

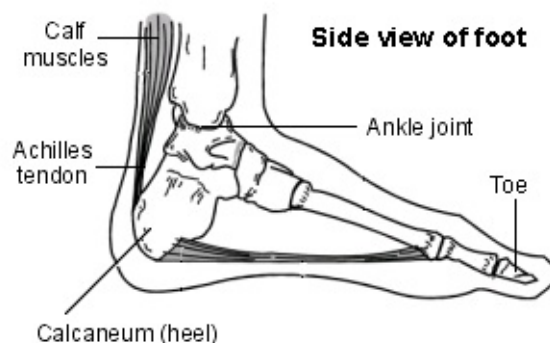
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Achilles Tendinopathy

Achilles tendinopathy is a condition that causes pain, swelling, stiffness and weakness of the Achilles tendon that joins your heel bone to your calf muscles. It is thought to be caused by repeated tiny injuries to the Achilles tendon. These may occur for a number of reasons, including overuse of the tendon - for example, in runners. Treatment includes rest, ice packs, painkillers and special exercises to help to stretch and strengthen the Achilles tendon. For most people, the symptoms of Achilles tendinopathy usually clear within 3-6 months of starting treatment.

What is the Achilles tendon?

Your Achilles tendon is an important part of your leg. It is found just behind and above your heel. It joins your heel bone (calcaneum) to your calf muscles. The function of your Achilles tendon is to help in bending your foot downwards at the ankle. (This movement is called plantar flexion by doctors.)



What is Achilles tendinopathy and what causes it?

Achilles tendinopathy is a condition that causes pain, swelling, stiffness and weakness of the Achilles tendon. It is thought to be caused by repeated tiny injuries (known as microtrauma) to the Achilles tendon. After each injury, the tendon does not heal completely, as should normally happen. This means that over time, damage to the Achilles tendon builds up and Achilles tendinopathy can develop.

There are a number of things that may lead to these repeated tiny injuries to the Achilles tendon. For example:

- Overuse of the Achilles tendon. This can be a problem for people who run regularly. (Achilles tendinopathy can also be a problem for dancers and for people who play a lot of tennis or other sports that involve jumping.)
- Training or exercising wearing inappropriate footwear.
- Having poor training or exercising techniques - for example, a poor running technique.
- Making a change to your training programme - for example, increasing the intensity of your training and how often you train.
- Training or exercising on hard or sloped surfaces.
- Having a high-arched foot.
- Having poor flexibility - for example, having tight or underdeveloped thigh (hamstring) muscles.

Achilles tendinopathy is also more common in people who have certain types of arthritis, such as ankylosing spondylitis or psoriatic arthritis. It is also thought that your genetic 'makeup' (the material inherited from your parents which controls various aspects of your body) may play a part for some people who develop Achilles tendinopathy.

People who are taking medicines from a group called fluoroquinolones (eg, the antibiotics [ciprofloxacin](#) and [ofloxacin](#)) for long periods also have an increased risk of developing Achilles tendinopathy.

Achilles tendinopathy used to be known as Achilles tendonitis. In general, 'itis' usually refers to inflammation, so tendonitis would mean inflammation of a tendon. However, Achilles tendinopathy is now thought to be a better term to use because it is thought that there is little or no inflammation that causes the problem.

If the Achilles tendon is torn, this is called an Achilles tendon rupture. There is a separate leaflet called [Achilles Tendon Rupture](#) that discusses this in more detail. The rest of this leaflet is just about Achilles tendinopathy.

How common is Achilles tendinopathy?

About 6 in 100 inactive people develop Achilles tendinopathy at some point in their lifetime. However, the chance of it developing is higher in athletes or those who train regularly or do a lot of exercise. It can be a particular problem for some runners. It is also more common in men than in women and typically tends to affect men between the ages of 30-40.

What are the symptoms of Achilles tendinopathy?

The main symptoms include pain and stiffness around the affected Achilles tendon. Pain and stiffness tend to develop gradually and are usually worse when you first wake up in the morning. (Severe pain that comes on suddenly and difficulty walking can be symptoms of Achilles tendon rupture. See a doctor urgently if you develop these symptoms.)

Some people have pain during exercise but, in general, pain is worse after exercise. Runners may notice pain at the beginning of their run, which then tends to ease and become more bearable, followed by an increase in pain when they have stopped running. Pain due to Achilles tendinopathy may actually prevent you from being able to carry out your usual everyday activities such as walking to the shops, etc. You may notice that you have pain when you touch the area around your Achilles tendon. There may also be some swelling around this area.

Do I need any investigations?

Your doctor will usually diagnose Achilles tendinopathy because of your typical symptoms and from examining your Achilles tendon. They may feel for swelling or tenderness of the tendon. They may also ask you to do some exercises to put some stress on your Achilles tendon. For example, they may ask you to stand on the affected leg and raise your heel off the ground. For most people with Achilles tendinopathy this movement brings on (reproduces) their pain. If this does not reproduce pain, your doctor may ask you to hop on that foot, either on the spot or in a forwards direction. Your doctor may also do some other tests to make sure that there are no signs that you have ruptured your Achilles tendon. For example, squeezing your calf muscles and looking at how your foot moves.

X-rays or other tests are not usually needed to diagnose Achilles tendinopathy. However, an [ultrasound scan](#) or an [MRI scan](#) may sometimes be suggested by a specialist if the diagnosis is not clear.

What is the initial treatment for Achilles tendinopathy?

There are a number of treatments that may help. The treatments below are usually suggested first. They are all considered as conservative treatments. This means treatments that do not involve surgery.

Rest

Rest and time off from sporting activities are important if you have Achilles tendinopathy. At first, you should stop any high-impact activities or sports (such as running). As pain improves, you can restart exercise as your pain allows. It is thought that complete rest, if it is prolonged, can actually be worse for the injury. Talk to your doctor about when you should start exercising again.

Painkillers

Painkillers such as [paracetamol](#) or [ibuprofen](#) may help to relieve pain. Ibuprofen is from a group of medicines called [non-steroidal anti-inflammatory drugs \(NSAIDs\)](#). However, you should not use ibuprofen or other NSAIDs for more than 7-14 days if you have Achilles tendinopathy. This is because they may possibly reduce the ability of the tendon to heal in the long term. They may also cause symptoms of Achilles tendinopathy to be masked, or covered up, which again may delay healing.

Note: side-effects sometimes occur with anti-inflammatory painkillers. Stomach pain, and bleeding from the stomach, are the most serious. Some people with asthma, high blood pressure, kidney failure, and heart failure may not be able to take anti-inflammatory painkillers. So, check with your doctor or pharmacist before taking them to make sure they are suitable for you.

Ice packs

Ice treatment may be useful for pain control and may help to reduce swelling in the early stages of Achilles tendinopathy. An ice pack should be applied for 10-30 minutes. Less than 10 minutes has little effect. More than 30 minutes may damage the skin. Make an ice pack by wrapping ice cubes in a plastic bag or towel. (Do not put ice directly next to skin, as it may cause ice burn.) A bag of frozen peas is an alternative. Gently press the ice pack on to the injured part. The cold from the ice is thought to reduce blood flow to the damaged tendon. This may limit pain and inflammation. Do not leave ice on while asleep.

Achilles tendon exercises

Some special exercises to help to stretch and strengthen your Achilles tendon can be helpful. You should aim to do these every day. Such exercises may help with pain control and stiffness. A physiotherapist may be able to help you with these exercises as needed. They may also use other treatments such as ultrasound and massage to help relieve symptoms and promote healing of your Achilles tendon.

The following exercises can be used to help treat Achilles tendinopathy:

- Stand about 40 cm away from a wall and put both hands on the wall at shoulder height, feet slightly apart, with one foot in front of the other. Bend your front knee but keep your back knee straight and lean in towards the wall to stretch. You should feel your calf muscle tighten. Keep this position for several seconds, then relax. Do this about 10 times and then switch to the other leg. Now repeat the same exercise for both legs but, this time, bring your back foot forward slightly so that your back knee is also slightly bent. Lean against the wall as before, keep the position, relax and then repeat 10 times before switching to the other leg. Repeat this routine twice a day.
- Stand on both feet. Use your unaffected leg to raise up on to tiptoes. Transfer your weight across to your affected leg and lower yourself down. Repeat and aim for 3 sets of 15 repetitions twice each day. The standing on tiptoe exercise can be performed with your knees straight and with your knees bent.
- Stand on the bottom step of some stairs (facing upstairs) with your legs slightly apart and with your heels just off the end of the step. Hold the stair rail for support. Lower your heels, keeping your knees straight. Again you should feel the stretch in your calves. Keep the position for 20-60 seconds, then relax. Repeat six times. Try to do this exercise twice a day.
- Keep a towel (or a long piece of elastic) by the side of your bed. First thing in the morning, before you get out of bed, loop the towel around the ball of one of your feet. Then pull the towel towards you, keeping your knee straight. Hold the pull for about 30 seconds. This exercise will pull your toes and the upper part of your foot towards you. Repeat this exercise three times for each foot.
- Sit on a chair with your knees bent at right angles and your feet and heels flat on the floor. Lift your foot upwards, keeping your heel on the floor. Hold the position for a few seconds and then relax. Repeat about 10 times. Try to do this exercise five to six times a day.

Orthotics

An orthotics specialist may suggest changing your footwear or putting special inserts in your shoes, such as inserts to lift your heel. This may help to reduce pain and symptoms.

A note about steroid injections

Injection of a steroid medicine is a common treatment for some tendon injuries. However, the use of steroid injections for the treatment of Achilles tendinopathy is controversial. If steroids are injected directly into the Achilles tendon, there is a risk of damaging the tendon further. There have been cases where they have caused the tendon to rupture. Another option is to inject the steroid around the Achilles tendon. But again, this is not a treatment that all doctors agree about. However, it is thought that this may have less effect on the tendon itself and be less likely to cause damage. Some specialists do suggest this treatment to help to control pain. Injecting the steroid using an ultrasound scan to guide the needle to the right position for injection may be useful.

What happens if initial treatment fails?

For most people, the symptoms of Achilles tendinopathy usually clear within 3-6 months of starting conservative treatment, as described above. In general, the earlier the problem is recognised and treatment started, the better the outcome. If your symptoms have not improved after 3-6 months, your doctor may suggest that they refer you to a specialist orthopaedic surgeon or sports medicine doctor. However, this timescale may change depending on your symptoms, your sporting activities, etc.

Specialist treatments that are not surgery

There are some treatments that some specialists may suggest to help treat Achilles tendinopathy. You should discuss these treatments fully with your specialist, including their pros and cons, before any treatment is started. These treatments may not be widely available on the National Health Service (NHS). Some may also be carried out as part of a trial to look at the best ways of treating Achilles tendinopathy. Such treatments may include:

- **Extracorporeal shock-wave therapy** - during this treatment, special sound waves are passed through your skin to your Achilles tendon. Side-effects can include reddening of your skin and an ache in your calf after treatment. This procedure is generally safe but there is a small risk of rupturing the Achilles tendon with this treatment, particularly in older people. At the moment, it is uncertain how effective this treatment is and how well it works. The National Institute for Health and Care Excellence (NICE) therefore recommends that specialists discuss this treatment fully with anyone before it is started. This is so that the person understands the possible small risks and that the effectiveness of this treatment is uncertain. This does not mean that the procedure should not be done; it just means that you need to discuss it fully with your specialist beforehand.
- **Injection using your own blood** - it is possible for a specialist to take some of your own blood (in the usual way) and to inject this around your Achilles tendon. This is called autologous blood injection. The idea is that this will help to promote healing of your damaged tendon by encouraging the growth of cells involved in the healing process. The specialist may use an ultrasound scan to help guide their injection. However, at the moment, it is not clear how effective this treatment is or what the long-term effects are. For this reason, NICE suggests that this treatment should only be carried out if you are fully aware of this. Again, this does not mean that the procedure should not be done; it just means that you need to discuss it fully with your specialist beforehand.
- **Glyceryl trinitrate patch** - this medicine, which comes in a patch form that is applied to the skin, may help with symptoms and healing in some people with Achilles tendinopathy. It is usually recommended in addition to an exercise programme (as described above).

Surgery for Achilles tendinopathy

Around 1 in 4 people who have persisting pain due to Achilles tendinopathy has surgery to treat the condition. Most people have a good result from surgery and their pain is relieved. Surgery involves either of the following:

- Removing nodules or adhesions (parts of the fibres of the tendon that have stuck together) that have developed within the damaged tendon.
- Making a lengthways cut in the tendon to help to stimulate and encourage tendon healing.

Complications from surgery are not common but, if they do occur, can include problems with wound healing.

Are there any complications of Achilles tendinopathy?

There is a risk of rupturing your Achilles tendon if you have Achilles tendinopathy. This is because the tendon is damaged and weaker than usual. However, this risk is usually quite low. Severe pain around the Achilles tendon that develops suddenly may be a sign of tendon rupture. See a doctor urgently if you think that you may have ruptured your Achilles tendon.

If you do have problems with one Achilles tendon, there is also an increased chance that you will develop problems with the other over time.

Further reading & references

- [Extracorporeal shockwave therapy for refractory Achilles tendinopathy](#); NICE Interventional Procedure Guideline (August 2009)
- [Autologous blood injection for tendinopathy](#); NICE Interventional Procedure Guideline, January 2013
- [Achilles tendinopathy](#); NICE CKS, April 2010
- [Maffulli N, Longo UG](#); How do eccentric exercises work in tendinopathy? *Rheumatology (Oxford)*. 2008 Oct;47(10):1444-5. Epub 2008 Aug 12.
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- [Simpson MR, Howard TM](#); Tendinopathies of the foot and ankle. *Am Fam Physician*. 2009 Nov 15;80(10):1107-14.

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