

## Plantar Fasciitis

### What is Plantar Fasciitis?

Plantar Fasciitis is a common condition caused by wear and tear with inflammation of the plantar fascia. The plantar fascia is a fibrous sheet in the sole of the foot that helps maintain the arch.

### What are the symptoms?

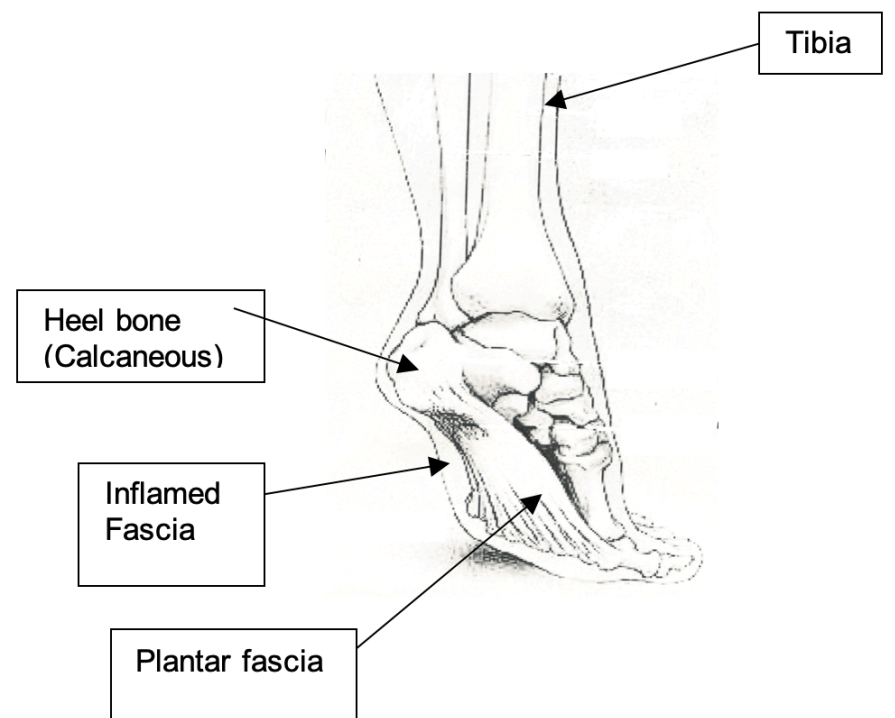
Heel pain

### When is this symptom present?

In the morning or after rest (intervals of prolonged sitting). It is worsened by long periods of time spent on the feet (at the end of the day).

### What are its causes?

- **Constant stress-** *common to people who spend a lot of time on their feet.*
- **A recent weight gain**
- **Tight Achilles Tendon-** *this places stress on the heel.*
- **Recent change in activity (e.g. exercise routine)-** *Changes can include: an increase in mileage or even running on different surfaces.*
- **Inadequate footwear-** *footwear that doesn't provide suitable cushioning and protection.*



- **Rheumatic conditions-** *People suffering from rheumatoid arthritis or ankylosing spondylitis* are prone to inflammation elsewhere.
- **High arched or flat feet-** *People with high arched feet are less efficient in absorbing impact while walking.*

Heel spurs (bony prominences on the heel) **do not** cause plantar fasciitis, however, are more common to those who have the condition.

## What are the treatments?

1. **Non-steroidal anti-inflammatory drugs:** for example, ibuprofen or neurofen. Ask for advice from your doctor or pharmacist before taking any medication.
2. **Appropriate footwear:** wear shoes with extra cushioning such as running trainers. Do not walk barefoot or on hard surfaces.
3. **Orthotic devices:** arch supports and/or heel cushions.
4. **Stretching of the Achilles tendon (physiotherapy):** refer to the exercises below.
5. **Night splints:** To hold the foot upright to keep the Achilles tendon stretched in order to reduce your early morning pain.
6. **Steroid injection:** A mixture of local anaesthetic with steroid administered at the painful site (heel) to reduce your symptoms. However the pain relief might be temporary and only last for a few weeks.
7. **Shockwave Therapy (ESWT):** high amplitude shock waves similar to sound waves are focussed on the painful area to promote better healing response. The

procedure is usually carried out in 3 to 5 sessions at weekly intervals as an outpatient procedure. Do not take non steroidal anti inflammatory drugs like ibuprofen or neurofen during the therapy.

8. **Platelet Rich Plasma (PRP) injection:** this is a day case procedure which involves drawing 10-30ml of your own blood and centrifuging to separate platelet rich plasma. The platelet rich plasma is injected at the painful spot in the heel to promote healing.
9. **Cast application:** occasionally a below-knee plaster cast or walker boot is applied to rest the foot for 4 to 6 weeks.
10. **Muscle lengthening:** For patients who have tight calf muscles (gastrocnemius) and unable to stretch it out with exercise, proximal medial gastrocnemius release (**PGMR**) would help to improve the symptoms.

Over 98% of patients will have resolution of their symptoms with this treatment. However your symptoms may take up to 18 months to resolve. Occasionally symptoms recur and treatment is again necessary.

Surgery to release plantar fascia is rarely required and there are associated risks and possible complications, including infection, persistent pain/ worsening pain and damage to the small nerves in the heel causing tingling and numbness. Division of the plantar fascia can result in a flat foot. This surgery may be required in patients who suffer from compression of a small nerve in heel (baxters neuropathy) which often mimic as plantar fasciitis.

## Exercises

- Stand at an arm's length facing a wall. Place one foot in front of the other, keeping your back knee locked and your front knee bent. Keep both heels on the

ground throughout the stretch. Hold the stretch for 15 to 30 seconds and release, repeat three times. Then, reverse the position of your legs and repeat.

**This stretch needs to be done 6 times a day**



- Stand facing a wall, and slowly press your toes against the bottom of the wall. Bend your knee toward the wall until you feel a comfortable stretch. Maintain the position for 30 seconds and relax. Repeat this 8 times. **This stretch needs to be done 4 times (daily).**



- Sit on a chair, with a roll under the arch of your foot (you can use a rolling pin or cold drinks can). Slowly roll your foot forwards and backwards, the can rolling from the heel to the ball of your foot. Continue this for 4 minutes. Once you feel comfortable with this stretch, you can perform it while standing. **This stretch needs to be done at least twice a day.**



- Stand on a step- support yourself only on the front of your feet, keeping your knees straight (locked in). A moderate stretch in your calf muscles should be felt. Hold this for 15 seconds. Repeat this 6 times. **This stretch needs to be done 6 times a day.** Once you are comfortable performing this stretch, try with carrying a weight (rucksack).











