

Formal Physical Therapy Improves PROMIS PF for High Anxiety Patients Following Ankle Open Reduction and Internal Fixation

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Purpose: Previous studies have reported conflicting results regarding the need for formal physical therapy (PT) following ankle fracture fixation. The purpose of this study is to (1) compare outcomes between patients receiving formal PT vs no formal PT, (2) compare outcomes between high vs low Patient-Reported Outcomes Measurement Information System (PROMIS) Anxiety Scale (AS) patients, and (3) evaluate the effect of PT in the setting of high vs low PROMIS AS.

Methods: Patients undergoing isolated ankle fracture fixation at a Level I trauma center were included in this study. All included patients had a baseline PROMIS AS score between 0-6 weeks postoperatively, a documented PROMIS PF (Physical Function) and PI (Pain Interference) score postoperatively, and a minimum 6-month follow-up. Outcomes were compared between patients receiving formal PT referral vs no PT referral and between high vs low PROMIS AS postoperatively. A cutoff of 59 was used to determine high vs low PROMIS AS. Univariate/multivariate regression analysis was used to control for significantly differing covariates. A subanalysis was performed between patients with low anxiety and no PT (LANP) vs low anxiety with PT (LAP) vs high anxiety and no PT (HANP), and high anxiety with PT (HAP).

Results: A total of 161 patients were included in this study: 127 PT, 34 no PT, 103 low anxiety, and 58 high anxiety. No significant differences in PROMIS PF or PI were seen at baseline, final follow-up, or Δ final baseline between PT and no PT patients. High anxiety patients reported worse PROMIS PI scores at baseline (64.9 vs 58.3, $P < 0.001$) and final follow-up (58.8 vs 51.3, $P < 0.001$). No significant differences in PROMIS PF were observed between high vs low anxiety patients. PROMIS PF scores at final follow-up were significantly lower for HANP patients than LANP, LAP, and HAP patients (38.9 vs 47.7 vs 45.1 vs 43.7, $P = 0.021$, $P = 0.001$, $P < 0.001$, $P = 0.015$). No significant difference in final PROMIS PF was seen between HAP and LANP or LAP patients.

Conclusion: PT referral should be provided for patients reporting a high PROMIS AS score postoperatively to maximize physical function.