Treatment of Lisfranc Fracture-Dislocations with Primary Partial Arthrodesis

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**Introduction:** The optimal method of treatment for Lisfranc fracture-dislocations remains controversial. This study reviewed the outcomes of Lisfranc injuries treated by primary partial arthrodesis.

**Methods:** Patients who underwent primary partial arthrodesis for a primarily ligamentous or combined osseous and ligamentous Lisfranc fracture-dislocation were reviewed retrospectively and assessed at follow-up according to radiographic, clinical and standardized patient-based outcomes.

**Results:** Twenty-five patients (12 ligamentous, 13 combined), mean age 49 years (range 20 – 73 years), were followed for an average of 39 months (range 9-96 months). The average American Orthopedic Foot and Ankle Society (AOFAS) score was 81 points (scale 0-100), with patients losing points for mild pain, limitations of recreational activities, and fashionable footwear requirements. There was no statistical difference between ligamentous and combined injuries with regard to the physical or mental component scores on the SF-36. At latest follow-up, patients reported an average return to 85% of their preinjury activity level (range 50 – 100 %). Twenty-one patients (84%) expressed satisfaction with their outcome and at latest follow-up, the mean visual analog pain scale (VAS) score was 1.8 out of 10 (range 0 to 4.5). Three patients showed radiographic signs of post-traumatic arthritis of adjacent joints. There were four nonunions (16%), three of which healed and returned to at least 85% of their preinjury activity level after revision arthrodesis. One patient, who was a heavy smoker and on chronic steroids, had a persistent nonunion despite revision arthrodesis with a latest follow-up AOFAS score of 25.

**Conclusion:** Treatment of both primarily ligamentous and combined osseous and ligamentous Lisfranc injuries with primary partial arthrodesis produces excellent clinical and patient-based outcomes and is our treatment of choice.

**Summary:** Report of clinical, radiographic, and patient-based outcomes of 25 patients treated by primary partial arthrodesis for primarily ligamentous and combined osseous and ligamentous Lisfranc injuries.