The patient was a 20-year-old female ultimate frisbee player who felt a “pop” in her left foot, following a plant-and-pivot maneuver, with resultant pain and bruising along the plantar aspect of her midfoot. She was seen by an orthopaedic physician 2 days later, who ordered standard radiographs that were found to be unremarkable (FIGURE 1). She was managed for a metatarsal sprain with a cast-walking shoe, with weight bearing as tolerated, for the next 2 weeks. Over the next 3 months, she attempted to progressively return to sport; however, pain persisted with walking, running, and activities that loaded her forefoot. She presented to physical therapy 4 months after initial injury via direct access.

Examination revealed no swelling or bruising, though she was unable to fully load her forefoot during the terminal stance phase of gait. The pain was reproduced with dorsal palpation along the first and second tarsometatarsal (Lisfranc) joints, squeezing of the midfoot, passive motion of the forefoot with a stabilized rearfoot,1,3 and unilateral heel raise.3 Rigid taping to support the first and second tarsometatarsal joints decreased pain with ambulation and heel raise.3

Although initial non–weight-bearing films were normal, these findings do not rule out tarsometatarsal joint injury.2 The patient was referred to a sports medicine physician, who ordered weight-bearing radiographs, which are more sensitive. Weight-bearing radiographs identified significant diastasis at the junction of the base of the second metatarsal and the medial and middle cuneiforms (FIGURE 2). To further assess ligamentous integrity, magnetic resonance imaging was performed and confirmed a high-grade Lisfranc ligament tear (FIGURE 3). If left untreated, a Lisfranc tear may result in secondary degenerative joint changes and persistent disability.2 The patient was referred to a foot surgeon and underwent open reduction internal fixation 2 weeks later.

Tarsometatarsal (Lisfranc) Joint Injury in an Athlete With Persistent Foot Pain

ERIC T. GREENBERG, DPT, SCS, CSCS, Doctoral Program in Physical Therapy, Stony Brook University, Stony Brook, NY.
HAYLEY RINTEL QUELLER, MD, St Charles Orthopedics, East Setauket, NY.

References