauma, 43, 448-52, 1997	Dates not in PICO: 1991-1993
Sherrington, C., Lord, S. R., Home exercise to improve strength and walking velocity after hip fracture: a randomized controlled trial, Archives of physical medicine and rehabilitation, 78, 208-12, 1997	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Sherrington, Catherine, Lord, Stephen R., Herbert, Robert D., A randomised trial of weight-bearing versus non-weight-bearing exercise for improving physical ability in inpatients after hip fracture, The Australian journal of physiotherapy, 49, 15-22, 2003	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Sherrington, Catherine, Lord, Stephen R., Herbert, Robert D., A randomized controlled trial of weight-bearing versus non-weight-bearing exercise for improving physical ability after usual care for hip fracture, Archives of physical medicine and rehabilitation, 85, 710-6,	Population not in PICO: Already completed standard rehabilitation after hip fracture

Study	Reason for Exclusion
2004	
Shin, Ji Cheol, Kim, Ji Yong, Park, Han Kyul, Kim, Na Young, Effect of robotic-assisted gait training in patients with incomplete spinal cord injury, Annals of rehabilitation medicine, 38, 719-25, 2014	Intervention not in PICO: Robotic-assisted locomotor training
Shojaei, Mir Hatef, Alavinia, Seyed Mohammad, Craven, B. Catharine, Management of obesity after spinal cord injury: a systematic review, The journal of spinal cord medicine, 40, 783-794, 2017	Systematic review: Included studies checked for relevance.
Silva, Rafael Duarte, Teixeira, Luciana Mundim, Moreira, Tarcisio Santos, Teixeira-Salmela, Luci Fuscaldi, de Resende, Marcos Antonio, Effects of Anteroposterior Talus Mobilization on Range of Motion, Pain, and Functional Capacity in Participants With Subacute and Chronic Ankle Injuries: A Controlled Trial, Journal of Manipulative and Physiological Therapeutics, 40, 273-283, 2017	Comparison not in PICO: Mobilisation versus. Placebo. No mention of standard care.
Silverman, S. R., Schertz, L. A., Yuen, H. K., Lowman, J. D., Bickel, C. S., Systematic review of the methodological quality and outcome measures utilized in exercise interventions for adults with spinal cord injury, Spinal Cord, 50, 718-27, 2012	Systematic review: Included studies checked for relevance.
Sindhu, Kunal, DeFroda, Steven F., Harris, Andrew P., Gil, Joseph A., Management of partial fingertip amputation in adults: Operative and non operative treatment, Injury, 48, 2643-2649, 2017	Narrative review
Singh, Nalin A., Quine, Susan, Clemson, Lindy M., Williams, Elodie J., Williamson, Dominique A., Stavrinos, Theodora M., Grady, Jodie N., Perry, Tania J., Lloyd, Bradley D., Smith, Emma U. R., Singh, Maria A. Fiatarone, Effects of high-intensity progressive resistance training and targeted multidisciplinary treatment of frailty on mortality and nursing home admissions after hip fracture: a randomized controlled trial, Journal of the American Medical Directors Association, 13, 24-30, 2012	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Siu, Albert L., Penrod, Joan D., Boockvar, Kenneth S., Koval, Kenneth, Strauss, Elton, Morrison, R. Sean, Early ambulation after hip fracture: effects on function and mortality, Archives of internal medicine, 166, 766-71, 2006	Outcomes not in PICO: Association between length of immobilisation and long-term sequelae of hip fracture
Smith, Douglas G., McFarland, Lynne V., Sangeorzan, Bruce J., Reiber, Gayle E., Czerniecki, Joseph M., Postoperative dressing and management strategies for transtibial amputations: a critical review, Journal of Rehabilitation Research and Development, 40, 213-24, 2003	Narrative review
Smith, William K., Wu, Yeongchi, Pitkin, Mark, Rehabilitation after landmine injury, Pain medicine (Malden, Mass.), 7 Suppl 2, S218-21, 2006	Narrative review
Souer, J. Sebastiaan, Buijze, Geert, Ring, David, A prospective randomized controlled trial comparing occupational therapy with independent exercises after volar plate fixation of a fracture of the distal part of the radius, The Journal of bone and joint surgery. American volume, 93, 1761-6, 2011	Population not in PICO: Patients with distal radial fracture who are unlikely to be admitted to hospital.
Soyer, Kardem, Unver, Banu, Tamer, Seval, Ulger, Ozlem, The importance of rehabilitation concerning upper extremity amputees: A Systematic review, Pakistan Journal of Medical Sciences, 32, 1312-1319, 2016	Systematic review: Included studies checked for relevance.
Spicka, J., Lostak, J., Gallo, J., Langova, K., Influence of enhanced recovery regime on early outcomes of total knee arthroplasty, Acta Chirurgiae Orthopaedicae et Traumatologiae Cechoslovaca, 84, 361-367, 2017	Czech language article
Spindler-Vesel, Alenka, Bengmark, Stig, Vovk, Irena, Cerovic,	Setting not in PICO:

Study	Reason for Exclusion
Ognjen, Kompan, Lidija, Synbiotics, prebiotics, glutamine, or peptide in early enteral nutrition: a randomized study in trauma patients, JPEN. Journal of parenteral and enteral nutrition, 31, 119-26, 2007	Intensive care unit
Staiano, Amanda E., Flynn, Rachel, Therapeutic Uses of Active Videogames: A Systematic Review, Games for health journal, 3, 351-65, 2014	Systematic review: Included studies checked for relevance.
Stampacchia, Giulia, Rustici, Alessandro, Bigazzi, Samuele, Gerini, Adriana, Tombini, Tullia, Mazzoleni, Stefano, Walking with a powered robotic exoskeleton: Subjective experience, spasticity and pain in spinal cord injured persons, NeuroRehabilitation, 39, 277-83, 2016	Intervention not in PICO: Robotic-assisted locomotor training
Stankorb, Susan M., Salgueiro, Marybeth, Grediagin, Ann, Enteral feeding practices for U.S. service members in a deployed combat support hospital, Military Medicine, 174, 685-8, 2009	Study design not in PICO: No intervention
Stavrev, Vladimir P., Ilieva, Elena M., The holistic approach to rehabilitation of patients after total hip joint replacement, Folia medica, 45, 16-21, 2003	Population not in PICO: Mixture of traumatic and non-traumatic causes with results not presented separately for target population.
Steinstraesser, L., Flak, E., Witte, B., Ring, A., Tilkorn, D., Hauser, J., Langer, S., Steinau, H. U., Al-Benna, S., Pressure garment therapy alone and in combination with silicone for the prevention of hypertrophic scarring: randomized controlled trial with intraindividual comparison, Plastic and Reconstructive Surgery, 128, 306e-313e, 2011	Comparison not in PICO: Compression versus compression with silicone gel sheet or spray therapy
Stemmle, J., Marzel, A., Chocano-Bedoya, P. O., Orav, E. J., Dawson-Hughes, B., Freystaetter, G., Egli, A., Theiler, R., Staehelin, H. B., Bischoff-Ferrari, H. A., Effect of 800 IU Versus 2000 IU Vitamin D3 With or Without a Simple Home Exercise Program on Functional Recovery After Hip Fracture: A Randomized Controlled Trial, Journal of the American Medical Directors Association, 20, 530, 2019	Population not in PICO: Patients with reduced range of movement traumatic ankle injuries who are unlikely to be admitted to hospital.
Stevens, S., Holbrook, E., Ishikawa, S., Caputo, J., Fuller, D., Morgan, D., Impact of underwater treadmill training on walking performance in adults with incomplete spinal cord injury, Topics in Spinal Cord Injury Rehabilitation, 16, 35, 2011	Study design not in PICO: No comparison group
Stevens, Sandra L., Caputo, Jennifer L., Fuller, Dana K., Morgan, Don W., Effects of underwater treadmill training on leg strength, balance, and walking performance in adults with incomplete spinal cord injury, The journal of spinal cord medicine, 38, 91-101, 2015	Study design not in PICO: No comparative data
Stockle, U., Hoffmann, R., Schutz, M., von Fournier, C., Sudkamp, N. P., Haas, N., Fastest reduction of posttraumatic edema: continuous cryotherapy or intermittent impulse compression?, Foot & ankle international, 18, 432-8, 1997	Outcomes not in PICO: Average joint circumference
Su, Bowen, Newson, Roger, Soljak, Harry, Soljak, Michael, Associations between post-operative rehabilitation of hip fracture and outcomes: national database analysis, BMC Musculoskeletal Disorders, 19, 211, 2018	Comparison no in PICO: Type of provider of rehabilitation
Sullivan, D. H., Nelson, C. L., Bopp, M. M., Puskarich-May, C. L., Walls, R. C., Nightly enteral nutrition support of elderly hip fracture patients: a phase I trial, Journal of the American College of Nutrition, 17, 155-61, 1998	Outcomes not in PICO: Post-operative complications, discharge destination and mortality
Sullivan, Dennis H., Nelson, Carl L., Klimberg, V. Suzanne, Bopp, Melinda M., Nightly enteral nutrition support of elderly hip fracture patients: a pilot study, Journal of the American College of Nutrition, 23, 683-91, 2004	Outcomes not in PICO: Post-operative complications, discharge destination, mortality and length of hospitalisation

Study	Reason for Exclusion
Suman, O. E., Spies, R. J., Celis, M. M., Mlcak, R. P., Herndon, D. N., Effects of a 12-wk resistance exercise program on skeletal muscle strength in children with burn injuries, Journal of applied physiology (Bethesda, Md. : 1985), 91, 1168-75, 2001	Outcomes not in PICO: Muscle strength
Suman, Oscar E., Herndon, David N., Effects of cessation of a structured and supervised exercise conditioning program on lean mass and muscle strength in severely burned children, Archives of Physical Medicine and Rehabilitation, 88, S24-9, 2007	Outcomes not in PICO: Muscle strength and lean body mass
Sun, W., Li, J., Treatment for injury of superior clunial nerves by triple puncture needling with massage, Journal of Traditional Chinese Medicine, 22, 24-25, 2002	Study design not in PICO: No comparison group
Sunderland, S., Discussion on the value of medical baths for invalid soldiers, Journal of the Royal Society of Medicine, 108, 145-150, 2015	Opinion piece
Suominen, Tuuli H., Edgren, Johanna, Salpakoski, Anu, Arkela, Marja, Kallinen, Mauri, Cervinka, Tomas, Rantalainen, Timo, Tormakangas, Timo, Heinonen, Ari, Sipila, Sarianna, Effects of a Home-Based Physical Rehabilitation Program on Tibial Bone Structure, Density, and Strength After Hip Fracture: A Secondary Analysis of a Randomized Controlled Trial, JBMR plus, 3, e10175, 2019	Outcomes not in PICO: Bone properties
Suwanpasu, S., Aungsuroch, Y., Jitapanya, C., Post-surgical physical activity enhancing program for elderly patients after hip fracture: A randomized controlled trial, Asian Biomedicine, 8, 525-532, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Swanson, C. E., Day, G. A., Yelland, C. E., Broome, J. R., Massey, L., Richardson, H. R., Dimitri, K., Marsh, A., The management of elderly patients with femoral fractures. A randomised controlled trial of early intervention versus standard care, The Medical journal of Australia, 169, 515-8, 1998	Intervention not in PICO: Early surgery with standard rehabilitation
Swinnen, E., Duerinck, S., Baeyens, J. P., Meeusen, R., Kerckhofs, E., Effectiveness of robot-assisted gait training in persons with spinal cord injury: a systematic review, Journal of rehabilitation medicine : official journal of the UEMS European Board of Physical and Rehabilitation Medicine, 42, 520-526, 2010	Intervention not in PICO: Robotic-assisted locomotor training
Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Progressive strength training in older patients after hip fracture: a randomised controlled trial, Age and Ageing, 40, 221-7, 2011	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Sylliaas, Hilde, Brovold, Therese, Wyller, Torgeir Bruun, Bergland, Astrid, Prolonged strength training in older patients after hip fracture: a randomised controlled trial, Age and Ageing, 41, 206-12, 2012	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Taheriazam, A., Hashemi, S. M., Esmailiejah, A. A., Keyhani, S., Abbasian, M., Moradi, S., Pur, A. M., Safdari, F., Outcomes of nonoperative treatment of forefoot fractures: Casting versus off-loading shoes, Trauma Monthly, 22, e27533, 2017	Population not in PICO: Patients with metatarsal fractures who are unlikely to be admitted to hospital.
Tak, S., Choi, W., Lee, S., Game-based virtual reality training improves sitting balance after spinal cord injury: A single-blinded, randomized controlled trial, Medical Science Technology, 56, 53-59, 2015	Outcomes not in PICO: Sway distance, sway velocity and functional reach test
Takahashi, K., Momosaki, R., Yasufuku, Y., Nakamura, N., Maeda, K., Nutritional Therapy in Older Patients With Hip Fractures Undergoing Rehabilitation: A Systematic Review and Meta-Analysis, Journal of the American Medical Directors Association, 21, 1364, 2020	Systematic review: Included studies checked for relevance.

Study	Reason for Exclusion
Tamburella, F., Scivoletto, G., Molinari, M., Somatosensory inputs by application of KinesioTaping: Effects on spasticity, balance, and gait in chronic spinal cord injury, Frontiers in Human Neuroscience, 8, 367, 2014	Study design not in PICO: Cross-over study
Tamir, L., Hendel, D., Neyman, C., Eshkenazi, A. U., Ben-Zvi, Y., Zomer, R., Sequential foot compression reduces lower limb swelling and pain after total knee arthroplasty, Journal of Arthroplasty, 14, 333-338, 1999	Population not in PICO: Patients undergoing knee arthroplasty. No mention of trauma.
Tan, Hannah B., Danilla, Stefan, Murray, Alexandra, Serra, Ramon, El Dib, Regina, Henderson, Tom O. W., Wasiak, Jason, Immunonutrition as an adjuvant therapy for burns, The Cochrane database of systematic reviews, CD007174, 2014	Systematic review: Included studies checked for relevance.
Tan, Pey June, Khoo, Ee Ming, Chinna, Karuthan, Saedon, Nor I'zzati, Zakaria, Mohd Idzwan, Ahmad Zahedi, Ahmad Zulkarnain, Ramli, Norlina, Khalidin, Nurliza, Mazlan, Mazlina, Chee, Kok Han, Zainal Abidin, Imran, Nalathamby, Nemala, Mat, Sumaiyah, Jaafar, Mohamad Hasif, Khor, Hui Min, Khannas, Norfazilah Mohamad, Majid, Lokman Abdul, Tan, Kit Mun, Chin, Ai-Vyrn, Kamaruzzaman, Shahrul Bahyah, Poi, Philip, Morgan, Karen, Hill, Keith D., MacKenzie, Lynette, Tan, Maw Pin, Individually-tailored multifactorial intervention to reduce falls in the Malaysian Falls Assessment and Intervention Trial (MyFAIT): A randomized controlled trial, PLoS ONE, 13, e0199219, 2018	Outcomes not in PICO: Fall rate, time to first fall and mortality
Tang, D., Li-Tsang, C. W. P., Au, R. K. C., Li, K. C., Yi, X. F., Liao, L. R., Cao, H. Y., Feng, Y. N., Liu, C. S., Functional Outcomes of Burn Patients with or Without Rehabilitation in Mainland China, Hong Kong Journal of Occupational Therapy, 26, 15-23, 2015	Study design not in PICO: Non-RCT with <100 per arm
Taraldsen, Kristin, Sletvold, Olav, Thingstad, Pernille, Saltvedt, Ingvild, Granat, Malcolm H., Lydersen, Stian, Helbostad, Jorunn L., Physical behavior and function early after hip fracture surgery in patients receiving comprehensive geriatric care or orthopedic care--a randomized controlled trial, The journals of gerontology. Series A, Biological sciences and medical sciences, 69, 338-45, 2014	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Tassiopoulos, A. K., Nutritional support of the patient with severe burn injury, Nutrition (Burbank, Los Angeles County, Calif.), 15, 956-7, 1999	Opinion piece
Taylor-Schroeder, S., LaBarbera, J., McDowell, S., Zanca, J. M., Natales, A., Mumma, S., Gassaway, J., Backus, D., Physical therapy treatment time during inpatient spinal cord injury rehabilitation, Journal of Spinal Cord Medicine, 34, 149-161, 2011	Comparison not in PICO: Level of spinal cord injury
Thieme, H., Morkisch, N., Rietz, C., Dohle, C., Borgetto, B., The efficacy of movement representation techniques for treatment of limb pain - A systematic review and meta-analysis, Journal of Pain, 17, 167-180, 2016	Systematic review: Intervention not in PICO (specific pain management interventions). Included studies checked for relevance.
Tihista, S., Echavarría, E., Effect of omega 3 polyunsaturated fatty acids derived from fish oil in major burn patients: a prospective randomized controlled pilot trial, Clinical nutrition (Edinburgh, Scotland), 37, 107-112, 2018	Outcomes not in PICO: Infectious complications, gastrointestinal complications and other complications
Topuz, S., Ulger, O., Bakar, Y., Sener, G., Comparison of the effects of complex decongestive physiotherapy and conventional bandaging on edema of geriatric amputees: a pilot study, Topics in geriatric rehabilitation, 28, 275-280, 2012	Outcomes not included in PICO: Length of hospitalisation and time to permanent prosthesis
Treacy, Daniel, Schurr, Karl, Lloyd, Bradley, Sherrington, Catherine,	Mixed population: 58/162 in

Study	Reason for Exclusion
Additional standing balance circuit classes during inpatient rehabilitation improved balance outcomes: an assessor-blinded randomised controlled trial, Age and Ageing, 44, 580-6, 2015	PICO, 76/162 not in PICO and 28/162 unknown with results not presented separately for target population.
Tricco, A. C., Antony, J., Vafaei, A., Khan, P. A., Harrington, A., Cogo, E., Wilson, C., Perrier, L., Hui, W., Straus, S. E., Seeking effective interventions to treat complex wounds: An overview of systematic reviews, BMC Medicine, 13, 89, 2015	Systematic review: Population not in PICO (patients with complex wounds associated with pathologies). Included studies checked for relevance.
Trudelle-Jackson, E., Smith, S. S., Effects of a late-phase exercise program after total hip arthroplasty: A randomized controlled trial, Archives of Physical Medicine and Rehabilitation, 85, 1056-1062, 2004	Population not in PICO: Fracture due to pathological causes
Tsao, S. S., Dover, J. S., Arndt, K. A., Kaminer, M. S., Scar management: keloid, hypertrophic, atrophic, and acne scars, Seminars in Cutaneous Medicine and Surgery, 21, 46-75, 2002	Narrative review
Tsauo, J. Y., Leu, W. S., Chen, Y. T., Yang, R. S., Effects on function and quality of life of postoperative home-based physical therapy for patients with hip fracture, Archives of Physical Medicine and Rehabilitation, 86, 1953-1957, 2005	Intervention not in PICO: Physical therapy only
Tseng, M. Y., Liang, J., Shyu, Y. I. L., Wu, C. C., Cheng, H. S., Chen, C. Y., Yang, S. F., Effects of interventions on trajectories of health-related quality of life among older patients with hip fracture: A prospective randomized controlled trial, BMC Musculoskeletal Disorders, 17, 114, 2016	Interventions not in PICO: Interdisciplinary care and comprehensive care. Multicomponent interventions do not include any interventions listed in protocol.
Turunen, K., Salpakoski, A., Edgren, J., Törmäkangas, T., Arkela, M., Kallinen, M., Pesola, M., Hartikainen, S., Nikander, R., Sipilä, S., Physical Activity After a Hip Fracture: effect of a Multicomponent Home-Based Rehabilitation Program-A Secondary Analysis of a Randomized Controlled Trial, Archives of Physical Medicine and Rehabilitation, 98, 981-988, 2017	Intervention not in PICO: Multicomponent home rehabilitation intervention including modification of environmental hazards, walking guidance for safe walking, pain management, progressive home exercise program and counselling.
Unger, J., Singh, H., Mansfield, A., Craven, B. C., Masani, K., Musselman, K., Chan, K., Does Balance Training Impact Fear of Falling and Balance Confidence After Incomplete Spinal Cord Injury?, Archives of Physical Medicine and Rehabilitation, 100, e64, 2019	Conference abstract
Vacheva, D., Medical rehabilitation and occupational therapy in patients with lesion of plexus brachialis, Acta Medica Bulgarica, 42, 56-62, 2015	Population not in PICO: Patients with lesion of plexus brachialis
Valenzano, Teresa J., Waito, Ashley A., Steele, Catriona M., A Review of Dysphagia Presentation and Intervention Following Traumatic Spinal Injury: An Understudied Population, Dysphagia, 31, 598-609, 2016	Systematic review: Included studies checked for relevance.
van den Berg, Maayken, Sherrington, Catherine, Killington, Maggie, Smith, Stuart, Bongers, Bert, Hassett, Leanne, Crotty, Maria, Video and computer-based interactive exercises are safe and improve task-specific balance in geriatric and neurological rehabilitation: a randomised trial, Journal of physiotherapy, 62, 20-8, 2016	Mixed population: 20/58 in PICO, 12/58 not in PICO and 26/58 unknown, with results not presented separately for target population.
van den Berg, R., de Groot, S., Swart, K. M., van der Woude, L. H.,	Population not in PICO:

Study	Reason for Exclusion
Physical capacity after 7 weeks of low-intensity wheelchair training, Disability and Rehabilitation, 32, 2244-2252, 2010	Able-bodied volunteers
van der Scheer, J. W., de Groot, S., Tepper, M., Faber, W., Veeger, D. H., van der Woude, L. H., Low-intensity wheelchair training in inactive people with long-term spinal cord injury: A randomized controlled trial on fitness, wheelchair skill performance and physical activity levels, Journal of Rehabilitation Medicine, 48, 33-42, 2016	Comparison not in PICO: Low-intensity exercise versus no intervention. No mention of standard care.
van der Scheer, J. W., de Groot, S., Vegter, R. J., Hartog, J., Tepper, M., Slootman, H., Veeger, D. H., van der Woude, L. H., Low-Intensity Wheelchair Training in Inactive People with Long-Term Spinal Cord Injury: A Randomized Controlled Trial on Propulsion Technique, American journal of physical medicine & rehabilitation / Association of Academic Physiatrists, 94, 975-986, 2015	Comparison not in PICO: Low-intensity exercise versus no intervention. No mention of standard care.
van der Wal, Martijn B. A., van Zuijlen, Paul P., van de Ven, Peter, Middelkoop, Esther, Topical silicone gel versus placebo in promoting the maturation of burn scars: a randomized controlled trial, Plastic and reconstructive surgery, 126, 524-31, 2010	Comparison not in PICO: Silicone gel versus placebo. No mention of standard care.
van der Woude, L. H., de Groot, S., Postema, K., Bussmann, J. B., Janssen, T. W., Post, M. W., Active LifestyLe Rehabilitation interventions in aging spinal cord injury (ALLRISC): a multicentre research program, Disability and Rehabilitation, 35, 1097-1103, 2013	Protocol for multi-centre multidisciplinary 4-study research programme
van Dijk, Monique, O'Flaherty, Linda Anne, Hoedemaker, Tessa, van Rosmalen, Joost, Rode, Heinz, Massage has no observable effect on distress in children with burns: A randomized, observer-blinded trial, Burns : journal of the International Society for Burn Injuries, 44, 99-107, 2018	Outcomes not in PICO: Level of relaxation, level of distress, heart rate and oxygen saturation levels
van Laarhoven, C. J., Meeuwis, J. D., van der Werken, C., Postoperative treatment of internally fixed ankle fractures: a prospective randomised study, The Journal of bone and joint surgery. British volume, 78, 395-9, 1996	Dates not in PICO: 1991-1993
Van Middendorp, J. J., Hosman, A. J., Donders, A. R. T., Pouw, M. H., Ditunno Jr, J. F., Curt, A., Geurts, A. C., Van De Meent, H., A clinical prediction rule for ambulation outcomes after traumatic spinal cord injury: A longitudinal cohort study, The Lancet, 377, 1004-1010, 2011	Study design not in PICO: No intervention
Varoqui, Deborah, Niu, Xun, Mirbagheri, Mehdi M., Ankle voluntary movement enhancement following robotic-assisted locomotor training in spinal cord injury, Journal of NeuroEngineering and Rehabilitation, 11, 46, 2014	Intervention not in PICO: Robotic-assisted locomotor training
Venter, M., Rode, H., Sive, A., Visser, M., Enteral resuscitation and early enteral feeding in children with major burns-Effect on McFarlane response to stress, Burns, 33, 464-471, 2007	Outcomes not in PICO: Plasma concentrations of insulin, IGF-1, glucagon, cortisone and growth hormone, energy expenditure and bowel permeability
Vicic, Vesna Kovacic, Radman, Maja, Kovacic, Vedran, Early initiation of enteral nutrition improves outcomes in burn disease, Asia Pacific Journal of Clinical Nutrition, 22, 543-7, 2013	Outcomes not in PICO: Change in body mass index, serum concentrations and complications.
Vigier, S., Casillas, J. M., Dulieu, V., Rouhier-Marcer, I., D'Athis, P., Didier, J. P., Healing of open stump wounds after vascular below-knee amputation: plaster cast socket with silicone sleeve versus elastic compression, Archives of Physical Medicine and Rehabilitation, 80, 1327-30, 1999	Population not in PICO: Patients undergoing amputation due to arterial disease

Study	Reason for Exclusion
Vioreanu, Mihai, Dudeney, Sean, Hurson, Brian, Kelly, Eamon, O'Rourke, Kieran, Quinlan, William, Early mobilization in a removable cast compared with immobilization in a cast after operative treatment of ankle fractures: a prospective randomized study, Foot & ankle international, 28, 13-9, 2007	Population not in PICO: Young, healthy patients with stable ankle fracture which are unlikely to be admitted to hospital.
Vipond, Nicole, Taylor, William, Rider, Mark, Postoperative splinting for isolated digital nerve injuries in the hand, Journal of hand therapy : official journal of the American Society of Hand Therapists, 20, 222-231, 2007	Population not in PICO: Patients with suspected complete transection digital nerve injury
Viton, J. M., Mouchnino, L., Mille, M. L., Cincera, M., Delarque, A., Pedotti, A., Bardot, A., Massion, J., Equilibrium and movement control strategies in trans-tibial amputees, Prosthetics and Orthotics International, 24, 108-16, 2000	Study design not in PICO: Case-control study
Vogler, C. M., Sherrington, C., Ogle, S. J., Lord, S. R., Reducing Risk of Falling in Older People Discharged From Hospital: A Randomized Controlled Trial Comparing Seated Exercises, Weight-Bearing Exercises, and Social Visits, Archives of Physical Medicine and Rehabilitation, 90, 1317-1324, 2009	Population not in PICO: Patients age >65 years recently discharged from hospital. No mention of truama.
Vogler, Constance M., Menant, Jasmine C., Sherrington, Catherine, Ogle, Susan J., Lord, Stephen R., Evidence of detraining after 12-week home-based exercise programs designed to reduce fall-risk factors in older people recently discharged from hospital, Archives of Physical Medicine and Rehabilitation, 93, 1685-91, 2012	Population not in PICO: Patients age >65 years recently discharged from hospital. No mention of truama.
Voon, K., Silberstein, I., Eranki, A., Phillips, M., Wood, F. M., Edgar, D. W., Xbox Kinectâ„¢ based rehabilitation as a feasible adjunct for minor upper limb burns rehabilitation: a pilot RCT, Burns, 42, 1797-1804, 2016	Intervention not in PICO: Xbox Kinect Sports Pack
Wan, L., Wang, G. X., Bian, R., Evaluation of the effect of maneuver for treatment of ankle injury, Chinese Journal of Clinical Rehabilitation, 9, 126-127, 2005	Chinese language article
Wang, S., Wang, S., Li, A., A clinical study of early enteral feeding to protect the gut function in burned patients, Zhonghua zheng xing shao shang wai ke za zhi = zhonghua zheng xing shao shang waikf [i.e. waike] zazhi = chinese journal of plastic surgery and burns, 13, 267-271, 1997	Chinese language article
Wangdell, J., Friden, J., Satisfaction and performance in patient selected goals after grip reconstruction in tetraplegia, The Journal of hand surgery, European volume, 35, 563-8, 2010	Intervention not in PICO: Surgical grip reconstruction
Wasiak, J., Cleland, H., Jeffery, R., Early versus delayed enteral nutrition support for burn injuries, Cochrane Database of Systematic Reviews, 2006	Systematic review: Included studies checked for relevance.
Wasiak, J., Cleland, H., Jeffery, R., Early versus late enteral nutritional support in adults with burn injury: a systematic review, Journal of human nutrition and dietetics : the official journal of the British Dietetic Association, 20, 75-83, 2007	Systematic review: Included studies checked for relevance.
Waza, M., Maeda, K., Katsuragawa, C., Sugita, A., Tanaka, R., Ohtsuka, A., Matsui, T., Kitagawa, K., Kishimoto, T., Fukui, H., Kawai, K., Yamamoto, M., Isono, M., Comprehensive Tool to Assess Oral Feeding Support for Functional Recovery in Post-acute Rehabilitation, Journal of the American Medical Directors Association, 20, 426-431, 2019	Intervention not in PICO: Kuchi-kara Taberu index (new assessment tool)
Weingartmann, G., Fridrich, P., Mauritz, W., Gotzinger, P., Mittlbock, M., Germann, P., Karner, J., Roth, E., Safety and efficacy of increasing dosages of glycyl-glutamine for total parenteral nutrition in polytrauma patients, Wiener Klinische Wochenschrift, 108, 683-8, 1996	Setting not in PICO: Intensive care unit

Study	Reason for Exclusion
Wernig, A., Nanassy, A., Muller, S., Laufband (LB) therapy in spinal cord lesioned persons, Progress in brain research, 128, 89-97, 2000	Study design not in PICO: No comparison group
Wessels, Monique, Lucas, Cees, Eriks, Inge, de Groot, Sonja, Body weight-supported gait training for restoration of walking in people with an incomplete spinal cord injury: a systematic review, Journal of rehabilitation medicine, 42, 513-9, 2010	Systematic review: Included studies checked for relevance.
Wibbenmeyer, Lucy A., Mitchell, Melanie A., Newel, Ingrid M., Faucher, Lee D., Amelon, Margery J., Ruffin, Timothy O., Lewis, Robert D., 2nd, Latenser, Barbara A., Kealey, Patrick G., Effect of a fish oil and arginine-fortified diet in thermally injured patients, Journal of burn care & research : official publication of the American Burn Association, 27, 694-702, 2006	Outcomes not in PICO: Diet tolerance, wound healing, infections and hospital course
Williams, T. G., Ehsanian, R., Shem, K. L., Wright, J., Isaac, L., Crew, J., The effect of vitamin d supplementation on pain, mood, depression, and strength in patients with spinal cord injury, PM and R, 8, S153, 2016	Conference abstract
Windle, E. Mark, Glutamine supplementation in critical illness: evidence, recommendations, and implications for clinical practice in burn care, Journal of burn care & research : official publication of the American Burn Association, 27, 764-72, 2006	Narrative review
Wirz, M., Colombo, G., Dietz, V., Long term effects of locomotor training in spinal humans, Journal of neurology, neurosurgery, and psychiatry, 71, 93-6, 2001	Outcomes not in PICO: Leg extensor muscle electromyography activity
Wiseman, J., Ware, R. S., Simons, M., McPhail, S., Kimble, R., Dotta, A., Tyack, Z., Effectiveness of topical silicone gel and pressure garment therapy for burn scar prevention and management in children: a randomized controlled trial, Clinical rehabilitation, 34, 120-131, 2020	Outcomes not in PICO: Burn-specific quality of life, caregiver report for other measures
Wong, Christopher Kevin, Ehrlich, Julie E., Ersing, Jennifer C., Maroldi, Nicholas J., Stevenson, Catharine E., Varca, Matthew J., Exercise programs to improve gait performance in people with lower limb amputation: A systematic review, Prosthetics and orthotics international, 40, 8-17, 2016	Systematic review: Included studies checked for relevance.
Wu, J. Q., Mao, L. B., Wu, J., Efficacy of balance training for hip fracture patients: a meta-analysis of randomized controlled trials, Journal of orthopaedic surgery and research, 14, 83, 2019	Systematic review: Included studies checked for relevance.
Wu, Jane, Faux, Steven G., Estell, John, Wilson, Stephen, Harris, Ian, Poulos, Christopher J., Klein, Linda, Early rehabilitation after hospital admission for road trauma using an in-reach multidisciplinary team: a randomised controlled trial, Clinical Rehabilitation, 31, 1189-1200, 2017	Intervention not in PICO: Increase in intensity of standard care
Wu, M., Landry, J. M., Schmit, B. D., Hornby, T. G., Yen, S. C., Robotic resistance treadmill training improves locomotor function in human spinal cord injury: A pilot study, Archives of Physical Medicine and Rehabilitation, 93, 782-789, 2012	Study design not in PICO: Cross-over study
Wu, Yah-Ting, Chen, Kuo-Hu, Ban, Shiun-Lei, Tung, Kwang-Yi, Chen, Li-Ru, Evaluation of leap motion control for hand rehabilitation in burn patients: An experience in the dust explosion disaster in Formosa Fun Coast, Burns : journal of the International Society for Burn Injuries, 45, 157-164, 2019	Study design not in PICO: Non-RCT with <100 per arm
Wurzer, P., Voigt, C. D., Andersen, C. R., Mlcak, R. P., Kamolz, L. P., Herndon, N., Suman, O. E., A 12-week exercise program after acute hospitalization is beneficial, but are benefits present 2 years post burn?, Journal of Burn Care and Research, 37, S119, 2016	Conference abstract
Wutzler, S., Sturm, K., Lustenberger, T., Wyen, H., Zacharowksi, K., Marzi, I., Bingold, T., Kinetic therapy in multiple trauma patients with	Setting not in PICO: Intensive care unit

Study	Reason for Exclusion
severe thoracic trauma: a treatment option to reduce ventilator time and improve outcome, European journal of trauma and emergency surgery : official publication of the European Trauma Society, 43, 155-161, 2017	
Wyers, C. E., Reijven, P. L. M., Breedveld-Peters, J. J. L., Denissen, K. F. M., Schotanus, M. G. M., van Dongen, Mcjm, Eussen, Sjpm, Heyligers, I. C., van den Brandt, P. A., Willems, P. C., et al.,, Efficacy of Nutritional Intervention in Elderly After Hip Fracture: a Multicenter Randomized Controlled Trial, Journals of gerontology. Series A, Biological sciences and medical sciences, 73, 1429-1437, 2018	Population not in PICO: Hip fracture patients with bone disease
Wyers, C. E., Reijven, P. L., Breedveld-Peters, J. J., Van Helden, S., Schotanus, M., Meesters, B., Van Dongen, M. C., Van Den Brandt, P. A., Willems, P. C., Dagnelie, P. C., Effect of nutritional intervention on length of stay, postoperative complications, functional status and mortality in hip fracture patients: A multi-centre randomised controlled trial (RCT), Clinical Nutrition, Supplement, 7, 51, 2012	Outcomes not in PICO: Length of hospital stay, nutritional status, post-operative complications, fracture rates and morality. Quality of life is measured but results not reported in article.
Wyers, C. E., Reijven, P. L., Evers, S. M., Willems, P. C., Heyligers, I. C., Verburg, A. D., van Helden, S., Dagnelie, P. C., Cost-effectiveness of nutritional intervention in elderly subjects after hip fracture. A randomized controlled trial, Osteoporosis International, 24, 151-162, 2013	Outcomes not in PICO: Weight, quality-adjusted life years and cost-effectiveness
Xiao, X., Huang, J., Chen, Z., Xia, X., Wang, S., Yang, Z., Effects of computer-assisted wrist/hand training on the improvement of hand function in traumatic hand injuries, International Journal of Clinical and Experimental Medicine, 11, 1208-1216, 2018	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Xie, L. Q., Deng, Y. L., Zhang, J. P., Richmond, C. J., Tang, Y., Zhou, J., Effects of Progressive Muscle Relaxation Intervention in Extremity Fracture Surgery Patients, Western Journal of Nursing Research, 38, 155-168, 2016	Intervention not in PICO: Progressive muscle relaxation technique
Xing, D. R., The early enteral feeding and rehabilitation of severely burned patients, Chinese Journal of Clinical Rehabilitation, 6, 3461, 2002	Chinese language article
Yang, Jaynie F., Musselman, Kristin E., Livingstone, Donna, Brunton, Kelly, Hendricks, Gregory, Hill, Denise, Gorassini, Monica, Repetitive mass practice or focused precise practice for retraining walking after incomplete spinal cord injury? A pilot randomized clinical trial, Neurorehabilitation and neural repair, 28, 314-24, 2014	Study design not in PICO: Cross-over study
Yang, Jaynie F., Musselman, Kristin E., Training to achieve over ground walking after spinal cord injury: a review of who, what, when, and how, The journal of spinal cord medicine, 35, 293-304, 2012	Narrative review
Yang, Mingliang, Li, Jianjun, Guan, Xinyu, Gao, Lianjun, Gao, Feng, Du, Liangjie, Zhao, Hongmei, Yang, Degang, Yu, Yan, Wang, Qimin, Wang, Rencheng, Ji, Linhong, Effectiveness of an innovative hip energy storage walking orthosis for improving paraplegic walking: A pilot randomized controlled study, Gait & posture, 57, 91-96, 2017	Study design not in PICO: Cross-over study
Yeung, D. E., Jia, X., Miller, C. A., Barker, S. L., Interventions for treating ankle fractures in children, Cochrane Database of Systematic Reviews, 2016	Systematic review: Included studies checked for relevance.
Yigiter, K., Sener, G., Erbahceci, F., Bayar, K., Ulger, O. G., Akdogan, S., A comparison of traditional prosthetic training versus proprioceptive neuromuscular facilitation resistive gait training with trans-femoral amputees, Prosthetics and Orthotics International, 26, 213-7, 2002	Population not in PICO: Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Yildirim, A., Sürücü, G. D., Karamercan, A., Gedik, D. E., Atci, N.,	Population not in PICO:

Study	Reason for Exclusion
Dülgeroğlu, D., Özgirgin, N., Short-term effects of upper extremity circuit resistance training on muscle strength and functional independence in patients with paraplegia, Journal of back and musculoskeletal rehabilitation, 29, 817-823, 2016	Adults aged ≥ 18 years old. Included in corresponding adult evidence review.
Yildirim, Mustafa Aziz, Ones, Kadriye, Goksenoglu, Goksen, Early term effects of robotic assisted gait training on ambulation and functional capacity in patients with spinal cord injury, Turkish journal of medical sciences, 49, 2019	Mixed population: Included traumatic (68/88) and non-traumatic (20/88) causes of injury with results not reported separately for target population.
Yohannan, Sam K., Tufaro, Patricia A., Hunter, Hope, Orleman, Lauren, Palmatier, Sara, Sang, Canace, Gorga, Delia I., Yurt, Roger W., The utilization of Nintendo WiiTM during burn rehabilitation: a pilot study, Journal of burn care & research : official publication of the American Burn Association, 33, 36-45, 2012	Study design not in PICO: Non-RCT with <100 per arm
Yuan, Y., Yu, X., Therapeutic effects of rehabilitation training methods on spinal cord injury: a meta-analysis, The Lancet, 394, S27, 2019	Poster abstract
Yu-Yahiro, Janet A., Resnick, Barbara, Orwig, Denise, Hicks, Gregory, Magaziner, Jay, Design and implementation of a home-based exercise program post-hip fracture: the Baltimore hip studies experience, PM & R : the journal of injury, function, and rehabilitation, 1, 308-18, 2009	Outcomes not in PICO: Feasibility and intervention adherence
Zanca, Jeanne M., Natale, Audrey, Labarbera, Jacqueline, Schroeder, Sally Taylor, Gassaway, Julie, Backus, Deborah, Group physical therapy during inpatient rehabilitation for acute spinal cord injury: findings from the SCIRehab Study, Physical Therapy, 91, 1877-91, 2011	Study design not in PICO: No comparative data
Zeckey, C., Wendt, K., Mommsen, P., Winkelmann, M., Fromke, C., Weidemann, J., Stubig, T., Krettek, C., Hildebrand, F., Kinetic therapy in multiple trauma patients with severe blunt chest trauma: an analysis at a level-1 trauma center, Technology and health care : official journal of the European Society for Engineering and Medicine, 23, 63-73, 2015	Setting not in PICO: Intensive care unit
Zhang, M., Zhou, J. J., Zhang, Y. M., Wang, J. H., Zhang, Q. Y., Chen, W., Clinical Effectiveness of Scapulothoracic Joint Control Training Exercises on Shoulder Joint Dysfunction, Cell biochemistry and biophysics, 72, 83-87, 2015	Population not in PICO: No complex rehabilitation needs
Zhang, X. Y., Wang, J. H., Prevention against deformity induced by contraction of axillary fossa after burn: comparison of comprehensive rehabilitation and routine rehabilitation therapy, Chinese Journal of Clinical Rehabilitation, 8, 6320-6322, 2004	Conference abstract
Zhang, Zhuo, Wang, Xiaolin, Wang, Yitong, Hao, Jingcheng, Rapid-Forming and Self-Healing Agarose-Based Hydrogels for Tissue Adhesives and Potential Wound Dressings, Biomacromolecules, 19, 980-988, 2018	Study design not in PICO: Animal study
Zhao, R., Feng, F., Wang, X., Exercise interventions and prevention of fall-related fractures in older people: A meta-analysis of randomized controlled trials, International Journal of Epidemiology, 46, 149-161, 2017	Systematic review: Population not in PICO (elderly adults at risk of falling). Included studies checked for relevance.
Zheng, X, Wu, H, Zhang, X, Liu, L, Effects of visual feedback balance training with MTD balance assessment and training system on the equilibrium function and the mobility function in hip fracture patients, Chinese Journal of Rehabilitation, 25, 197-199, 2010	Chinese language article
Zhou, Rui, Alvarado, Laura, Ogilvie, Robert, Chong, Su Ling, Shaw,	Intervention not in PICO:

Study	Reason for Exclusion
Oriana, Mushahwar, Vivian K., Non-gait-specific intervention for the rehabilitation of walking after SCI: role of the arms, Journal of Neurophysiology, 119, 2194-2211, 2018	Arm and leg functional electrical stimulation training
Zhou, Y. P., Jiang, Z. M., Sun, Y. H., Wang, X. R., Ma, E. L., Wilmore, D., The effect of supplemental enteral glutamine on plasma levels, gut function, and outcome in severe burns: a randomized, double-blind, controlled clinical trial, JPEN. Journal of parenteral and enteral nutrition, 27, 241-245, 2003	Outcomes not in PICO: Plasma glutamine, lactulose/mannitol ratio, body weight, rate of wound healing and length of hospitalisation
Ziden, L., Asplin, G., Kjellby Wendt, G., Early coordinated rehabilitation in acute phase after hip fracture-a new model for increased patient participation, independence and self-confidence, Physiotherapy (United Kingdom), 101, eS1717-eS1718, 2015	Conference abstract
Ziden, Lena, Frandin, Kerstin, Kreuter, Margareta, Home rehabilitation after hip fracture. A randomized controlled study on balance confidence, physical function and everyday activities, Clinical Rehabilitation, 22, 1019-33, 2008	Intervention not in PICO: Supported discharge
Ziden, Lena, Kreuter, Margareta, Frandin, Kerstin, Long-term effects of home rehabilitation after hip fracture - 1-year follow-up of functioning, balance confidence, and health-related quality of life in elderly people, Disability and rehabilitation, 32, 18-32, 2010	Intervention not in PICO: Home rehabilitation
Zoghi, Maryam, Galea, Mary, Brain Motor Control Assessment Post Early Intensive Hand Rehabilitation After Spinal Cord Injury, Topics in Spinal Cord Injury Rehabilitation, 24, 157-166, 2018	Intervention not in PICO: Functional electrical stimulation
Zusman, Enav Z., Dawes, Martin G., Edwards, Nicola, Ashe, Maureen C., A systematic review of evidence for older adults' sedentary behavior and physical activity after hip fracture, Clinical Rehabilitation, 32, 679-691, 2018	Systematic review: Included studies checked for relevance.
Zwicker, Jill G., Mayson, Tanja A., Effectiveness of treadmill training in children with motor impairments: an overview of systematic reviews, Pediatric physical therapy : the official publication of the Section on Pediatrics of the American Physical Therapy Association, 22, 361-77, 2010	Systematic review: Included studies checked for relevance.
Zyto, K., Ahrengart, L., Sperber, A., Tornkvist, H., Treatment of displaced proximal humeral fractures in elderly patients, The Journal of bone and joint surgery. British volume, 79, 412-7, 1997	Intervention not in PICO: Tension-band surgery

Economic studies

All economic studies for this review question were excluded at the initial title and abstract screening stage. See appendix G for further information.

Appendix L – Research recommendations

Research recommendations for review questions:

B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

B.1b What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

Also applicable for the following review questions:

B.2 What cognitive rehabilitation interventions are effective and acceptable for adults/children and young people with complex rehabilitation needs after traumatic injury?

B.3 What psychological and psychosocial rehabilitation interventions are effective and acceptable for adults/children and young people with complex rehabilitation needs after traumatic injury?

B.4 What rehabilitation interventions relating to participation in society (e.g., return to work, education or training) are effective and acceptable for adults/children and young people with complex rehabilitation needs after traumatic injury?

Research question

What is the effectiveness of intensive rehabilitation programme in adults with complex rehabilitation needs after a traumatic injury?

Why this is important?

- Standard care rehabilitation for individuals with the most severe injuries and complex rehabilitation needs is provided as a prolonged therapy (over many months), often lacks coordination, and generally is associated with poor outcomes.
- There is emerging evidence from military studies that intensive inpatient or outpatient rehabilitation programmes comprising a holistic package (e.g. physical, cognitive, psychological interventions) positively impact outcomes (e.g. function, pain, quality of life and mental health outcomes).
- Clinical experience also indicates that periodic intensive rehabilitation delivered at the time point that is deemed most beneficial for the patient (e.g. when a patient can commence weight bearing on all limbs; when a patient is returning to work or higher level function) is associated with improvements in outcomes.
- Currently, it takes months to achieve outcomes that could be achieved within weeks with an intensive rehabilitation programme. This negatively impacts an individual's recovery and has a detrimental impact on their quality of life and general wellbeing for many months. An individual might also be dependent on care for many months.
- Intensive rehabilitation is potentially associated with high intervention costs; also there may be a need for more than one programme of intensive rehabilitation. However, it may reduce future health and care costs due to a quicker recovery.

Table 82: Research recommendation rationale

Research question	
Why is this needed	
Importance to 'patients' or the population	At some recovery point, depending on factors such as weight-bearing, psychological state, number and pattern of injuries, immobilisation period, and healing rate, a concentrated rehabilitation block may be helpful for a patient. Intensive, coordinated rehabilitation improves the functional outcome of patients with complex trauma in the months post-injury, speeds up recovery, leads to improvements in their health-related quality of life and general well-being, and increases the chance of their returning to work early. It can also improve outcomes for carers of those affected by traumatic injury.
Relevance to NICE guidance	High - The committee were unable to issue definite recommendations on intensive rehabilitation due to a lack of evidence and potential resource implications. The committee used expert testimony and findings from exploratory economic analysis to make weak recommendations in this area. By conducting research in this area, it is hoped that a more definitive NICE guidance on intensive rehabilitation can be issued in future iterations of this guideline.
Relevance to the NHS	High - It already exists for some NHS patient groups, e.g. amputees (Clinical Commissioning Group, level 2b funding). The committee explained that there is a trade-off between patient outcomes and resource use. Intensive rehabilitation has high intervention costs with a potential for more than one programme of intensive rehabilitation. Intensive rehabilitation leads to quicker recovery, better outcomes, and potentially lower future health and care costs. It is essential to identify whether providers could reconfigure their services to provide short programmes of intensive rehabilitation rather than prolonged therapy input and whether that would represent an effective and cost-effective practice to the NHS.
National priorities	• Research into the intensity of rehabilitation following traumatic injury is important to the NHS long-term plan by promoting high quality care which is safe, effective and focused on patient experience. Personalised care plans focused on the return to full function employment feature in the NHS long-term plan. Also, The Principles and Expectations for Good Adult Rehabilitation – June 2015 focused on peoples' needs not diagnosis, includes vocational outcomes and people's changing needs.

Research question	
Current evidence base	At the time of searching there were no RCTs or cohort studies in the literature.
Equality	Intensive rehabilitation is already available for some NHS patient groups, e.g. amputees. All people with complex trauma deserve to receive optimal care, just like other patient groups, to achieve the best possible outcomes.
Feasibility	Ideally, a prospective multi-centre randomised study for adults (aged 18 years and above) with complex rehabilitation needs resulting from traumatic injury that required adminisiion to hospital with randomisation to either intensive rehabilitation or control will be conducted. However, such a trial may be challenging to run because the majority of potential participating trama units will not be set up to provide intensive rehabilitation. A prospective comparative cohort study will allow trauma units to continue with their current protocols and should have little impact on their practice.
Other comments	• None.

NHS: National Health Service; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial

Table 83: Research recommendation modified PICO table

Criterion	Explanation
Population	• Adults (aged 18 years and above) with complex rehabilitation needs resulting from traumatic injury that requires admission to hospital
Intervention	• Periodic intensive rehabilitation (in ≤3 week blocks) in addition to standard care rehabilitation
Comparator	• Standard care rehabilitation services
Outcomes	• Overall quality of life (validated scales) • Patient acceptability (any direct measure) • Changes in activity of daily living (validated scales • Changes in mood (validated scales) • Return to work • Return to education • Resource use i.e. acute length of stay in trauma unit, hospital re-admissions, outpatient visits, primary and community care visits • Cost-effectiveness
Study design	1. Randomised controlled trial 2. Prospective comparative cohort study (minimum sample size ≥ 100 per arm)
Timeframe	• >12 months
Additional information	None.

Research question

What is the effectiveness of intensive rehabilitation programme in children and young people with complex rehabilitation needs after a traumatic injury?

Why this is important?

- Standard care rehabilitation for individuals with the most severe injuries and complex rehabilitation needs is provided as a prolonged therapy (over many months), varies across trauma centres, often lacks coordination, and particularly after discharge may be associated with long waits and poor outcomes.
- There is emerging evidence from military studies (involving some individuals aged below 18 years) and studies in children and young people with acquired brain injury that intensive inpatient or outpatient rehabilitation programmes comprising a holistic package (e.g. physical, cognitive, psychological interventions) positively impact outcomes (e.g. function, pain, quality of life and mental health outcomes).
- Clinical experience also indicates that periodic intensive rehabilitation delivered at the time point that is deemed most beneficial for the patient (e.g. when a patient can commence weight bearing on all limbs; when a patient is returning to nursery, education or higher level function) is associated with improvements in outcomes.
- Currently, it takes months to achieve outcomes that could be achieved within weeks with an intensive rehabilitation programme. This negatively impacts an individual's recovery; prolongs hospital stays and has a detrimental impact on their quality of life and general wellbeing for many months. An individual might also be dependent on care for many months.
- Intensive rehabilitation is potentially associated with high intervention costs; also there may be a need for more than one programme of intensive rehabilitation. However, it may reduce length of inpatient stay, future health and care costs due to a quicker recovery.

Table 84: Research recommendation rationale

Research question	
Why is this needed	
Importance to 'patients' or the population	At some recovery point, depending on factors such as weight-bearing, psychological state, number and pattern of injuries, immobilisation period, and healing rate, a concentrated rehabilitation block may be helpful for a patient. Intensive, coordinated rehabilitation improves the functional outcome of patients with complex trauma in the months post-injury, speeds up recovery, leads to improvements in their health-related quality of life and general well-being, and increases the chance of their returning to nursery, education or work early. It can also improve outcomes for carers of those affected by traumatic injury.
Relevance to NICE guidance	High - The committee were unable to issue definite recommendations on intensive rehabilitation due to a lack of evidence and potential resource implications. The committee used expert testimony and findings from exploratory economic analysis to make weak recommendations in this area. By conducting research in this area, it is hoped that a more definitive NICE guidance on intensive rehabilitation can be issued in future iterations of

Research question	
	this guideline.
Relevance to the NHS	High - It already exists for some NHS patient groups, e.g. amputees (Clinical Commissioning Group, level 2b funding). The committee explained that there is a trade-off between patient outcomes and resource use. Intensive rehabilitation has high intervention costs with a potential for more than one programme of intensive rehabilitation. Intensive rehabilitation leads to quicker recovery, better outcomes, and potentially lower future health and care costs. It is essential to identify whether providers could reconfigure their services to provide short programmes of intensive rehabilitation rather than prolonged therapy input and whether that would represent an effective and cost-effective practice to the NHS.
National priorities	• Research into the intensity of rehabilitation following traumatic injury is important to the NHS long-term plan by promoting high quality care which is safe, effective and focused on patient experience. Personalised care plans focused on the return to full function employment feature in the NHS long-term plan. Also, The Principles and Expectations for Good Adult Rehabilitation – June 2015 focused on peoples' needs not diagnosis, includes vocational outcomes and people's changing needs.
Current evidence base	At the time of searching there were no RCTs or cohort studies in the literature.
Equality	Intensive rehabilitation is already available for some NHS patient groups, e.g. amputees. All people with complex trauma deserve to receive optimal care, just like other patient groups, to achieve the best possible outcomes.
Feasibility	Ideally, a prospective multi-centre randomised study for children and young people (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that required adminisiion to hospital with randomisation to either intensive rehabilitation or control will be conducted. However, such a trial may be challenging to run because the majority of potential participating trama units will not be set up to provide intensive rehabilitation. A prospective multi-centre comparative cohort study will allow trauma units to continue with their current protocols and should have little impact on their practice.
Other comments	• None.

NHS: National Health Service; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial

Table 85: Research recommendation modified PICO table

Criterion	Explanation
Population	• Children and young people (aged below 18 years) with complex

Criterion	Explanation
	rehabilitation needs resulting from traumatic injury that requires admission to hospital
Intervention	• Periodic intensive rehabilitation (in 3 week blocks) in addition to standard care rehabilitation
Comparator	• Standard care rehabilitation services
Outcomes	• Overall quality of life (validated scales) • Patient and family acceptability (any direct measure) • Changes in activity of daily living (validated scales) • Changes in mood (validated scales) • Return to nursery, education or work • Resource use i.e. acute length of stay in trauma unit, hospital re-admissions, outpatient visits, primary and community care visits • Cost-effectiveness
Study design	1. Randomised controlled trial 2. Prospective comparative cohort study (minimum sample size ≥ 100 per arm)
Timeframe	• >12 months
Additional information	None.

Research question

What are the benefits and harms of using thoracic lumbar sacral orthoses in older people with thoraco-lumbar vertebral fractures?

Why this is important

The thoracolumbar spine is the most commonly injured segment of the spinal column. Older people are particularly vulnerable to vertebral fractures due to osteoporosis. Many spinal injuries are managed conservatively without operative intervention. Historically, orthoses, such as the thoracic lumbar sacral orthosis, have been used as a conservative treatment strategy for thoraco-lumbar vertebral fractures. The evidence base for their benefit is heterogeneous and generally of low quality. Side effects, poor tolerance and increased hospital length of stay have been reported with their use, particularly in older people, and yet they remain commonly used in current practice. Establishing the true benefit or harms of these devices would allow better informed clinical decision making and could have important effects upon quality of life for people with spinal injuries.

Table 86: Research recommendation rationale

Research question	
Why is this needed	
Importance to 'patients' or the population	High – The use of spinal orthoses for the conservative management of thoraco-lumbar injuries is widespread.
Relevance to NICE guidance	High – The committee were unable to issue any recommendation on the use of thoracic lumbar sacral orthoses (TLSO) due to evidence only being found in younger people, which conflicted with the committee's knowledge and experience. By conducting research in this area, it is hoped that clearer NICE guidance on this can be issued.
Relevance to the NHS	Medium – The use of TLSO as a treatment

Research question	
	strategy has been reported to result in increased length of hospital stay. The orthoses themselves can also be expensive and the socio-economic consequences of their use have not been fully established.
National priorities	Research into the use of TLSO in older people following spinal injury is important to the NHS long-term plan by promoting high quality care which is safe, effective and focused on patient experience.
Current evidence base	At the time of searching there were no RCTs or cohort studies that met our inclusion criteria in the literature for this population.
Equality	The evidence located for TLSO was largely found in younger people. The committee discussed that TLSO were well-tolerated for young people, but that they could increase the risk of adverse events and increased length of hospital stay in older people. By conducting research in the older population, the benefits and harms of TLSO can be quantified which will clarify the best non-surgical treatment options for people over 65 years old.
Feasibility	Ideally a prospective multi-centre randomised study for patients ≥65 years of age with thoraco-lumbar fractures who are being managed conservatively with randomisation to either thoracic lumbar sacral orthosis or control. However, such a trial may have difficulties recruiting adequate numbers due to the risk of side effects, poor tolerance and increased length of hospital stay. A prospective or retrospective comparative cohort study will allow trauma units to continue with their current spinal injury protocols and should have little impact on their practice.
Other comments	None

TLSO: Thoracic lumbar sacral orthoses

Table 87: Research recommendation modified PICO table

Criterion	Explanation
Population	Older adults (aged ≥ 65 years) with thoraco-lumbar vertebral fractures as a result of traumatic injury that required admission to hospital and are being managed non-operatively.
Intervention	Thoracic lumbar sacral orthoses
Comparator	No orthosis
Outcomes	• Patient acceptability (any direct measure) • Mobility (validated scales) • Pain (Numerical rating scale, visual assessment scale) • Overall quality of life (validated scales) • Activities of daily living (validated scales)
Study design	1. Randomised controlled trial 2. Prospective comparative cohort study (minimum sample size ≥ 100 per arm)

Criterion	Explanation
	3. Retrospective comparative cohort study (minimum sample size ≥ 100 per arm)
Timeframe	0 months to 18 months
Additional information	None

Appendix M – Testimony from expert witness

Testimony from expert witness for review question: B.1a What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

Name: Col Rhodri Phillip	
Role:	Clinical Director & CT lead Consultant, Defence Medical Rehabilitation Centre
Institution/Organisation (where applicable): **Contact information:**	Defence Medical Rehabilitation Centre Stanford Hall, Stanford on Soar, Loughborough, LE12 5BL [redacted]
Guideline title:	Rehabilitation after traumatic injury
Guideline Committee:	Guideline committee meeting 17 (January 2021)
Subject of expert testimony:	Intensity of rehabilitation packages
Evidence gaps or uncertainties:	*What is the effectiveness of intensive rehabilitation packages on clinical outcomes for people with complex rehabilitation needs after traumatic injury?*

One of the key areas of interest that was identified during scoping for this guideline was the success the military has seen with providing intensive rehabilitation for soldiers suffering complex trauma during conflict. Currently, civilians are not offered this same intensity of rehabilitation and show poorer outcomes, both for individuals and the state. This was subsequently reinforced by the Committee as an important area to make recommendations on, exploring what can be extended to patients receiving treatment in the NHS. Additionally, the Committee were interested identifying how physical and psychological rehabilitation interventions can be combined into holistic packages for rehabilitation after complex trauma. Review questions covering physical, psychological and cognitive rehabilitation therapy packages, and specific rehabilitation programmes for limb reconstruction, amputation, nerve injury and spinal cord injury, were designed to include comparisons of intensity.

Following a systematic search of published literature and screening against our agreed protocol, we have identified evidence for rehabilitation packages for people after traumatic injury, covering physical, cognitive, psychological and social participation programmes. As well as these interventions, we also located evidence for specific limb, nerve, spinal, and chest injury rehabilitation packages. These provided evidence for how these programmes can affect patient outcomes of patient satisfaction, return to work or education, activities of daily living, quality of life and changes in mood (among others).

However, the results of this review also highlighted certain gaps in the evidence, namely intensity of rehabilitation. In order to keep the strength of evidence as high as possible, any non-RCT with less than 100 participants per arm were excluded. While military studies were located, they tended to be reporting on small non-randomised comparative studies. Civilian trials that investigate the effectiveness of intensive rehabilitation either did not meet this criterion for study design or did not fit our definition of complex trauma. The majority of comparators of studies that did meet our inclusion criteria were either usual care or another intervention. There was only 1 study identified that compared different intensities of rehabilitation packages that was judged to be suitable for exploratory economic analysis. This was a RCT to compare a balancing exercise programme with standard physiotherapy in patients with hip fractures. However, due to the lack of other data, the specific needs of the hip fracture population, the elderly age of the included participants and the poor quality of

evidence (as measured using GRADE), this evidence was not considered sufficient to make recommendations on rehabilitation intensity.

Due to these gaps in the evidence and the focus placed on intensity in the guideline protocols and economic analysis, the Committee agreed to supplement the data by inviting an expert witness. This witness will provide testimony on intensive rehabilitation for complex trauma, ideally on the following areas:

- The definition, key components, and setting (i.e., inpatient vs. outpatient) of intensive rehabilitation
- Type of injury and any sub-groups intensive rehabilitation should be aimed at, or is particularly effective in
- Timing of intensive rehabilitation along an individual's rehabilitation journey (at what time along the pathway, possibility of more than one burst)
- Expected duration of intensive rehabilitation and standard care rehabilitation
- Location of intensive rehabilitation (i.e., potentially delivered by a tertiary service provided by one provider for the region such as major trauma centre for their trauma network) and issues around accommodation and travel
- Delivery and coordination of follow-up care after intensive rehabilitation periods, including between healthcare settings
- The benefits and harms or intensive rehabilitation
- Any factors that may contribute to effectiveness of intensive rehabilitation
- Resource implications of providing intensive rehabilitation and the potential capacity within the NHS to provide such rehabilitation
- Ideally, the witness will also provide expert onion on exploratory economic analysis that is being undertaken for this guideline to assess the potential cost effectiveness of intensive rehabilitation including:
  - The generalisability and applicability of identified intensive rehabilitation packages (musculoskeletal rehabilitation packages, and police outpatient rehabilitation package) to NHS practice
  - Applicability of identified quality of life scores
  - Potential relative effectiveness of intensive rehabilitation relative to standard care rehabilitation
  - Impact on other health and care costs

Summary testimony

I'd like to start with a caveat to my testimony. I work for the Ministry of Defence and as such am employed in an occupational healthcare system. The aim of this service is to either ensure individuals can return to full fitness, can return to a work role of benefit to the organisation or are rehabilitated to their maximum potential in order to minimise the impact of any issues on their future life and career outside of the military. Hence, we are resourced with those intents in mind. Our patient population could be from wherever the military is based and as such once a week or occasional inputs are unrealistic. An intensive model of care delivery is essential at Defence Medical Rehabilitation Centre (DMRC). I would also add that typically patients come to us either after NHS input, during NHS input or in the absence of local specialist NHS input.

DMRC is the tertiary facility in the mil rehab programme, supported by 13 regional rehab units and over 100 local physio units globally. Our patients are still being paid and their attendance is seen as duty, though they can decline input if they prefer. At DMRC we operate two streams – residential care and inpatient care. The former comprises of lower limbs, spines and upper quadrant, spec (cardiac to post viral), the latter neurorehabilitation and complex trauma. At present we also have COVID-19 rehab elements operating. All look after what the NHS would term trauma patients, save for some of the Spec patients. Clinical teams consist of Rehab and subject-matter experts (SME) consultants, physiotherapists, occupational therapists, exercise rehab instructors and social workers. Additional support comes from nursing, our own pain and mental health practitioners, prosthetics, orthotics and podiatry, radiology, mild traumatic brain injury (mTBI) and the clinical research team. We're a Royal College of General Practitioners and Royal College of Physicians recognised training site for

Speciality Registrars programmes.

The residential programme will often see patients who have failed to recover despite local or regional rehabilitation unit support. We have best practice guidelines that aim to identify when to refer to DMRC. Initial input is outpatients followed by a one-week remote education element and a two-week residential element. This can be repeated if required but rarely goes beyond two admissions.

The neurorehabilitation element runs along NHS lines and the majority attend for six weeks, with some cases requiring longer input. The flexibility to offer care to maximise recovery, rather than be time limited, has led to some very impressive return to work results that I've referenced below.

Complex trauma has increased and reduced capacity in response to the recent conflicts. At its height we had up to 80 inpatients at any one time. Normal times would see around 34 and COVID-19 has reduced that further due to competing priorities. The standard model is 4-6 week admissions with periods back home to allow for tissue adaptation and recovery. The gap periods also allow us to get other patients and allow for 'real world' experiences to help identify rehab goals going forward. A rehab unit can be quite an artificial environment. Rehab is goal focused and that helps define input duration. Input towards the end of their time with us often sees significant gaps between interventions and may also incorporate graduated return to work programmes back at their unit.

As part of our care delivery, we work closely with tertiary level surgeons and specialists in order to address complex issues. This includes specialist orthopaedic surgeons with regional special interests, nerve and complex tissue loss plastic surgeons, gastrointestinal surgeons, urologists, fertility SMEs, cardiac and respiratory physicians, musculoskeletal and neuro radiology. This allows for complex case discussions and coordinated intervention planning. The DMRC consultants often act as coordinators of the multiple inputs and this role is quite key to the success of the patient pathway.

My question back to the panel would be what do you define as intensive? Depending on the paper that could be daily to fortnightly or less. Does it imply effort on the part of the patient or just frequency of inputs? For rehab to be effective it should comply to the same rules of drug prescription. Right input at the right time, at the right frequency and at the right 'dose' for the right duration. I don't think there is any group that cannot benefit from an intensive approach, save for the chronic pain or post-viral patient (>6 months) who may require a less intense approach. That can still be delivered though in a residential programme.

Our focus is on patients who have either already failed the local, intermittent approach or the regional three-week course model, or the more complex cases that come to us directly from NHS trauma centres. The fact that the former still generates positive results is good evidence of effect. But we are fortunate in that patients remain paid throughout their rehab journey and their employer actively encourages participation. It is hard to imagine a similar scenario in the civilian world. We also have a younger population with less comorbidities and who generally thrive on a group rehab delivery approach.

Keys to success –

- Coordinated tertiary level care delivery with all relevant specialists
- Care model delivery matched to patient population circumstances
- Timing and nature of input matched to tissue pathology
- Holistic approach to rehab to maximise success – not just exercise based or single disease specific input
- Real world goal identification through periodic inputs
- Coordinated with occupational health elements to maximise return to work success

Not aware of any reason – other than in the chronic cases mentioned above – where intensive rehab potentially offers harm. Our current COVID-19 rehab 2-week programme is showing positive results, with some patients presenting 9 months post initial infection. Intensive doesn't mean level of effort on the patient's part but can mean intensity of input and support.

My biggest concerns for the applicability to the NHS is having the access to rehab expertise to allow for delivery and coordination, concentrated resources to allow for true holistic input, a patient population willing to commit to a period of intensive input, the latitude to define the end point by outcome rather than resource utility and the funding stream to recognise the level of input and compensate it effectively. As I understand it whether a fractured femur patient goes

back to a highly physical demanding job or remains off work for life with reduced mobility makes no difference to the trauma centre as to the tariff received. Interestingly in my time at DMRC the ministry most interested in our model was the Department of Work and Pensions as they pay for sick pay and disability benefits.
References
None
Disclosure
Nil