Muscle relaxants for non-specific low-back pain (Review)

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This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in The Cochrane Library 2003, Issue 4

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ABSTRACT

Background

The use of muscle relaxants in the management of non-specific low back pain is controversial. It is not clear if they are effective, and concerns have been raised about the potential adverse effects involved.

Objectives

The aim of this review was to determine if muscle relaxants are effective in the treatment of non-specific low back pain.

Search methods

A computer-assisted search of the Cochrane Library (Issue 3, 2002), MEDLINE (1966 up to October 2002) and EMBASE (1988 up to October 2002) was carried out. These databases were searched using the algorithm recommended by the Cochrane Back Review Group. References cited in the identified articles and other relevant literature were screened.

Selection criteria

Randomised and/or double-blinded controlled trials, involving patients diagnosed with non-specific low back pain, treated with muscle relaxants as monotherapy or in combination with other therapeutic modalities, were included for review.

Data collection and analysis

Two authors independently carried out the methodological quality assessment and data extraction of the trials. The analysis comprised not only a quantitative analysis (statistical pooling) but also a qualitative analysis (“best evidence synthesis”). This involved the appraisal of the strength of evidence for various conclusions using a rating system based on the quality and outcomes of the studies included. Evidence was classified as “strong”, “moderate”, “limited”, “conflicting” or “no” evidence.

Muscle relaxants for non-specific low-back pain

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Editorial group: Cochrane Back Group.
Publication status and date: Edited (no change to conclusions), published in Issue 4, 2008.
Review content assessed as up-to-date: 30 October 2002.


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Main results

Thirty trials met the inclusion criteria. Twenty-three trials (77%) were of high quality, 24 trials (80%) were on acute low back pain. Four trials studied benzodiazepines, 11 non-benzodiazepines and two antispasticity muscle relaxants in comparison with placebo. Results showed that there is strong evidence that any of these muscle relaxants are more effective than placebo for patients with acute LBP on short-term pain relief. The pooled RR for non-benzodiazepines versus placebo after two to four days was 0.80 [95% CI; 0.71 to 0.89] for pain relief and 0.49 [95% CI; 0.25 to 0.95] for global efficacy. Adverse events, however, with a relative risk of 1.50 [95% CI; 1.14 to 1.98] were significantly more prevalent in patients receiving muscle relaxants and especially the central nervous system adverse effects (RR 2.04; 95% CI; 1.23 to 3.37). The various muscle relaxants were found to be similar in performance.

Authors’ conclusions

Muscle relaxants are effective in the management of non-specific low back pain, but the adverse effects require that they be used with caution. Trials are needed that evaluate if muscle relaxants are more effective than analgesics or non-steroidal anti-inflammatory drugs.

PLAIN LANGUAGE SUMMARY

Muscle relaxants for non-specific low-back pain

Muscle relaxants are effective for short-term symptomatic relief in patients with acute and chronic low back pain. However, the incidence of drowsiness, dizziness and other side effects is high. Muscle relaxants must be used with caution and it must be left to the discretion of the physician to weigh the pros and cons and to determine whether or not a specific patient is a suitable candidate for a course of muscle relaxants. Large high quality trials are needed that directly compare muscle relaxants to analgesics or NSAIDs and future studies should focus on reducing the incidence and severity of side effects.