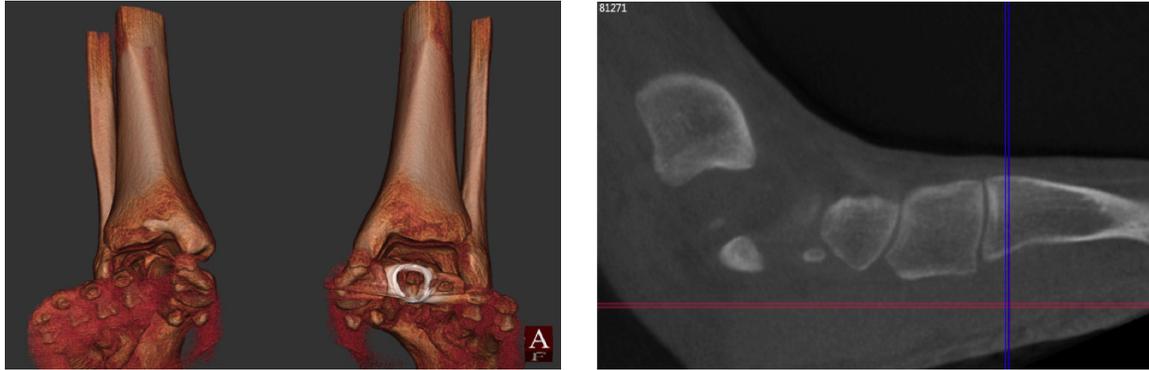


CASE STUDY

Second Metatarsal Base Fracture Revealed by pedCAT®



pedCAT Findings: The 2nd metatarsal base demonstrates an intra-articular fracture non-union

History:

30 year old female presents 2 years following an acute injury to her left foot and ankle. At the time of the injury she was diagnosed with a foot and ankle sprain. X-rays were read as negative on several occasions. More recently a specialty provider obtained a weight bearing foot x-ray and diagnosed a LisFranc midfoot dislocation. The patient is a former collegiate track athlete and would like to return to running. However, each time she attempts to run she has left midfoot pain and swelling.

Exam:

The patient's podiatric exam is within normal limits with the exception of the musculoskeletal exam. She has mild swelling and bony enlargement of the left 2nd and 3rd metatarsal cuneiform joints (aka tarsometatarsal joints). She is tender with palpation of each joint. She has a very subtle lateral (valgus) orientation of the midfoot. The left foot is slightly more pronated than the non-affected right foot.

X-rays:

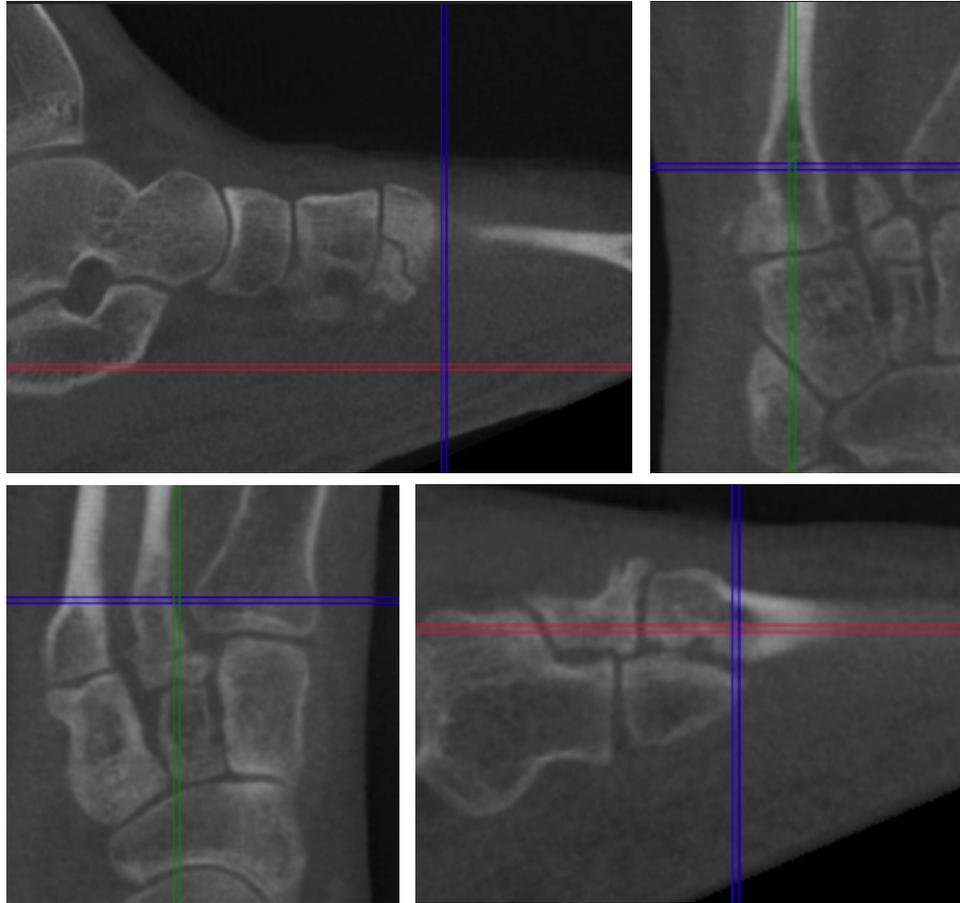
Images were provided by the patient on a disc. The AP weight bearing view demonstrates a small 3mm diastasis (gap) between the lateral margin of the medial cuneiform and the medial margin of the 2nd metatarsal base. There is a small bone fragment at the medial margin of the second metatarsal base (suggestive of a LisFrancs avulsion fracture). A comparison view of the right foot was not taken.

...Case continued on next page

**Kent Feldman, DPM, FAFAS**

Kent A. Feldman, DPM is a local and national leader in foot and ankle care. Dr. Feldman is the podiatry provider for the San Diego Chargers and the Depts. of Athletic Medicine at San Diego State University, Point Loma Nazarene University and Christian Heritage College. Dr. Feldman has lectured locally and nationally on new advanced surgical techniques. He is Board Certified in Foot Surgery by the American Board of Podiatric Surgery.

Dr. Feldman completed his undergraduate degree in biology at California Polytechnic State University at San Luis Obispo and attended medical school at the California College of Podiatric Medicine. He performed his residency in foot and ankle surgery at Hillside Hospital and Scripps Mercy Hospital in San Diego and completed his training at Kaiser Permanente Medical Center in Oakland, California.



The 3rd metatarsal base demonstrates healed fractures. The 3rd metatarsophalangeal joint demonstrates joint space narrowing, a dorsal spur, and small bone cysts.

pedCAT® Study:

A large field, bilateral foot study was performed to allow for left to right comparison. The feet were placed in resting/relaxed position centered on the base plate. The feet were placed symmetrically on the base plate.

CubeVue:

As illustrated below, the images were synced. The forefoot was elevated to create a frontal/coronal slice parallel to the tarsometatarsal joints. There is no pathology visible on the orientation slice.

CONCLUSION:

While the patient demonstrates suggestions of a LisFranc dislocation, the CT study demonstrates that her disability is due to a second metatarsal base fracture non-union and 2nd and 3rd metatarsal cuneiform joint post-traumatic arthritis. Surgery would include fusion of the 2nd and 3rd tarsometatarsal joints.