It is NOT the Gastrocnemius, Soleus, or Achilles …. What Could It Be? A Plantaris Muscle Injury

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The plantaris muscle originates from the lateral supracondylar line of the femur in the posterior of the knee and courses distally in an inferomedial direction near the medial head of the gastrocnemius and along the medial border of the Achilles tendon. The tendon of the plantaris muscle either inserts with the Achilles tendon or can have its own independent insertion on the calcaneus (4). The mechanism of injury to the plantaris muscle typically occurs during forceful plantarflexion or when an eccentric load is experienced at the ankle during dorsiflexion as is experienced during running or jumping, or merely stepping off a curb with no apparent trauma (Figure) (2–4).

Patient Signs and Symptoms (1,2,4,5):

- Posterior lower leg pain that increased over the past 24 h
- Some swelling in the lower leg (not always)
- Says “I felt a pop” or “It felt like someone kicked me in the back of my leg”
- Depending on the severity, they may have had to cease playing
- Pain with plantar flexion
- Pain with resistive plantar flexion
- Little to no strength loss

Diagnostic Tests (3,4)

- Negative Thompson Test
- Ultrasound to rule out Achilles tendon pathology and document plantaris involvement
- Magnetic resonance imaging to confirm plantaris involvement and/or eliminate Achilles pathology

Treatment

- Acute:
  - Weight bearing as tolerated
  - Protected weight bearing: crutches or walking boot
  - Relative rest, ice, compression, and elevation
  - Short-course nonsteroidal anti-inflammatory drugs (patient dependent)

- Physical Therapy
  - Range of motion
  - Cross-training exercises
  - Progression towards strengthening
  - Prognosis for isolated plantaris muscle injury
  - Return to play determined by pain and ability to perform sport-specific activity
  - Return to full activity generally within 3 to 8 wk
  - Full recovery anticipated

Figure: Plantaris muscle.
References