
**Objective**
To evaluate the evidence regarding lumbar fusion versus non-operative management for chronic discogenic low back pain.

**Design**
Systematic review and meta-analysis.

**Participants**
Pubmed and CENTRAL databases were searched for randomized controlled trial that compared lumbar fusion to some nonoperative management for patients with a diagnosis of chronic discogenic low back pain, which was not further defined.

**Interventions**
Five randomized controlled trials were included, in which 523 patients received lumbar fusion and 134 received conservative management. Inclusion and exclusion criteria were relatively similar across the studies, but surgical techniques and conservative management varied. The surgical interventions were described in some depth. The conservative management was somewhat vague, but consisted mostly of physical therapy and/or cognitive therapy. Risk of bias was assessed against six criteria that focussed on randomization, allocation concealment, blinding of participants, personnel and outcome assessment, loss to follow-up and selective reporting. One study presented one possible risk of bias, another two possible risks of bias and the remaining three studies presented four or five possible risks of bias.

**Main outcome measures**
The main outcome was pooled across the Oswestry Disability Index (ODI), ranging from zero to 100.

**Main results**
The pooled mean difference in Oswestry across all studies favoured the fusion groups by 7.4% (95% confidence interval 20.3%, -5.5%), but this was not significantly different (P=0.26).

**Conclusions**
Although the results favoured fusion, this was not statistically significant, and it is not clear if this was a clinically important difference. Both treatments could be recommended for intractable low back pain depending on patient preferences.

**Comments**
Unlike the use of surgery for patients with sciatica and with spinal stenosis, for which there is a short-term benefit over conservative treatment, though this can be an effective choice for patients with sciatica, there appears to be no such advantage for so-called discogenic low back pain. This label appears to have derived from investigations showing degenerative changes, back pain more than leg pain, but without radiculopathy, of at least one year’s duration. Although the fusion groups did do better in four trials, 2.3, 3.8, 8.8 and 25.7 on the Oswestry scale, with a mean improvement of 7.4, this was not statistically significant. Furthermore, there is no agreed threshold of what the clinically important difference for the Oswestry scale should be.


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Objective
To evaluate the efficacy of arthroscopic meniscal debridement in patients with degenerative meniscus tears.

Design
Systematic review with meta-analysis of the pooled data.

Participants
MEDLINE, Embase and the Cochrane databases were searched for randomized controlled trials that compared arthroscopic debridement with non-operative or sham treatment in patients with degenerative meniscal tears and knee pain, regarding pain and function.

Intervention
Seven randomised controlled trials with 805 patients were included in the review, with risk of bias assessed according to the Cochrane tool. Only one trial presented a low risk of bias. Five of the seven control groups consisted of exercises; 384 patients were in the control groups and 345 in the arthroscopy group.

Main outcome measures
Outcomes were pain relief and function at short-term, defined as less than six months, and long-term, defined as less than two years.

Main results
The pooled treatment effect for arthroscopic surgery did not show a significant or minimally important difference compared to sham or control treatment either for short or long-term outcomes for pain and functional improvement.

Conclusions
There was moderate evidence that there is no benefit to arthroscopic meniscal debridement for meniscal tears compared to non-operative or sham treatment for middle-aged patients with mild or no osteoarthritis.

Comments
Surprisingly, the review found that the surgical intervention, that logically would be appropriate for patients with meniscal lesion, conferred no benefit over control groups, which mostly consisted of exercises. Clearly, the advice to such patients is that quality of life must be considered first, and then an initial trial of non-operative care should be conducted. The authors report that five other trials were being conducted at the time of the review, so it would be interesting to see if these more recent trials alter the conclusions in any way. A number of patients declined to participate or crossed over to a different treatment arm, which may have confounded the results. Cross-over is ethical in terms of patient choice, but is a major problem in trials comparing surgery with conservative treatment in general.


Objective
To investigate the predictive validity of history items, demographic variables, outcome scores, clinical examination items and physical therapists’ estimation of prognosis on a four-point scale.

Design
Prospective cohort study.
Participants
Patients with chronic or recurrent low back pain; 138 were recruited and 89 (64%) were followed up at one year.

Intervention
The variables listed above gathered at baseline to see which best predicted Roland-Morris Disability score at one year. Analysis was done with univariate analysis, and then significant variables were entered into a multivariate model.

Main outcome measures
Roland-Morris disability score at one year.

Main results
12 baseline variables were significant in univariate analysis, of which four were retained in the final model: the therapists’ opinion of prognosis, an abnormal passive physiological flexion test, heavy work and age. These were all independent prognostic factors, but only explained 24% of the model.

Conclusions
Physical therapists’ clinical impressions regarding the patient’s prognosis following the physical examination provides a valid predictive estimate of functional outcome at one year in patients with chronic or recurrent low back pain.

Comments
The ability of physical therapists to accurately predict outcome at one year has been explored a little before, however, factors the therapists used in making this judgement are not known. Age and heavy workload were independent predictors, which had been found before. That passive physiological flexion was predictive had also not been found before. However, the strength of association was weak and only explained 24% of the total variance. Centralisation or directional preference in response to repeated movements was not recorded, and it would have been interesting to see how this finding would have fared against the other variables.

www.researchgate.net/publication/258194589_Accuracy_of_physical_therapists_prognosis_of_low_back_pain_from_the_clinical_examination_a_prospective_cohort_study


Objective
To compare McKenzie therapy with electrophysical agents.

Design
Randomized controlled trial.

Participants
Patients with chronic low back pain were recruited and allotted to two groups: McKenzie group (n=134), if they demonstrated centralization, and electrophysical agents group (n=137). If they did not experience centralization, they were dropped from the study (129 of 400 assessed). At the three month follow-up, 110 (82%) and 109 (80%) of the patients were assessed, respectively.

Intervention
The McKenzie group used repeated movements and mobilization for a maximum of seven sessions. Therapists were McKenzie trained, but were not certified. The electrophysical agents group (EA) received interferential, ultrasound and heat over 10 sessions.

Main outcome measures
Pain was assessed with visual analogue scale, function by Oswestry, and finger-to-floor distance at baseline, four weeks, two and three months.
Main results
Both groups improved significantly over time in pain and function (p <0.0001), but the improvements in the McKenzie group were greater in all outcomes at all time points (p <0.05) (Figures 1 and 2).

![Figure 1. Visual analogue scale](image1)

![Figure 2. Oswestry scores](image2)

EA = electrophysical agents

Conclusion
McKenzie reduces pain and disability in patients with chronic low back pain more effectively than electrophysical agents.

Comments
The trial demonstrated that McKenzie therapy is an effective treatment for patients with chronic low back pain. The study had several strengths: randomisation, which appeared to be concealed, equal baseline comparisons and adherence to treatment protocol. It also had several weaknesses: nearly 20% loss to follow-up, lack of double blinding, but the assessor was blinded, lack of long-term follow-up and the therapists were not McKenzie certified, but had undertaken 50 hours of training.