

## Outcomes of Early Versus Delayed Postoperative Weight Bearing in Patients Undergoing Surgical Fixation of Ankle Fractures: A Systematic Review and Meta-Analysis

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**Purpose:** Although indications for surgical intervention for acute ankle fracture are relatively well defined, the postoperative protocol with respect to time to weight bearing (early or late) remain controversial. The purpose of this study was to systematically review early postoperative weight bearing (EWB) compared to late weight bearing (LWB) on functional outcome and complications in adult patients undergoing surgical fixation of ankle fractures.

**Methods:** A systematic review of the literature was performed to identify studies of randomized clinical trials or matched cohort studies comparing outcomes of EWB (within 2 weeks postoperatively) and LWB (4-6 weeks postoperatively) after surgical fixation of ankle fractures. Randomized controlled trials, as well as nonrandomized prospective cohort studies with a control group, were included. The primary outcome was ankle functional outcome as measured by the Olerud Molander Ankle score (OMA). Secondary outcomes included time off work, and complications such as nonunion, malunion, wound complications, and reoperations.

**Results:** 10 studies and 633 patients were included at final analysis. The pooled results demonstrated a 10-point improvement in OMA scores at 6 weeks postoperatively for patients in the EWB group compared to the LWB group ( $P = 0.02$ ), but no difference in the long term at 1 year. With regard to time off work there was a trend toward reduction of 15 days in the EWB group ( $P = 0.08$ ). There was no difference with respect to nonunion, malunion, or wound complications between the 2 groups. Patients in the LWB group had a trend toward higher rate of revision surgery (11 of 169 vs 1 of 170,  $P = 0.08$ ), primarily for hardware removal.

**Conclusion:** This meta-analysis suggests improved early functional outcomes in patients treated with EWB compared to LWB, with a trend toward lower time off work and lower need for revision surgery. The results show no difference in rates of nonunion, malunion, or wound complications between the 2 groups, indicating that early weight bearing is safe. Given the potential for improved outcome and lack of increased risk, early postoperative weight bearing after surgical fixation of ankle fracture is recommended.