

**Immediate Unprotected Weightbearing vs 2 Weeks Non-weightbearing After Open Reduction Internal Fixation of Ankle Fractures**, Le V, Viskontas D, Lohre R, et al. *Foot Ankle Int.* 2024;45(2):103-114.

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Level of Evidence: 2

**Reviewer:**

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It is a common standard of practice that non-weightbearing will be employed after open reduction and internal fixation (ORIF) of ankle fracture. However, not every patient can handle with weightbearing restrictions and immobilization. This study attempted to compare their institutional standard ankle fracture surgery rehabilitation protocol of 2 weeks' non-weight bearing (NWB) and immobilization in a plaster splint and initiation of early range of motion (ROM) and weight bearing as tolerated (WBAT) at 2 weeks in a walker boot until 6 weeks post-op, vs immediate unprotected (no splint or boot) WBAT. The main hypothesis was that immediate weightbearing after ORIF of ankle fracture would result in no difference in short-term functional outcomes, wound complication rates and fracture reduction maintenance.

A level II prospective study was conducted on 87 patients at a trauma I hospital between 02/2017 and 01/2021. 43 patients were assigned to the control group (LWB) of protected WB and ROM and 44 patients were assigned to immediate unrestricted weightbearing (IMWB) and range of motion without immobilization. Surgical technique and implant choice was left to the discretion of the attending surgeon. Exclusion criteria were syndesmotic injuries, high-energy injuries (pilons and fracture-dislocations), and those involving the weightbearing superior articular surface. Patients were seen for postoperative clinic evaluation at 2 weeks, 6 weeks, and 12 weeks and post-op radiographs were also taken during these visits. Patient reported outcomes including the OMAS, the Euroqol-5D (EQ5D) health outcome score, and Work Productivity and Activity Impairment: Specific Health Problem (WPAI:SHP), range of motion (ROM), wound complications, return to work, need for reoperation, and radiographic loss of fracture reduction were used as determine the difference between the control group and the immediate weightbearing group.

Patient reported scores including OMAS, EQ5D and WPAI:SHP showed no differences between IMWB and LWB. Furthermore, when comparing ROM between IMWB and LWB, the IMWB was shown to have significant better plantarflexion, total arc of motion at 2-week post-op and dorsiflexion at 12-weeks post-op visit. For adverse events, it was noticed that the IMWB group had 5 wound complications compared with 1 in the LWB group. Loss of fracture reduction was determined via measuring medial clear space and tibial-fibular clear space. Surprisingly, there was no difference in loss of fracture reduction between the IMWB and LWB group. Lastly, there was similar rate without statistically significant differences in returning to work between IMWB and LWB.

While it was demonstrated that there were no differences in patient reported outcomes and loss of reduction between IMWB and LWB, it was immediately noticed that the IMWB group had higher wound complication rate compared to LWB. Therefore, the authors have recommended IMWB should not be a routine practice after ORIF of an ankle fracture. There were several limitations to this study including stringent exclusion criteria leading loss of larger sample size, lacking other advance imaging modalities including CT for different ankle measurements, lacking pre-operative and post-operative radiograph measurement data, and long-term functional outcomes. The findings of this study were ultimately shown a consistent result that was previously reflected in other studies and that was early mobilization would improve range motion of the ankle while maintaining the reduction.



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