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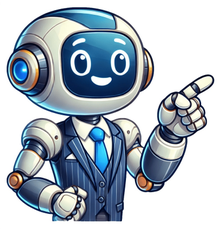

Thompson's test for achilles

The Thompson Test is performed when making the diagnosis of a torn Achilles tendon. This should not be confused with the Thomas test, used to assess hip joint problems. Jan-Otto / Getty Images An Achilles tendon tear occurs when the tendon that connects the calf muscle to the heel bone is severed. This injury often occurs during sports activities such as basketball or tennis and is felt by the athlete as a sudden sharp pain directly behind the ankle. Most often, Achilles tendon tears are non-contact injuries. Patients often describe hearing a sudden pop in their ankle and then turning to see if someone kicked them, only to have no one around. Typical symptoms of an Achilles tendon tear include pain behind the ankle joint, swelling of the tendon, and difficulty walking. Some patients know right away what has happened, in others the condition is a little less clear. That is where a good physical examination by an experienced clinician can be helpful. As part of their examination, your healthcare provider will perform the Thompson test. To perform the Thompson test, the patient should lie face-down on the examination table. The feet extend farther than the end of the bed. The examiner then squeezes the calf muscle. This motion, in a normal patient, should cause the toes to point downward as the Achilles pulls the foot. In a patient with a ruptured Achilles tendon, the foot will not move. That is called a positive Thompson test. The Thompson test is important because some people who tear their Achilles are still able to point their toes downwards, although the Thompson test would still be positive. These patients have other muscles and tendons the can work to point the toes down that are not injured (usually the toe flexors or the posterior tibialis), however, even in these patients, the Thompson test will still be positive. Therefore, this is a valuable clinical tool to help make the diagnosis of this condition. There are several options for treatment of a torn Achilles tendon. These options include both surgical and nonsurgical treatments. The best treatment depends on the specific situation and the needs and expectations of the patient. The good news is, that both surgical and nonsurgical treatment of Achilles tendon tears can lead to full recovery, and therefore there are options that can be considered. Most athletic patients are choosing a surgical repair as the recovery does seem to be faster, although even with surgical treatment a full recovery can take 6 months or longer. In addition, as with any surgical procedure, there are risks of surgery that should be considered prior to treatment. The Thompson test is a physical test healthcare providers use to diagnose an Achilles tendon rupture (tear). Healthcare providers sometimes call it the calf squeeze test.A provider will squeeze your calf muscle on the back of your lower leg to see if your heel moves. Usually, your heel will move a little with your calf muscle because your Achilles tendon connects it to your heel bone (calcaneus). If your heel doesn’t move, your Achilles tendon may be torn.When is it performed?A healthcare provider will perform a Thompson test if they think you might have a ruptured (torn) Achilles tendon.The Thompson test is an in-office physical exam, which means your provider can perform it without any special equipment or a separate appointment. It’s usually part of a preliminary exam if you have symptoms of an Achilles tendon tear (feeling or hearing a pop in your ankle, pain or swelling), especially if you’ve experienced a sports injury.You’ll probably also need at least one type of imaging test to confirm the rupture. The Thompson Test is performed when making the diagnosis of a torn Achilles tendon. This should not be confused with the Thomas test, used to assess hip joint problems. Jan-Otto / Getty Images An Achilles tendon tear occurs when the tendon that connects the calf muscle to the heel bone is severed. This injury often occurs during sports activities such as basketball or tennis and is felt by the athlete as a sudden sharp pain directly behind the ankle. Most often, Achilles tendon tears are non-contact injuries. Patients often describe hearing a sudden pop in their ankle and then turning to see if someone kicked them, only to have no one around. Typical symptoms of an Achilles tendon tear include pain behind the ankle joint, swelling of the tendon, and difficulty walking. Some patients know right away what has happened, in others the condition is a little less clear. That is where a good physical examination by an experienced clinician can be helpful. As part of their examination, your healthcare provider will perform the Thompson test. To perform the Thompson test, the patient should lie face-down on the examination table. 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Calf Muscles/ Triceps Surae: The triceps surae aka “three-headed [muscle] of the calf” is a pair of muscles located at the calf – the two-headed gastrocnemius and the soleus. These muscles both insert into the calcaneus, the bone of the heel of the human foot, and form the major part of the muscle of the posterior leg, commonly known as the calf muscle. The triceps surae is connected to the foot through the Achilles tendon, and has 3 heads deriving from the 2 major masses of muscle. The superficial portion (the gastrocnemius) gives off 2 heads attaching to the base of the femur directly above the knee. The deep (profundis) mass of muscle (the soleus) forms the remaining head which attaches to the superior posterior area of the tibia. Special Test: Thompson’s Test / Simmond’s Test PURPOSE: to test for 3rd degree strain or rupture of the Achilles tendon Thompson’s Test PROCEDURE: Patient is prone , feet over the edge of the table, legs relaxed Squeeze the affected gastrocnemius and soleus muscles Thompson’s Test POSITIVE TEST: Absence of plantarflexion when the muscles are squeezed ** When the achilles tendon is intact and the calf is squeezed, the ankle will plantar flex . ** It is still possible for the m. plantaris and deep toe flexors to also provide plantar flexion even if the Achilles tendon is ruptured[2]. To be sure that the patient has a complete Achilles tendon rupture, there are three additional clinical signs that may be observed to corroborate the diagnosis ** On careful inspection, with the patient prone and both ankles fully relaxed, the foot on the ruptured side hangs straight down due to the absence of the tendon tone There may be a palpable gap in the tendon, approximately 3-6cm proximal to the insertion into the calcaneus. ** The strength of the plantar flexion is markedly reduced DiagnosisMedical attentionTreatmentOutlookFAQsTakeawayHealthcare professionals use the Achilles tendon rupture test to identify an Achilles tendon tear. The test involves observing foot movement during a physical examination.The Achilles tendon connects your calf muscles to your heel bone, allowing you to point your foot down when you walk, run, or engage in physical activity.Though it’s your largest, strongest, and thickest tendon in your body, it’s prone to injury, and a rupture can cause significant pain and affect your daily activities.The Achilles tendon rupture test is an effective diagnostic tool to identify a ruptured Achilles tendon. Test variations include the Matles test and the Simmonds–Thompson test, also called the calf and ankle squeeze tests.Prompt diagnosis is vital if you have an Achilles tendon rupture. Understanding the available diagnostic and treatment options is essential to healing and resuming your routine quickly.Continue reading to learn more about the Achilles tendon rupture test, common symptoms, and treatment options.Consult a healthcare professional to do the Achilles tendon rupture test. Usually, they’ll test each leg to compare mobility and strength. During the Matles test, difficulty standing on your tiptoes or displaying a limited range of motion in your ankle indicates an Achilles tendon rupture.During the Simmonds–Thompson test, you’ll lie face down on an examination table, hanging your feet over the edge, relaxing your feet and calf muscles. Your clinician will firmly squeeze your calf muscle above your ankle and observe foot movement. If your Achilles tendon is intact, squeezing your calf muscle will cause your foot to move downward. But if your Achilles tendon has a rupture, movement won’t occur.If you have an Achilles tendon rupture, getting medical attention as soon as possible is important.Early treatment can promote proper healing and prevent complications.Performing an Achilles tendon rupture test requires experience, proper technique, and anatomical knowledge. While the tests are accurate, healthcare professionals can’t rely on them as the sole diagnostic tool. They may need to perform imaging tests, such as an MRI or ultrasound, to confirm the diagnosis.The treatment for an Achilles tendon rupture depends on the severity of your injury and individual factors, such as your age, activity level, and overall health.Severe tears or complete ruptures may require surgery, which typically involves reattaching your Achilles tendon to the heel bone. The type of surgery depends on the severity and location of your injury. Postsurgery, you’ll wear a cast or walking boot for immobilization. Healthcare professionals may recommend surgery to elite athletes, as 2020 research suggested it may lead to greater strength improvements than functional rehabilitation. Your healthcare professional can often recommend physical therapy to help restore strength, mobility, and flexibility. Include stretches and activities like walking, cycling, and swimming in your exercise routine to build muscle strength and increase your range of motion.It’s vital to follow your treatment plan and get plenty of rest. This can allow your tendon to heal properly and prevent complications, including chronic pain and weakness.The outlook for an Achilles tendon rupture depends on the severity and treatment approach. Early diagnosis and treatment can help ensure a good recovery after surgical and nonsurgical treatment.Generally, the outlook is positive, and you can return to your usual activities within 6 to 12 months. The recovery time following nonsurgical treatment may last longer. It can take around 12 weeks for partial tears and up to 6 months for complete ruptures.There’s some controversy surrounding surgical and nonsurgical outcomes. For example, different 2020 research suggested nonsurgical treatment links to higher re-rupture rates than surgical treatment. But shortening the cast immobilization period and early functional rehabilitation may help prevent re-rupture.A 2020 study found no difference between surgical and nonsurgical outcomes in terms of satisfaction and re-rupture rates. An Achilles tendon rupture test is a medical diagnostic test and requires a healthcare professional to perform it. They have the training, experience, and extensive anatomical knowledge to accurately perform the test, make a diagnosis, and recommend treatment.You may hear a popping or snapping sound at the time of injury. Additional symptoms include stiffness, swelling, and tenderness. It may be difficult and painful to bear weight on your leg, walk, and stand on or flex your toes. Climbing stairs or an incline may be especially challenging. Standing or walking with a partial Achilles tendon rupture is possible, but it can be quite painful and may increase your risk of further injury.Your mobility and ability to bear weight depend on your injury severity and pain tolerance.The Simmonds-Thompson test, also called the Thompson test or calf squeeze test, involves lying on your stomach with your feet hanging off the table and relaxing your ankles. A healthcare professional squeezes your lower calf above your ankle and observes the plantar flexion movement of your foot. The Matles test evaluates your ability to stand on your toes and push off the ground. Having difficulty doing this can indicate an Achilles tendon rupture. The Achilles tendon rupture test is a quick assessment healthcare professionals use to identify a torn Achilles tendon. They may also use an MRI or ultrasound to confirm a diagnosis. If you think you have an Achilles tendon tear, getting medical attention from a healthcare professional is vital. They can provide a proper diagnosis and recommend appropriate treatment, which usually involves physical therapy and surgical and nonsurgical treatments. The outlook for a full recovery is generally good. The healing period typically takes several months and may be slightly longer for nonsurgical cases. Healthline has strict sourcing guidelines and relies on peer-reviewed studies, academic research institutions, and medical journals and associations. We only use quality, credible sources to ensure content accuracy and integrity. You can learn more about how we ensure our content is accurate and current by reading our editorial policy. The Thompson Test (also known as the Calf Compression Test or Simmonds’ Test) is a highly reliable clinical examination used to identify the presence of a complete Achilles tendon rupture. This diagnostic procedure was first described in 1957 by Franklin Adin Simmonds (1911-1983), an English Orthopedic Surgeon at the Rowley Bristow Hospital in Surrey. With 96% sensitivity and 93% specificity, the Thompson Test is considered the gold standard for initial assessment of suspected Achilles tendon injuries. The Thompson Test is simple to perform and requires no specialized equipment. Follow these step-by-step instructions for proper execution: Position the patient: Have the patient lie in prone position (face down) or kneeling with feet extending over the edge of the examination table. Ensure muscle relaxation: Confirm the patient’s calf muscles are completely relaxed. Perform the squeeze: Gently but firmly squeeze the mid-calf muscle belly. Observe the response: Watch for plantar flexion (downward movement) of the foot. The test can be performed in two positions: With the knee extended (straight leg) With the knee flexed at 90° (bent leg) See Also: Ankle Anatomy Thompson squeeze test with the knee extended Thompson squeeze test with the knee flexed 90° Compressing the calf muscles should normally provoke rapid passive plantar flexion of the foot. Absence of this plantar flexion suggests a torn Achilles tendon (Positive Thompson Test). The response to the compression test is not always unambiguous in patients with partial tears and will depend on the degree of disruption. In an Achilles tendon tear, the patient will be unable to stand on tip toe, especially when standing only on the injured leg, and the Achilles tendon reflex will be absent. In cases where the gastrocnemius aponeurosis is separate from soleus, the Thompson test may be falsely positive as the “squeeze” has predominant effect on gastrocnemius muscle belly rather that soleus. Negative & Positive Thompson Test Thompson Test has a high Sensitivity and Specificity according to one study by Maffulli on 174 patients with suspected Achilles tendon tear referred to orthopaedic clinic (The Reference Standard surgical confirmation for subjects with the diagnosis; magnetic resonance imaging (MRI) and ultrasound for subjects without the diagnosis.): Sensitivity: 96 % Specificity: 93 % The Thompson test seems to show very good diagnostic utility in both identifying and ruling out subcutaneous tears of the Achilles tendon. The Thompson Achilles tendon tear test can also be performed with the patient prone and the knee flexed 90°. In this position, the examiner grasps the patient’s calf with both hands and forcefully com presses the musculature. Loss of plantar flexion is a sign of an Achilles tendon tear (Simmonds’ test). It’s possible that the plantaris muscle and deep toe flexors can still plantar flex the foot although the Achilles tendon is ruptured. To make sure that the Achilles tendons is torn, look for these clinical signs that can be seen to confirm the diagnosis: With the patient prone, and ankle relaxed , the foot on the affected side hangs straight down because of the absence of the tendon tone. A palpable gab can be felt in the Achilles tendon, about 3-6 cm proximal to its insertion onto the calcaneus. The strength of the plantar flexion is reduced compared to the other side. Achilles tendon consists of uniting three muscles which the plantaris, gastrocnemius and soleus muscles, it rotates 90 degrees laterally to insert on the posterior aspect of the calcaneal tuberosity. Achilles tendon is hypovascular 4 to 6 cm proximal to the calcaneal insertion. MuscleOriginInsertionActionInnervationGastrocnemiusPosterior medial and lateral femoral condylesCalcaneusPlantar flexing footTibial (S1) nerveSoleusFibula/tibiaCalcaneusPlantar flexing footTibial (S1) nervePlantarisLateral femoral condyleCalcaneusPlantar flexing footTibial (S1) nerveSuperficial Posterior Compartment of the Leg Rupture of the Achilles tendon was first described in 1575, and first reported in the literature in 1633. Although the etiology of a spontaneous rupture remains incompletely understood, a number of theories have been proposed, including: microtrauma, inhibitor mechanism malfunction, hypoxic and mucoid tendon degeneration, decreased perfusion, systemic or locally injected steroids. However, the fact that the peak incidence of Achilles, tendon rupture occurs in the middle age group rather than in the older population tends to lend credence to a mechanical etiology. Three specific activities have been implicated in rupturing the Achilles tendon: Pushing off on the forefoot while extending the knee. Sudden dorsiflexion with full-weight-bearing as might occur with a slip or fall. Aggressive dorsiflexion such as that occurs when jumping or falling from a height and landing on a plantar flexed foot. The diagnosis of an Achilles tendon rupture is based almost solely on the history and physical findings: The classic history includes reports of sudden pain in the calf area, often associated with an audible snap, followed by difficulty in stepping off on the foot. Physical examination reveals swelling of the calf as well as a palpable defect in the tendon (hatchet strike), as well as ecchymosis around the malleoli. Perhaps, the most reliable sign of a complete rupture is a positive Thompson Test. Treatment options for an Achilles tendon rupture include surgical and non-surgical approaches, although opinions are divided as to what is the best course of action: The conservative intervention of Achilles tendon rupture traditionally consisted of short- or long-leg cast immobilization in the gravity equinus position (10–20 degrees of plantar flexion). However, this approach was found to result in a high incidence of re-rupture (10–30%) and a decrease in maximal function. This may be because it is impossible to restore the correct length of the Achilles, tendon with nonoperative treatment. Recent studies have produced superior results with a much quicker rehabilitation using fixed or hinged boots. The results from the surgical approaches have varied with the recent studies reporting small, but statistically significant benefits from surgery. Simmonds FA (1957). “The diagnosis of the ruptured Achilles tendon”. The Practitioner. 179 (1069): 56–8. PMID 13453094. 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