

Treatment of Lisfranc Injuries using Interosseous Suture Button: A Retrospective Review of 104 cases.

James M. Cottom, DPM, FACFAS¹, Colin T. Graney, DPM, AACFAS²

¹Fellowship Director, Florida Orthopedic Foot and Ankle Center, Sarasota, FL, ²Fellow, Florida Orthopedic Foot and Ankle Center, Sarasota, FL

Purpose

Lisfranc fracture dislocations can be an injury of high concern for the foot and ankle surgeon. Multiple surgical procedures have been proposed with a wide array of varying success regarding primary arthrodesis versus open reduction with internal fixation. In regards to ORIF the discussion is whether a second procedure is required in the form of removal or arthrodesis in the setting of posttraumatic arthritic changes.



Methodology

104 feet were retrospectively reviewed who underwent Lisfranc ORIF with an interosseous suture button. All procedures were able to achieve initial anatomic reduction. All patients were followed up for a minimum of 2 years. Outcome data was analyzed for return to weightbearing, VAS, AOFAS, and need for revision.

Results

There VAS scores improved from 6.4 to 0.2 as well as the aofas from 27 to 90. On average the patients were able to return to weight-bearing an average of 20.5 (+/- 21) days. None of the suture buttons required removal.



	Pre-op	Post-op
AOFAS	27	90
VAS	6.4	0.2

Literature Review

With a trend going towards open reduction with internal fixation of Lisfranc fracture dislocations opposed to arthrodesis primarily achieving anatomic reduction as well as maintenance of reduction is critical. Screw complications are reported at 16% and post-traumatic arthritic changes are seen in nearly 50% of cases. There is currently minimal indication for conservative treatment with cast immobilization. The risk ratio for hardware removal is 0.23 with ORIF however this was with prior traditional plate and screw fixation.

Analysis & Discussion

ORIF utilizing an interosseous suture button appears to have adequate medium-term satisfaction for Lisfranc fracture dislocation with no evidence of hardware failure or loss of anatomic alignment leading to posttraumatic arthritis

References

1. Stavlas, Panagiotis, et al. "The role of reduction and internal fixation of Lisfranc fracture-dislocations: a systematic review of the literature." *International orthopaedics* 34.8 (2010): 1083-1091.
2. Smith, Nicholas, Craig Stone, and Andrew Furey. "Does open reduction and internal fixation versus primary arthrodesis improve patient outcomes for Lisfranc trauma? A systematic review and meta-analysis." *Clinical Orthopaedics and Related Research* 474.6 (2016): 1445-1452.
3. Myerson MS (1999) The diagnosis and treatment of injury to the tarsometatarsal joint complex. *J Bone Joint Surg Br* 81:756-763
4. Aitken AP, Poulson D (1963) Dislocations of the tarsometatarsal joint. *J Bone Joint Surg Am* 45-A:246-260