

## **Inappropriate Weight Bearing After Surgical Treatment of the Lower Extremity Does Not Influence the Number and Severity of Complications**

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**Purpose:** To support the healing patients, are often suggested to perform partial weight bearing after an operation of the lower extremity. Previous examinations has shown that people are often not able to follow these instructions. In this study 101 patients who underwent an operation of the lower extremity were observed to see if an incorrect loading influences the number of complications.

**Methods:** Between July 2015 and July 2017, 101 patients with injuries of the lower extremity were equipped with electronic shoe insoles, which are able to make a measurement of the loading and many other factors. The period of the measurement took 24 to 102 hours. The median duration of follow up was 490 days. Noticed were all complications that made a hospital stay necessary. In 49 cases the data were sufficient to make a statistical analysis, which was performed by using the chi square and Fisher exact test with significance set at  $P < 0.05$ .

**Results:** In 49 study participants we observed 7 complications in 7 patients. We have seen 4 wound complications, 1 implant failure, a chronic instability after a fracture of the tibia, and 1 implant loosening of a hip prosthesis. This patient was allowed to do full weight bearing and the average loading was 22.8 kg. The average weight bearing of the participant who incurred the implant failure of a dynamic hip screw was 15.4 kg, so he followed the surgeon's recommendation. In total 26 of the 49 patients were not able to follow the postoperative instructions. 5 of these patients occurred a complication, whereas 2 of the other 23 study participants were affected. There is no statistically significant correlation between high weight bearing and the occurrence of complications ( $P = 0.29$ ).

**Conclusion:** The conclusion of this study is that on the one hand, most of the patients are not able to follow the partial weight-bearing instruction of the surgeon. On the other hand, it shows that an excessive loading does not seem to influence the number and severity of postoperative complications, especially with regard to implant failures. So we should evaluate stopping partial weight-bearing instructions.