

Introduction/Purpose -

Lisfranc fracture/dislocations comprise of spectrum of injury including simple disruption of the lisfranc articulation to more complex tarsometatarsal fracture/dislocations. A further known variant of lisfranc injuries involves proximal tarsal disruption, specifically through the articulation of the medial and middle cuneiform. In the absence of polytrauma and high energy injury it is unknown what proportion of patients with sport or primary axial loading injury have proximal medial column variants of the lisfranc fracture. Recognizing and stabilizing this disruption is critical to establishing a stable medial column and restoring appropriate biomechanics of the foot

Methods -

After IRB approval a retrospective cohort of patients was established at a single institution utilizing CPT codes consistent with fixation of lisfranc/tarsometatarsal fracture-dislocations. Surgical encounters over a 3 year period were identified and retrospective chart review of operative reports and independent evaluation of imaging was used to determine medial column variants within the included subset of patients. Low energy fracture mechanisms with adequate imaging and operative reports were included in the study.

Results –

A total of 52 low energy lisfranc fracture-dislocations were included in the study for evaluation of fracture morphology. Based on operative findings and fixation modalities 30 medial column variants (58%) were identified in this cohort. This subset of patients showed instability through the medial ray extending proximal to the lisfranc articulation and requiring intercuneiform fixation.

Conclusion –

Tarsometatarsal fracture-dislocations represent a spectrum of injury from disruption of the Lisfranc joint to multiple midfoot dislocations. A proximal variant of this injury pattern with intercuneiform disruption is often noted but prevalence has not been established. In low energy tarsometatarsal fracture-dislocations this study notes a 58% prevalence of medial column disruption requiring additional proximal fixation. Recognizing this injury pattern and appropriately addressing the pathology is critical for obtaining a stable foot and favorable result.