



Australian Association of Musculoskeletal Medicine

Randomised controlled trial to compare surgical stabilisation of the lumbar spine with an intensive rehabilitation programme for patients with chronic low back pain: the MRC spine stabilisation trial.

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Abstract

Objectives: To assess the clinical effectiveness of surgical stabilisation (spinal fusion) compared with intensive rehabilitation for patients with chronic low back pain.

Design: Multicentre randomised controlled trial.

Setting: 15 secondary care orthopaedic and rehabilitation centres across the United Kingdom.

Participants: 349 participants aged 18-55 with chronic low back pain of at least one year's duration who were considered candidates for spinal fusion.

Intervention: Lumbar spine fusion or an intensive rehabilitation programme based on principles of cognitive behaviour therapy.

Main outcome measure: The primary outcomes were the Oswestry disability index and the shuttle walking test measured at baseline and two years after randomisation. The SF-36 instrument was used as a secondary outcome measure.

Results: 176 participants were assigned to surgery and 173 to rehabilitation. 284 (81%) provided follow-up data at 24 months. The mean Oswestry disability index changed favourably from 46.5 (SD 14.6) to 34.0 (SD 21.1) in the surgery group and from 44.8 (SD 14.8) to 36.1 (SD 20.6) in the rehabilitation group. The estimated mean difference between the groups was -4.1 (95% confidence interval -8.1 to -0.1, $P = 0.045$) in favour of surgery. No significant differences between the treatment groups were observed in the shuttle walking test or any of the other outcome measures.

Conclusions: Both groups reported reductions in disability during two years of follow-up, possibly unrelated to the interventions. The statistical difference between treatment groups in one of the two primary outcome measures was marginal and only just reached the predefined minimal clinical difference, and the potential risk and additional cost of surgery also need to be considered. No clear evidence emerged that primary spinal fusion surgery was any more beneficial than intensive rehabilitation.