Appendix J Forest plots

The forest plots are presented with the same table numbers as the abbreviated GRADE tables in the main text of the full guideline to assist cross-referencing.

Chapter 4 Physical therapy (physiotherapy and/or occupational therapy)

Review question

What is the effectiveness of physical therapy (physiotherapy and/or occupational therapy) interventions in children with spasticity with or without other motor disorders (dystonia, muscle weakness and choreoathetosis) caused by a non-progressive brain disorder?

There are no forest plots for this review question because no meta-analyses were conducted for the guideline review.

Chapter 5 Orthoses

Review question

What is the effectiveness of orthotic interventions (for example, ankle-foot orthoses, knee splints, and upper limb orthoses) as compared to no orthoses to optimise movement and function, to prevent or treat contractures in children with spasticity and with or without other motor disorders caused by a non-progressive brain disorder?

There are no forest plots for this review question because no meta-analyses were conducted for the guideline review.

Chapter 6 Oral drugs

Review question

What is the effectiveness of oral medications including baclofen, benzodiazepines (diazepam, nitrazepam, clonazepam), tizanidine, dantrolene, clonidine, trihexyphenidyl, tetrabenazine and levodopa in the treatment of spasticity and other motor disorders (dystonia, muscle weakness and choreoathetosis) caused by a non-progressive brain disorder in children and young people?

There are no forest plots for this review question because no meta-analyses were conducted for the guideline review.

Chapter 7 Botulinum toxin

Review question

What is the effectiveness of the long-term use of intramuscular BoNT-A or BoNT-B in combination with other interventions (physical therapy or orthoses) as compared to other interventions in reducing spasticity, maintaining motor function and preventing secondary complications in children and young people with spasticity with or without other motor disorders (dystonia, muscle weakness and choreoathetosis) caused by a non-progressive brain disorder?

Forest plots for the meta-analyses reported in Tables 7.1, 7.3 and 7.6 are presented in Hoare 2010.

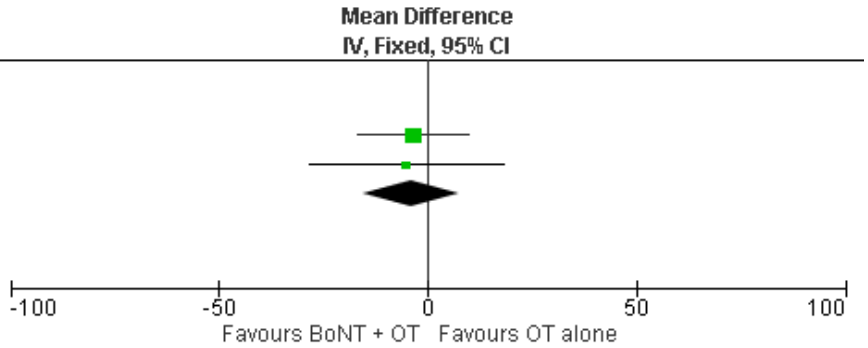
Table J.7.5 Evidence profile for botulinum toxin type A and physical therapy compared with physical therapy alone; upper limb; quality of life assessment

Outcome: CHQ physical functioning domain scoreat 3 months

	BoNT + OT			OT alone				Mean Difference
Study or Subgroup	**Mean**	**SD**	**Total**	**Mean**	**SD**	**Total**	**Weight**	**IV, Fixed, 95% CI**
3 months								
Boyd 2004	1.86	23.71	15	-6.24	0	15		Not estimable
Russo 2007	2.12	21.04	21	5.56	23.76	22	40.2%	-3.44 [-16.84, 9.96]
Wallen 2007	-3.1	33.9	20	2.1	37.4	17	13.4%	-5.20 [-28.37, 17.97]
Subtotal (95% CI)			**56**			**54**	**53.6%**	**-3.88 [-15.48, 7.72]**

Heterogeneity: Chi² = 0.02, df = 1 (P = 0.90); I² = 0%

Test for overall effect: Z = 0.66 (P = 0.51)

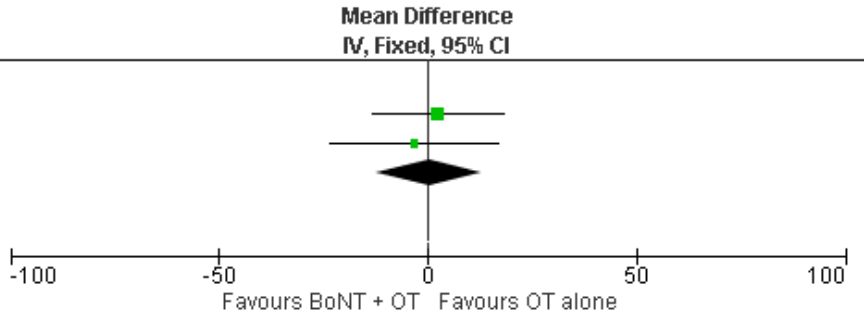


Outcome: CHQ physical functioning domain score at 6 months

Study or Subgroup	BoNT + OT Mean	SD	Total	OT alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
6 months								
Russo 2007	3.7	28.3	21	1.26	24.66	22	28.6%	2.44 [-13.46, 18.34]
Wallen 2007	10	41.3	20	13.2	18.6	17	17.8%	-3.20 [-23.34, 16.94]
Subtotal (95% CI)			**41**			**39**	**46.4%**	**0.28 [-12.20, 12.75]**

Heterogeneity: Chi² = 0.19, df = 1 (P = 0.67); I² = 0%

Test for overall effect: Z = 0.04 (P = 0.97)

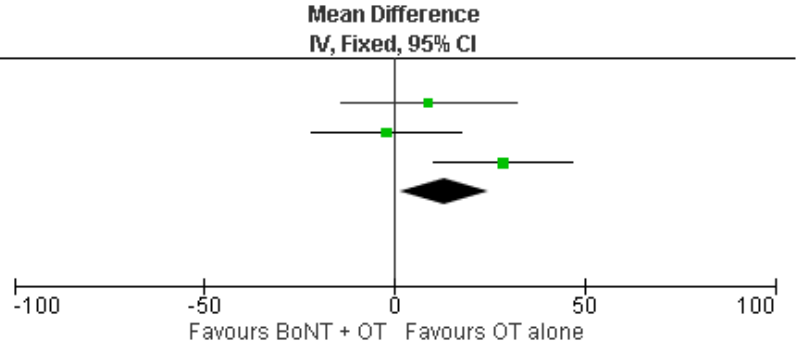


Outcome: CHQ emotional domain score at 3 months

Study or Subgroup	BoNT + OT Mean	SD	Total	OT alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
3 months								
Boyd 2004	9.6	23.12	15	0.74	39.41	15	15.8%	8.86 [-14.26, 31.98]
Russo 2007	1.06	37.34	21	3.18	27.92	22	21.6%	-2.12 [-21.90, 17.66]
Wallen 2007	15.2	21.7	20	-13.3	32.9	17	25.2%	28.50 [10.20, 46.80]
Subtotal (95% CI)			**56**			**54**	**62.7%**	**12.98 [1.37, 24.60]**

Heterogeneity: Chi² = 5.12, df = 2 (P = 0.08); I² = 61%

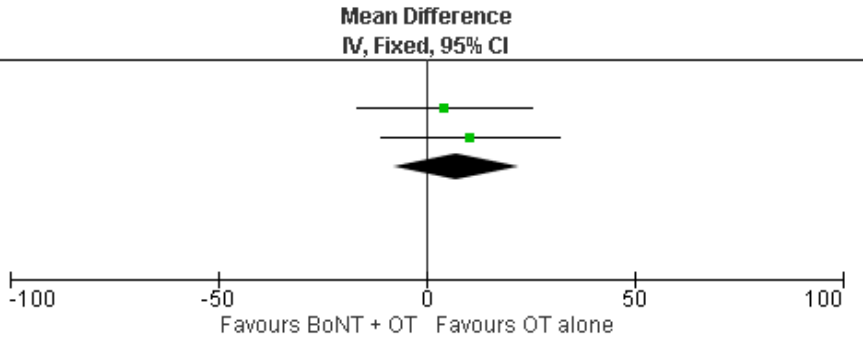
Test for overall effect: Z = 2.19 (P = 0.03)



Outcome: CHQ emotional domain score at 6 months

Study or Subgroup	BoNT + OT Mean	BoNT + OT SD	BoNT + OT Total	OT alone Mean	OT alone SD	OT alone Total	Weight	Mean Difference IV, Fixed, 95% CI
6 months								
Russo 2007	3.18	36.54	21	-1.06	33.68	22	19.1%	4.24 [-16.79, 25.27]
Wallen 2007	7	37.3	20	-3.5	29.5	17	18.2%	10.50 [-11.04, 32.04]
Subtotal (95% CI)			**41**			**39**	**37.3%**	**7.30 [-7.75, 22.34]**

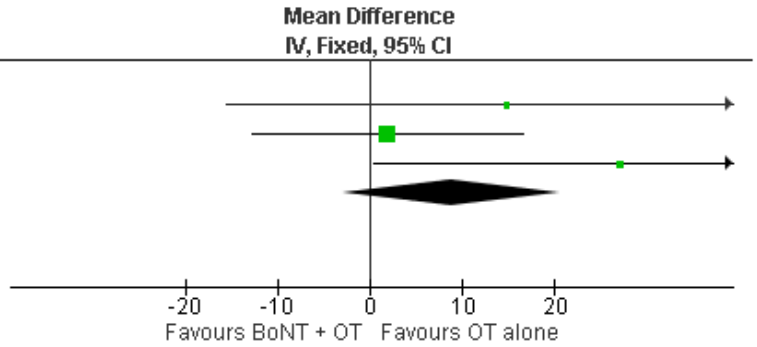
Heterogeneity: Chi² = 0.17, df = 1 (P = 0.68); I² = 0%
Test for overall effect: Z = 0.95 (P = 0.34)



Outcome: CHQ physical role domain score at 3 months

Study or Subgroup	BoNT + OT Mean	BoNT + OT SD	BoNT + OT Total	OT alone Mean	OT alone SD	OT alone Total	Weight	Mean Difference IV, Fixed, 95% CI
3 months								
Boyd 2004	2.01	30.04	15	-12.79	51.95	15	9.8%	14.80 [-15.57, 45.17]
Russo 2007	5	14.41	21	3.18	31.89	22	42.0%	1.82 [-12.86, 16.50]
Wallen 2007	9.2	38.8	20	-17.8	42.9	17	12.8%	27.00 [0.45, 53.55]
Subtotal (95% CI)			**56**			**54**	**64.6%**	**8.79 [-3.04, 20.62]**

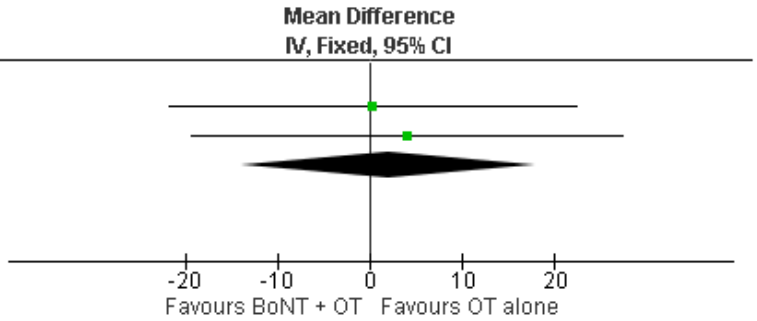
Heterogeneity: Chi² = 2.82, df = 2 (P = 0.24); I² = 29%
Test for overall effect: Z = 1.46 (P = 0.15)



Outcome: CHQ physical role domain score at 6 months

Study or Subgroup	BoNT + OT Mean	SD	Total	OT alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
6 months								
Russo 2007	5	37.89	21	4.76	35.8	22	18.6%	0.24 [-21.81, 22.29]
Wallen 2007	5	33.8	20	1	37.7	17	16.7%	4.00 [-19.25, 27.25]
Subtotal (95% CI)			**41**			**39**	**35.4%**	**2.02 [-13.98, 18.02]**

Heterogeneity: Chi² = 0.05, df = 1 (P = 0.82); I² = 0%
Test for overall effect: Z = 0.25 (P = 0.80)



BoNT botulinum toxin, CHQ Child Health Questionnaire, CI confidence interval, df degrees of freedom, IV inverse variance, OT, occupational therapy, SE standard error

Chapter 8 Intrathecal baclofen

Review questions

In children and young people with spasticity due to a non-progressive brain disorder does ITB testing help to identify those likely to benefit from CITB?

In children and young people with spasticity due to a non-progressive brain disorder what are the benefits and risks of CITB?

There are no forest plots for these review questions because no meta-analyses were conducted for the guideline reviews.

Chapter 9 Orthopaedic surgery

Review questions

What is the effectiveness of orthopaedic surgery in preventing or treating musculoskeletal deformity in children with spasticity caused by a non-progressive brain disorder?

What is the effectiveness of SEMLS in managing musculoskeletal deformity in children with spasticity caused by a non-progressive brain disorder?

There are no forest plots for this review question because no meta-analyses were conducted for the guideline review.

Chapter 10 Selective dorsal rhizotomy

Review question

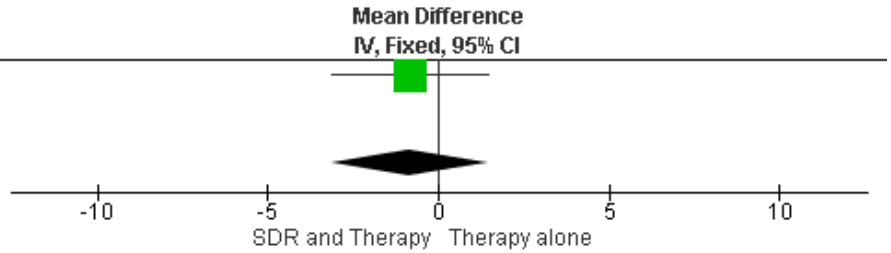
What is the clinical effectiveness of SDR in children and young people with spasticity caused by a non-progressive brain disorder?

Table J.10.2 Evidence profile for selective dorsal rhizotomy and therapy compared with therapy only in children with diplegia; functioning assessment

Outcome: mean change in GMFM-A score (lying and rolling, based on GMFM-88) at 12 months

	SDR and Therapy			Therapy alone				Mean Difference
Study or Subgroup	**Mean**	**SD**	**Total**	**Mean**	**SD**	**Total**	**Weight**	**IV, Fixed, 95% CI**
McLaughlin 1998	-0.01	5	21	0.83	1.8	17	100.0%	-0.84 [-3.14, 1.46]
Wright 1998	5.9	0	12	5	0	12		Not estimable
Total (95% CI)			**33**			**29**	**100.0%**	**-0.84 [-3.14, 1.46]**

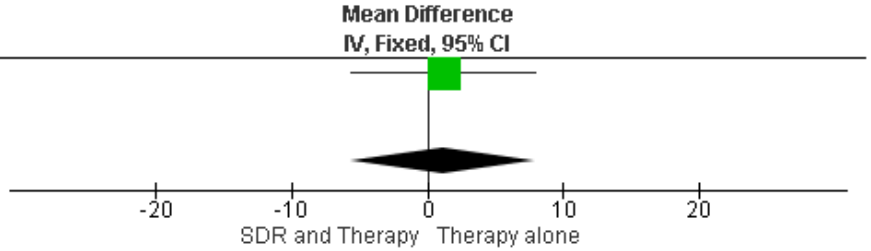
Heterogeneity: Not applicable
Test for overall effect: Z = 0.71 (P = 0.47)



Outcome: mean change in GMFM-B score (sitting, based on GMFM-88) at 12 months

	SDR and Therapy			Therapy alone				Mean Difference
Study or Subgroup	**Mean**	**SD**	**Total**	**Mean**	**SD**	**Total**	**Weight**	**IV, Fixed, 95% CI**
McLaughlin 1998	3.7	13.2	21	2.5	7.9	17	100.0%	1.20 [-5.58, 7.98]
Wright 1998	13.4	0	12	4.2	0	12		Not estimable
Total (95% CI)			**33**			**29**	**100.0%**	**1.20 [-5.58, 7.98]**

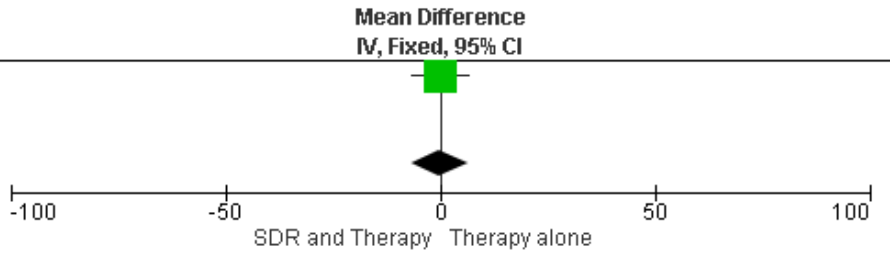
Heterogeneity: Not applicable
Test for overall effect: Z = 0.35 (P = 0.73)



Outcome: mean change in GMFM-C score (crawling and kneeling, based on GMFM-88) at 12 months

Study or Subgroup	SDR and Therapy Mean	SD	Total	Therapy alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
McLaughlin 1998	2.8	13.4	21	2.9	6.5	17	100.0%	-0.10 [-6.61, 6.41]
Wright 1998	14.4	0	12	5.8	0	12		Not estimable
Total (95% CI)			**33**			**29**	**100.0%**	**-0.10 [-6.61, 6.41]**

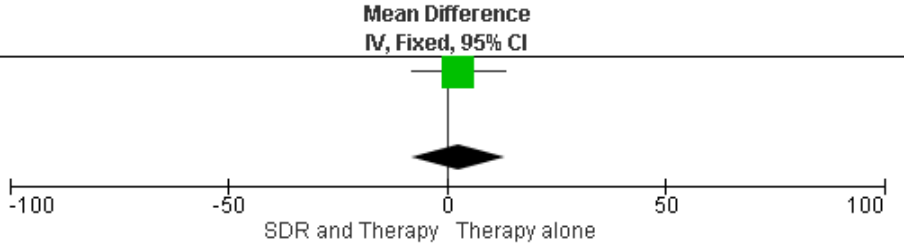
Heterogeneity: Not applicable
Test for overall effect: Z = 0.03 (P = 0.98)



Outcome: mean change in GMFM-D score (standing, based on GMFM-88) at 12 months

Study or Subgroup	SDR and Therapy Mean	SD	Total	Therapy alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
McLaughlin 1998	10.1	13.9	21	7.5	18.5	17	100.0%	2.60 [-8.02, 13.22]
Wright 1998	11.3	0	12	7.5	0	12		Not estimable
Total (95% CI)			**33**			**29**	**100.0%**	**2.60 [-8.02, 13.22]**

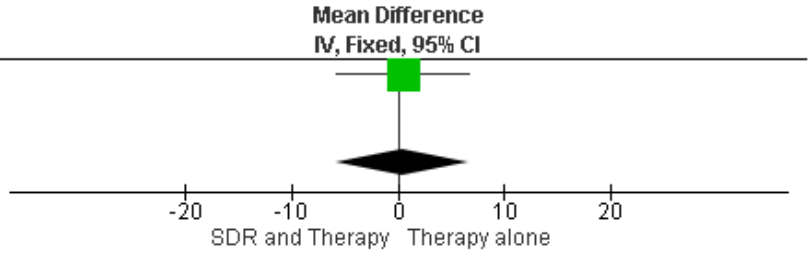
Heterogeneity: Not applicable
Test for overall effect: Z = 0.48 (P = 0.63)



Outcome: mean change in GMFM-E score (walking, running and jumping, based on GMFM-88) at 12 months

Study or Subgroup	SDR and Therapy Mean	SD	Total	Therapy alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
McLaughlin 1998	7.8	10.5	21	7.3	9.1	17	100.0%	0.50 [-5.74, 6.74]
Wright 1998	12.8	0	12	2.5	0	12		Not estimable
Total (95% CI)			**33**			**29**	**100.0%**	**0.50 [-5.74, 6.74]**

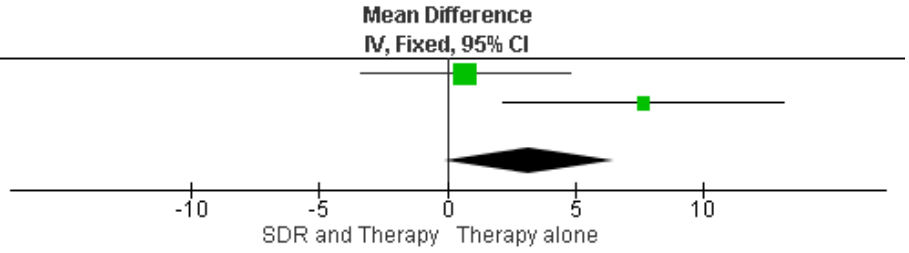
Heterogeneity: Not applicable
Test for overall effect: Z = 0.16 (P = 0.88)



Outcome: mean change in GMFM-88 total score at 12 months

Study or Subgroup	SDR and Therapy Mean	SD	Total	Therapy alone Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
McLaughlin 1998	4.9	7.6	21	4.2	5.3	17	64.2%	0.70 [-3.41, 4.81]
Wright 1998	12.1	8.4	12	4.4	4.9	12	35.8%	7.70 [2.20, 13.20]
Total (95% CI)			**33**			**29**	**100.0%**	**3.21 [-0.09, 6.50]**

Heterogeneity: Chi² = 3.99, df = 1 (P = 0.05); I² = 75%
Test for overall effect: Z = 1.91 (P = 0.06)



BoNT botulinum toxin, CI confidence interval, df degrees of freedom, GMFM-88 Gross Motor Function Measure 88-item scale, GMFM-A Gross Motor Function Measure dimension A, GMFM-B Gross Motor Function Measure dimension B, GMFM-C Gross Motor Function Measure dimension C, GMFM-D Gross Motor Function Measure dimension D, GMFM-E Gross Motor Function Measure dimension E, IV inverse variance, OT, occupational therapy, SDR selective dorsal rhizotomy, SE standard error