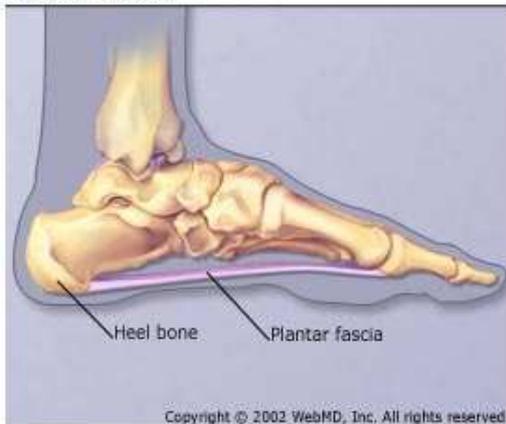


## What is it?

The plantar fascia is a long ligament that runs underneath the foot, from the inside of the heel to the base of the first toe. Plantar fasciitis is the term given to inflammation of the plantar fascia at its attachment site on the heel bone.

Plantar Fascia



Pain and tenderness is felt on the inside of the heel and may radiate along the arch of the foot. Pain tends to be worse with the first few steps each morning or immediately after a long period of sitting or resting. Many people experience discomfort with prolonged walking or standing, especially on hard ground or in bare feet. Pain in this area is usually due to overuse although acute inflammation can occasionally be responsible. Over time, the inflammation can increase and the pain becomes worse.

## What Causes It?

When the plantar fascia is repetitively stretched, microscopic tears may develop in the ligament. These tears are accompanied by small inflammatory responses that gradually build up to cause discomfort. Although the pain may only be present for a few steps in the early stages before 'warming up', the tiny ligament tears will continue to occur throughout the day if the problem of overstretching is not addressed, eventually causing more severe pain.

The plantar fascia supports the arch of the foot and when the foot rolls in (pronation) it is stretched. Overpronation, or excessive rolling in, causes increased tension in the fascia and is a primary cause of plantar fasciitis.

This is why plantar fasciitis is more common in people with flat feet. Footwear without adequate support and cushioning (like workboots) also allows the foot to overpronate and can contribute to the development of plantar fasciitis. Other factors such as high bodyweight, tight calf muscles and older age all increase the likelihood of developing plantar fasciitis.

## What about Heel Spurs?

In chronic cases of plantar fasciitis, your body will respond by laying down a small amount of extra bone at the heel to stabilize the attachment of the ligament. Over time this bone can become more prominent, and is referred to as a 'heel spur'. The important point to remember is that heel spurs are NOT the primary problem – they are a symptom of chronic plantar fasciitis.

## What Should I Do?

If you suspect you have plantar fasciitis, you should seek treatment as soon as possible. The earlier this injury is treated, the more successful the outcome.

## What Shouldn't I Do?

You should not ignore the pain in the hope it will go away. Plantar fasciitis is deceptive in that the pain 'warms up' and allows you to walk or run on the area. Each time this happens you do further damage and the injury becomes far harder to treat.

## How can Physiotherapy help me?

### Acute cases

Occasionally, after a bout of unaccustomed activity, a client can develop acute plantar fasciitis. The pain can settle quite rapidly if the following measures are taken:

- \* Taping of the foot by your physiotherapist<sup>1</sup>
- \* Rest from painful activities (for example, cease running and cycle to maintain your fitness)
- \* Ice around the heel
- \* Wearing well cushioned, supportive shoes at all times, and avoiding thongs or bare feet
- \* Stretches and a gradual return to activity as instructed by your therapist

## Chronic cases

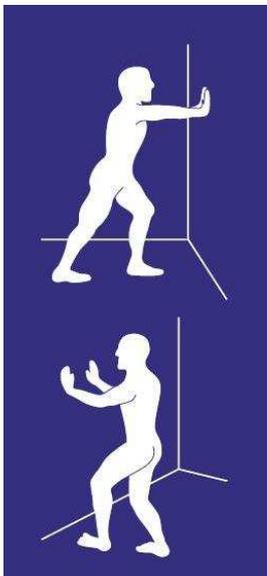
Your Ethos Health Physiotherapist will assess the likely causes of your pain and explain these to you.

Usually there are several factors for each person that have contributed to their foot pain and unless each is addressed, relief from their symptoms is unlikely to occur.

Depending on the assessment findings your physiotherapy treatment may include exercise, massage, supportive taping, advice regarding appropriate footwear, and the fitting of semi-rigid orthotics (shoe inserts) to reduce over-pronation.

It is important to remember that while plantar fasciitis is a common condition it is not the only cause of heel and foot pain and your treatment may differ depending on your individual case.

**Exercise** is important in reducing your foot pain and maintaining general fitness and a healthy bodyweight. A lack of flexibility in the leg muscles (especially the calf) is often linked to plantar fasciitis<sup>2</sup> and most clients will be given stretches to perform at home.



These stretches are ones you can try before seeing a physiotherapist – you should try to hold each position for 3 sets of 20 seconds, 3 times a day. You should expect to feel a moderately strong stretch in the calf muscles of the back leg, however the discomfort should cease immediately after you release the stretch. If this does not occur then do not continue with the program.

**Taping** to support the plantar fascia and prevent it overstretching can be very useful to settle symptoms in the short term. Although it feels a little strange at first, the tape can provide immediate relief and help break the cycle of ongoing inflammation<sup>1</sup>. If you find the tape is effective, the physiotherapist can teach a partner or friend how to tape your foot at home. Generally a positive response to taping indicates the client would benefit from orthotics.

**Footwear** plays a crucial role in prevention of and recovery from plantar fasciitis. Cushioning and support is important in all shoes, not just sports footwear. Your physiotherapist will ask you to bring in all the shoes you would usually wear and determine if they are a likely cause of the problem.

**Orthotics** are frequently used for management of persistent and chronic cases of plantar fasciitis. At Ethos Health we use customised semi-rigid orthotics for plantar fasciitis. Research<sup>3</sup> suggests these are equally or more effective than the rigid products obtained from many podiatrists. Semi-rigid orthotics are generally easier to wear in, more comfortable and significantly cheaper than the rigid alternatives.

There is limited evidence<sup>4</sup> for other treatments such as anti-inflammatory medications, electrotherapy, splints and acupuncture. Surgery is only rarely performed.

## Returning to Work or Sport

Your Ethos Health therapist will liaise with your coach, doctor or employer to recommend suitable training drills or work tasks and help you get back to full capacity.

## References

1. Landorf K et al (2006). Arch Intern Med 166, 1305-1310.
2. Cheung et al (2006). Clinical Biomechanics 21(2) 194-203
3. Pfeffer G et al (1999). Foot Ankle Int 20(4) 214-21
4. Roxas M (2005). Alt Med Review, 10(2), 83-93