Kimmell LA, Edwards ER, et al. Rest easy? Is bed rest really necessary after surgical repair of an ankle fracture? Injury 2012;43(6):766-71.

Design: Randomized clinical trial

Study question: in patients having surgical fixation of ankle fractures, are there differences in outcome between those who begin out-of-bed mobilization on the first postoperative day and those whose mobilization is delayed until the second postop day?

Population/sample size/setting:

- 104 patients (60 men, 44 women, mean age 41.7)undergoing primary internal fixation of an ankle fracture at a hospital in Australia
- All fracture types were included (uni-, bi-, and trimalleolar)
- Exclusion criteria were any medical condition, pathological fractures, or associated injuries limiting the ability to mobilize early after the fracture
    - Pilon and Gustilo Grade II or greater open fractures were excluded

Interventions:

- All patients underwent standardized stabilization procedures with screw fixation, tension band wiring, or plates and screws as indicated for the particular fracture
- All ankles were then immobilized in plaster for 10-14 days for wound examination, and no weight bearing was permitted for 6 weeks
- All patients were given a home exercise program for strength maintenance
- Randomization was to early mobilization (n=51) or to control (n=53)
    - Early mobilization was introduced on the first morning after surgery by a physiotherapist who helped the patient ambulate with an appropriate gait aid and supervised the early phase of activity
    - The control group was kept in bed for the first postoperative day with the injured leg elevated on two or more pillows, after which they began assisted ambulation on the second postop day with the same approach as the early group

Outcomes:

- The main outcome was length of stay postoperatively, with additional comparisons based on hospital length of stay, opioid use, and the condition of the injured ankle at the 10-14 day followup examination
- The early mobilization group spent an average of 30 hours in the hospital between surgery and discharge; the control group spent 50 hours, a difference which was statistically significant

- The early group used 67 mg morphine equivalent; the control group used 89.7 mg, a difference which was not statistically significant
- The two groups did equally well at 10-14 days, with no differences in wound characteristics such as erythema and separation of wound edges, wound breakdown, or evidence of infection
    - The 3 cases with wound breakdown requiring re-admission were in the control group

Authors' conclusions:

- Bed rest and elevation of an injured ankle following fixation may not be necessary for the first postoperative day; patients can be gotten out of bed and begun ambulating with an appropriate gait aid on the first postop day without increasing the need for analgesia and without adverse consequences on wound healing two weeks later
- Hospital length of stay following the operation can thereby be shortened without negative effects

Comments:

- Risks of bias and threats to internal validity were controlled by appropriate randomization and blinding
- Although hospital length of stay was also measured, it was not a primary outcome because it can be affected by extraneous factors such as how long it takes to get an operating room available
- Early mobilization appears to be a safe measure for acute ankle fractures

Assessment: High quality study supporting good evidence that in patients who undergo internal fixation of acute nonpathological ankle fractures, it is not necessary to remain at bed rest for the first postoperative day; mobilization can safely be started with gait aids on the first morning after surgery, leading to shorter length of hospital stay, no increase in the need for opioid analgesia, and equally satisfactory wound healing two weeks after surgery