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[Intervention Review]

Traction for low-back pain with or without sciatica

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ABSTRACT

Background

Traction has been used to treat low-back pain (LBP), often in combination with other treatments. We included both manual and machine-delivered traction in this review. This is an update of a Cochrane review first published in 1995, and previously updated in 2006.

Objectives

To assess the effects of traction compared to placebo, sham traction, reference treatments and no treatment in people with LBP.

Search methods

We searched the Cochrane Back Review Group Specialized Register, the Cochrane Central Register of Controlled Trials (2012, Issue 8), MEDLINE (January 2006 to August 2012), EMBASE (January 2006 to August 2012), CINAHL (January 2006 to August 2012), and reference lists of articles and personal files. The review authors are not aware of any important new randomized controlled trial (RCTs) on this topic since the date of the last search.

Selection criteria

RCTs involving traction to treat acute (less than four weeks' duration), subacute (four to 12 weeks' duration) or chronic (more than 12 weeks' duration) non-specific LBP with or without sciatica.

Data collection and analysis

Two review authors independently performed study selection, risk of bias assessment and data extraction. As there were insufficient data for statistical pooling, we performed a descriptive analysis. We did not find any case series that identified adverse effects, therefore we evaluated adverse effects that were reported in the included studies.

Main results

We included 32 RCTs involving 2762 participants in this review. We considered 16 trials, representing 57% of all participants, to have a low risk of bias based on the Cochrane Back Review Group's 'Risk of bias' tool.

For people with mixed symptom patterns (acute, subacute and chronic LBP with and without sciatica), there was low- to moderate-quality evidence that traction may make little or no difference in pain intensity, functional status, global improvement or return to work when compared to placebo, sham traction or no treatment. Similarly, when comparing the combination of physiotherapy plus traction with physiotherapy alone or when comparing traction with other treatments, there was very-low- to moderate-quality evidence that traction may make little or no difference in pain intensity, functional status or global improvement.

For people with LBP with sciatica and acute, subacute or chronic pain, there was low- to moderate-quality evidence that traction probably has no impact on pain intensity, functional status or global improvement. This was true when traction was compared with controls and other treatments, as well as when the combination of traction plus physiotherapy was compared with physiotherapy alone. No studies reported the effect of traction on return to work.

For chronic LBP without sciatica, there was moderate-quality evidence that traction probably makes little or no difference in pain intensity when compared with sham treatment. No studies reported on the effect of traction on functional status, global improvement or return to work.

Adverse effects were reported in seven of the 32 studies. These included increased pain, aggravation of neurological signs and subsequent surgery. Four studies reported that there were no adverse effects. The remaining studies did not mention adverse effects.

Authors' conclusions

These findings indicate that traction, either alone or in combination with other treatments, has little or no impact on pain intensity, functional status, global improvement and return to work among people with LBP. There is only limited-quality evidence from studies with small sample sizes and moderate to high risk of bias. The effects shown by these studies are small and are not clinically relevant.

Implications for practice

To date, the use of traction as treatment for non-specific LBP cannot be motivated by the best available evidence. These conclusions are applicable to both manual and mechanical traction.

Implications for research

Only new, large, high-quality studies may change the point estimate and its accuracy, but it should be noted that such change may not necessarily favour traction. Therefore, little priority should be given to new studies on the effect of traction treatment alone or as part of a package.

PLAIN LANGUAGE SUMMARY

Traction for low-back pain

We reviewed the evidence on the effect of traction on pain intensity, ability to perform normal daily activities, overall improvement and return to work among people with low back pain (LBP) in the acute (less than four weeks' duration), subacute (from four to 12 weeks' duration) or chronic (more than 12 weeks' duration) phase. Some patients also had sciatica. We examined the effects of traction immediately after the traction session, in the short-term (up to three months after traction) and in the long-term (around one year after traction).

LBP is a major health problem around the world and is a major cause of medical expenses, absenteeism and disability. One treatment option for LBP that has been used for thousands of years is traction, the application of a force that draws two adjacent bones apart from each other in order to increase their shared joint space. Various types of traction are used, often in combination with other treatments. The most commonly used traction techniques are mechanical or motorized traction (where the traction is exerted by a motorized pulley) and manual traction (in which the traction is exerted by the therapist, using his or her body weight to alter the force and direction of the pull).

The evidence is current to August 2012. The review included 32 studies and 2762 people with LBP. Most studies included a similar population of people with LBP with and without sciatica. The majority of studies included people with acute, subacute and chronic LBP. Most studies reported follow-up of one to 16 weeks, and a limited number of studies reported long-term follow-up of six months to one year.

The included studies show that traction as a single treatment or in combination with physiotherapy is no more effective in treating LBP than sham (pretend) treatment, physiotherapy without traction or other treatment methods including exercise, laser, ultrasound and corsets. These conclusions are valid for people with and without sciatica. There was no difference regarding the type of traction (manual or mechanical).

Side effects were reported in seven of the 32 studies and included increased pain, aggravation of neurological signs and subsequent surgery. Four studies reported that there were no side effects. The remaining studies did not mention side effects.

The quality of the evidence ranged from very low to moderate. There was a scarcity of high-quality studies, especially those that distinguished between people with different symptom patterns (with and without sciatica, with pain of different duration).