

## Trauma and Orthopaedics

# Achilles tendon injury (rupture) - VACOped boot

### What is the Achilles tendon?

The Achilles tendon (TA) is the large tendon that connects your calf muscles to your heel bone.

The calf muscles point the foot/ankle down. They also support your whole body weight when you stand on your tip toes or push off during walking and running. The Achilles is the strongest tendon in the human body.

### Causes of injury

Injury is often caused by a sudden increase in the load or stress on the Achilles tendon. This could be during times of increased intensity or physical activity, like impact or jumping sports.

There can be other causes such as stepping down a hole or missing a step and landing awkwardly.

### Symptoms

- Sudden onset of pain at the back of the heel or just above it
- A sensation of being kicked in the back of the leg, with many hearing a loud “pop” or “snap”
- You will find it difficult to walk normally, and your foot and ankle may feel floppy and weak.



## Patient Information

### **Diagnosis**

A diagnosis will be made using different techniques.

Your medical professional will carry out a physical examination.

You may need an ultrasound scan to confirm the diagnosis and to plan your treatment.

### **Treatment**

A ruptured TA can be treated non-surgically or surgically.

#### **Non-surgical**

If treated without surgery, you are given a specialist boot to wear. This will keep your foot in a “tip toe” position. This is altered over time.

This puts the tendon ends as close together as possible. This gives them a chance to heal back together.

#### **Surgical**

If surgically repaired, the two ends of the tendon are stitched back together. You will then be placed in a boot as above.

Having surgical repair leads to similar long-term outcomes. But it may increase your risk of surgical complications.

You will be in the boot for the same amount of time as those treated without surgery. Your surgeon will explain in detail before the procedure.

You will be able to walk in the boot, putting your full weight through the injured leg/foot as able, with the boot as support. You may need crutches to begin with.

**You must wear the boot day and night. The boot should only be removed on the advice of your physiotherapist or doctor.**

## Patient Information

### **Timescale in the boot**

The total time you will be in a VACOped boot is usually 11 weeks. But this may vary depending on your clinical findings.

At all stages you are safe to walk, putting your full weight on the injured leg **while wearing the boot.**

- 0 to 4 weeks - fixed 30 degrees equinus (tip toe) with thick sole in place.
- Week 5 - change to 25 degrees
- Week 6 - change to 20 degrees
- Week 7 - change to 15 degrees and exchange the sole of boot to the flat sole
- Week 8 - change to 10 degrees
- Week 9 - change to 5 degrees
- Week 10 - change to 0 (foot flat)
- Week 11 - start to spend less time wearing the boot

**Once you start to wear normal shoes, you must use a heel raise at all times (indoors and outdoors) for a further 6 to 8 weeks. The heel raise must be either on the sole or inside the shoe.**

**Also wear footwear when doing your strengthening exercises.**

- Week 17 to 19 - wean into normal footwear – you do not need to use a heel raise and you can start to wear flat shoes/no shoes again.

### **Rehabilitation**

For the first 4 weeks, you will remove the boot only for washing or cleaning your leg.

When removing the boot during the 11 weeks, do not stand on the injured foot without the boot on. You should not do anything that may risk this happening, like standing in the shower.

You will start ankle exercises from 4 weeks after the boot is put on as shown in this leaflet.

## Patient Information

You will be referred to a physiotherapist for strengthening exercises. These will usually start when the boot is removed at 11 weeks.

Your ankle may feel a little stiff and very weak when you stop wearing the boot after 11 weeks. Your physiotherapist will begin helping you to regain range of movement. Strength work will be added in slowly.

**It is very important that you do your exercises at home regularly as well as with your physiotherapist.**

**Only carry out exercises prescribed by your physiotherapist.** They will guide you on when it is best to return to work and activity.

Full recovery will take several months. This is a serious injury and there is a chance you may never return to your previous level of activity despite the tendon healing and your rehabilitation.

If they can, most people do not return to sport for at least 9 months, but it is often longer. This will depend on your progress in therapy.

Re-injury may lead to poor long-term outcomes for your recovery.

**You are at risk of re-injury if:**

- **you do not follow advice given by your physiotherapist**
- **you try to carry out exercises or activities that have not been recommended**

You are most at risk of re-injury, or lengthening of your tendon, in the first 8 weeks after coming out of the boot. This is when the tendon is at its weakest.

If you do not follow advice given by your physiotherapist or try to carry out exercises or activities that have not been recommended, you are at risk of re-injury. This may lead to poor long-term outcomes for your recovery.

## Patient Information

### Rehabilitation guidelines

**Do not carry out** any calf stretching or strengthening exercises off the edge of a step.

- **0 to 4 weeks - complete rest in boot**
- **4 to 6 weeks – protected range of movement (ROM) and calf recruitment**



Point your tip toes down as far as possible. Do not curl your toes down to achieve this. Try to tense your calf muscle at the end of the movement. Relax and return to the start position.

Repeat this 10 times for 3 sets. Do this 5 times a day.

When you return to the start position, do not pull your foot up past vertical.

## Patient Information

- **6 to 11 weeks - protected ROM and calf recruitment, with progressive resistance**



Point your tip toes down as far as possible pushing against a band with the ball of your big toe. Tense your calf muscle at the end of the movement.

Relax and return under slow control to the starting position.

Repeat this 10 times for 3 sets. Do this 5 times a day.

When you return to the start position, do not pull your foot up past vertical.

- **11 weeks onwards- regain full ROM functionally, increase progressive calf strength under physiotherapy guidance**

Examples of exercises you will be asked to perform. Do these exercises in the footwear with a heel raise on/in.

- **Seated calf raise**



## Patient Information

- **Standing calf raise**



Please follow your physiotherapist's advice on how to start these exercises. They will also tell you on how to adapt the exercises to suit your ability and strength.

**If you feel pain in the tendon area during or after these exercises, please inform your physiotherapist as soon as possible. Stop the exercise until you speak with your physiotherapist.**

### Contact details

If you have any questions or concerns, please contact the following:

Consultants' secretaries (Monday – Friday, 8am to 4.30pm)

- Mr Dhukaram – Jas Viridi 024 7696 5095
- Mrs Chapman – Sophie Carvell/Amber Jolliffe 024 7696 7117

Specialist physiotherapists John Skidmore and Andrew Pritchard contactable via the secretaries.

Further information on sports injuries can be found at <https://www.nhs.uk/conditions/sports-injuries/>

The Trust has access to interpreting and translation services. If you need this information in another language or format 024 7696 5095 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

## Patient Information

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#### Document History

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