

Postoperative Weightbearing Status Does Not Lower Patient Mortality Following Geriatric Distal Femur Fracture

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Purpose: Unlike most geriatric lower extremity fractures, distal femur fractures are commonly treated with weightbearing restrictions. Early weightbearing after hip fracture is critical as it combats early patient morbidity and mortality associated with immobility. The purpose of this study was to evaluate the impact of weightbearing restrictions on geriatric patients following distal femur fractures.

Methods: Geriatric (age >60 years) distal femur fractures that underwent operative fixation from 2012-2020 at 9 Level I trauma centers were retrospectively reviewed. Patients with a mortality within 1 year from surgery or with a minimum of 6 months follow-up were included. Postoperative weightbearing status was stratified into non-weightbearing (NWB) versus any weightbearing (WB) (touch down/partial/weightbearing as tolerated) groups. Demographics, discharge location, ability to ambulate at 90 days, ambulatory assistance, revision surgery, and mortality were compared between groups. Chi-squared and Fisher exact tests were used to compare groups.

Results: 423 patients were included with 90-day mortality of 8.5% and 1-year mortality of 15.1%. The majority of patients (60.2%) underwent open reduction and internal fixation and most patients had restricted weightbearing immediately after surgery (NWB 75.3%). In comparing the NWB versus WB groups, there was no difference in gender, ethnicity, tobacco use, American Society of Anesthesiologists score, preoperative ambulatory status, or discharge home. The WB group was older (74 vs 71 years, $P = 0.003$) and more patients sustained a ground level fall (79.8% vs 64.7%, $P = 0.013$). The WB group had more patients ambulate at 90 days (77% vs 60%, $P = 0.011$) and more patients ambulated without assistive device (21% vs 8%, $P < 0.001$). The need for revision surgery was similar between groups (NWB 17.4% vs WB 20.2%, $P = 0.30$). The NWB group had a lower 90-day mortality (6.3% vs 13.5%, $P = 0.02$) and lower 1-year mortality (13.2% vs 19.2%, $P = 0.135$).

Conclusion: Most geriatric patients were kept NWB following surgery for distal femur fractures. More immediate weightbearing patients were able to ambulate at 90 days. However, the NWB group had lower 90-day and 1-year mortality than the immediate WB group despite both groups having similar comorbidity profiles. In contrast to hip fractures, prescribed immediate postoperative weightbearing status may not impact patient mortality.