Return to Work Outcomes Related to Operative versus Nonoperative Treatment of Calcaneal Fractures

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INTRODUCTION: Calcaneal fractures are a common work-related injury that can be treated both operatively and nonoperatively. Operative management typically consists of open reduction with internal fixation via either an extensile lateral or sinus tarsi approach. Conservative treatment employs a combination of immobilization, rest, and elevation. Given that return to work is a critical milestone for many of these patients, it is crucial that the best management option is chosen. While there have been studies that compared operative versus conservative treatment, there has been no summative review on this topic. Thus, the goal of this study was to conduct a systematic review and meta-analysis on the impact of operative versus nonoperative management on return to work outcomes.

METHODS: MEDLINE (PubMed), Embase (Elsevier), and Cochrane Library were searched for the concepts of calcaneal fracture and return to work. Inclusion criteria consisted of studies that reported on operative or nonoperative treatment of calcaneal fractures and outcomes relating to timing of return to work. Abstract only studies, biomechanical studies, cadaveric studies, case reports, studies involving pediatric patients, and non-English texts were excluded. Factors that were extracted included fracture type, pre-injury workload, mechanism of injury, treatment, return to work, functional outcomes, and complications. Revman 5.3 software was used for meta-analysis. Studies that did not qualify for meta-analyses were described qualitatively.

RESULTS: 2462 studies were identified on initial search. 52 texts met inclusion and exclusion criteria. A total of 3338 patients were included. Operative management had significantly improved return to work outcomes compared to nonoperative treatment, with an overall mean difference of 40.79 days [95% Confidence Interval (CI), -69.55 to -12.03, p < 0.05]. Operative treatment was also associated with significantly lower pain scores [Mean difference: -1.14; 95% CI, -2.24 to -0.04, p < 0.05] and higher SF-36 scores [Mean difference: 13.89; 95% CI, 7.69 to 20.10, p < 0.0001]. Operative treatment did have expectedly higher risk of all complications compared to the nonoperative group [Risk Ratio: 1.80; 95% CI, 1.22 to 2.66, p < 0.05].

DISCUSSION AND CONCLUSION: While operative management was associated with higher risk of complications, patients had improved return to work, pain, and functional outcomes compared to nonoperative treatment. Careful consideration should be taken when determining treatment options for calcaneal fracture patients. Further research is needed to better elucidate differences between operative treatment options.





Figure 1: PRISMA diagram

Figure 2A: Return to work. 2B: VAS Pain. 2C: SF-36. 2D: Complications