

Achilles Tendinopathy

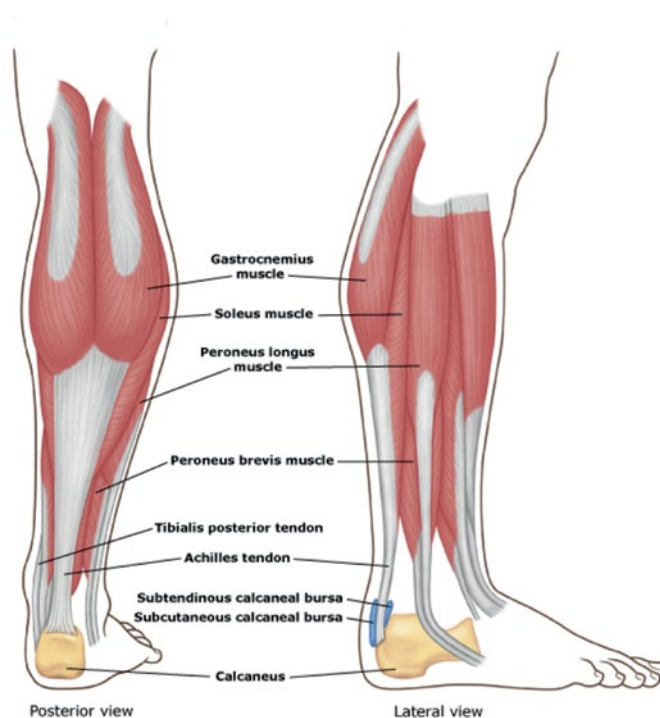
What is it?

Tendons are tough bands of tissue that connect muscles to bones. Achilles tendinopathy refers to degeneration within the large tendon which joins the calf muscles (gastrocnemius and soleus) to the heel bone (calcaneus).

What are the symptoms?

Achilles tendinopathy results in pain within the tendon just above where it attaches to the heel bone. This pain typically develops gradually. Initially, the tendon may only be painful following exercise (e.g. it may be first felt on rising the day following participation). The pain may also be accompanied by stiffness or tightness in the Achilles region.

Typically, these initial signs of Achilles tendinopathy disappear quickly with walking about or applying heat i.e. a hot shower over the Achilles region. However, as you continue to participate, the tendinopathy progresses and the pain within the tendon becomes more intense and more frequent e.g. it may begin to present during participation. In the earlier stages, this pain during participation may initially disappear as you warm up, only to return when you cool-down. However, as you continue to participate, the tendinopathy worsens and your pain may begin to be present for longer periods during participation until it is present all of the time. This may interfere with your performance.



How did I get it?

Achilles tendinopathy is a common injury in sports involving running and jumping and results from overuse of the tendon. The function of the Achilles tendon is to transmit forces produced by the calf muscles to the heel bone. The tendon acts like an elastic band, it stretches and recoils back to create movement. Repetitive elastic use of the Achilles tendon can lead to microscopic tears within the substance of the tendon. It is the reason that runners develop achilles tendinopathy but bodybuilders do not. Slow strength training promotes tendon growth. This explains the initial

paradox that strength training is used to repair an overuse injury. The body does not mount a very good inflammatory healing response, so this injury can take a very long time to heal and gradual degeneration of the tendon may occur as a result. Factors which may contribute to Achilles tendinopathy include a recent change in training (including frequency, duration, intensity, training surfaces), reduced rest times, biomechanical abnormalities, poor footwear, and decreased muscle flexibility and joint range of motion. These factors can lead to increased stress on the Achilles tendon, micro-tears and subsequent tendinopathy.



The surge in the popularity of running has seen an increase in repetitive type injuries such as Achilles Tendinopathy.



What should I do?

Achilles tendinopathy generally does not settle without assessment and medical care. If you have or suspect you have Achilles tendinopathy, you should consult your nearest sports medicine professional. In the meantime, you can begin initial treatment. This should consist of icing following participation and regular calf stretching. Icing may consist of crushed ice wrapped in a moist towel applied for 15—20 minutes or ice in a paper cup massaged up and down over the Achilles region until the skin is numb.

If you have or suspect you have Achilles tendon tendinopathy, you shouldn't ignore the problem. Your pain may get better as you exercise; however, the exercise you are doing may be interfering with the healing process and causing further damage. This can lead to your injury getting worse such that your pain does not disappear after 'warm up' and you feel it throughout participation. If this occurs, your recovery may be prolonged and it may take a number of months for you to return to full participation.

How is a diagnosis made?

A diagnosis is made on the history of the injury and examination findings. Only occasionally are x-rays, ultrasounds and or MRI ordered to rule out other injuries. It is very important that the correct diagnosis is made. There is a subtle but crucially important difference in the management of achilles tendinopathy where the tendon inserts on to the heel and achilles tendinopathy behind the ankle. **Some of the exercises need to be performed differently or the likelihood of a successful outcome falls from 80% to only 30%.**

What does rehab involve?

It is now recognised that there is not much inflammation in tendinopathy so anti-inflammatory medications and cortisone injections have fallen out of favour. Often tendinopathy will persist for a long time – as it seems as though the body does not recognise tendinopathy as an injury and makes no attempt to repair the tissue. For this reason treatments aimed at strengthening and or irritating the tissue are preferred.

Physical / exercise based therapy must always be the mainstay of treatment. Tendons function and strength must be preserved. Irritant treatments including injections such as prolotherapy, PRP (Platelet Rich Plasma) and ABI (Autologous Blood Injections) and minimally invasive surgeries such as percutaneous tenotomy are increasingly popular. They essentially aim to injure the tissue to promote a healing response by the body.

Activity Modification:

Reducing provocative activities such as running and jumping will facilitate

recovery. If your symptoms are very severe you may have to stop these activities altogether until the pain settles. If your symptoms are mild it may be safe to continue activity at a lower level. The timing of the return to activity is extremely important. As an example, hamstring tears often occur during high speed running. Obviously running immediately after the injury will aggravate the problem but running is an important component of later stage rehab. The same activity can be helpful or harmful depending on the timing. As a general rule with tendinopathy it is safe to perform activities such as running at a level that causes less than 3/10 pain (where zero is no pain at all and 10 is the worst pain imaginable) PROVIDED that good technique can be maintained AND the pain settles quickly after completion of the activity and is no worse the following day. These guidelines will largely dictate how quickly you can progress your return to a training program.

Pain Medication:

Pain medication tends not to be particularly effective for achilles

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What does rehab involve? (continued)

tendinopathy. A trial of anti-inflammatories or simple pain relief medication like paracetamol may however be worthwhile initially or if the symptoms are severe.

Physical and exercise therapy:

Exercise therapy, in particular strengthening exercise should be the mainstay of treatment. It is very important that a distinction is made between insertional achilles tendinopathy and mid portion tendinopathy.

Heel Raise:

A heel raise can be very helpful for reducing pain from insertional achilles tendinopathy. It works less effectively but may offer some benefit for mid portion achilles tendinopathy (see diagram 1).

GTN Patch:

GTN patches are a patch originally intended for heart disease and blood pressure issues. They have been shown to increase nitric oxide which is an important healing chemical. GTN patches are relatively cheap and are non-invasive. Their



Diagram 1 Heel raisers are designed to fit into the heel section of shoes and assist in removing pressure off the calf and achilles tendon.

main side effect is headaches. The headaches are due to lower blood pressure and should only persist for the first 2 weeks. GTN patches may be worth considering if initial activity modification and exercise therapy has not helped.

Cortisone injection:

In very rare cases, an injection of cortisone, which is an anti-inflammatory steroid medication, can be given to relieve pain. There is a small increased risk of tearing the achilles after cortisone has been injected. This risk is small but the achilles tendon is such a critical

tendon that it is usually avoided. An injection into the tendon will not be performed at SCNQ.

Irritant Injections:

Although they can be quite painful, irritant injections such as PRP is increasingly popular. It acts to irritate the tissue and infiltrate growth factors that promote healing. While cortisone works well in the short term, PRP works more slowly and long term outcomes have been shown to be better than cortisone.

Shock wave therapy:

Shockwave therapy can be considered. It may offer some benefit in calcific tendinopathy where a bone spur is present.

Surgery:

Surgery is rarely required and can be avoided in most cases.



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