Challenges in Sports Medicine & Orthopedics

Brian L. Patterson, MD, MSc

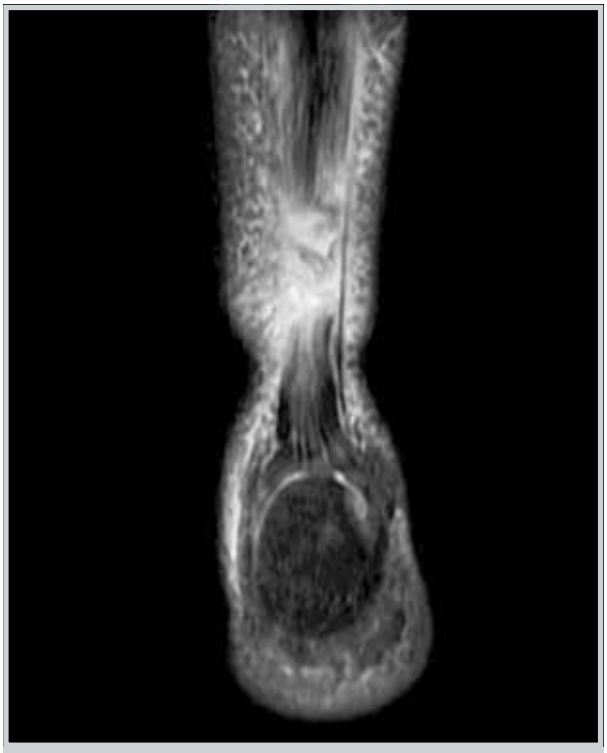

Figure 1

Figure 2

A 65-year-old woman presents with a 1-week history of pain during ambulation in her right heel and calf. She states that the pain came on suddenly during activity after she felt a "pop" in her right lower leg. She denies any direct injury to the extremity. Examination reveals swelling and bruising around her ankle and heel, and she is unable to apply pressure on or plantar flex the right foot. Radiographs of the foot and ankle are negative for an acute process. An MRI is ordered for further evaluation of the foot and ankle (Figures 1 and 2).

What is your interpretation of these images?

Dr. Patterson, editor of "Challenges in Sports Medicine & Orthopedics," is a sports medicine physician in Winter Garden, Florida. He is board certified in family medicine and spinal cord injury medicine, and is fellowship trained in sports medicine.

ANSWER

Figure 1

Figure 2

The images reveal a complete Achilles tendon rupture. The most common location for rupture of the Achilles tendon is 3 to 6 cm proximal to the insertion site.[1] During the history-taking portion of the exam, patients with Achilles rupture usually describe a "pop" in the leg near the back of the ankle while pushing off to take a step. Initial examination should include the Thompson test. This test is usually completed with the patient prone and the knee of the affected leg flexed at 90°. The clinician squeezes the calf; this will produce plantar flexion of the foot if the Achilles tendon is intact; failure of the foot to plantar flex suggests rupture. Ultrasound is helpful in the diagnosis of Achilles tendon rupture and may be utilized as a point-of-care or office-based procedure; however, MRI is recommended to confirm the diagnosis prior to surgery.

Mild strains of the Achilles may be treated with relative rest, bracing, and graduated return to activity. Small partial tears of the Achilles may be treated conservatively with strict non–weight bearing and splinting or casting the foot in an equinus position, with gradual return of the foot from equinus to anatomical position in 2-week intervals over 6 to 8 weeks. Surgical repair is necessary for complete ruptures. Regardless of the degree of injury, physical therapy plays an instrumental role in returning patients to athletic activity.

This patient had an abnormal result on the Thompson test, and MRI was ordered. Following MRI confirmation, her foot was splinted in equinus position and she was referred to orthopedic surgery for Achilles tendon repair. **EM**

REFERENCE

1. Mann JA, Chou LB, Ross SD. Foot & ankle surgery. In: Skinner HB. *Current Diagnosis & Treatment in Orthopedics*. 4th ed. New York, NY: McGraw Hill; 2006:527-528.