

Δ Outcomes Associated with Early Return to Work and Improved Functional Outcome After Ankle Fracture Fixation

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Purpose: Unstable ankle fractures are generally treated with open reduction and internal fixation. Patient outcomes such as return to work and functional outcome scores depend on many factors, including patient factors, fracture characteristics, and surgical and post-operative protocols. The purpose of this study was to identify factors associated with early return to work and improved functional outcome scores in patients undergoing ankle fracture fixation.

Methods: The results of a previously published randomized controlled trial were utilized. The primary outcome of this study was the rate of return to work at 6 weeks postoperatively, and the secondary outcome was the Short Form-36 Physical Component Summary (SF-36 PCS) score. Clinically relevant patient characteristics were assessed for inclusion in a multivariable model including: age, sex, type of occupation, type of fracture, time to surgical fixation, and type of rehabilitation postoperatively (early weight bearing at 2 weeks or delayed weight bearing at 6 weeks).

Results: In total 110 patients were included for analysis, the mean age was 42 years, and 53% were male. A multivariable model of return to work demonstrated that patients with a sedentary type of occupation were 3.1 times more likely to return to work compared to those with labor/intermediate type of occupations ($P = 0.013$). There was also a trend toward early return to work in patients with unimalleolar fractures (vs bimalleolar); however, this did not reach statistical significance (odds ratio [OR] = 2.1, $P = 0.085$). Age and type of postoperative weight-bearing protocol had no effect on return to work. When assessing SF-36 PCS scores, patients treated with early weightbearing protocol had a 9-point increase in SF-36 PCS scores, compared to those with delayed weight bearing ($P = 0.005$); and patients with a sedentary type occupation had a 9-point increase in SF-36 PCS scores, compared to those with labor/intermediate occupations ($P = 0.01$). Age, sex, type of fracture, and time to surgery had no significant effect.

Conclusion: This study suggests that early return to work is significantly affected by the type of occupation (sedentary), and potentially the type of fracture (unimalleolar fracture). Early postoperative weight bearing has a significant effect on improving patients' functional outcome, and should be encouraged. This study suggests that patients with intermediate/labor occupations have lower subjective physical function scores, and require longer time off work.

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