

## Thompson Test in Achilles Tendon Rupture

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Submitted: May 17, 2016; Accepted: June 2, 2016; Electronically Published: July 15, 2016; <https://doi.org/10.21980/J8VC7S>

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**History of present illness:** A 26-year-old male presented to the emergency department after experiencing the acute onset of left ankle pain while playing basketball. Upon jumping, he felt a “pop” in his left posterior ankle, followed by pain and difficulty ambulating. His exam was notable for a defect at the left Achilles tendon on palpation. The practitioner performed a Thompson test, which was positive (abnormal) on the left.

**Significant findings:** The left Achilles tendon had a defect on palpation, while the right Achilles tendon was intact. When squeezing the right (unaffected) calf, the ankle spontaneously plantar flexed, indicating a negative (normal) Thompson test. Upon squeeze of the left (affected) calf, the ankle did not plantar flex, signifying a positive (abnormal) Thompson test. The diagnosis of left Achilles tendon rupture was confirmed intraoperatively one week later.

**Discussion:** The Achilles tendon (also: calcaneal tendon or heel cord) is derived from the medial and lateral heads of the gastrocnemius muscle, as well as the soleus muscle. Rupture of the Achilles tendon most

commonly occurs in the distal tendon, approximately 2-6 cm from its attachment to the calcaneal tuberosity, in an area of hypovascularity known as the “watershed” or “critical” zone.<sup>1-3</sup>

The Thompson test (also: Simmonds-Thompson test), described by Simmonds in 1957 and Thompson in 1962, is done while the patient is in the prone position, with feet hanging over the end of a table/gurney, or with the patient kneeling on a stool or chair.<sup>4-5</sup> Squeezing the calf of an unaffected limb will cause the ankle to plantar flex, but squeezing the calf of a limb with an Achilles tendon rupture will cause no motion. The sensitivity of the Thompson’s test for the diagnosis of a complete Achilles tendon rupture is 96-100% and the specificity is 93-100%, but data is limited.<sup>6-8</sup>

**Topics:** Thompson test, Simmonds-Thompson test, orthopedics, Achilles tendon rupture, calcaneal tendon rupture, ankle pain, calf pain.

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