

Δ To Weight-Bear or Not After Operatively Treated Displaced Intra-Articular Calcaneal Fractures: Final Results of a Multicenter Study

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Purpose: Displaced intra-articular calcaneal fractures (DIACFs) are extremely debilitating injuries. Even after operative treatment the rehabilitation requires months to years. Only a few regain their preinjury level of function. The purpose was to assess whether early postoperative permissive weightbearing (PWB) results in improved functional outcomes quality of life and radiographic differences at a minimum of 2 years follow-up, compared to a non-weightbearing protocol (NWB).

Methods: Included patients had an operatively treated DIACF in the period from 2015-2020. Functional outcomes were evaluated by the American Orthopaedic Foot & Ankle Society (AOFAS) score and the Maryland Foot Score (MFS). General health and quality of life were assessed using the Short Form-12 (SF-12) and EuroQoL 5 Dimensions 5 Levels (EQ-5D).

Results: 34 patients with operatively treated DIACFs were included. 14 patients rehabilitated following the PWB protocol, and 20 patients rehabilitated following the NWB protocol. No differences in baseline characteristics were found. Compared to the NWB protocol, the PWB had a higher mean preoperative Bohler angle (13.7 vs 9.9); however, the postoperative Bohler angle was almost equal for both groups (PWB 25.6 vs NWB 24.7). The American Society of Anesthesiologists (ASA) score was also comparable in both groups. Compared to the NWB, the PWB group had higher functional outcome scores on AOFAS (83.4 vs 72.8) and MFS (86.3 vs 78.9); however, not significantly different. It showed better outcomes on General Health and Quality of Life as well on SF-12 (41.4 vs 40.0) and EQ-5D (0.86 vs 0.80) scores. All patients in the PWB group could return to previous sports; in the NWB group this was 50%.

Conclusion: The final results of this multicenter comparison study may indicate that, after a minimum of 2 years of follow-up, PWB yields higher functional outcomes compared to the NWB; however, not significantly different. The PWB group was twice as likely to resume their preinjury sport activities. Further research is needed to assess the general health and quality of life, the effect of PWB on posttraumatic arthritis, and the potential positive effects for the different Sanders classification subgroups.