Bed rest: a potentially harmful treatment needing more careful evaluation

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Authors' objectives
To assess the efficacy or adverse effects of bed rest for any condition.

Searching
The authors searched the electronic databases of MEDLINE and the Cochrane Library (January 1966 to June 1998) using the terms: 'bed rest', 'bedrest', 'recumben*', 'expectant', 'rest', 'early ambulat*', 'early activation', 'early discharge', 'randomised-controlled-trial', 'controlled-clinical-trial', or 'random'. The authors also searched relevant articles from this review, review articles with citation tracking, and personal bibliographies for additional relevant studies.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) where participants of intervention and control groups were both living in the same environment (e.g. hospital or home). Early discharge was only acceptable if both groups were in the hospital environment during the comparison of bed rest versus no bed rest.

Specific interventions included in the review
Bed rest versus early mobilisation for any condition within any setting. Advice and education were not classified as treatments.

Participants included in the review
Participants were patients prescribed bed rest for a number of different conditions, e.g. acute back pain, spontaneous labour, lumbar puncture, spinal anaesthesia, cardiac catheterisation, or radiculography. Participants received the same treatments (drug administration, surgical intervention, or active physical therapy) other than the amount of bed rest.

Outcomes assessed in the review
The authors reported all outcome measures that showed a significant difference between mobilised patients and those undergoing bed rest, as well as the principal outcome measures that did not differ significantly. Outcome measures included: headache, vertigo, nausea, vomiting, back pain, dizziness, bleeding, haematoma, pain, delayed bleeding, results of several assessment scores and indices, and mortality.

How were decisions on the relevance of primary studies made?
One author selected papers for the review.

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
One author performed the data extraction.

Data were extracted for the categories of: Study identification, intervention, number of participants, outcome measures, condition being treated, direction of effect and individual odds ratios (ORs) with 95% confidence intervals (CIs).

Methods of synthesis
How were the studies combined?
The review was presented as a narrative summary including the presentation of individual odds ratios. The authors stated that pooling was not possible because there was much variation in the application of the strictness and duration of bed rest, even within disease groups.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
Thirty-nine RCTs were included in the review with 5,777 participants.

In twenty-four trials investigating bed rest following a medical procedure, seven outcomes were better with bed rest but none significantly so, whereas twenty-six outcomes were worse with bed rest; and nine of which were significantly worse. No significant benefit was shown in ten trials examining the frequency of headache after spinal puncture with different protocols of bed rest. Nine studies examined the effect of different periods of bed rest after cardiac catheterisation, with the early ambulation times varying between 2 hours and 6 hours. The results suggested that 2.5 hours rest is sufficient after catheterisation with 5F or 6F catheters, and 4 hours is sufficient after catheterisation with 7F catheters.

In fifteen trials investigating bed rest as a primary treatment, six outcomes were better with bed rest, but none significantly, whereas twenty-five outcomes were worse and nine significantly so. Three trials on the use of bed rest in obstetrics were included: one reported significantly worse outcomes with bed rest in the first stage of labour.

Authors’ conclusions
The authors state that overall there was no evidence that bed rest has any significant beneficial effect when used as a treatment or when used after surgery. Indeed, in some disorders it seems to be harmful.

CRD commentary
The authors have stated their research question and some inclusion and exclusion criteria. The literature search appears to be thorough although it is not clear whether there were any language restrictions. It is possible that additional relevant studies may have been missed because the searches were limited to published data which may also have led to publication bias. The authors do not report whom, or how many of the authors, performed the selection of studies or who performed the data extraction. There is no validity assessment of the included studies.

The review was a narrative presentation of individual odds ratios (ORs) and 95% confidence intervals (CIs) with a narrative summary of the results. The authors stated that pooling was not possible because there was much variation in the application of the strictness and duration of bed rest, even within disease groups.

The authors’ conclusions appear to follow from the results but these should be viewed with caution because of the methodological limitations in the process of the review.

Implications of the review for practice and research
Practice: The authors state that the findings support modern recommendations that bed rest should no longer be offered for acute low back pain, myocardial infarction, pulmonary tuberculosis, or acute infectious hepatitis. Bed rest should be considered a highly unphysiologic and definitely hazardous form of therapy, to be ordered only for specific indications and discontinued as soon as possible. The indications for which bed rest should be prescribed, and for how long, are yet to be defined.

Research: The authors state that further studies need to be done to establish evidence for the benefit or harm of bed rest as a treatment.

Bibliographic details

PubMedID
10520630

Other publications of related interest
These additional published commentaries may also be of interest. Reis S. Review: early mobilisation may be better than bed rest for medical conditions and after surgery 2000;5(3):76. Burson T. Review: early mobilisation is better than bed rest for medical conditions and after healthcare procedures. Evid Based Nurs 2000;3:52.

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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.