NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline scope

Rehabilitation after traumatic injury

The Department of Health in England and NHS England have asked NICE to develop a guideline about rehabilitation after traumatic injury.

The guideline will be developed using the methods and processes outlined in developing NICE guidelines: the manual.

This guideline will also be used to develop NICE quality standards.

1 Why the guideline is needed

Trauma is a significant cause of early death and morbidity – particularly in the working population. Major trauma is the biggest cause of death in children and adults under the age of 40.

This guideline defines traumatic injury as any injury that requires admission to hospital at the time of injury. This could include musculoskeletal injuries, visceral injuries, nerve injuries, soft tissue damage, spinal injury, limb loss and burns. Minor injuries can also lead to a hospital admission.

In England, 45,000 people are affected by very severe or major trauma every year. Half a million people experience less severe trauma, and a proportion of those will require hospital admission because of pre-existing conditions, disability or frailty.

After a traumatic injury, people require rehabilitation assessment and interventions that take account of any pre-existing conditions and focus on helping them regain optimum function and independence as quickly as possible.
Trauma affects all age groups, but there are 2 peaks: younger age and older age. People may have different rehabilitation needs that reflect different functional expectations and priorities. Trauma negatively affects quality of life both physically and mentally. It can lead to problems with mobility, pain, breathing, eating, drinking, toileting, and sensory problems, and can lead to psychological difficulties. The impact of these problems may be influenced by pre-existing conditions.

This guideline will focus on people with complex rehabilitation needs following traumatic injury. Complex needs will cover multiple needs, and will always involve coordinated multidisciplinary input from 2 or more allied health professional disciplines, and could also include the following:

- Vocational or educational social support for the person to return to their previous functional level, including return to work, school or college.
- Equipment or adaptations.
- Ongoing recovery from injury that may change the person’s rehabilitation needs (for example, restrictions of weight bearing, cast immobilisation in fracture clinic).

Currently, patients have a rehabilitation assessment and prescription carried out during the hospital admission. Further assessments are performed over time to capture changing needs.

There are limitations in access to the appropriate rehabilitation services for people following trauma, which may be related to geography and age. There is significant variation in practice, with no national network of services.

Improvement in survival rates resulting from the introduction of Major Trauma Networks in 2012 has led to increased need for rehabilitation.

Military experience has shown better outcomes with improved rehabilitation. Early, intense rehabilitation can improve function, pain, quality of life and mental health outcomes. It can also improve outcomes for carers of those affected by traumatic injury.
Costs to treat trauma patients are high in the acute phase, and there are also long-term care costs to the NHS through ongoing treatment. Social care costs may be high for people who need ongoing care and support in the community. There are wider costs to the community if people are unable to return to work or education. Rehabilitation may be able to reduce these costs through improving overall function. Interventions may improve outcomes at a number of stages.

There is already a wide range of NICE guidelines about the assessment, treatment and management of specific injuries for adults and children. There is guidance about service delivery, assessment and management of major trauma and rehabilitation after critical illness and stroke. There are also a number of guidelines about the transition between hospital and home and children’s to adult services and about home care services. Rehabilitation following traumatic brain injury will be covered in another NICE guideline due to begin development in 2019. Where complex rehabilitation needs result primarily from traumatic brain injury this will be explicitly excluded from the guideline.

This guideline will seek to signpost to areas of other guidance that will be helpful for readers. These links will also be illustrated across related NICE pathways. This scope focuses on areas not already covered by these other guidelines.

2 Who the guideline is for

This guideline is for:

- Healthcare professionals in primary and secondary care
- Social care practitioners
- Local authorities and clinical commissioning groups that provide and/or commission rehabilitation services
- Providers of rehabilitation services in the community, including voluntary and private sectors
• People who have experienced traumatic injury, their families and carers
  and the public.

It may also be relevant for:

• Advocates for people who have experienced traumatic injury
• Practitioners working in other related services, including employers,
  education, housing, leisure, job centres and welfare advice services.

Although recommendations are not intended to apply in prisons or military
hospitals, the guideline may be of interest to professionals working in these
settings.

NICE guidelines cover health and care in England. Decisions on how they
apply in other UK countries are made by ministers in the Welsh Government,
Scottish Government, and Northern Ireland Executive.

**Equality considerations**

NICE has carried out an equality impact assessment during scoping. The
assessment:

• lists equality issues identified, and how they have been addressed
• explains why any groups are excluded from the scope.

The guideline will look at inequalities relating to geography in accessing
inpatient rehabilitation and how lower socioeconomic groups can be
disproportionately affected because of impact on family life and income. It will
also consider age-related service expectations, hospital discharge for people
who are homeless, and the communication needs of people whose first
language is not English.
3 What the guideline will cover

3.1 Who is the focus?

Groups that will be covered

- People with complex rehabilitation needs resulting from traumatic injury that requires admission to hospital.

Specific consideration will be given to:

- people with pre-existing physical and/or mental health conditions, physical and learning disability, or frailty
- people who require safeguarding

Groups that will not be covered

- People whose complex rehabilitation needs result primarily from traumatic brain injury including anoxic brain injury, for example, drowning and strangulation
- People with minor injuries who do not have complex rehabilitation needs and do not require admission to hospital.

3.2 Settings

Settings that will be covered

All settings in which rehabilitation services following traumatic injury are provided

- Inpatient settings
  - Major trauma centres
  - Trauma units
  - Local emergency hospitals
  - Intermediate care and inpatient rehabilitation units
- Community settings
  - GP surgeries
  - People’s own homes
- Supported living environments, including care homes
- Community rehabilitation facilities, including those run by third sector organisations
- Schools

**Settings that will not be covered**
- Accident and emergency departments
- Critical care units.

### 3.3 Activities, services or aspects of care

**Key areas that will be covered**

We will look at evidence concerning complex rehabilitation needs following traumatic injury, including physical, psychological and psychosocial interventions, in the areas below when developing the guideline, but it may not be possible to make recommendations in all the areas.

- Identification and assessment of rehabilitation needs following traumatic injury.
- Rehabilitation packages and programmes for people with complex rehabilitation needs after traumatic injury (for example, exercise-based therapies, manual therapies, gait training, vocational support, talking therapies and adjuncts to therapy such as blood flow occlusion therapy).
- Specific packages and programmes for limb loss, nerve injury and chest injury.
- Coordination of rehabilitation services.
- Principles of care.

We will consider identifying and assessing needs, coordinating services and principles of care for people with complex rehabilitation needs resulting from traumatic injury that requires admission to hospital, including those with traumatic brain injury, spinal cord injury, sight loss, hearing loss and speech loss.
We will consider the relationship between rehabilitation services and social care services (for example, home care) in identifying and assessing needs, coordinating services, principles of care and establishing long-term rehabilitation arrangements.

**Areas that will not be covered**

1. Specialist rehabilitation packages and programmes relating to traumatic brain injury, spinal cord injury, sight loss, hearing loss and speech loss.
2. Social care interventions (for example, home care or personal assistance).
3. Long-term care and rehabilitation packages for people with long-term care needs.
4. Specific pain management interventions (pain management as part of a package or programme will be included).
5. Nutritional support.

**Key related NICE guidance**

*Published (see also Appendix 1)*

- **Trauma** (2018) NICE quality standard 166
- **Hip fracture: management** (2011 updated 2017) NICE guideline CG124
- **Intermediate care including reablement** (2017) NICE guideline NG74
- **Intramuscular diaphragm stimulation for ventilator-dependent chronic respiratory failure caused by high spinal cord injuries** (2017) NICE interventional procedures guidance 594
- **Rehabilitation after critical illness in adults** (2017) NICE quality standard 158
- **Fractures (non-complex): assessment and management** (2016) NICE guideline NG38
- **Home care for older people** (2016) NICE quality standard 123
- **Major trauma: assessment and initial management** (2016) NICE guideline NG39
• Major trauma: service delivery (2016) NICE guideline NG40
• Mental wellbeing and independence for older people (2016) NICE quality standard 137
• Spinal injury: assessment and initial management (2016) NICE guideline NG41
• Transition between inpatient hospital settings and community or care home settings for adults with social care needs (2016) NICE quality standard 136
• Transition from children’s to adults’ services (2016) NICE quality standard 140
• Transition from children’s to adults’ services for young people using health or social care services (2016) NICE guideline NG43
• Home care: delivering personal care and practical support to older people living in their own homes (2015) NICE guideline NG21
• Older people with social care needs and multiple long-term conditions (2015) NICE guideline NG22
• Older people: independence and mental wellbeing (2015) NICE guideline NG32
• Transition between inpatient hospital settings and community or care home settings for adults with social care needs (2015) NICE guideline NG27
• Dementia: independence and wellbeing (2013) NICE quality standard 30
• Myocardial infarction: cardiac rehabilitation and prevention of further cardiovascular disease (2013) NICE guideline CG172
• Stroke rehabilitation in adults (2013) NICE guideline CG162
• Rehabilitation after critical illness in adults (2009) NICE guideline CG83
• Mental wellbeing in over 65s: occupational therapy and physical activity interventions (2008) NICE guideline PH16
• Post-traumatic stress disorder: management (2005) NICE guideline CG26

In development
• Post-traumatic stress disorder (update) NICE guideline. Publication expected December 2018
• Rehabilitation in people with severe and enduring mental illness NICE guideline. Publication expected June 2020
NICE guidance about the experience of people using NHS services

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to rehabilitation after traumatic injury:

- **Medicines optimisation** (2015) NICE guideline NG5
- **Patient experience in adult NHS services** (2012) NICE guideline CG138
- **Service user experience in adult mental health** (2011) NICE guideline CG136
- **Medicines adherence** (2009) NICE guideline CG76

### 3.4 Economic aspects

We will take economic aspects into account when making recommendations. We will develop an economic plan that states for each review question (or key area in the scope) whether economic considerations are relevant, and if so whether this is an area that should be prioritised for economic modelling and analysis. We will review the economic evidence and carry out economic analyses, using either a public sector and/or societal perspective, as appropriate.

### 3.5 Key issues and draft questions

Please note that all questions relate to adults, children and young people with complex needs following traumatic injury, but the word 'people' has been used throughout. While writing this scope, we have identified the following key issues and draft questions related to them:

1. Identification and assessment of rehabilitation needs following traumatic injury
   1.1 What should be included in rehabilitation needs assessment for people following traumatic injury, including consideration of the interface with social care?
1.2 How should ongoing assessments be managed beyond the first assessment (not including long-term care needs)?

2 Rehabilitation programmes and packages for people with complex rehabilitation needs after traumatic injury (for example, exercise-based therapies, manual therapies, gait training, vocational support, talking therapies and adjuncts to therapy such as blood flow occlusion therapy.)

2.1 What rehabilitation programmes and packages are effective and acceptable for people with complex rehabilitation needs after traumatic injury? (This question will consider the effectiveness and acceptability of different rehabilitation programmes as well as their timing, intensity and setting.)

2.2 What particular considerations, in terms of content, timing, frequency and follow-up of rehabilitation programmes and packages, are needed for people with complex rehabilitation needs after traumatic injury who are in specialist settings, for example, burns units?

2.3 What is the optimal follow-up for rehabilitation after traumatic injury?

3 Specific programmes and packages

3.1 For people with complex rehabilitation needs after traumatic injury that results in limb loss or amputation, what specific rehabilitation programmes and packages, including prosthetics, are effective and acceptable? (This question will consider the effectiveness and acceptability of different rehabilitation programmes as well as their timing, intensity and setting.)

3.2 For people with complex rehabilitation needs after traumatic injury that involves nerve injury, what specific rehabilitation programmes and packages are effective and acceptable? (This question will consider the effectiveness and acceptability of different rehabilitation programmes as well as their timing, intensity and setting.)

3.3 For people with complex rehabilitation needs after traumatic injury that involves chest injury, what specific rehabilitation programmes and packages are effective and acceptable for people? (This question will consider the effectiveness and acceptability of different rehabilitation programmes as well as their timing, intensity and setting)

4 Coordination of rehabilitation services
4.1 What is the best way to coordinate ward-based, inpatient rehabilitation services for people with complex rehabilitation needs following traumatic injury?

4.2 What is the best way to coordinate rehabilitation services for people with complex rehabilitation needs after traumatic injury when preparing for hospital discharge?

4.3 What is the best way to coordinate community and outpatient rehabilitation services for people with complex rehabilitation needs after traumatic injury, following hospital discharge?

4.4 For people with long-term care needs following traumatic injury, what is the optimal method and time point to coordinate the establishment of long-term rehabilitation arrangements, including communication between rehabilitation services and social care?

5 Principles of care

5.1 What are the views and preferences of people who have used rehabilitation services following traumatic injury about the principles of care and support that are important to them?

The key issues and draft questions will be used to develop more detailed review questions, which guide the systematic review of the literature.

3.6 Main outcomes

The main outcomes that may be considered when searching for and assessing the evidence are:

1 Health-related quality of life
2 Changes in impairment status, including pain
3 Changes in functional status, activities of daily living and independence
4 Changes in mood and psychological function
5 Patient preference
6 Patient acceptability
7 Mortality
8 Impact on family and carers
9 Length of hospital stay
4  NICE quality standards and NICE Pathways

4.1  NICE quality standards

NICE quality standards that may need to be revised or updated when this guideline is published

- Trauma (2018) NICE quality standard 166

NICE quality standards that will use this guideline as an evidence source when they are being developed

- To be confirmed

4.2  NICE Pathways

NICE Pathways bring together everything we have said on a topic in an interactive flowchart. When this guideline is published, the recommendations will be included in the NICE Pathway on rehabilitation after traumatic injury (in development).

An outline based on this scope is included below. It will be adapted and more detail added as the recommendations are written during guideline development.
5 Further information

This is the draft scope for consultation with registered stakeholders. The consultation dates are 15 August to 12 September 2018.

The guideline is expected to be published in November 2020.

You can follow progress of the [guideline](#).

Our website has information about how [NICE guidelines](#) are developed.
Appendix 1 - Other NICE guidance also related to this topic

- People's experience in adult social care services: improving the experience of care and support for people using adult social care services (2018) NICE guideline NG86
- Child abuse and neglect (2017) NICE guideline NG76
- Transition between inpatient mental health settings and community or care home settings (2017) NICE quality standard 159
- Intramuscular diaphragm stimulation for ventilator-dependent chronic respiratory failure caused by high spinal cord injuries (2017) NICE interventional procedures guidance 594
- Osteoporosis: assessing the risk of fragility fracture (2012 updated 2017) NICE guideline CG146
- Intrapartum care for health women and babies (2014, updated 2017) NICE guideline CG190
- Child maltreatment: when to suspect maltreatment in under 18s (2009, updated 2017) NICE guideline CG89
- Preventing unintentional injury in under 15s (2016) NICE quality standard 107
- Transition between inpatient mental health settings and community or care home settings (2016) NICE guidelines NG53
- Acute kidney injury (2014) NICE quality standard 76
- Head injury (2014) NICE quality standard 74
- Head injury: assessment and early management (2014) NICE guideline CG176
- Domestic violence and abuse: multi-agency working (2014) NICE guideline PH50
- Transient loss of consciousness ('blackouts') in over 16s (2014) NICE quality standard 71
- Safe staffing for nursing in adult inpatient wards in acute hospitals (2014) NICE guideline SG
• **EXOGEN ultrasound bone healing system for long bone fractures with non-union or delayed healing** (2013) NICE medical technologies guidance 12

• **Phrenic nerve transfer in brachial plexus injury** (2013) NICE interventional procedures guidance 468

• **Headaches in over 12s** (2013) NICE quality standard 42

• **Headaches in over 12s: diagnosis and management** (2012) NICE guideline CG150

• **Distal iliotibial band lengthening for refractory greater trochanteric pain syndrome** (2011) NICE interventional procedures guidance 375

• **Extracorporeal shockwave therapy for refractory greater trochanteric pain syndrome** (2011) Interventional procedures guidance 376

• **Deep brain stimulation for refractory chronic pain syndromes (excluding headache)** (2011) NICE interventional procedures guidance 382

• **Prosthetic intervertebral disc replacement in the cervical spine** (2010) NICE interventional procedure guideline 341

• **Insertion of metal rib reinforcements to stabilise a flail chest wall** (2010) NICE interventional procedures guidance 361

• **Unintentional injuries: prevention strategies for under 15s** (2010) NICE guideline PH29

• **Unintentional injuries in the home: interventions for under 15s** (2010) NICE guideline PH30

• **Unintentional injuries on the road: interventions for under 15s** (2010) NICE guideline PH31

• **Prosthetic intervertebral disc replacement in the lumbar spine** (2009) NICE interventional procedure guideline 306

• **Total prosthetic replacement of the temporomandibular joint** (2009) NICE interventional procedure guidance 500

• **Pre-hospital initiation of fluid replacement therapy in trauma** (2004) NICE technology appraisal guidance 74

• **Spinal cord stimulation for chronic pain of neuropathic or ischaemic origin** (2008) NICE technology appraisal guidance 159

• **Chronic pain: assessment and management**, NICE guideline. Publication expected January 2020
Low-intensity pulsed ultrasound to promote healing of fresh fractures at low risk of non-healing. NICE interventional procedure. Publication date to be confirmed.

Low intensity pulsed ultrasound to promote healing of delayed-union and non-union fractures. NICE interventional procedure. Publication date to be confirmed.