

Supplementary Material

10.1302/2633-1462.45.BJO-2023-0005.R1

Table i. MESH search strategies following PICO guidelines.

1. (cerebral Pals*[tiab] OR "Cerebral Palsy"[Mesh] OR spastic hemiplegia[tiab] OR spastic diplegia[tiab])
2. ("equinovarus*[tiab] OR "equinus"[tiab] OR "equinovarus foot deformit*[tiab] OR "equinovarus deformit*" OR spastic foot[tiab] OR clubfoot[tiab] OR talipes equinovarus[tiab] OR "spastic equinovarus foot"[tiab] OR "spastic equinovarus"[tiab] OR "spastic varus foot"[tiab] OR "varus foot"[tiab] OR "forefoot adductus"[tiab] OR "forefoot supination"[tiab] OR "equinocavovarus"[tiab] OR cavovarus[tiab] OR "TARP syndrome" [Supplementary Concept] OR "Clubfoot"[Mesh] OR "Equinus Deformity"[Mesh])
3. ("split anterior tibialis tendon transfer*[tiab] OR "SPLATT"[tiab] OR "SPOTT"[tiab] OR "TATT"[tiab] OR Split posterior tibialis tendon transfer[tiab] OR split tibialis posterior tendon transfer[tiab] OR "STATT"[tiab] OR "tibialis anterior"[tiab] OR "split anterior tibial tendon transfer*[tiab] OR "split tibialis anterior tendon transfer*" OR "tendon transfer*[tiab] OR split tendon transfer[tiab] OR foot correction[tiab] OR surgical correction*[tiab] OR orthopaedic surgery[tiab] OR "Tendon Transfer"[Mesh] OR soft tissue surgery[tiab])

Although clubfoot and talipes are in the exclusion criteria, it was important to include them in the search terms because some earlier studies and studies in different languages (using Google Translate methods) included the terms clubfoot and talipes in their titles but, upon review of the article's descriptions, these aligned with our inclusion criteria.

Table ii. Individual MINORS score for each study included within the review.

Study	Clearly stated aim	Inclusion of consecutive patients	Prospective data collection	Endpoints appropriate to study aim	Unbiased assessment of study endpoint	Follow-up period appropriate to study aim	< 5% lost to follow-up	Prospective calculation of study size	Adequate control group	Contemporary groups	Baseline equivalence of groups	Adequate statistical analyses	Total	Source of funding
Green et al, 1983 ⁽⁴⁾	0	2	0	2	0	2	2	0					8	Supported in part by CP grant R-331-82
Kling et al, 1985 ⁽⁵⁾	1	1	0	0	2	2	2	0					8	NR
Hoffer et al, 1985 ⁽¹⁰⁾	1	1	0	1	0	2	1	0					6	NR
Barnes et al, 1991 ⁽¹¹⁾	0	2	0	2	0	2	1	0					7	None
Synder et al, 1993 ⁽³³⁾	1	2	2	2	0	2	2	0					11	NR
Saji et al, 1993 ⁽²⁴⁾	0	1	0	2	0	2	1	0					6	Supported financially by the Relief of Disabled Children and Jessy and Thomas Tam Charitable Foundation.
Mulier et al, 1995 ⁽³²⁾	0	2	0	1	0	2	2	0					7	NR
O'Byrne et al, 1997 ⁽³⁴⁾	1	1	0	2	2	2	2	0					10	NR

Scott et al, 2006 ⁽¹⁷⁾	2	2	0	2	2	2	2	0					12	None
Vlachou et al, 2010 ⁽¹³⁾	2	2	0	2	0	2	2	0					10	None – “No competing interest”
Ahmed et al, 2011 ⁽¹²⁾	1	2	0	1	0	2	2	0					8	NR
Limpaphayom et al, 2015 ⁽¹⁴⁾	2	2	0	1	1	2	2	0					10	None
Akeksic et al, 2020 ⁽¹⁵⁾	2	2	0	2	1	2	1	2					12	None – “No conflict of interest declared”
Lullo et al, 2020 ⁽⁷⁾	2	2	0	2	0	2	2	0					10	NR
Sarikayai et al, 2020 ⁽⁸⁾	2	2	0	2	0	2	2	0					10	None
Wong et al, 2021 ⁽⁹⁾	2	2	0	2	0	2	2	0					10	None
Dussa et al, 2022 ⁽³¹⁾	2	2	0	2	2	2	2	0					12	None
Mean	1.24	1.76	0.12	1.65	0.59	2.00	1.75	0.13					9.24	

The items are scored 0 (not reported), 1 (reported but inadequate) or 2 (reported and adequate). The global ideal score being 16 for non-comparative studies.

CP, cerebral palsy; NP, not reported.

Table iii. Risk of bias for non-randomised studies (ROBINS-I).

Study	Pre-intervention		At intervention	Post-intervention				Overall risk
	Bias due to confounding*	Bias in selection of participants into the study	Bias in classification of interventions†	Bias due to deviations from intended interventions‡	Bias due to missing data	Bias in measurement of outcomes§	Bias in selection of the reported result	
Green et al, 1983 ⁽⁴⁾	MR	LR	MR	MR	LR	LR	LR	MR
Kling et al, 1985 ⁽⁵⁾	LR	LR	LR	MR	LR	MR	LR	MR
Hoffer et al, 1985 ⁽¹⁰⁾	SR	LR	LR	MR	LR	LR	LR	SR
Barnes et al, 1991 ⁽¹¹⁾	LR	LR	LR	SR	LR	MR	LR	SR
Synder et al, 1993 ⁽³³⁾	MR	LR	LR	MR	LR	MR	LR	MR
Saji et al, 1993 ⁽²⁴⁾	MR	MR	MR	MR	LR	MR	LR	MR
Mulier et al, 1995 ⁽³²⁾	LR	LR	LR	MR	LR	MR	LR	MR
O'Byrne et al, 1997 ⁽³⁴⁾	LR	LR	LR	LR	LR	LR	LR	LR
Scott et al, 2006 ⁽¹⁷⁾	LR	NI	LR	MR	LR	LR	LR	MR
Vlachou et al, 2010 ⁽¹³⁾	LR	NI	LR	MR	LR	MR	LR	MR
Ahmed et al, 2011 ⁽¹²⁾	LR	NI	LR	SR	LR	MR	LR	SR
Limpaphayom et al, 2015 ⁽¹⁴⁾	LR	LR	LR	MR	LR	MR	LR	MR
Akeksic et al, 2020 ⁽¹⁵⁾	LR	LR	LR	LR	LR	MR	LR	MR
Lullo et al, 2020 ⁽⁷⁾	MR	LR	LR	LR	LR	LR	LR	MR
Sarikayai et al, 2020 ⁽⁸⁾	LR	NI	LR	LR	LR	MR	LR	MR
Wong et al, 2021 ⁽⁹⁾	LR	LR	LR	LR	LR	LR	LR	LR
Dussa et al, 2022 ⁽³¹⁾	LR	LR	LR	LR	LR	LR	LR	LR

*LR = All participants with flexible equinovarus (EQV), MR = $\leq 25\%$ of the participants reported to have fixed EQV, SR $\geq 25\%$ of the participants reported to have fixed EQV. Note if other confounding factors such as topography, Gross Motor Function Classification Scale, and age are consistent these are additionally taken into account for LR.

†LR = Soft-tissue surgery at index, MR = soft-tissue surgery, and $< 5\%$ bony procedure at index.

‡LR = Post-surgical no revision prior to follow-up, MR = revision prior to follow-up within $< 15\%$ of participants, SR = revision prior to follow-up within $> 15\%$ of participants.

§LR = Objective and subjective (i.e. clinical criteria scoring supported with objective outcome measures) outcomes, MR = subjective outcome measures only.

CR, critical risk; LR, low risk; MR, moderate risk; N/A, not applicable; NI, no information; SR, serious risk.

Table iv. Summary of findings table: split tibial tendon transfers compared to no intervention for restoring a plantigrade functional foot for children and youth with cerebral palsy and equinovarus.

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
Early complications (follow-up: 3.5 years to 16 years; assessed with: present/not present)											
17 studies (Ahmed et al, 2011 ^[12] , Akeksic et al, 2020 ^[15] , Barnes et al, 1991 ^[11] , Dussa et al, 2021 ^[31] , Green et al, 1983 ^[4] , Hoffer et al, 1985 ^[10] , Kling et al, 1985 ^[5] , Limpaphayom et al, 2015 ^[14] , Lullo et al, 2020 ^[7] , Mulier et al, 1995 ^[32] , O'Byrne et al, 1997 ^[34] , Saji et al, 1993 ^[24] , Sarikayai et al, 2020 ^[8] , Scott et al, 2006 ^[17] , Synder et al, 1993 ^[33] , Wong et al, 2021 ^[9] , Vlachou et al, 2010 ^[13])	Observational studies	Serious*	Not serious	Not serious	Not serious	None	11/566 (1.9%)	Not pooled	Not pooled	See comment	⊕⊕⊕○ Moderate
Postoperative equinovarus foot recurrences (follow-up: 3.5 years to 16 years; assessed with: recurrence/no recurrence)											

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
17 studies (Ahmed et al, 2011 ^[12] , Akeksic et al, 2020 ^[15] , Barnes et al, 1991 ^[11] , Dussa et al, 2021 ^[31] , Green et al, 1983 ^[4] , Hoffer et al., 1985 ^[10] , Kling et al, 1985 ^[5] , Limpaphayom et al, 2015 ^[14] , Lullo et al, 2020 ^[7] , Mulier et al, 1995 ^[32] , O'Byrne et al, 1997 ^[34] , Saji et al, 1993 ^[24] , Sarikayai et al, 2020 ^[8] , Scott et al, 2006 ^[17] , Synder et al, 1993 ^[33] , Wong et al, 2021 ^[9] , Vlachou et al, 2010 ^[13])	Observational studies	Serious*	Not serious	Not serious	Not serious	None	68/566 (12.0%)	0/0	Not pooled	See comment	⊕⊕⊕○ Moderate
Postoperative valgus foot deformity (follow-up: 3.5 years to 16 years; assessed with: valgus/no valgus)											
17 studies (Ahmed et al, 2011 ^[12] , Akeksic et al, 2020 ^[15] , Barnes et al, 1991 ^[11] , Dussa et al, 2021 ^[31] , Green et al, 1983 ^[4] , Hoffer et al, 1985 ^[10] , Kling et al, 1985 ^[5] , Limpaphayom et al, 2015 ^[14] , Lullo et al, 2020 ^[7] , Mulier et al, 1995 ^[32] , O'Byrne et al, 1997 ^[34] , Saji et al, 1993 ^[24] , Sarikayai et al, 2020 ^[8] , Scott et al, 2006 ^[17] , Synder et al, 1993 ^[33] , Wong et al, 2021 ^[9] , Vlachou et al, 2010 ^[13])	Observational studies	Serious*	Not serious	Not serious	Not serious	None	16/566 (2.8%)	0/0	Not pooled	See comment	⊕⊕⊕○ Moderate
Weightbearing radiological measures (follow-up: mean 52.7 months; assessed with: improved/not improved)											

2 studies (Dussa et al, 2021 ^[31] , Wong et al, 2021 ^[9])	Observational studies	Not serious	Not serious	Not serious	Serious†	None	<p>Radiological comparison Wong et al, 2021: Preop: TCA = 88°, LTCA = 20.3°, NCO = 2.2%, TNCA = -26.8°, LT 1st MTA = -9.8°, APT 1st MTA = -20.2°, MSA = 30.1° Postop: TCA = 65.7°, LTCA = 41°, NCO = 42.9%, TNCA = 23.2°, LT 1st MTA = 13.6°, APT 1st MTA = 7.9°, MSA = 11.1° TCA: 20.7°, 95% CI -23.5 to -19.5°, p < 0.001, LTCA: 40.7%, 95% CI -46.7 to -34.5%, p < 0.001, NCO: 50°, 95% CI -56.2 to -46.7°, p < 0.001, TNCA: 23.4°, 95% CI -27 to -20.2°, p < 0.001, LT 1st MTA: 28.1°, 95% CI -36.7to -26.9°, p < 0.001, APT 1st MTA: 19°, 95% CI 16.9 to 23.2, p < 0.001 trend towards normal postoperative means.</p> <p>Dussa et al.,2021: Preop radiological comparison (°) LTCA = 43.1 (33.5 to 54.1) LT 1st MTA = 3.9 (-12.3 to 23.5) LCI = 15.2 (0.0 to 24.8) LTNA = 7.8 (-4.3 to 21.3) LNCA = -1.3 (-13.8 to 14.1) APTCA = 10.0 (-4.5 to 26.8) APTN = -15.5 (-38.1 to 17.7) APT 1st MTA= -26.4 (-50.7 to -36.5) APT 2nd MTA = -20.7 (-44.6 to 17.6) APC 4th MTA = -21.2 (-36.8 to 1.6) Postop radiological comparison (°) LTCA = 43.9 (28.7 to 52.8) p = 0.51 LT 1st MTA = 8.4 (-11.2 to 24.6) p = 0.10 LCI = 14.4 (2.9 to 23.7) p = 0.47 LTNA = 6.8 (-7.5 to 18.9) p = 0.59 LNCA = 5.1 (-10.9 to 33.9) p = 0.13 APTCA = 13.7 (4.5 to 26.3) p = 0.08 APTN = -1.2 (-24.2 to 24.0) p < 0.05 APT 1st MTA = -11.2 (-36.5 to 13.2) p < 0.05 APT 2nd MTA = -2.9 (-29.3 to 28.3) p < 0.05 APC 4th MTA = -10.1 (-24.4 to 14.0) p < 0.05</p>	⊕⊕⊕○ Moderate
Clinical examination passive ROM and strength (follow-up: 13 months to 37 months; assessed with: improved/not improved)								

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
1 study (Dussa et al, 2021 ^[31])	Observational studies	Not serious	Not serious	Not serious	Serious‡	None	Preop: Passive ankle DF = 0.4° (-10 to -5) Passive ankle PF = 36.9° (15 to 50) Ankle DF strength = 30 (0 to 5) Ankle PF strength = 2.8 (1 to 5) Postop: passive ankle DF = 1.9 ° (-5 to 5) p = 0.17 Passive ankle PF = 22.7° (10 to 45) p < 0.05 Ankle DF strength = 2.7 (0 to 5) p = 0.34 Ankle PF strength = 2.5 (0 to 4) p = 0.27				⊕⊕⊕○ Moderate
Clinical grading criteria (Kling, Green & Hoffer) (follow-up: 3.5 years to 16 years; assessed with: Success/Failure)											
13 studies (Ahmed et al, 2011 ^[12] , Akeksic et al, 2020 ^[15] , Barnes et al, 1991 ^[11] , Green et al, 1983 ^[4] , Kling et al, 1985 ^[5] , Limpaphayom et al, 2015 ^[14] , Mulier et al, 1995 ^[32] , O'Byrne et al, 1997 ^[34] , Saji et al, 1993 ^[24] , Sarikayai et al, 2020 ^[8] , Scott et al, 2006 ^[17] , Synder et al, 1993 ^[33] , Vlachou et al, 2010 ^[13])	Observational studies	Serious§¶	Not serious	Not serious	Serious***††	None	385/442 (87.1%)	Not pooled	Not pooled	See comment	⊕⊕○○ Low
Normal shoe wear-Likert scale (0 to 10) (assessed with: improved/not improved)											
1 study (Wong et al, 2021 ^[9])	Observational studies	Not serious	Not serious	Not serious	Serious†	None	Preop: Shoe wear = 4.1 ± 1.2 and postop: Shoe wear = 1.6 ± 0.9. Data indicate improved foot wear but no formal statistics available for this subgroup				⊕⊕⊕○ Moderate

*ROBINS-I: LR n = 6, MR n = 10.

†Few effects as n = 57.

‡Few effects as n = 5.

§In ROBINS-I "bias in measurement" = 9 = MR, 4 = LR in clinical criteria grading.

¶Studies were unconcealed, unblinded.

**Not all data quantified or reported to support the clinical criteria.

††These criteria are not precise they are subjective and largely dependent on the assessor's ability and experience.

CI, confidence interval.

Table v. Summary of findings table: split tibial tendon transfers compared to no intervention for improving gait function for [for children and youth](#) with cerebral palsy with spastic equinovarus foot deformities.

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
Orthotic use (follow-up: 1 year to 16 years; assessed with: Yes/No)											
14 studies (Ahmed et al, 2011 ^[12] , Akeksic et al, 2020 ^[15] , Barnes et al, 1991 ^[11] , Green et al, 1983 ^[4] , Hoffer et al, 1985 ^[10] , Kling et al, 1985 ^[5] , Limpaphayom et al, 2015 ^[14] , Mulier et al, 1995 ^[32] , O'Byrne et al, 1997 ^[34] , Sarikayai et al, 2020 ^[8] , Scott et al, 2006 ^[17] , Synder et al, 1993 ^[33] , Wong et al, 2021 ^[9] , Vlachou et al, 2010 ^[13])	Observational studies	Serious*†	Not serious	Not serious	Serious‡	None	428/485 (88.2%)	0/0	Not estimable		⊕⊕○○ Low
Clinical grading criteria - Kling, Green and Hoffer (follow-up: 1 year to 16 years; assessed with: excellent, good, or poor (excellent and good = successful))											

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
13 studies (Ahmed et al, 2011 ^[12] ; Akeksic et al, 2020 ^[15] , Barnes et al, 1991 ^[11] ; Green et al, 1983 ^[4] ; Kling et al, 1985 ^[5] , Limpaphayom et al, 2015 ^[14] ; Mulier et al, 1995 ^[32] ; O'Byrne et al, 1997 ^[34] ; Saji et al, 1993 ^[24] ; Sarikayai et al, 2020 ^[8] , Scott et al, 2006 ^[17] , Synder et al, 1993 ^[33] , Vlachou et al, 2010 ^[13])	Observational studies	Serious†§	Not serious	Not serious	Serious¶**	None	385/442 (87.1%)	0/0	Not estimable		⊕⊕○○ Low
Ambulation (follow-up: 2.4 years to 5.5 years; assessed with: improved/not improved)											
4 studies (Barnes et al, 1991 ^[11] ; Hoffer et al, 1985 ^[10] ; Kling et al, 1985 ^[5] , Synder et al, 1993 ^[33])	Observational studies	Very serious†††‡	Not serious	Serious§§	Serious¶¶	None	1 study reported: preop: 28 mobile unaided and postop: 1 required crutches. 1 study reported: preop: 19 community walkers and 2 non ambulators and post-op: Improvements in the 2 non ambulatory. 1 study reported: Preop: 12/12 community walkers, 1 with crutches and postop: No change. 1 study reported: 18 ambulant, 1 able to stand, 2 wheelchair-bound and postop: 18 ambulant, 1 crutches household ambulant, 2 non ambulant improved DF and able to wear regular shoes				⊕○○○ Very low
Maximal DF during swing phase (follow-up: 1 year to 4 years; assessed with: gait analysis)											

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
2 studies (Lullo et al, 2020 ^[7] , O'Byrne et al, 1997 ^[34])	Observational studies	Not serious	Not serious	Not serious	Serious***	None	1 study preop: Max DF = -9.1° (PF), (11.5° DF to 34.13° PF) Postop: Max DF = 8.6 (DF), (3.7° DF to 16.9°DF) = improved dorsiflexion 1 study preop: Max DF in swing = 2.5° (DF); Mean DF in swing = -3.2° (PF) and postop: Max DF in swing = -3.5° (PF) (p = 0.18); Mean DF in swing = -8.14° (PF) (p = 0.14)				⊕⊕⊕○ Moderate
Kinematic gait analysis (follow-up: 13 months to 37 months; assessed with: multisegmental foot model)											

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
1 study (Dussa et al, 2021 ^[31])	Observational studies	Not serious	Not serious	Not serious	Serious†††	None	<p>Preoperative: Foot kinematics: Hindfoot to tibia (°) Mean eversion stance = 8.1 (0.3 to 15.7) Mean eversion swing = 7.5 (-0.3 to 14.9) Flexion ROM stance = 14.2 (7.9 to 22.3) Eversion ROM stance = 8.0 (5.3 to 12.2) Rotation ROM stance = 20.6 (10.2 to 40.5) Foot kinematics: Midfoot to forefoot (°) Midfoot supination stance = -3.8 (-14.6 to 5.6) Midfoot adduction stance = 17.5 (7.8 to 28.8) Flexion ROM stance = 9.4 (4.9 to 18.4) Supination ROM stance = 9.9 (3.0 to 13.9) Adduction ROM stance = 6.1 (3.2 to 10.0) Postoperative: Foot kinematics: Hindfoot to tibia (°) Mean eversion stance = -4.7 (-10.9 to 8.9) p < 0.05 Mean eversion swing = -4.7 (-12.3 to 9.3) p < 0.05 Flexion ROM stance = 15.9 (7.9 to 22.1) p = 0.03 Eversion ROM stance = 6.8 (3.4 to 14.5) p = 0.14 Rotation ROM stance = 20.5 (12.4 to 38.5) p = 0.94 Foot kinematics: Midfoot to forefoot (°) Midfoot supination stance = 5.6 (-4.9 to 17.1) p < 0.05 Midfoot adduction stance = 8.8 (-2.4 to 25.8) p < 0.05 Flexion ROM stance = 12.3 (4.5 to 24.5) p = 0.03 Supination ROM stance = 9.1 (6.06 to 15.1) p = 0.38 Adduction ROM stance = 5.5 (2.6 to 8.0) p = 0.40</p>				⊕⊕⊕○ Moderate
Spatiotemporal parameters (follow-up: 13 months to 37 months; assessed with: gait analysis using the Oxford Foot model)											

Certainty assessment							Patients, n		Effect		Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Split tibial tendon transfers	No intervention	Relative (95% CI)	Absolute (95% CI)	
1 study (Dussa et al, 2021 ^[31])	Observational studies	Not serious	Not serious	Not serious	Serious†††	None	Preoperative: Spatiotemporal parameters Velocity = 34.0% (20.0 to 47.0) Step length = 61.5 (34 to 79) Cadence = 54.5% (48 to 62) Postoperative: Spatiotemporal parameters Velocity = 32.8 % (16.0 to 45.0) p = 0.40 Step length = 60.1 (33 to 71) p = 0.40 Cadence = 54.1% (41 to 61) p = 0.79				⊕⊕⊕○ Moderate

*For studies reporting orthotics in ROBINS-I "bias in measurements of outcomes" 5 = LR, 9 = MR

†studies were unconcealed, unblinded

‡studies included relatively few patients (n = 485) and assumption was made in a few studies in regards for requirements of orthotics pre-operatively as this wasn't clearly reported

§in ROBINS- I "bias in measurement" = 9 = MR, 4 = LR in clinical criteria grading

¶These criteria are not precise they are subjective and largely dependent on the assessors ability and experience

**Not all data quantified or reported to support the clinical criteria

††assessors were not blinded in various studies and outcomes were subjective

‡‡For studies reporting subjective pre=post ambulation in ROBINS-I " bias in measurement" 3 = MR/1 = LR. Ambulant abilities remained the same in majority with little details as to gait pattern. only 1 reported digression in mobility to requiring crutches 2 non ambulant and reported DF improvement and able to wear shoes

§§Not directly measuring ambulation

¶¶Studies include relatively few patients (n = 97) and thus have wide CI around the estimates of the effect

***studies include relatively few patients (n = 53) and thus have wide CI around the estimates of effect.

†††study includes relatively few patients (n = 5) and thus have a wide CI around the estimates effect

CI, confidence interval; DF, dorsiflexion; ROM, range of motion.

Table vi. Summary of findings table: split tibial tendon transfer compared to no intervention for reducing pain for children and youth with cerebral palsy and equinovarus foot deformity.

Certainty assessment							Impact	Certainty
Studies, n	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations		
Pain (Likert 0 to 10) (assessed with: improved/not improved)								
1 study (Wong et al., 2021 ^[9])	Observational studies	Not serious	Not serious	Not serious	Serious*	None	Preop: Pain= 2.8 ± 1.2 Postop: Pain = 1.6 ± 0.9. Data indicate reduced pain but no formal statistics for subgroup.	⊕⊕⊕○ Moderate

*Low sample size n = 52.

CI, confidence interval.

Table vi. Full-text articles excluded (n = 37).

Reason	References
3 n ≤ 10	<p>Miller GM, Hsu JD, Hoffer MM, Rentfro R. Posterior tibial tendon transfer: a review of the literature and analysis of 74 procedures. <i>Journal Pediatr Orthop.</i> 1982;2(4):363-370.</p> <p>Park CI, Park ES, Rha D-W, Kim HW. Soft tissue surgery for equinus deformity in spastic hemiplegic cerebral palsy: Effects on kinematic and kinetic parameters. <i>Yonsei Med J.</i> 2006;47(5):657-666.</p> <p>Vogt JC. Split anterior tibial transfer for spastic equinovarus foot deformity: retrospective study of 73 operated feet... including commentary by Weil LS. <i>J Foot Ankle Surg.</i> 1998;37(1):2-83.</p>
4 incorrect patient population	<p>Edwards P, Hsu J. SPLATT combined with tendo achilles lengthening for spastic equinovarus in adults: results and predictors of surgical outcome. <i>Foot Ankle.</i> 1993;14(6):335-338</p> <p>Hsu JD, Hoffer MM. Posterior tibial tendon transfer anteriorly through the interosseous membrane: a modification of the technique. <i>Clin Orthop Relat Res.</i> 1978(131):202-204.</p>

	<p>Turner JW, Cooper RR. Anterior transfer of the tibialis posterior through the interosseus membrane. <i>Clin Orthop Relat Res.</i> 1972;83:241-244.</p> <p>Wagenaar F, Louwerens JWK. Posterior tibial tendon transfer: Results of fixation to the dorsiflexors proximal to the ankle joint. <i>Foot Ankle Int.</i> 2007;28(11):1128-1142.</p>
2 incorrect outcomes	<p>Amen Z, Rafiq O. Split tibialis anterior tendon transfer to treat ambulatory children with spastic cerebral palsy who experienced dynamic equino varus deformity. <i>The Medical Journal of Basrah University.</i> 2021;39(1):31-36.</p> <p>Eyring EJ, Earl WC, Brockmeyer JF. Posterior tibial tendon transfers in neuromuscular conditions other than anterior poliomyelitis. <i>Arch Phys Med Rehabil.</i> 1974;55(3):124-126.</p>
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