

# Review: patients with acute low back pain and associated disability improve substantially within 1 month

Pengel LM, Herbert RD, Maher C, et al. Acute low back pain: systematic review of its prognosis. *BMJ* 2003;**327**:323–5.

Clinical impact ratings GP/FP/Primary care ★★★★★☆☆ Rheumatology ★★★★★☆☆

**Q** What is the natural and clinical course of acute low back pain, and what are the prognostic factors that influence this course?

## METHODS

 **Data sources:** Medline, CINAHL, and EMBASE/Excerpta Medica (all up to March 2002), and tracking references of included studies through the Science Citation Index.

 **Study selection and analysis:** prospective studies published in any language that described the source of participants and method of sampling; used an inception cohort of patients with low back pain or sciatica for <3 weeks; had a follow up period ≥3 months; and reported on symptoms, health related quality of life, disability, or return to work. Studies that recruited patients with specific diseases such as arthritis, fracture, tumour, or cauda equina syndrome were excluded.

 **Outcomes:** pain, disability, return to work, and recurrences. Data were extracted for time points where follow up was ≥80%. Pain and disability scores were converted to a 100 point scale.

## MAIN RESULTS

15 studies (9 randomised controlled trials, 1 controlled trial and 5 cohort studies) met the selection criteria. Of the 15 studies, only one monitored patients with sciatica. Patients were recruited from primary care (6 studies), specialists (2 studies), hospital emergency departments (6 studies), and occupational healthcare providers (9 studies). Variance weighted pooled proportions were calculated using a random effects model.

*Course of low back pain.* Pain decreased rapidly within 1 month (pooled mean reduction 58% of initial scores, range of study means 12–84). The pooled mean level of pain on a 100 point scale was 22 at 1 month and 15 between 3 and 12 months.

*Course of disability.* A similar trend was observed for disability, which decreased by a pooled mean of 58%, range 33–83, of initial levels in 1 month. The pooled mean level of disability on a 100 point scale was 24 at 1 month and 14 between 3 and 6 months. A pooled estimate of 82% (95% CI 73 to 91) of patients, initially off work,

returned to work within 1 month. This estimate increased to 93% (CI 91 to 96) at 3–6 months of follow up. The cumulative risk of ≥1 recurrence within 12 months varied from 66–84% (pooled estimate 73%, CI 59 to 88). In 1 study that included patients with sciatica, both back pain and leg pain decreased, on average, by 69% and disability by 57% of initial scores within 1 month. 1 study reported that Vermont disability prediction questionnaire scores ≥0.48 were associated with return to work at 3 months (odds ratio 76, CI 9.6 to 605)

## CONCLUSIONS

Patients with acute low back pain and associated disability improve rapidly within 1 month. Further improvement is apparent until about 3 months. However, pain and disability remain ongoing and recurrences are common.

## Commentary

The meta-analysis by Pengel *et al* provides practitioners with a strong evidentiary basis to appropriately counsel their patients with acute low back pain. Patients should be counselled that (1) their prognosis for relief of pain and return to normal activities is very favourable, with most patients initially off work returning to work within 1 month; (2) most patients who do not return to work within 1 month will do so within 6 months; and (3) residual symptoms and recurrences are common. Such education has been shown to reduce fear avoidance beliefs in patients with back pain and, in a subset of patients, to improve functional outcomes.<sup>1</sup> These data reinforce the approach to acute low back pain articulated in the 1994 Agency for Health Care Policy and Research Clinical Practice Guidelines.<sup>2</sup> Because only one of the included studies dealt with patients with sciatica, it is premature to conclude that such patients will have the same outcomes. Recovery from sciatica may be more delayed than what has been reported in this review.

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Sources of funding: National Health and Medical Research Council, Australia and Australasian Physiotherapy Low Back Pain Trial Consortium.