

## **CRUSH TMT FRACTURE DISLOCATION: A SINGLE STAGE EXTERNAL FIXATION TECHNIQUE**

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**Introduction:** High-energy open Lisfranc injuries mainly are represented by severe Lisfranc joint fracture-dislocation with serious soft tissue injuries. Judgment must be exercised considering both host and local soft tissue conditions for best musculoskeletal outcome while avoiding both systemic and local complications

**Discussion:** We present a case of a 39 years old Bangladeshi gentleman who was involved in an industrial injury, direct hit by a forklift on his right foot sustained an open comminuted right tarsometatarsal (TMT) fracture dislocation. We proceeded with an emergency wound debridement, Kirschner wiring, cross ankle external fixator and fasciotomy of the right foot. Initial positioning, debridement and fasciotomy were done prior to proceeding with reduction and held with multiple Kirschner wires. Shanz pin placed at the 1st and 5th metatarsal with medial and lateral rods connected to a calcaneal pin creating a box-like construct. Once reduction was achieved, this construct is then connected cross ankle to maintain neutral position of the ankle. Loose tension free sutures applied to reduce risk of flap necrosis.

**Conclusion:** The difficulty in the clinical treatment of open Lisfranc results from the severe destruction of the bony structure, with poor condition of local soft tissue. The construct of the external fixator aimed to achieve anatomical reduction and maintaining length by the usage of a medial and lateral compression technique using rods and Shanz pin of the external fixator and further maintained foot in neutral position with a cross ankle joint spanning construct. We propose this construct as it allows anatomic reduction, better healing of the soft tissues and enable easier nursing care.