

Surgery to reconstruct Chronic Achilles tendon rupture



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 plantar-flexion). An example of this is going up on your tiptoes; it also helps to push us forwards when walking or running.

If the tendon is torn, this is called an Achilles tendon rupture. If the injury is detected early, it can be treated using a boot or surgical repair. However, if the presentation following injury is delayed (more than 6 weeks), this is called a chronic Achilles tendon rupture. Boot therapy at this stage is unlikely to help and direct surgical repair may not be possible. In this scenario, an Achilles tendon reconstruction may be considered.

What type of surgery is suitable for me?

The degree of damage to the tendon and how far apart the tendon ends have separated decides the type of surgery. If the tendon ends can be re-approximated (brought together) without too much tension, a direct surgical repair could still be undertaken. However, if the tendon ends cannot be re-approximated, the following procedures may be considered:

- 1) Flexor Hallucis longus (FHL) Tendon transfer
 - Using another foot tendon to replace and strengthen the Achilles tendon
- 2) Calf muscle lengthening (V-Y advancement) with repair
 - Lengthening the calf muscle to allow tendon ends to be brought together and repaired

How is the operation done?

You will be admitted on the day of operation. The operation takes about 1½ to 2 hours and is routinely done under a general anaesthetic. Occasionally a spinal anaesthetic may be considered. You will either be able to go home the same day or may be kept in overnight, depending on individual circumstances.

The operation is done through a single incision at the back of the ankle (the length of the incision is dependent on the type of reconstruction undertaken). Further incisions may be required for additional procedures.

1) FHL tendon transfer

- The FHL tendon is one of two tendons that bend your big toe. The tendon is cut at the back of the ankle and transferred into to the heel bone through a bone tunnel. It is secured using a non-metallic screw. Most patients do not notice any loss of strength to the big toe and the toe continues to function without limitations.

2) V-Y advancement and repair

- The calf muscle is lengthened above the torn tendon by releasing the aponeurosis (sheet-like fibrous membrane that binds muscle together) to allow the torn tendon ends to be brought together. The tendon is then repaired.

The wound is closed with dissolvable stitches. Your ankle will be protected in a below-knee backslab.

After the operation

You will usually be able to go home when you feel ready. You will need to arrange for someone to drive you home. You should try to have a friend or relative stay with you for the first 24 hours. It is important to keep the leg elevated as much as possible especially for the first 2 weeks.

You will be non-weight bearing on the operated leg for up to 6 weeks and have a below-knee cast / boot for that duration to protect the ankle. After 6 weeks, you will be allowed to increase your weight-bearing on the operated leg. You will be using a boot during this stage for a duration of 3 to 4 weeks. At this stage, you may remove the boot intermittently to do range of movement exercises.

Your first clinic follow-up is usually 12 to 14 days after surgery.

Wound care – The ankle would be protected in a backslab for 2 weeks. This should be kept dry. At your first clinic appointment, wound inspection and suture removal would be undertaken.

Work - If you have a sedentary job you should be able to return to work within 2 weeks (if you can arrange safe transport). If your job is physical, you may need to stay off work until the boot is removed.

Recovery period – This procedure has a lengthy recovery and will take 12 to 18 months to achieve its maximal potential.

What risks are there involved in the procedure?

- Infection
- Nerve damage — causing numbness and painful scar
- Deep vein thrombosis (DVT) and pulmonary embolism (PE) — blood clots in the vein or lungs
- Rupture of the reconstruction
- Prolonged swelling and stiffness
- Prolonged recovery
- Residual weakness

It is beyond the scope of this document to identify all the most extreme (less than one in a thousand) risks that you might be prone to but we will be very happy to discuss any worries about specific concerns and also about any family history or your own personal history of problems in the past which are much more relevant. If there is anything you do not understand or if you have any questions or concerns, please feel free to discuss them with us.

Author: Dev Mahadevan FRCS Tr & Orth