

B.5 Traction

Overview of the PICO structure

Definition of Intervention	
<p>Traction is the application of a distraction force to the long axis of the spine, achieved using body weight (either of a therapist or patient), external weights, and/or pulleys. The evidence review for this guideline included all types of traction such as mechanical or motorized traction (where the traction is exerted by a motorized pulley), manual traction (in which the traction is exerted by the therapist, using their body weight to alter the force and direction of the pull), auto-traction (where the person controls the traction forces by grasping and pulling bars at the head of the traction table), and also less common forms such as underwater traction (where the person is fixed perpendicularly in a deep pool, a bar grasped under the arms and traction applied) and gravitational traction (e.g. bed rest traction, in which the person is fixed to a tilted table or bed, or inverted traction, where the participant is held in an inverted position by the ankles and another part of the lower extremities and gravity provides the force). Traction can be intermittent or continuous and applied for a few seconds to several hours.</p>	
PICO question	
Population and subgroups	<p>Community-dwelling adults (aged 20 years and over) experiencing chronic primary low back pain, with or without leg pain, including older people (aged 60 years and older).</p> <p>Subgroups:</p> <ul style="list-style-type: none"> • Age (all adults and those aged 60 years and over) • Gender and/or sex • Presence of leg pain (radicular, non-radicular, mixed) • Race/ethnicity - studies of populations who were historically marginalized compared with studies of those who were not • Regional economic development - studies carried out in high-income countries compared with studies in low- to middle-income countries

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Comparators	<ul style="list-style-type: none"> a) Placebo/sham b) No or minimal intervention, or where the effect of Intervention can be isolated c) Usual care (described as usual care in the trial) d) Adjuvant therapy, i.e. where the additional effect of an intervention could be isolated 		
Outcomes	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Critical outcomes constructs (all adults)</p> <ul style="list-style-type: none"> • Pain • Back-specific function/disability • General function/disability • Health-related quality of life • Psychosocial function • Social participation • Adverse events (as reported in trials) </td> <td style="width: 50%; vertical-align: top;"> <p>Critical outcomes constructs (older adults, aged ≥ 60 years)</p> <ul style="list-style-type: none"> • Pain • Back-specific function/disability • General function/disability • Health-related quality of life • Psychosocial function • Adverse events (as reported in trials) • Change in the use of medications • Falls </td> </tr> </table>	<p>Critical outcomes constructs (all adults)</p> <ul style="list-style-type: none"> • Pain • Back-specific function/disability • General function/disability • Health-related quality of life • Psychosocial function • Social participation • Adverse events (as reported in trials) 	<p>Critical outcomes constructs (older adults, aged ≥ 60 years)</p> <ul style="list-style-type: none"> • Pain • Back-specific function/disability • General function/disability • Health-related quality of life • Psychosocial function • Adverse events (as reported in trials) • Change in the use of medications • Falls
<p>Critical outcomes constructs (all adults)</p> <ul style="list-style-type: none"> • Pain • Back-specific function/disability • General function/disability • Health-related quality of life • Psychosocial function • Social participation • Adverse events (as reported in trials) 	<p>Critical outcomes constructs (older adults, aged ≥ 60 years)</p> <ul style="list-style-type: none"> • Pain • Back-specific function/disability • General function/disability • Health-related quality of life • Psychosocial function • Adverse events (as reported in trials) • Change in the use of medications • Falls 		

Other Evidence-to-Decision (EtD) considerations

Summary of values and preferences	
All adults	Older people
No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members	No evidence identified

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Summary of resource considerations	
All adults	Older people
No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members	No evidence identified

Summary of equity and human rights considerations	
All adults	Older people
No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members	No evidence identified

Summary of acceptability considerations	
All adults	Older people
No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members	No evidence identified

Summary of feasibility considerations	
All adults	Older people
No evidence synthesis commissioned for all adults. Judgements made based on experience of GDG members	No evidence identified

Summary of judgements

Domain	All adults	Older people
Benefits	Small; trivial; uncertain	Small; trivial; uncertain

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Harms	Uncertain	Uncertain
Balance benefits to harms	Probably does not favour traction; uncertain	Probably does not favour traction; uncertain
Overall certainty	Very low	Very low
Values and preferences	Probably important uncertainty or variability; possibly important uncertainty or variability	Probably important uncertainty or variability; possibly important uncertainty or variability
Resource considerations	Moderate costs; varies	Moderate costs; varies
Equity and human rights	Probably reduced; uncertain; varies	Probably reduced; uncertain; varies
Acceptability	Yes; probably yes; probably no; uncertain; varies	Yes; probably yes; probably no; uncertain; varies
Feasibility	Yes; probably yes; varies	Yes; probably yes; varies

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GRADE Table 1. What are the benefits and harms of traction in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain) compared with sham traction?

Certainty assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Traction	sham	Relative (95% CI)	Absolute (95% CI)		
Pain intensity - Pain in immediate term (1 month) - no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-
Pain intensity (higher scores mean more pain) - Pain in short term (1-3 months)												
1 ^a	randomized trials	serious ^b	serious ^c	not serious	very serious ^c	none	31	29	-	MD 4.00 lower (17.65 lower to 9.65 higher)	⊕○○○ Very low	
Population subgroups 1, 2, 3 and 4 - not reported (no subgroup analysis performed, only one included study for this outcome)												
Pain intensity - Pain in intermediate (3-6 months) or long term (>6 months)- no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-
Function - Function in immediate (1 month), short (1-3 months), intermediate (3-6 months) or long term (> 6 months) - no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-
Quality of life - Quality of life in immediate (1 month), short (1-3 months), intermediate (3-6 months) or long term (> 6 months) - no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-
Adverse events , psychological functioning (depression) or social participation - no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-

CI: confidence interval; MD: mean difference

Explanations

a. Schimmel 2006

b. Downgraded for selective outcome reporting bias.

c. Downgraded by one level because there were very small number of participants and downgraded by one level based on a relatively broad 95%

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GRADE Table 2. *What are the benefits and harms of traction in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain) compared with no intervention?*

No trials

GRADE Table 3. *What are the benefits and harms of traction in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain) compared with usual care?*

No trials

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GRADE Table 4. What are the benefits and harms of traction as *adjuvant therapy* in the management of community-dwelling adults (including older adults aged 60 years and over) with chronic primary low back pain (with or without leg pain)?

Certainty assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Traction used as an adjuvant treatment (e.g. traction + intervention)	Intervention alone)	Relative (95% CI)	Absolute (95% CI)		
Pain intensity - Pain in immediate term (1 month, assessed with: VAS at rest; Scale from: 0 to 100)												
6 ^a	randomized trials	serious ^b	not serious ^c	serious ^d	very serious ^e	none	256	203	-	MD 6.2 lower (9.67 lower to 2.74 lower)	⊕○○○ ○ Very low	
Population subgroups 1, 2 and 3 - not reported (no subgroup analysis was performed)												
Population subgroup 4: regional economic development												
Middle income 5 ^f	randomized trials	serious ^b	not serious ^c	serious ^d	very serious ^e	none	226	173	-	MD 5.98 lower (8.61 lower to 3.34 lower)	⊕○○○ ○ Very low	
High income 1 ^g	randomized trials	serious ^b	not serious ^h	serious ⁱ	very serious ^e	none	30	30	-	MD 5.4 lower (8.47 lower to 2.33 lower)	⊕○○○ ○ Very low	

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Certainty assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Traction used as an adjuvant treatment (e.g. traction + intervention)	Intervention alone	Relative (95% CI)	Absolute (95% CI)		
Pain intensity - Pain in short term (1-3 months, assessed with: VAS at rest; Scale from: 0 to 100)												
3 ^j	randomized trials	serious ^k	serious ^l	serious ^d	very serious ^m	none	85	89	-	MD 4.07 lower (12.81 lower to 4.66 higher)	⊕○○○ ○ Very low	
Population subgroups 1, 2, 3 and 4 - not reported (no subgroup analysis was performed)												
Pain intensity - Pain in intermediate term (3-6 months, assessed with: VAS at rest; Scale from: 0 to 100)												
3 ⁿ	randomized trials	serious ^k	serious ^l	serious ^d	very serious ^m	none	92	93	-	MD 13.27 lower (20.71 lower to 5.83 lower)	⊕○○○ ○ Very low	
Population subgroups 1, 2 and 3 - not reported (no subgroup analysis was performed)												
Population subgroup 4: regional economic development												
Middle income 2 ^o	randomized trials	serious ^k	serious ^l	serious ^d	very serious ^m	none	62	63	-	MD 15.47 lower (28.21 lower to 2.73 lower)	⊕○○○ ○ Very low	

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Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Traction used as an adjuvant treatment (e.g. traction + intervention)	Intervention alone	Relative (95% CI)	Absolute (95% CI)		
High income 1 ^g	randomized trials	serious ^b	serious ^h	serious ⁱ	very serious ^e	none	30	30	-	MD 9.50 lower (12.43 lower to 6.57 lower)	⊕○○○ ○ Very low	
Pain intensity - Pain in long term (> 6 months) no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	
Function - Functioning in immediate term (1 month, assessed with: ODI; Scale from: 0 to 100)												
6 ^a	randomized trials	serious ^b	serious ^p	serious ^d	very serious ^e	none	256	203	-	MD 3.8 lower (6.26 lower to 1.34 lower)	⊕○○○ ○ Very low	
Population subgroups 1, 2 and 3 - not reported (no subgroup analysis was performed)												
Population subgroup 4: regional economic development												
Middle income 5 ^f	randomized trials	serious ^b	serious ^p	serious ^d	very serious ^e	none	226	173	-	MD 4.28 lower (7.25 lower to 1.32 lower)	⊕○○○ ○ Very low	
High income 1 ^g	randomized trials	serious ^b	serious ^h	serious ⁱ	very serious ^e	none	30	30	-	MD 1.93 lower (2.77 lower to 1.09 lower)	⊕○○○ ○ Very low	

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Certainty assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Traction used as an adjuvant treatment (e.g. traction + intervention)	Intervention alone	Relative (95% CI)	Absolute (95% CI)		
Function - Functioning in short term (1-3 months, assessed with: ODI; Scale from: 0 to 100)												
3 ^j	randomized trials	serious ^k	serious ^l	serious ^d	very serious ^m	none	85	89	-	MD 1.91 lower (4.56 lower to 0.73 higher)	⊕○○○ ○ Very low	
Population subgroups 1, 2, 3 and 4 - not reported (no subgroup analysis was performed)												
Function - Functioning in intermediate term (3-6 months, assessed with: ODI; Scale from: 0 to 100)												
3 ⁿ	randomized trials	serious ^k	serious ^l	serious ^d	very serious ^e	none	92	93	-	MD 4.64 lower (7.75 lower to 1.54 lower)	⊕○○○ ○ Very low	
Population subgroups 1, 2 and 3 - not reported (no subgroup analysis was performed)												
Population subgroup 4: regional economic development												
Middle income 2 ^o	randomized trials	serious ^k	serious ^l	serious ^d	very serious ^e	none	62	63	-	MD 5.69 lower (10.40 lower to 0.99 lower)	⊕○○○ ○ Very low	

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Certainty assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Traction used as an adjuvant treatment (e.g. traction + intervention)	Intervention alone	Relative (95% CI)	Absolute (95% CI)		
High income ^{1g}	randomized trials	serious ^b	serious ^h	serious ⁱ	very serious ^m	none	30	30	-	MD 2.66 lower (3.38 lower to 1.94 lower)	⊕○○○ ○ Very low	
Function - Functioning in long term (> 6 months) no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-
Quality of life - Quality of life in immediate term (1 month, assessed with SF-36)												
1 ^q	randomized trials	serious ^k	serious ^h	serious ^r	very serious ^e		30	30	-	MD 1.97 lower (7.29 lower to 3.35 higher)	-	
Population subgroups 1, 2, 3 and 4 - not reported (no subgroup analysis was performed)												
Quality of life - Quality of life in short (1-3 months), intermediate (3-6 months) or long term (> 6 months) - no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-
Adverse events, psychological functioning or social participation - no studies were identified that reported for this outcome												
-	-	-	-	-	-	-	-	-	-	-	-	-

CI: confidence interval; MD: mean difference

Explanations

a. Al Amar 2019; Amjad 2022; Bilgiliyoy Filiz 2018; Borman 2003; Gulsen 2018; Mohamed 2020.

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- b. Downgraded given high risk of bias due to performance bias (lack of patient and clinician blinding), and two other domains which were unclear (selection bias and selective outcome reporting bias)
- c. We did not downgrade because the majority of the studies favored Intervention and sufficient consistency across the studies.
- d. All patients were recruited in an outpatient clinic from hospitals with leg pain, and all received high load mechanical traction.
- e. Downgraded because there were relatively few participants (<500)
- f. Amjad 2022; Bilgiliyoy Filiz 2018; Borman 2003; Gulsen 2018; Mohamed 2020.
- g. Al Amar 2019
- h Inconsistency not assessed because only one study included in this analysis.
- i. Indirectness downgraded because only one study included in this subgroup, unclear if it is representative of all high-income countries.
- j. Borman 2003; Diab 2013; Moustafa 2012.
- k. Downgraded due high risk of performance bias (lack of patient and clinician blinding).
- l. Downgraded due to substantial statistical heterogeneity ($I^2 > 75\%$).
- m Downgraded by one level because there were very small number of participants and downgraded by one level based on a relatively broad 95% CI (the lower border is consistent with a potentially clinically relevant effect).
- n. Al Amar 2019; Diab 2013; Moustafa 2012.
- o. Diab 2013; Moustafa 2012
- p. Downgraded by because there was substantial statistical heterogeneity.
- q. Amjad 2022
- r. Indirectness downgraded because only one study included in this subgroup.