

**To Bear Weight or Not in Operatively Treated Displaced Intra-Articular Calcaneal Fractures: Interim Analysis of a Multicenter Study**

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**Purpose:** Displaced intra-articular calcaneal fractures (DIACFs) are extremely debilitating injuries. Even after operative treatment, rehabilitation requires multiple months to years, while only few regain their preinjury level of function. The purpose of this study was to assess whether early postoperative permissive weightbearing (PWB) results in improved functional outcomes, higher self-reported health-related quality of life at a minimum of 2 years follow-up, compared to non-weightbearing protocols (NWB).

**Methods:** All included patients had a DIACF and were operatively treated using percutaneous screw fixation or open reduction and internal fixation, from 2015 until present. Functional outcomes were evaluated with the use of the American Orthopaedic Foot & Ankle Society (AOFAS) score and the Maryland Foot Score (MFS). General health status and self-reported quality of life was assessed using the Short Form-12 (SF-12) and EQ-5D-5L (EuroQol 5 Dimensions 5 Levels) questionnaires. Anatomical restoration was based on pre- and postoperative radiographic images.

**Results:** The inclusion of all available patients is not finished yet. In this interim analysis, a total of 23 patients were included with a mean age of 56 years (standard deviation [SD] = 16.9). 16 patients rehabilitated using the NWB protocol, and 7 with the PWB protocol. No differences in baseline characteristics were found between the 2 operative treatment groups. The mean follow-up in the NWB group was 40 months (SD = 17.2) compared to 52.4 months (SD = 12.7) in the PWB group. Compared to the NWB group, the PWB group has significant higher functional outcome scores on the AOFAS (83.8 vs 63.5) and MFS (83.2 vs 72.7). No significant differences were found in the SF-12 and EQ-5D outcome scores. All patients in the PWB group could return to their previous sports; in the NWB group this was 50%. The Böhler angles of both groups did not differ significantly pre- and postoperatively (NWB 11.3 preoperatively to 24° postoperatively, PWB 15.7 preoperatively to 24° postoperatively).

**Conclusion:** The interim results of this multicenter comparison study may indicate that, after a minimum of 2 years of follow-up, the PWB group yields higher functional outcomes compared to the NWB with an equal postoperative Böhler angle. Furthermore, patients who rehabilitated following the PWB protocol were twice as likely to resume their preinjury sport activities. Further research is needed to assess the effect of PWB on posttraumatic arthritis and on the potential positive effects for the different Sanders classification subgroups. Furthermore, analysis should be done to evaluate the general quality of life.