

Foot Trauma

Patient History

32-year-old female patient presenting with foot trauma. Standard 2D X-ray imaging was performed as the routine imaging choice. Imaging with the CARESTREAM OnSight 3D Extremity System was ordered due to inconclusive findings on the 2D radiographs.

Findings

The traditional 2D projection X-rays (see Figure 1) shows evidence of a small fracture on the lateral side of the lateral cuneiform bone and the lateral aspect of the proximal epiphysis of the third metatarsal. This presentation is indicative of a Lisfranc injury and there is a need for a precise lesion assessment to uncover additional injuries and ensure proper treatment for the patient. Failure to identify all aspects of this type of injury can have significant negative impact on the prognosis for full recovery. Historically, 2D imaging is known to miss a significant number of aspects of Lisfranc injury, with clinicians relying heavily on identifying pain during physical exam as a final arbiter of the full scope of the injury.



Figure 1 Standard 2D X-ray of foot trauma patient showing small fractures on the lateral side of the lateral cuneiform and the lateral aspect of the proximal epiphysis of the third metatarsal, indicative of a possible Lisfranc injury.

Imaging with the CARESTREAM OnSight 3D Extremity System showed a number of further injuries. Figure 2 shows multiple fractures of the base of the second metatarsal:

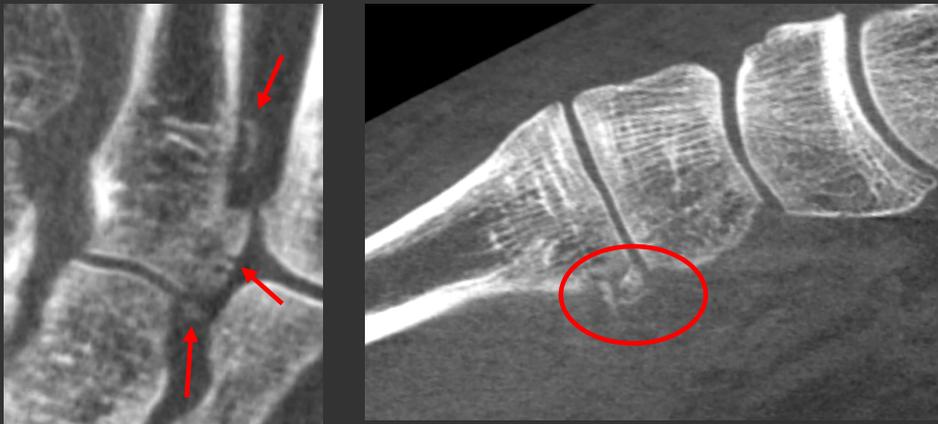


Figure 2 MPR slices from the patient acquired with the OnSight extremity CT system identifying multiple fractures of the base of the second metatarsal not seen in Figure 1.

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Figure 3 shows evidence of another evulsion fracture of the lateral side of the medial cuneiform bone as well as a fracture of the base of the first metatarsal bone, both unappreciated in Figure 1:



These additional injuries are important to identify and indicate that this patient will require a cast for a significant length of time.