

Immediate Weight-Bearing and Range of Motion After Internal Fixation of Unstable Ankle Fractures: A Retrospective Controlled Study

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Purpose: Existing studies supporting early weight-bearing and range of motion (ROM) after ankle fracture fixation are often small and exclude patients with syndesmotic or posterior malleolar fixation. We studied the safety of immediate weight-bearing as tolerated (IWBAT) and immediate ROM (IROM) following open reduction and internal fixation (ORIF) of unstable ankle fractures, and attempted to identify risk factors for complications.

Methods: We performed a retrospective case-control study. Out of 268 patients who underwent primary ORIF of an unstable ankle fracture from 2013 to 2018, we identified 133 (49.6%) who were IWBAT and IROM. We used propensity-score matching to identify 172 controls who were non-weight-bearing (NWB) and no ROM for 6 weeks postoperatively. We reviewed medical records and radiographs. Our primary outcome was complications.

Results: The groups did not differ significantly in age, body mass index (BMI), Charlson Comorbidity Index, smoking status, diabetes status, fracture types, percentages undergoing medial malleolus (60.9% IWBAT, 51.7% NWB), posterior malleolus (24.1% IWBAT, 26.7% NWB), or syndesmosis fixation (41.4% IWBAT, 42.4% NWB; $P = 0.85$). There was no significant difference in total complications (9.8% IWBAT, 12.8% NWB; $P = 0.41$), nonoperative complications (6.8% IWBAT, 8.7% NWB; $P = 0.53$), or operative complications (3.8% IWBAT, 4.1% NWB; $P = 0.89$). We did not identify any factors associated with increased complication risk, including posterior malleolus or syndesmosis fixation, diabetes, age, or preinjury assisted ambulation.

Conclusion: With appropriate surgical augmentation, IWBAT and IROM may be safe following ankle fracture ORIF in a broader patient population than previously believed. This includes preinjury assisted ambulators, the elderly, and those with posterior malleolus or syndesmosis fixation.