Malmivaara A, Hakkinen U, et al. The Treatment of Acute Low Back Pain—Bed Rest, Exercises, or Ordinary Activity? N Engl J Med 1995;332:351-5.

Design: Randomized clinical trial

Population/sample size/setting:

- 186 employees (excluding public-transport and electricity supply) of the city of Helsinki (124 women, 62 men,, mean age 39) presenting with acute low back pain to the city's occupational health care centers
- Inclusion criteria were acute LBP or exacerbations of chronic pain lasting less than three weeks; pain below the knee was included in the absence of sciatica
- Exclusion criteria were sciatica (defined as at least one neurologic deficit plus straight leg raising sign at 60 degrees or less)

Main outcome measures:

- Randomized to one of three groups: bed rest (n=67), exercise (n=52), or control (n=67)
- Bed rest patients were advised to remain in bed for two days, with only essential walking allowed; they were given an illustration of a person lying in a semi-Fowler, supine with legs flexed
- Exercise group received individual instruction from a physiotherapist in one session, with back-extension and lateral bending done with 10 slow repetitions, every other hour during the day until pain subsided, and was advised to avoid bed rest and continue routines as actively as possible within the limits permitted by back pain
- Control group was advised to avoid bed rest and continue routines as actively as possible within the limits permitted by back pain
- Outcomes included days of sick leave, ability to work, and Oswestry Disability Index (ODI)
- After three weeks, the control group had statistically significant advantages over the bed-rest group in sick days and ability to work (6.8 on a scale from 0-10 in the bed-rest group and 7.9 in the control group)
- At three weeks, the control group also had advantages over the exercise group in sick days, duration of pain, and scores on ODI (scores were 16.0, 18.6, and 10.0 after adjustment for baseline measurements in bed-rest, exercise, and control groups)
- At 12 weeks, the control group had recovered more quickly than the bed-rest and exercise groups, having fewer sick days
- Visits to doctors were on average more frequent in the exercise group than in the control group (2.2 vs. 1.7)
- Cost comparisons were done, but no statistically significant group differences were found

Authors' conclusions:

- Workers with acute low back pain recover more quickly with avoiding bed rest and maintaining ordinary activity as tolerated

- As little as two days of bed rest may delay functional recovery
- Because the study investigators began the study with the belief that exercise would lead to the fastest recovery, and that bed rest and usual activity were about equal, it is not likely that their ideas influenced the patient outcomes

Comments:

- Although there were some imbalances at baseline between groups, these were adjusted for in the reported analyses in subsequent tables
- Sources of bias appear to be well-controlled; the fact that the results ran counter to the expected outcomes also suggests that biased observation did not affect the reported results

Assessment: High quality for evidence that maintaining usual activity is advisable for acute low back pain in workers