## Lisfranc ORIF Recovery Curve: No Difference in Long-Term Physical Function Between High and Low Energy Injuries

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**Purpose:** The purpose of this study is to determine the postoperative trajectory and recovery of patients who undergo Lisfranc open reduction and internal fixation (ORIF) using Patient-Reported Outcomes Measure Information System (PROMIS) Physical Function (PF) and Pain Interference (PI) outcome scores. Additionally, we sought to compare outcomes between high and low energy Lisfranc injuries.

**Methods:** Lisfranc injuries treated by ORIF were identified via CPT codes. PROMIS PF and PI scores were collected postoperatively at 2-week, 6-week, 3-month, 6-month, and 1-year time points. PROMIS scores were compared between high and low energy injuries. Low energy injuries were defined as no or subtle obvious radiographic evidence of Lisfranc injury with diagnosis made by CT or MRI. High energy injuries were defined as having clear radiographic evidence of Lisfranc injury.

**Results:** In total 182 included patients with Lisfranc injuries treated by ORIF were included. There were 59 high energy injuries and 122 low energy injuries. The overall PROMIS PF score at 0 weeks, 6 weeks, 12 weeks, 24 weeks, and 48 weeks was 30.2, 31.4, 39.2, 43.9, and 46.7, respectively. There was significant improvement in PROMIS PF between 6 weeks and 12 weeks (P<0.001), between 12 weeks and 24 weeks (P<0.001), and between 24 weeks and 48 weeks (P = 0.022). A significant difference in PROMIS PF between high and low energy injuries was only seen at 0 weeks with scores of 28.4 and 31.4, respectively (P = 0.010). The overall PROMIS PI scores at 0 weeks, 6 weeks, 12 weeks, 24 weeks, and 48 weeks were 62.2, 58.5, 56.6, 55.7, and 55.6, respectively. There was significant improvement in PROMIS PI only between 0 weeks and 6 weeks (P = 0.016). A significant difference in PROMIS PI between high and low energy injuries was seen at 48 weeks (P = 0.044).

**Conclusion:** After Lisfranc ORIF, patients can expect improvement in physical function up to 1 year after surgery, with the largest improvements in PF between 6 and 12 weeks and in PI between 0 and 6 weeks. Regardless of energy type, Lisfranc injuries regain comparable physical function by 6-12 months postoperatively. Patients with higher energy Lisfranc injuries should be counseled that these injuries may lead to worse pain interference compared to lower energy injuries.