

Recovery Curve for Patients with Pilon Fractures Using Patient-Reported Outcomes Measurement Information System (PROMIS)

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Purpose: The morbidity associated with pilon fractures is significant and has been well documented. However, the time frame in which patients can expect functional improvement is unclear. This information is important for both the patient and the surgeon to know in order to manage expectations post-injury.

Methods: Patients were reviewed retrospectively over a 5-year (2015-2020) period. All patients who suffered a unilateral, isolated pilon fracture were identified by CPT codes (27826-8). PROMIS Physical Function (PF) scores were collected and grouped by follow-up interval. Average PROMIS PF scores and 95% confidence intervals were calculated.

Results: There were 160 patients with PROMIS scores immediately postoperatively, 143 patients at 6 weeks, 146 patients at 12 weeks, 97 at 24 weeks, 84 at 1 year, and 45 at 2 years postoperatively. The average PROMIS PF score immediately postoperative was 28, at 6 weeks it was 30, at 12 weeks it was 36, at 24 weeks it was 40, at 1 year it was 41, and at 2 years it was 39 (Figure 1). There was a significant difference between PROMIS PF scores between 6 weeks and 12 weeks ($P<0.001$), and between 12 weeks and 24 weeks ($P<0.001$). Otherwise, no significant differences were noted between consecutive time points.

Conclusion: Patients with pilon fractures demonstrate the majority of their improvement in terms of physical function between 6 weeks and 6 months postoperatively. There was no significant difference in PF scores after 6 months postoperatively up to 2 years. Furthermore, the mean PROMIS PF score of patients 2 years after recovery was approximately one standard deviation below the population average. This information is helpful in counseling patients and setting expectations for recovery after pilon fractures.

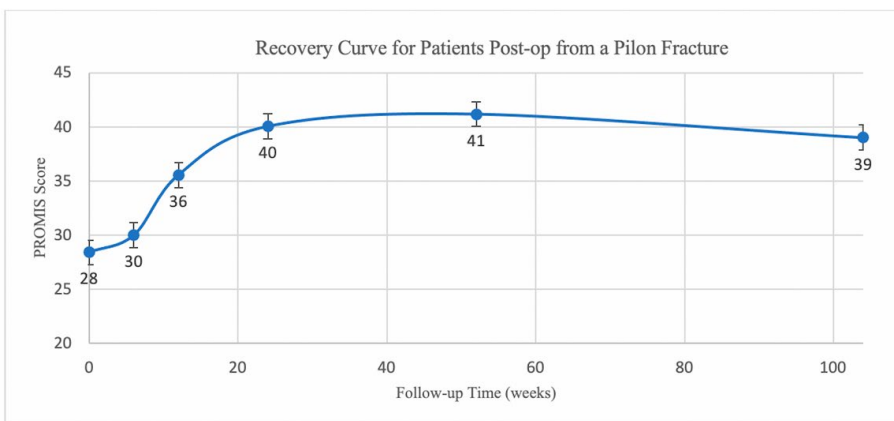


Figure 1: Recovery Curve of physical function after a Pilon Fracture (with 95% Confidence Intervals)

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.