

### What is Plantar Fasciitis?

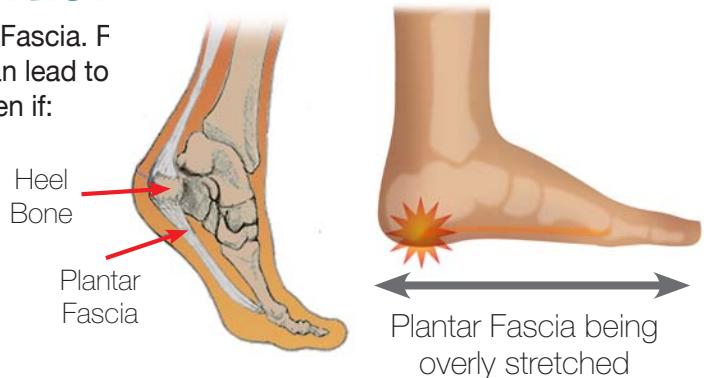
Plantar Fasciitis is the most common form of heel pain. The Plantar Fascia is the flat band of tissue (ligament) that connects your heel bone to your toes. It supports the arch of your foot. Plantar Fasciitis is Latin for 'inflammation of Plantar Fascia'. The inflammation occurs at the point where the ligaments insert into the heel bone. Plantar Fasciitis is most common in middle-aged to older people. In fact, 50% of the over 50's will develop Plantar Fasciitis! However, it also occurs in younger people who are on their feet a lot, like athletes or soldiers.

Symptoms are a sharp pain in the heel, especially when getting out of bed in the morning. Pain often subsides quite quickly, but then returns after prolonged standing or walking.

### What causes Plantar Fasciitis?

Plantar Fasciitis is caused by over-stretching of the Plantar Fascia. Repeated strain can cause tiny tears in the ligament. These can lead to inflammation, pain and swelling. This is more likely to happen if:

- your feet roll inward too much (**over-pronation**)
- you walk, stand, or run for long periods of time, especially on hard surfaces
- you are overweight
- you have tight Achilles tendons and calf muscles



### What are the most effective treatment options?

A Heel Pain study by the American Orthopaedic Foot and Ankle Society (AOFAS) found that by wearing orthotics, combined with a number of daily stretching and strengthening exercises, 95% of patients experienced substantial relief from their symptoms. Interestingly, the orthotics used in this study were low-cost 'off-the-shelf' shoe inserts, purchased in a pharmacy.

Orthotics prevent **over-pronation** and support the arches. They help release the tension on the Plantar Fascia, thereby treating the cause of Plantar Fasciitis. At the same time, stretching of the Achilles Tendon, calf muscles and hamstrings creates a lot more flexibility during walking and takes the stress out of the Plantar Fascia. The hamstrings, calf muscles, Achilles Tendon and Plantar Fascia all work together during gait and tightness in one area can cause problems in another area!

Other recommended treatment options:

- **Rest:** give your feet a rest. Cut back on activities that make your foot hurt. Try not to walk or run on hard surfaces.
- **Ice:** to reduce pain and swelling, try putting ice on your heel. Or take an over-the-counter pain reliever like ibuprofen (such as Advil, Nurofen) or aspirin.



By preventing over-pronation orthotics release the tension on the Plantar Fascia

### FACT:

**75% of the Australian population suffers from over-pronation!**  
(rolling inwards of the feet + flattening of the arch)

Please see overleaf for Plantar Fasciitis exercises.

## Plantar Fasciitis

### Recommended Daily Exercises

#### Stretching exercises before getting out of bed

Many people with Plantar Fasciitis have intense heel pain in the morning, when taking the first steps after getting out of bed. This pain comes from the tightening of the plantar fascia that occurs during sleep. Stretching or massaging the plantar fascia before standing up can often reduce heel pain.

**1)** Stretch your foot by flexing it up and down 10 times before standing

**2)** Use a rolling pin or tennis ball. While seated, roll the rolling pin or ball with the arch of your foot.

*(If you are able to, progress to doing this exercise while you are standing up)*

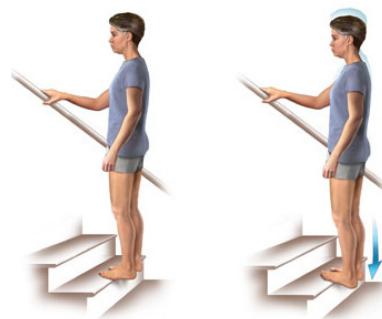
After these exercises, put on your shoes (with orthotics inside them) or wear supportive sandals. Do not start the day walking barefoot on hard floors or tiles!

#### Towel stretch



Place a rolled towel under the ball of your foot, holding the towel at both ends. Gently pull the towel toward you while keeping your knee straight. Hold this position for 15 to 20 seconds. Repeat 4 times.

#### Achilles stretch



Stand on a step as shown. Slowly let your heels down over the edge of the step as you relax your calf muscles. Hold the stretch for about 15 to 20 seconds, then tighten your calf muscle a little to bring your heel back up to the level of the step. Repeat 4 times.

#### Calf stretch

Stand facing a wall with your hands on the wall at about eye level. Put the leg you want to stretch about a step behind your other leg. Keeping your back heel on the floor, bend your front knee until you feel a stretch in the back leg. Hold the stretch for 15 to 20 seconds. Repeat 4 times.



#### Hamstring stretch

Extend one leg in front of you with the foot flexed. Bend your other knee and lean back slightly. Your pelvis should be tilted forward. Keep your upper body upright as you hold the stretch for 10-20 seconds, then switch sides.

You should feel the stretch up the back of your extended leg (all the way up your calf and thigh).



#### Marble lift



Put marbles on the floor next to a cup. Using your toes, try to lift the marbles up from the floor and put them in the cup. Repeat exercise 15 times.

**NOTE:** Stretching exercises should create a pulling feeling—they should not cause pain. It's best to do each exercise two or three times during the day, but you do not need to do them all at once. Please consult your health practitioner if your heel pain persists.