

Can We Identify Risk Factors for Delayed Return to Work Following Tibial Shaft Fracture Surgery?

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Purpose: The purpose is to determine when patients return to work following surgical repair of tibial shaft fractures (TSFs) and what risk factors are associated with a delayed return to work (RTW).

Methods: Retrospective chart review was performed on a consecutive series of TSF patients who presented to a Level I trauma center and orthopaedic hospital and underwent operative repair. Collected information included demographics, injury characteristics, postoperative course, and time to RTW based on documented work- clearance communications from the operating surgeon. Patients were divided into 3 groups based on when they returned to work: early (≤ 90 days), average (91-180 days), and late (≥ 180 days). Univariate analysis was performed to compare the 3 groups, and significant variables were included in a multinomial logistic regression to determine factors associated with prolonged RTW.

Results: 168 patients were identified, with 10 retired and 4 unemployed. Additionally, 4 patients were unable to return to work and were also excluded, leaving 150 patients. All underwent definitive fixation with an intramedullary nail, with 26 (17.3%) requiring initial external fixation. The average time to RTW for the overall study population was 4.17 ± 2.06 months. There were 39 patients (26.0%) in the early RTW group, 85 (56.7%) in the average RTW group, and 26 (17.3%) in the late RTW group. There were no significant differences in demographics, medial comorbidities, or fracture location between groups. Patient with high energy injuries ($P = 0.024$), open fractures ($P = 0.001$), initial external fixation ($P = 0.036$), a labor-intensive job ($P = 0.018$), and postoperative non-weightbearing status ($P = 0.023$) all had significantly longer RTW. Multinomial logistic regression including these parameters found that a closed fracture was associated with a 1.9 \times decreased risk of delayed RTW ($P = 0.004$, 95% confidence interval 0.039-0.533).

Conclusion: Open fractures, initial external fixation, restricted postoperative weightbearing, and labor-intensive jobs are associated with a delayed RTW following operative repair of TSFs.