



A patient's guide to

# Inferior Heel Pain

The Foot & Ankle Unit at the Royal National Orthopaedic Hospital is made up of a multi-disciplinary team. The team consists of four specialist orthopaedic foot and ankle consultant surgeons (Mr Singh, Mr Cullen, Mr Goldberg & Mr Welck) and also includes specialist doctors in training, a physician's assistant, clinical nurse specialists, specialist foot and ankle physiotherapist, orthotists and physiotherapists.

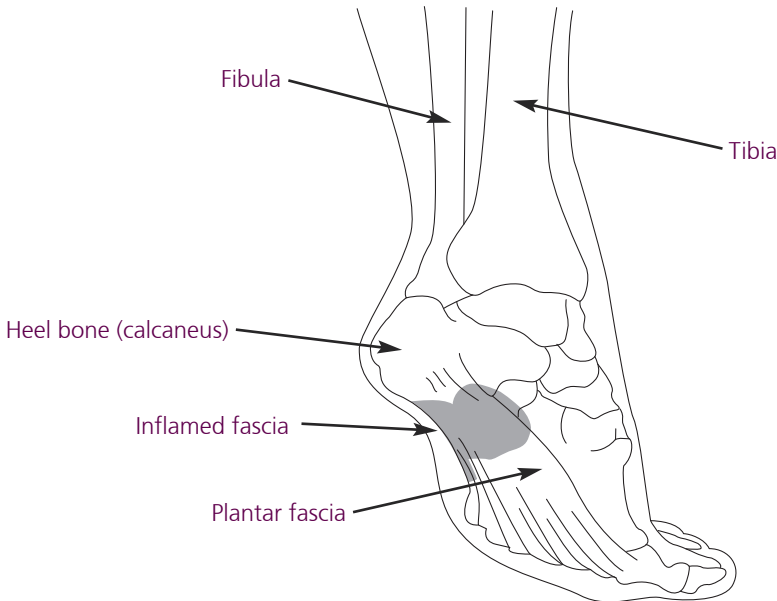
## What is Inferior Heel Pain?

Inferior heel pain means pain under the heel. There are a number of possible diagnoses for inferior heel pain. These include:

- Plantar Fasciitis (most common – see below)
- Plantar fibromatosis (nodules in the plantar fascia under the foot)
- Plantar fascia tear
- Stress fracture of the calcaneum (heel bone)
- Thinning of the fat pad under the heel
- Subcalcaneal bursitis (inflammation of the fluid filled sac under the heel)
- Calcaneal intraosseous lipoma (fatty lump within the heel bone)
- Pain can also come from other ligaments, joints, muscles, nerves or blood vessels.

## What is Plantar Fasciitis?

Plantar fasciitis is the most common cause of inferior heel pain. Plantar fasciitis literally means inflammation of the plantar fascia. The plantar fascia is a strong ligamentous band under your foot which attaches from your heel to your toes. It supports the arch of your foot and is important for taking the strain when you stand, walk or run. Plantar fasciitis normally settles over time. Treatment can speed up recovery.



## Symptoms of Plantar Fasciitis

Inferior heel pain caused by plantar fasciitis may be there all the time, or it may come and go.

It is usually:

- Worse first thing in the morning on rising
- Worse on standing up after periods of prolonged sitting
- Worse at the start of sporting activity

The pain has been described as a nail being driven into the heel, or a sharp, aching or burning sensation. Pain may also occur in the middle part of the foot under the arch.

## Common Causes & Risk Factors for Plantar Fasciitis

- **Constant Stress** - more common in people who spend the majority of the day on their feet.
- **Recent Weight Gain** - being overweight may be a contributing factor of plantar fasciitis.
- **Tightness of the Achilles Tendon** - this can cause stress on your heel.
- **Change in Activity** - if you have recently changed your exercise routine, for example, increasing or decreasing mileage when running, running on different surfaces or walking on hard surfaces such as cement / concrete floors.
- **Unsuitable Footwear** - if your shoes have non-cushioning soles or are worn out.
- **Rheumatic Conditions** - if you suffer from Rheumatoid Arthritis or Ankylosing Spondylitis you may be prone to inflammation anywhere a ligament is attached to a bone. Therefore, plantar fasciitis may be part of the general condition.
- **High arched (cavus) feet or flat feet (pes planus)** - if you have high arched feet you are more at risk of developing plantar fasciitis as you are less likely to absorb the stresses of walking. If you have flat feet you may put more strain through the plantar fascia when you are on your feet.
- **Heel Spurs** - occasionally extra bone forms producing a small bony prominence. Many people have a bony spur on the heel bone, but this is not the cause of the pain. This may be more common in those with plantar fasciitis, but it does not cause plantar fasciitis.

## Treatments

These are some of the main treatments for plantar fasciitis, but this list is not exhaustive.

- **Rest the foot** - avoid walking or standing for long periods of time where possible.
- **Appropriate footwear** - wear shoes with extra cushioning and good arch support, for example, running trainers. Do not walk barefoot or on hard surfaces.
- **Orthotic Devices** - arch supports and / or heel cushions.
- **Analgesia** - options include paracetamol and / or non-steroidal anti-inflammatory drugs (for example Ibuprofen or Naproxen). Ask your doctor or pharmacist for advice before taking any medication.
- **Ice** - Apply an icepack (covered with a towel) to the foot for 15-20 minutes for symptomatic relief. Only use if advised to do so by your doctor or physiotherapist. There are some people who must not use ice, including people with impaired circulation or sensation. Ice must not be applied over an area of decreased or altered sensation. Care must be taken to check the area regularly whilst the ice is in place to ensure that the ice does not cause a burn. Stop using ice immediately if you notice any evidence of marked increased redness, burn or if there is increased pain.
- **Weight loss** - if you are overweight, losing weight can help prevent future episodes.
- **Stretching of the Achilles Tendon** - Refer to the enclosed exercises below.

- **Rolling foot on a ball or a cold bottle of water** - Refer to exercise below.
- **Night splints**
- **Physiotherapy**
- **Cast application or special walking boot (occasionally)**
- **Steroid Injection (rarely)**
- **Shockwave Therapy** - if symptoms persist after trying conservative management this may be offered

For more than 95% of people with plantar fasciitis, their symptoms will resolve or improve with treatment. However, it may take up to 18 months for your symptoms to clear. Occasionally symptoms re-occur and treatment is again necessary.

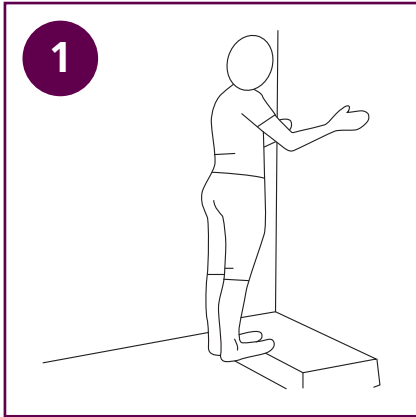
Surgery is rarely required. There are associated risks and possible complications with surgery, including infection, persistent pain, and damage to the small nerves in the heel causing tingling and numbness. Surgical division of the plantar fascia can result in a flat foot.

## Exercises

Please note that this is advisory information only. Your experiences may differ from those described. Do not attempt any of these exercises without being advised to do so by a member of the foot and ankle clinical team or a fully qualified physiotherapist. We cannot be held liable for the outcome of you undertaking any of the exercises / interventions shown here independently of direct supervision from the RNOH.

You should feel a gentle stretch with exercises 1-7, but the exercises should not be painful. Stop doing an exercise if it makes your symptoms worse. If you have any concerns regarding these exercises, please contact the Foot and Ankle Unit or your Physiotherapist for advice if necessary.

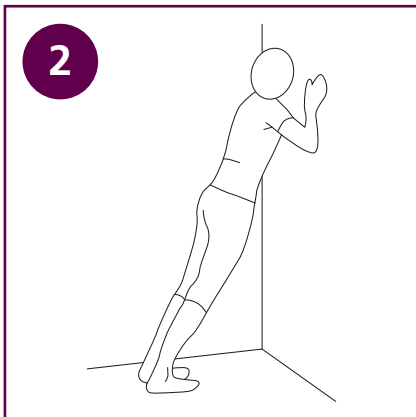




Stand on a step holding onto a support with both hands. Have your heels over the edge of the step. Let the weight of your body gently stretch your heels towards the floor. Make sure you keep your knees straight. A moderate stretch of the calf muscles should be felt. Hold for 30 seconds then relax.

**Repeat 3 times.**

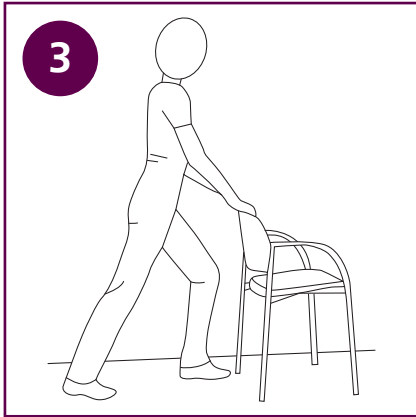
**Repeat this twice a day.**



Stand at arm's length from a wall, leaning against it with your feet together and your arms and back straight. If you have orthotics (insoles), wear these with your shoes, or make sure that your foot is in a good position (as advised by your physiotherapist). Gently let your body lean towards the wall keeping your heels on the ground and your knees straight. You should feel a gentle stretching in your calves. Hold for 30 seconds then relax.

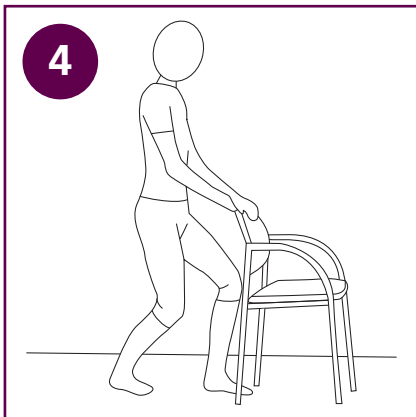
**Repeat 3 times.**

**Repeat this twice a day.**



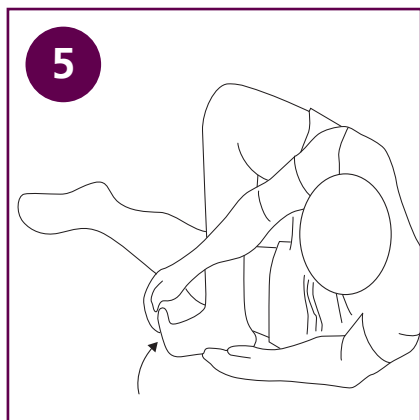
Stand in a walking position at arm's length from a wall or chair for support. Have the leg to be stretched behind you and keep your back knee straight and your front knee bent. If you have orthotics (insoles), wear these with your shoes, or make sure that your foot is in a good position (as advised by your physiotherapist). Gently lean your body forwards and down until you feel a gentle stretch in the calf of the straight leg. Hold for 30 seconds then relax.

**Repeat 3 times on each leg.  
Repeat this twice a day.**



Stand in a walking position at arm's length from a wall or chair for support. Have the leg to be stretched behind you and keep your back knee straight and your front knee bent. If you have orthotics (insoles), wear these with your shoes, or make sure that your foot is in a good position (as advised by your physiotherapist). Gently bend your back knee, keeping both heels on the floor until you feel a gentle stretch in the calf of your back leg. Hold for 30 seconds then relax.

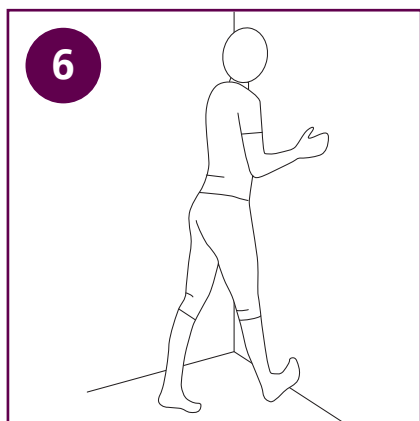
**Repeat 3 times on each leg.  
Repeat this twice a day.**



Sit with your affected leg resting on your other leg. Use one hand to bend your toes and ankle up, and use the other hand to support near your heel so you feel a gentle stretch under your foot. Hold 30 seconds then relax.

**Repeat 3 times.**

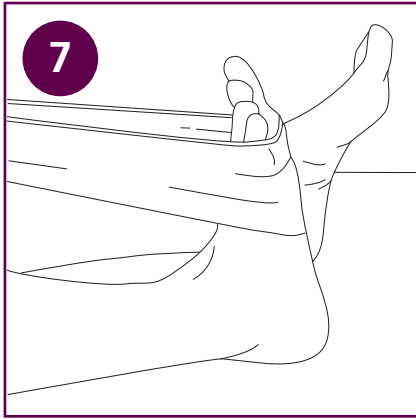
**Repeat twice a day.**



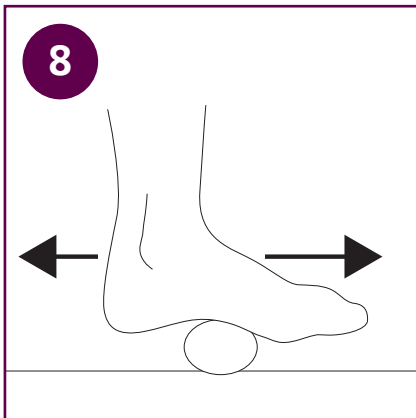
Stand facing a wall and lean onto the wall for support with your hands. Put your forefoot (toes) against the wall keeping your heel on the floor. Gently lean forwards and apply gentle pressure so that your toes and ankle bend gently and you feel a gentle stretch in your calf and under your foot. Hold for 30 seconds then relax.

**Repeat 3 times.**

**Repeat twice a day.**



To do before getting out of bed first thing in the morning. Keep a long towel beside your bed. Sit with your leg out straight in front of you. Before you get out of bed, loop the towel around your foot, and pull it gently with your knee straight so you bend your foot up towards you and feel a gentle stretch in your calf. Hold for 30 seconds then relax. **Repeat 3 times.**



Sit on a chair. Place a plastic bottle of previously cooled but not frozen water under the heel of your foot and roll backwards and forwards for a few minutes. You can also do this rolling a ball under your foot (tennis ball size). **Repeat twice a day.**

## References / Further information

NICE Clinical Knowledge Summary (2015) Plantar Fasciitis:  
<https://cks.nice.org.uk/plantar-fasciitis>

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