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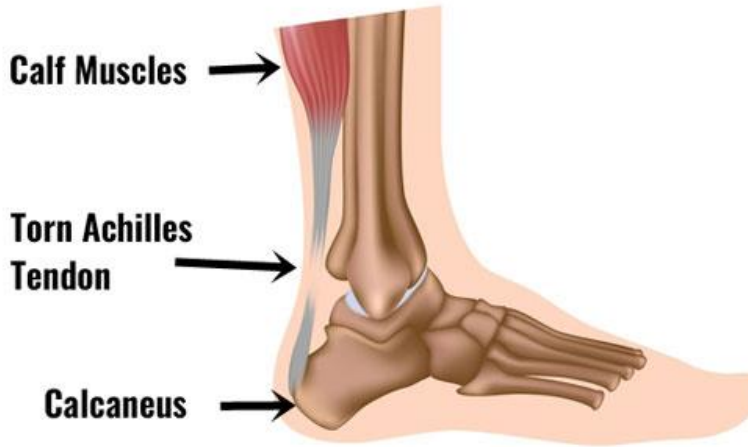
St. Albans Foot and Ankle Clinic

Achilles Tendon Rupture

A patient's guide



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What is the Achilles Tendon?

The Achilles tendon (or heel cord) is the largest tendon in the human body. It connects the calf muscles (gastrocnemius and soleus) to the heel (calcaneus). Its function is to help in bending the foot downwards at the ankle (this movement is called plantarflexion). An example of this is going up on your tiptoes; it also helps to push us forwards when walking or running.

Achilles Tendon Rupture

Achilles tendon rupture affects about 1 in 15,000 people at any one time, increasing to 1 in 8,000 in competitive athletes. It can occur at any age but is most common between the ages of 30 and 50. The Achilles tendon usually ruptures without warning. As with any muscle or tendon in the body, the Achilles tendon can be torn if there is a high force or stress on it. This can happen in activities which involve a forceful push off or lunging type movement e.g. football, tennis, badminton, squash. The push off movement uses a strong contraction of the calf muscles which can stress the Achilles tendon too much. The Achilles tendon can also be damaged by injuries such as falls and slips where the foot is suddenly forced into an upward pointing position (dorsiflexion). Sometimes the Achilles tendon is weak, making it more prone to rupture. This could be due to specific medical conditions (e.g. rheumatological conditions) or medication combinations such as steroids and certain antibiotics. It can also occur when there has been long term Achilles tendonitis. This is where the tendon becomes swollen and painful and leads to small tears within the tendon. These tears cause the tendon to become increasingly weak and therefore more susceptible to rupture.

What are the symptoms?

When a rupture of the Achilles tendon occurs, you may experience a sudden pain in your heel or calf. The pain may then settle to a dull ache or it may go completely. This can be associated with a snapping or popping sound. Patients often describe the feeling as if someone has hit them in the back of the leg, only to turn around and find no-one is there. After rupture of your Achilles tendon, there may be swelling and bruising in your calf. It is usually difficult to walk, with only a flat footed type of walking being possible. It is usually difficult to push off the ground properly on the affected side. You may be unable to stand on tiptoes or climb stairs.

How is it diagnosed?

It is usually possible to detect a complete rupture of the Achilles tendon on the symptoms, the history of the injury and a doctor's examination.

A special calf squeeze test will be performed. Normally if the Achilles tendon is intact this causes the foot to point downwards but if it is ruptured it causes no movement. To confirm the diagnosis and the exact site of the rupture it may be necessary to perform an ultrasound scan.

What are the treatment options?

There are two treatment options available for Achilles tendon ruptures which are non-operative (conservative) and operative (surgical). Conservative treatment (functional bracing) is usually employed in the majority of patients, as the evidence suggests similar results to surgery without the associated complications. The

decision whether to go for surgery or non-surgery is dependent of the clinical assessment and sometimes ultrasound scanning of the tendon. Occasionally, surgery may be considered, especially in cases of delayed presentation or atypical ruptures.

Whatever the treatment option, whether it is surgery or non-surgical, the aim of treatment is to allow the tendon ends to be as close as possible to allow the tendon to heal in that position.

Conservative treatment (functional bracing)

This is the use of a specialised boot that holds your leg in a set position to allow healing of the tendon while allowing you to function as normal. With conservative treatment, you will follow a set regime that involves initially being in a below knee plaster cast with the foot held in a fully bent downwards (equinus) position. This usually stays in place for up to two weeks and is then changed to a specialist boot (Vacoped). This is a boot from the knee down to the toes with Velcro straps. The plaster cast and boot should be worn at all times, including in bed, to ensure that your tendon is protected throughout the healing process. You may briefly bear weight on your toes while you have the plaster cast on. While wearing the specialist boot (Vacoped), you should fully weight bear on your whole foot. As you will be less mobile than previously, you will have a risk assessment for venous thromboembolism (VTE), (blood clot in the leg). If you are felt to be at risk, you will be prescribed blood thinning injections for six weeks from the date of your injury.

During the rehabilitation period the boot will be adjusted to allow your foot to come up into a more neutral position. The total treatment time will be approximately nine weeks. You will be

referred for physiotherapy to start towards the end of your boot treatment. It may take several months for your symptoms to completely settle.

What are the risks of conservative treatment?

•Risk of re-rupture – with the new functional rehabilitation programme, the risk of re-rupture is comparable to the risk of re-rupture with surgery.
•Decreased strength – this is only if the tendon heals in an excessively elongated position.
•Risk of clot in leg veins (deep vein thrombosis) / lungs (pulmonary embolus)

When is surgical repair recommended?

The majority of Achilles tendon ruptures are treated without surgery. Surgery may be considered for certain patient presentations; these being:

•Delayed presentation / treatment (more than 2-3 weeks following injury)
•Re-ruptures of Achilles tendon / avulsion injuries / fat within tendon gap
•Elite athletes (some evidence of slightly increased push off strength)

Summary of surgery.

Patients undergoing surgery will be booked in to have surgery within a week or two following clinic review. On the day of surgery, you will be admitted to the ward. Your surgeon will remind you of

the surgical process and possible complications and will ask you to sign a consent form. The anaesthetist will also meet you and discuss any queries. The surgery is performed under a general anaesthetic. The procedure lasts about 45-60 minutes and involves making an incision over the Achilles tendon and repairing the tendon with sutures.

After your surgery

After the procedure you will have a below knee back slab (half plaster with the foot pointing down) applied. You will be shown how to use crutches as you should not weight bear on the cast. Most patients should be able to go home the same day after surgery (day case). You should be accompanied home by a responsible adult. You will be advised of your follow-up appointment date, either on the day or by letter in the post. Your stitches will be removed at two weeks following surgery in outpatients and you will then go through a functional bracing rehabilitation program.

What are the risks with surgery?

The general risks with surgery include

- Bleeding – rarely may there be bleeding with results in a collection of blood under the wound. Bruising is common after this procedure
- Swelling – common after surgery and can take many months to eventually settle down. Elevation is key to reducing this.
- Stiffness – exercises are important to reduce the stiffness in the ankle joint after surgery

- Infection – infections can be treated with antibiotics. Deeper infections which are much rarer may require further surgery.
- Nerve injury – this may cause some numbness in the ankle/foot/incision.
- Scarring – some scars can be prominent or dark in colour. This usually fades with time.
- Clots in leg/lung – your risk of clots will be assessed prior to surgery and appropriate treatment/advice will be given.

The specific risks to this surgery include

- Wound healing problems – some wounds may be slow to heal and ma even split apart. This usually settles with rest and antibiotics but can take many weeks or even months to settle. In severe cases further surgery may be required.
- Tendon detachment/re-rupture.
- Decreased push off strength in the foot and ankle.
- Chronic regional pain – This is excessive pain after surgery and is a very rare complication.

Advice after surgery

The foot should be strictly elevated for the first 2 weeks to avoid excessive swelling which could compromise the wound. Aim to keep the foot elevated for 55 minutes of every hour

The dressings should not be disturbed unless there is a concern with the wound. At around 2 weeks after surgery, you will return to the clinic to have the cast and stitches removed and a walking boot fitted.

You may shower the limb after the stitches have been removed and the wound is fully healed and/or when the cast has been removed. Before that time keep the wound and surrounding area dry and clean.

You will have a period of non-weightbearing and protected in a cast for 2 weeks, then you can weight bear in a walking boot. You may need crutches. The physiotherapist will show you how to use them. You will then be enrolled in a functional bracing rehabilitation program.

Recovery

It takes at least 3 months for the tendon to heal following any form of treatment. During that time, it is important to follow the instructions of the functional bracing rehabilitation program. It will take several months more to regain strength and flexibility in the injured limb.

Functional rehabilitation programme – important points:

Below are some points which you must follow during the functional rehabilitation programme:

- Weight bear only within the boot during the program. You must not bear weight on the injured limb without the boot.
- The boot must be worn all the time as instructed, and this will be about 10 to 12 weeks after coming out of the cast.

- If the foot is taken out of the boot, for hygiene purposes, the foot must be kept pointing downwards. It must not be

brought upwards. This is to protect any healing tissue from being disrupted.

Going back to work

If you have an office-based job then it may be possible to return to work after two weeks; however, it is more advisable to return after eight weeks when the boot is removed. If you have a more physical job, then it may take 12-16 weeks to return to work

Driving

You should not drive a manual car for at least 10 to 12 weeks following your injury. After this time, you should start to drive gradually. If you have an automatic car and it is your left Achilles tendon that is affected, you may be able to drive earlier. We advise to notify and check with your insurer.

Sports

Time to return to sport is between 4-12 months depending on the sport you wish to return to and dependent on your strength and ability to perform the necessary skills to return to your chosen sport.

Sleeping

We advise to keep the boot on whilst sleeping to avoid an inadvertent movement of the foot upwards. This is also to avoid weightbearing without the boot when waking up and getting up during the middle of the night.

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Showering

The boot must be on during showering/bathing and must be kept dry. A plastic bag may be worn to keep dry. Or a "Limbo bag" (www.Limboproducts.co.uk) can be purchased online to assist with this.

If I have any questions or concerns?

These guidelines are to help you understand your operation. This level of detail may cause concern, anxiety, or uncertainty. Please let your doctor or nurse know so that we may address these issues.

We aim to see you back in the clinic at regular intervals to monitor your progress and answer any questions you may have during your recovery.

If there is concern regarding the wound, such as increased redness, pus, discharge, or pain, then seek medical attention either at your GP or nearest Emergency department.

Further information

There are a number of places that you can look at for further information. These days commonest and easiest way is to look in the internet. You can also ask your surgeon or General Practitioner. Below are a few web sites that you may find useful.

https://www.bofas.org.uk/patient/patient-information

(under Achilles tendon - tear)