Authors' objectives
To review all randomised controlled trials (RCTs) of the effectiveness of bed rest and advice to stay active for acute back pain. Two reviews were presented, one for each intervention.

Searching
MEDLINE and EMBASE were searched from 1966 to April 1996 using the search terms 'back-pain' or 'low back pain' and 'randomised-controlled-trial' or 'controlled-clinical-trial'. 'Bed-rest' was used to search for studies where bed rest was one treatment arm. Citations were tracked with no time limit from these trials and previous reviews using the Science Citation Index, the Social Sciences Citation Index, and a personal bibliography. Additional published and unpublished studies were identified through correspondence with experts in Europe and the USA.

Study selection
Study designs of evaluations included in the review
RCTs were included.

Specific interventions included in the review
The interventions were: bed rest, regardless of setting; and specific medical advice about maintaining normal activity, given in primary care settings (including general or family practice, osteopathy, chiropractic or occupational health practice). Formal exercise programmes, back schools and educational leaflets were excluded.

Participants included in the review
Lower-back pain. Patients aged at least 18 years with a main symptom of lower-back pain of up to 3 months' duration. This included patients with recurrent attacks, acute exacerbations of chronic back pain, and sciatica.

Outcomes assessed in the review
Patient-centred outcomes were assessed. These included the following: rate of recovery from the acute attack; relief of pain; restoration of function; satisfaction with treatment; days off work and return to work; development of chronic pain and disability; recurrent attacks; and further health care use. Objective physical measures of lumbar flexion and straight leg raising were also recorded.

How were decisions on the relevance of primary studies made?
Two reviewers selected trials using the agreed inclusion criteria.

Assessment of study quality
The methodological quality of each trial was assessed using a scoring system developed for studies on back pain management (see Other Publications of Related Interest). The following criteria were used: the homogeneity and similarity at baseline of the study population; the adequacy of the randomisation procedure; the description and the number of drop-outs; sample size; the description of the interventions; the use of placebo and avoidance of co-interventions; blinded outcome assessments; adequate follow-up period; intention to treat analysis; and the presentation of the results. The methodological quality of each trial was assessed independently by two non-blinded reviewers. Any disagreements were resolved by discussion, with adjudication by a third reviewer if necessary.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
A narrative synthesis was undertaken. The results of trials assessing the effectiveness of bed rest were presented
separately from those for trials assessing the effectiveness of advice to stay active.

How were differences between studies investigated?
The authors state that the heterogeneity of the outcome measures prevented a meta-analysis, but no statistical assessment of heterogeneity was undertaken. The outcome measures were presented in the paper.

Results of the review
Ten RCTs (n=1,438) of bed rest and 8 RCTs (n=1,784) of advice to stay active were included. Two trials (n=228) compared the effects of both bed rest and advice to stay active, and were included in both reviews.

Methodological quality.
Five of the 10 trials of bed rest and 6 of the 8 trials of advice to stay active met the criteria for 'high quality' (50 out of 100 possible points).

Bed rest.
Two trials for bed rest were untypical: one did not address the efficacy of bed rest itself, but of traction, and one was in a military setting. The remaining 8 trials showed that bed rest was not effective. Bed rest was not significantly different from placebo treatments or no treatment. In addition, it was no different or less effective than comparator treatments for rate of recovery, relief of pain, return to daily activities, days lost from work, and recovery of objective clinical measures.

Advice to stay active.
All 8 trials showed consistently positive results. Advice to stay active made no difference to pain or to initial recovery, but increased patient satisfaction. Three trials showed that advice to stay active led to a faster return to work, while one showed no significant difference. Advice to stay active also led to reductions in chronic disability (3 trials), health care use for back pain in the next year (1 trial), and time off work in the next year (3 trials). There was no evidence that early activity had any harmful effects or led to more recurrences.

The 2 trials that compared advice to stay active with bed rest were both of high quality, and showed that ordinary activity produced faster recovery.

Authors' conclusions
There were consistent findings that bed rest was not an effective treatment for acute lower-back pain, and that it may delay recovery. Advice to stay active and to continue ordinary activities resulted in a faster return to work, less chronic disability, and fewer recurrent problems. A change from the traditional prescription of bed rest to positive advice about staying active could improve clinical outcomes, and could also reduce the personal and social impact of back pain.

CRD commentary
The review was well written. The search was adequate and the search terms were presented. The validity of the studies was assessed and the results were presented. Details of the included studies were given in the paper, although details of the participants (such as age) were not presented for individual studies. The data synthesis was appropriate given the high degree of heterogeneity of the included studies.

The review answered questions about two interventions for lower-back pain. It found one of them to be ineffective and the other to be effective. For the effective intervention, the studies included were of a high quality (6 out of 8). However, for the intervention deemed to be ineffective, the studies were of a poorer quality (only half met the criteria for high quality); this may limit the strength of the conclusions which can be drawn at this stage.

Implications of the review for practice and research
The authors state that a change from the traditional prescription of bed rest to positive advice about staying active could improve clinical outcomes, and could also reduce the personal and social impact of back pain. They also state that further trials of bed rest are needed for the minority of patients with disc prolapse.
Funding
NHS Executive; North Thames Regional Health Authority Research and Development Directorate.

Bibliographic details

PubMedID
9474831

Other publications of related interest

This additional published commentary may also be of interest. Nachemson AL. Review: advice to stay active is effective for acute low-back pain but bed rest is not. Evid Based Med 1998;3:109.

Indexing Status
Subject indexing assigned by NLM

MeSH
Acute Disease; Adult; Bed Rest; Humans; Low Back Pain /therapy; Randomized Controlled Trials as Topic; Research Design; Treatment Outcome

AccessionNumber
11997008368

Date bibliographic record published
30/06/1999

Date abstract record published
30/06/1999

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.