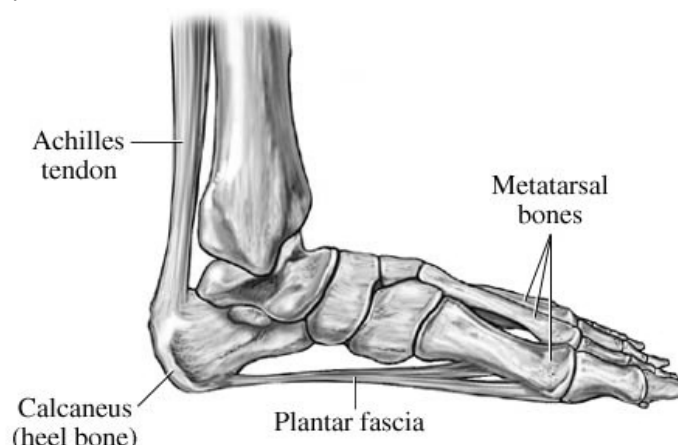


## ACHILLES TENDINOPATHY - Advice & Rehabilitation Leaflet

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### Patient information and rehabilitation leaflet

Achilles tendinopathy is a common condition causing pain, and swelling, at the back of the ankle, or just above the ankle. This comes in two main types, the commonest is pain about 3cm above the back of the heel, the less common problem is located at the attachment of the Achilles tendon to the heel bone. There is a great deal of similarity between the ways the two are treated, but there are a couple of differences and the clinic team will make sure that you know which one you have, so you know the best way to treat this.



Achilles tendinopathy is a condition that generally improves over time, although this can typically be 6-9 months, however many patients can have symptoms for much longer. A range of treatments can be used to reduce symptoms, and hopefully speed up recovery. There is no single treatment that works for everyone, and often several simple treatments are used in combination for maximal effect. Prolonged immobility or rest can worsen the condition and therefore this should be treated actively, but still using common sense.

There are many different risk factors for the development of Achilles tendinopathy, and whilst we can't do anything about some of the risk factors for this condition (such as age and genetic factors), it is important to reduce the ones that you can. These include measures such as losing weight, reducing or stopping smoking, controlling diabetes where appropriate, changing shoes, modifying activity and undertaking a specific rehabilitation programme as shown on the next few pages.

The home exercise regime is broken down into the following sections:

1. Stretching of the whole muscle chain
2. Specific strengthening exercises for the Achilles tendon
3. Balance exercises
4. Intrinsic foot muscle strengthening exercises

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The following is a reminder of the exercise that you should have been shown. It is difficult to learn these exercises from a piece of paper; instead this is to help you remember what you have been shown already.

### 1. Stretches of the whole muscle chain

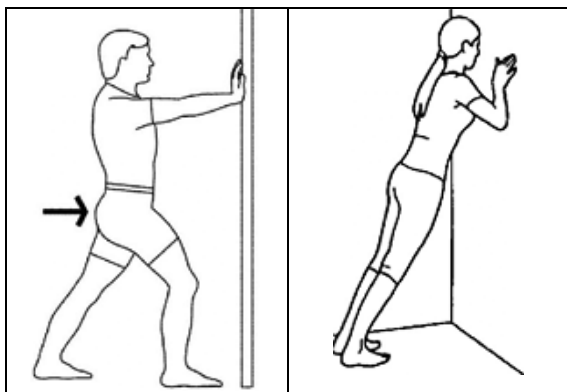
With all of these stretches we normally recommend starting by holding the position for about 15 seconds, performing the stretch 3 times on each leg, and repeating these at least 3 times per day. Each week increase the stretch by 5 seconds, until you are holding the stretch for 30 seconds each time.

You will be given a couple of options for each of the following stretches, so that if one version is uncomfortable you are able to try the other one.

- **A) Gastrocnemius stretches - (the “strength muscle” of the calf)**

#### i) stretching against the wall

Stand barefoot with feet facing forwards a little distance from a wall or chair  
Take a step forwards with the “good” leg  
Look at your back foot (which is the leg you are stretching) – make sure the foot is facing forwards & has not turned out, and has a straight knee and has the heel firmly on the floor  
Bend the front knee / push the back hip forwards into a lunge so that you feel the stretch on the back calf



*This can be altered as seen in the picture on the right into a press-up position on the wall, and you then cross one leg behind the other. This variation will require more arm strength to perform effectively.*

#### ii) stretching on bottom step

Stand barefoot on your bottom step with the weight evenly distributed between your feet and your heels and middle of the foot over the edge of the step.  
Slowly lower yourself down on one foot, feeling the stretching into your calf.



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- **B) Soleus stretches - (“stamina muscle” of the calf)**

### i) bent knee lunge

This is a similar way of stretching to the previous stretch, but instead will focus on stretching the deeper of the two calf muscles, the one that is more of a “stamina” than a “strength” muscle.

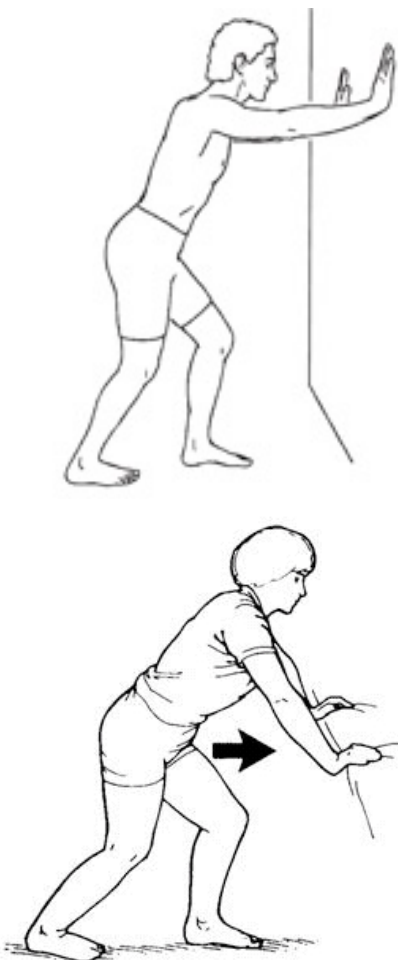
Stand barefoot with feet facing forwards a little distance from a wall or chair

Take a step forwards with the “good” leg

Make sure your back leg is facing forwards and has not turned outwards

Whilst keeping the heel on the floor, bend the knee on the back leg until you feel a stretch in the back of the calf.

Make sure you bend the knee forwards over the middle of the foot, rather than letting it drift inwards.



### ii) knee to wall stretch

Start with a similar position to the stretch shown on the left, but this time you are going to be stretching the front leg.

Take a step forwards with the leg you are stretching pushing the knee over the 2<sup>nd</sup> toe (the one next to the big toe),

Hold this position – you should feel that the stretch is “deeper” in the calf than the above stretch.



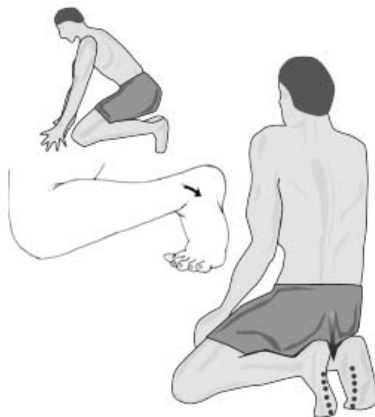
*Sometimes this stretch can feel uncomfortable on the front of the knee on the front foot, and if this is the case you may be better with the version on the left.*

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- C) FHL stretches (Flexor Hallucis Longus) - big toe tendon**

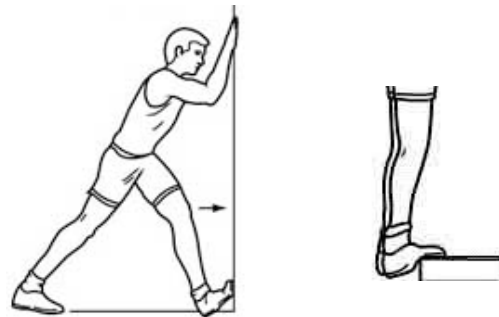
**i) crouching**

Kneel down with a pillow under your knees with your weight on your knees. Support yourself initially with your hands if you need to.  
Tuck your feet under you, up on your toes.  
Slowly lean back so that the weight is transferred from your knees to your heels.  
Hold this position before returning your weight to your knees.



**ii) against wall**

Stand in a lunge position with toe either on a large book, or against the wall  
Similar position to the stretches above, but this time the foot is much closer to the wall  
The heel of the front foot is firmly on the floor, with the foot angled diagonally up the wall  
Bend the front knee to the wall – you should feel a stretch either in the low calf, ankle or under the foot



*Alternatively, this stretch can be done placing an object like a large book under your toe & stretching as above.*

- D) Plantar fascia stretches**

**i) rolling stretch**

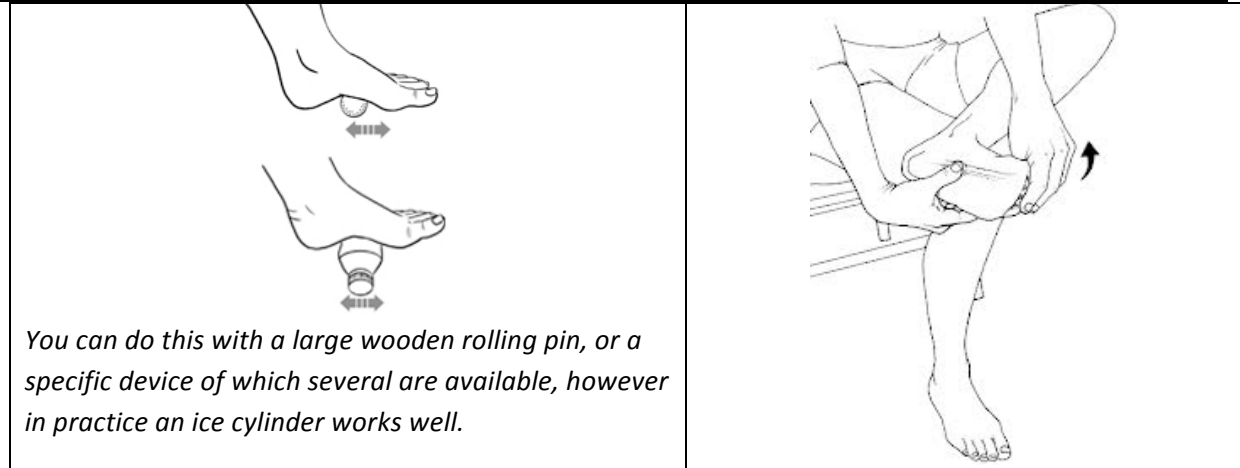
Stand holding onto a stable surface such as a kitchen work top  
Place a frozen drinks bottle (such as a half-litre soft drink bottle that was filled with water & kept in the freezer) under the standing foot's heel with a reasonable amount of weight through this.  
Roll the bottle slowly from the heel all the way to the toes and back again taking at least 5 seconds to progress from the heel to the toes each time.  
Do this for about 30 seconds to start with for each foot, increasing to a couple of minutes or more.

**ii) self-massage**

Sit cross-legged on a stable chair and bring one foot over the other knee.  
Using your hand, pull back on the toes on the foot to stretch out the plantar fascia and the tendons on the sole of your foot.  
You can then directly massage the tight bands that you can feel with your other thumb.  
Do this for at least 30 seconds initially, gradually increasing over time.

(the diagrams for these two exercises are on the adjacent page)

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- **E) Hamstring stretches**

**i) hurdle stretch**

Place a chair against a wall with the seat facing outwards.

Place the heel of your foot for the leg you are stretching as far back into the chair as you can reach, which should keep the ankle flexed to about 90°

Keeping your back straight and the knee straight of the leg you are stretching, slowly lean forwards sliding your hands down this leg until you feel a stretch at the back of your thigh and calf.

Hold this stretched position



**ii) lying down**

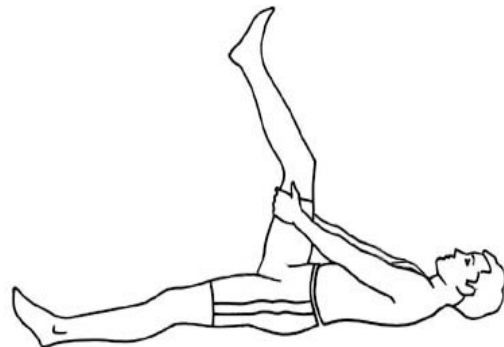
Lie flat on your back with both legs straight.

Bring one leg towards you, bending your knee and your hip, so that your hip is at about 90 degrees.

Reach down with your hands and hold the back of your thigh.

Using the muscles of the leg slowly straighten the knee as far as the hamstrings will allow it to.

Hold this stretched position.



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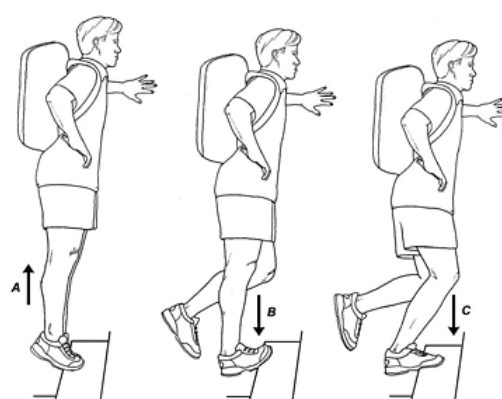
### 2. Specific strengthening for the Achilles Tendon

In addition to flexibility exercises, it is important to progress specific strengthening exercises for the Achilles tendon, to develop robustness and load tolerance for the tendon, in order to reduce your pain. There is some evidence that even if you have symptoms only on one side that these exercises should be done for both sides. These exercises load the tendon using body weight, as it is being stretched – the medical phrase for this is “eccentric strengthening”; one of the most important things to do with this exercise is to do these very slowly to get benefit from them.

This exercise comes in two main forms depending if your pain is in the middle of the tendon, or at the attachment. The following description is for those patients with pain in the middle of their tendon, and the alteration for those with pain at the attachment is at the bottom of this page.

- Stand on your first step with weight evenly between both feet
- Slowly, raise yourself onto your tiptoes with your knees straight (Fig A)
- Hold this position for about 2 seconds
- Very slowly lower your heels as far as they can go, so that your heels go below the level of your toes – this needs to be done very slowly over about 7 seconds (Fig B)
- Hold this stretched position for 2 seconds
- Slowly push yourself back up to a tiptoe position, over about 7 seconds

(repeat)



We would normally ask you to do 3 sets of this exercise, once a day only – starting at a number of repetitions where you are starting to feel the load.

Once you have completed this exercise, then repeat this exercise with your knees bent (figure C) Normally we would look for you to increase slowly at weekly intervals.

To progress this exercise, gradually increase the number of repetitions that you do. When you are able to do 3 x 15, progress on to raising onto tiptoes using both feet, but coming down on one foot (and then repeating to do the other side), before raising and lowering only with 1 foot at a time. To progress beyond this, the using a rucksack start cautiously adding weight to this. (as per the diagram above)

#### **For those with pain at the attachment of the tendon:**

This exercise is done in exactly the same way, using the same concepts, but instead of being done on a step, this is instead done on the flat. This is because loading the tendon beyond a neutral position can adversely load the tendon attachment for those with problems in this area and can slow down recovery. For those with mid-tendon pain, then this position is fine.

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These last two sets of exercises seek to improve balance and coordination, and improve intrinsic strength within the foot itself.

### 3. Balance exercise (proprioception) – *be careful not to fall & injure yourself with this exercise*

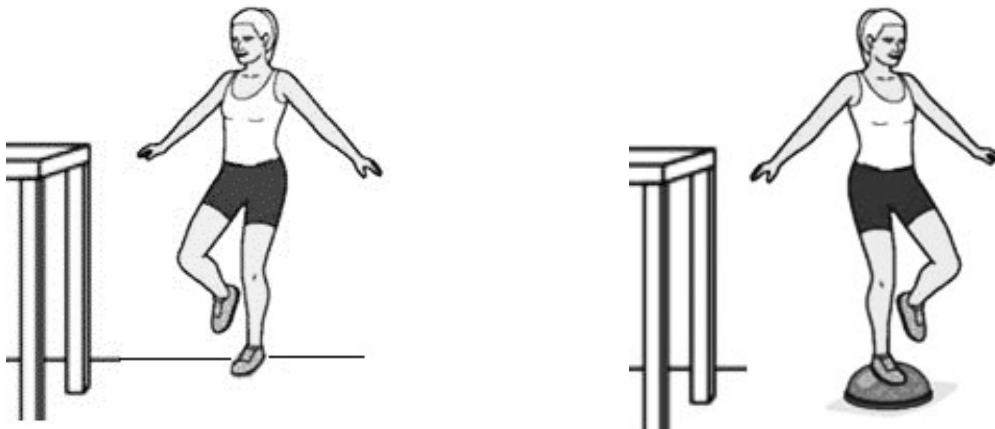
Start to practice by standing on one leg on a firm, flat surface with your eyes open.

It is ok to hold onto something stable like a worktop if you need to when starting out. Then gradually progress from holding onto something, to touching a worktop lightly, to intermittently touching & then not touching at all.

Look to stand on either leg for about 30 seconds in total x 3 each leg – at least 3 times per day

When you are getting good at these exercises, then to progress this further place a pillow under your standing foot (or wobble board) and gradually build up the time you are balancing for.

When you are getting very good, try standing on one leg on a firm surface, but this time with your eyes closed – this makes the exercise harder as you no longer have your eyes giving you clues about your wobbling.



### 4. Intrinsic foot muscle strengthening

These are the tiny muscles in the feet that help with all sorts of activities, and often pain can inhibit these from working, causing them to weaken.

To start this exercise, stand on a towel on the floor barefoot. Then practice by scrunching up the towel under your feet with both feet either together or singly. A tissue or piece of kitchen towel will also work just as well.

Look to start with about 30 seconds, and progress this to several minutes each time, three times per day.



An alternative is to use pebbles or marbles on the floor, and practice trying to pick these up by scrunching your toes.