

Patient-Reported Outcomes using Patient-Reported Outcomes Measurement Information System after Tarsal Tunnel Release Surgery

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INTRODUCTION:

Tarsal tunnel syndrome is an entrapment neuropathy of the tibial nerve and its branches in the tarsal tunnel. The literature on surgical release of the tarsal tunnel (TTR) shows variable outcomes with no studies reporting validated patient-reported outcomes. We aim to determine clinical response after tarsal tunnel release using the Patient-Reported Outcomes Measurement Information System (PROMIS).

METHODS:

Under an IRB-approved protocol, CPT code 28035 was used to identify patients who underwent isolated tarsal tunnel release (TTR) between 1/1/2015 and 12/15/2022 at a single institution. Patient demographic data and PROMIS CAT physical function (PF), pain interference (PI), and depression scores were prospectively collected at the initial preoperative clinic visit and in follow up throughout the episode of care after TTR. The validated distribution-based method (1/2 sd) was used to assess minimal clinically important difference (MCID). Bivariate analysis was used to determine the postoperative recovery after TTR. Statistical significance was set at $p < 0.05$.

RESULTS:

A total of 39 patients who underwent tarsal tunnel release were included. The mean age was 49.1 years (19.44-70.75 years) and mean follow up was 280.9 days (23-1,459 days). The mean PROMIS PF score improved from 38.97 preoperatively to 46.17 postoperatively (p -value= 0.0024). The mean PROMIS PI score improved from 63.75 preoperatively to 57.65 postoperatively (p -value < 0.001). The mean PROMIS depression score improved from 49.78 preoperatively to 43.85 postoperatively (p -value < 0.001). The mean t-score change (pre to postoperation) was 7.2 for PF, -6.1 for PI, and -5.93 for depression. MCID thresholds were calculated as PF increase of 4.7; PI decrease of 3.9; and Depression decrease of 5.1. Fourteen (35%), 24 (62%), and 27 (69%) patients reached MCID for PF, PI, and depression, respectively.

DISCUSSION AND CONCLUSION:

This study provides validated outcomes after TTR. Though there is improvement after surgery, the patients still experience some pain and physical limitations. Interestingly, the greatest gains were seen in depression symptoms supporting the idea that mental health is impacted in these chronic compressive neuropathy conditions.

