

# Review: Injection therapy is not better than placebo for relieving pain in benign chronic low-back pain

Nelemans PJ, de Bie RA, de Vet HC, Sturmans F. **Injection therapy for subacute and chronic benign low back pain.** Cochrane Review, latest version 12 Jul 1999. In: The Cochrane Library. Oxford: Update Software.

## QUESTION

In patients with benign subacute and chronic low-back pain, is injection therapy effective for relieving pain?

## DATA SOURCES

Studies were identified by searching MEDLINE (1966 to 1996), EMBASE/Excerpta Medica (to 1996), and bibliographies of relevant studies.

## STUDY SELECTION

Studies published as full reports in English, French, German, Dutch, and Nordic languages were selected if they were randomized controlled trials (RCTs) of injection therapy for pain relief in patients who had benign chronic low-back pain for  $\geq 1$  month.

## DATA EXTRACTION

Data were extracted on study methods, participants, interventions, outcome measures, timing of outcome measures, side effects, and main results. The primary outcome measure was the proportion of patients with pain relief. The quality of study methods was assessed (maximum score, 100 points).

## MAIN RESULTS

21 RCTs met the selection criteria; 19 RCTs involving 1051 patients provided

data on the proportion of patients with pain relief. Quality scores ranged from 23 to 83 points (mean 45 points). 11 RCTs compared injection therapy with placebo, and 10 RCTs compared different types of injection therapy. 1 RCT compared facet joint injections with placebo in 97 patients; no short-term or long-term difference in pain relief was seen between groups (Table). Epidural injections and placebo led to similar results for short-term (4 RCTs) and long-term (3 RCTs) pain relief (Table). When local injections were compared with placebo, 1 RCT showed greater long-term pain relief for local injection than for placebo, and 3 RCTs showed no difference in short-

term pain relief (Table). Only 1 RCT showed a difference when different types of injections were compared; morphine-steroid injections provided more short-term pain relief than did saline-steroid injections.

## CONCLUSIONS

In patients with benign subacute and chronic low-back pain, injection therapy is not better than placebo for relieving pain. 1 study showed a long-term benefit for local injections.

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### Proportion of patients with no pain relief for injection therapy vs placebo in benign chronic low-back pain\*

Comparisons	Length of follow-up	Number of studies	Number of patients	Weighted event rates	RRR(95% CI)	NNT (CI)
Facet injection vs placebo	< 6 wk	1	97	59% vs 67%†	11% (-21 to 35)	NS
	> 6 wk	1	97	65% vs 73%†	10% (-17 to 31)	NS
Epidural injection vs placebo	< 6 wk	4	302	60% vs 66%	8% (-8 to 22)	NS
	> 6 wk	3	254	50% vs 53%	7% (-16 to 25)	NS
Local injection vs placebo	< 6 wk	3‡	121	42% vs 57%	20% (-59 to 60)	NS
	> 6 wk	1	81	75% vs 95%†	21% (4 to 35)	5 (3 to 20)

\*NS = not significant. Other abbreviations defined in Glossary; RRR, NNT, and CI calculated from data in article.

†Event rates not weighted.

‡1 negative study that did not publish raw data was excluded from this group.

## COMMENTARY

In 1994, the U.S. Agency for Health Care Policy and Research concluded that injection therapy is infrequently indicated for acute low-back pain (1). However, experts continue to recommend this intervention (2, 3).

The meta-analysis by Nelemans and colleagues is published in the Cochrane Library and conforms to the high standards of the international Cochrane Collaboration. The authors conclude that "convincing evidence is lacking on the effects of injection therapies" and that more research is needed. This statement infers lack of evidence rather than lack of efficacy.

One weakness of the meta-analysis is the uncertain date of the literature search. The review states that 1996 is the last year searched, but a study from 1997 is included. Pertinent trials may have been published more recently. I found results from only 1 trial done since 1997; they were negative and would not alter the conclusions stated in the meta-analysis (4).

However, a more important weakness is not the analysis itself but, as the authors indicate, the variable quality of the available studies. The authors located only 11 placebo-controlled trials, which is an insufficient number to address the effects of combinations of type and location of injection in each patient population. Of the subgroups identified, the evidence supports, although not strongly, the use of

local corticosteroid injections for trigger points. 2 small trials, including 1 study with a long follow-up (6 weeks), reached statistically significant conclusions (5, 6).

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