Tendo Achilles rupture

Conservative and surgical management

Therapy Department

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Yeovil Hospital Healthcare

What is the Achilles tendon?

The Achilles tendon is a large tendon at the back of the ankle, attaching onto the heel bone (calcaneus) and the muscles of the calf. It is the thickest and strongest tendon in the body measuring 15cm long. It has a very high tensile strength (level of stress it can take before it breaks) and can receive a load stress 3.9 times body weight in walking and 7.7 times body weight when running. It attaches the plantaris, gastrocnemius and soleus muscles in the calf to the heel bone. These muscles cause the foot to point downwards.

What happens when the tendon ruptures?

The Achilles tendon is most commonly injured by sudden or forced movements of the ankle outside its normal range of motion. Other mechanisms by which the Achilles can be torn involve sudden direct trauma to the tendon, or sudden activation of the Achilles after prolonged periods of inactivity. Some other common causes can occur from overuse while participating in intense sports. Twisting or jerking motions can also contribute to injury.

Achilles tendon ruptures occur more frequently in recreational athletes (increasing with age) particularly during unaccustomed higher level activity, classically racquet sports. Previous Achilles tendon disorders or rupture may be a predisposing factor as may certain medications or medical conditions. Most cases of Achilles tendon rupture are traumatic sports injuries but ruptures may occur in anyone. The average age of patients is 29–40 years and is more common in men than women.

Diagnosis and choice of management

Diagnosis is made by a healthcare professional through a series of tests that will indicate the tendon rupture. If it is suspected then you will have an ultrasound on the tendon to determine how far apart the two ends of the tendons are. If the tendons are too far apart then you may need to have surgery to pull the two ends of the tendon closer to one another. If the ends are near enough then you will not need surgery.

Surgery

If you need surgery to repair the tendon it is usually because the ruptured ends are not close enough to each other. This type of surgery will usually be done as a day case procedure (when you go home the same day) and it is done under a general anaesthetic (when you are asleep). A cut is made in the back of your calf (which may be a small cut across the leg or a larger cut vertical to the calf), the tendon ends are identified, freed up and stitched together.

Post-operative follow-up

You will be seen in the Fracture Clinic at two weeks after your injury or operation. If all is satisfactory you will come out of the plaster and will be given a boot.

You will be seen in the Plaster Room at two weekly intervals to change the movement allowed at the ankle.

You will then be seen again in the Orthopaedic Clinic ten weeks after your operation or injury. If all is satisfactory then you will be taken out of the boot and given heel wedges to wear.

Wound care

If you have had surgery you will have your wound checked and your stitches will be removed (if necessary) by the nurses at your two week check up.

Will I see a physiotherapist?

Yes, you will see a physiotherapist at ten weeks after your operation or injury. This is to progress your exercises, encourage a good walking pattern and start your rehabilitation. If you would prefer to see a physiotherapist nearer to your home please let your consultant know.

A timeline of management

The management is the same for patients after surgery or being treated conservatively:

Immediately after your surgery or injury

You will be put into a plaster with your foot positioned to be pointing downwards to allow the tendon ends to have as little tension going through it as possible. You will not be allowed to put any weight through this and so you will be given crutches to walk.

At two weeks

At two weeks after your surgery you will have an appointment in nurse led clinic to remove the plaster and you will be given a boot to wear at all times. The boot will be positioned so your foot will be pointing downwards. At this appointment, if you have had surgery the nurse will check the wound and remove your stitches (if necessary). You will be able to put a little weight through the boot with your crutches.

At four weeks

The boot position is changed by Plaster Room to allow 30- 15 degrees movement. You will also be able to start the three exercises to keep your ankle from getting too stiff - see the exercise section of this leaflet.

At six weeks

The boot position is changed by Plaster Room to allow 30 degrees to neutral

At eight weeks

The wedge at the bottom of the boot is changed to be flat allowing your ankle more movement when walking.

At ten weeks

The boot is removed and you will be given two heel wedges to put in each shoe. This is to offload tension in the tendon as you come out of the boot. You will wear these wedges for a month. It is very important to wear the wedges at all times during this time when you are putting weight through your foot.

You will commence Physiotherapy.

At 12 weeks

Reduce 2 x wedges to 1 x wedge in each shoe.

At 14 weeks

Both wedges removed.

Patient can return to driving after 14 weeks, only if they are able to do an emergency stop.

14-16 weeks

Patient has follow up with consultant

Exercises

It is important you start these exercises at four weeks

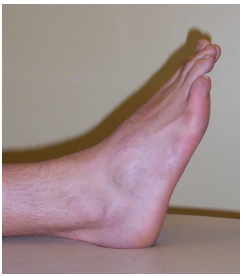
These exercises will prevent the ankle and foot from getting stiff. It is very important that you perform the exercises gently to avoid disrupting the healing process. You need to do the following exercise once a day, with your foot out of the boot but making sure not to put any weight through the leg.

NB. It is important that you do not move the ankle past neutral (neutral is with the sole of the foot at a 90 degree angle to the leg.)

1. Move your ankle around slowly in a large circle.

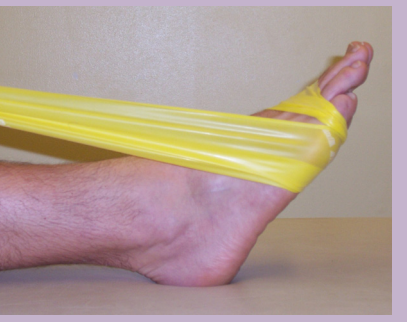
   Repeat in the opposite direction.

   Ten repetitions



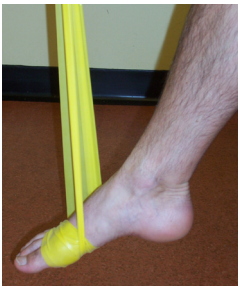
2. **Place a theraband around your foot as shown. Push your toes slowly away from your body and then slowly return your foot back to its resting position**

   Ten repetitions (three sets)



3. Place a theraband around your foot as shown. With your knee bent push your toes slowly away from your body and then slowly return your foot back to its resting position

   Ten repetitions (three sets)



Managing swelling

Swelling of the ankle is part of the natural healing process but if it becomes excessive this can lead to increased pain, increased time for wound healing, general discomfort and slower return to activities.

Swelling naturally peaks at three to five days following any injury or surgery. It is strongly affected by gravity and so if you spend a lot of time upright then it is likely to increase as a result. We therefore suggest that you pace your activity, especially over the two weeks after surgery. Try to keep your leg elevated regularly with your ankle resting higher than your hip throughout the day.

Ice

When your plaster has been removed ice can be a very useful tool to help with both swelling and pain. You should be cautious with its use to ensure that you do not damage your skin. Also, be careful the ice does not push your foot into a position that stresses the tendon.

We suggest that you follow the precautions below:

Your should ensure that the area to be treated is sensitive to temperature by placing a cold and then a warm object against it and making sure you can tell the difference.

Use crushed ice, gel packs or even frozen peas as an icepack but always ensure that there are two layers of towel between your skin and the ice pack.

Check the skin beneath the ice pack after ten minutes, the skin is likely to be red but should not be white or blue. If you are concerned then the ice pack should be removed immediately. If your skin is frail or has poor circulation then you should check it after five minutes. If there is no adverse reaction then the pack can be reapplied for a total of 20 minutes.

Ice packs are most effective when applied for ten to 20 minutes every three to four hours.

- **If you feel pain at any stage always remove the icepack and check the skin for signs of loss of circulation eg. white/purple /blue or very cold skin. Ice packs used incorrectly can cause ice burns.**

Using crutches

You will be issued with and taught to use crutches by a member of the physiotherapy team. Immediately after your operation or injury you will be in a plaster and not allowed to put any weight through the ankle. When you are given a boot at two weeks after your operation or injury you will gradually be allowed to put a little weight through the ankle and foot, still using your crutches. This should not be painful to do.

When going upstairs we suggest that you take one step at a time, leading with the UNINJURED (strong) leg, follow with the INJURED leg and the crutches and do one step at a time.

When going downstairs place the crutches on the step below, followed by the INJURED leg before bringing down the UNINJURED (strong) leg to join it. Always use a hand rail or bannister if there is one available during your recovery.

Managing your pain

If you have had surgery, it is likely that your pain will be well controlled immediately post operatively as local anaesthetic is usually placed around the wound during the procedure. It is therefore sensible to take some regular pain relief so that when the local anaesthetic wears off you remain comfortable.

Should you experience any increase in pain and swelling not relieved by elevation and rest, or any pain in the calf, please consult your GP.

Returning to normal activities

Driving

If you have injured your left Achilles and drive and automatic car you should be able to return to driving, but you will still need to check with your insurer.

Otherwise, you will not be able to return to driving until at least 14 weeks after your injury or surgery when you are out of the boot and wedges. You have to be able to do an emergency stop, and be able to control the car as if you have not had an injury to be safe to return to driving.

You will also need to contact your insurance company to find out when they would be happy for you to return to driving.

Work

Your return to work will depend on your job. Please discuss this with your doctor or Physiotherapist.

Sport

Your return to sport will depend on your sport and level you play at. Please discuss this with your physiotherapist. You should be able to return to competitive sport at eight months post injury or surgery.

More information

This information booklet has been produced to help you gain the maximum benefit after your operation. It is not a substitute for professional medical care and should be used as guidance in association with advice of the Orthopaedic Clinic and Therapy Department. Individual variations requiring specific instructions not mentioned here may be required.

Patients may be contacted by post and requested to complete and return a questionnaire. This is useful for the surgical team, for monitoring patients progress and may save an unnecessary visit to the hospital.

Please use this space for any notes or questions:

Contact details

Yeovil Hospital physiotherapy department
01935 384 358

Mr Grundy (secretary)
01935 384 419

If you would like this leaflet in another format or in a different language, please ask a member of staff.

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