

## **Plantar Fasciitis**

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Plantar Fasciitis is a painful condition affecting the heel and arch of the foot.



*Illustration 1: Site of pain for Plantar Fasciitis*

As the picture shows it is a thick broad band of tissue spreading from the heel of the foot to the base of the toes.

Plantar fasciitis is traditionally thought to be an inflammatory condition. This is now believed to be incorrect due to the absence of inflammatory cells within the fascia. The cause of pain and dysfunction is now thought to be degeneration of the collagen fibres close to the attachment to the calcaneus (heel bone). It is also commonly present with achilles problems, tight calf muscles, and foot alignment problems, all four can coexist together. Sometimes the condition can be flared up by a heel spur. A heel spur is a bony growth that occurs at the attachment of the plantar fascia to the heel bone (calcaneus). A heel spur develops through repetitive pulling of the plantar fascia on the foot, the body lies down extra bone to heal the site from micro trauma. However a person

can have no symptoms at all when a heel spur is present and a painful heel does not always have a heel spur present.

### **What are the Signs and Symptoms?**

- Heel pain, under the heel and usually on the inside, at the origin of the attachment of the fascia. As it worsens pain can spread across and down the the foot to the base of the toes.
- Pain when pressing on the inside of the heel and sometimes along the arch.
- Pain can be more noticeable on a morning as the fascia can tighten overnight. As you get moving the pain will ease. Signs of it getting worse are when walking, running and been on your feet for a length of time make it painful.
- You may develop pain along the outside border of the heel. This may occur due to offloading the painful side of the heel by walking on the outside border of the foot or associated mechanics of the foot when participating in high impact activities.

Plantar fasciitis or heel spurs are common in sports which involve running, dancing or jumping. Runners who over pronate (feet rolling in or flattening) are particularly at risk as the biomechanics of the foot causes additional stretching of the plantar fascia. It is also common in people who are on their feet all day.

### **Causes**

At Pro-Am Sports Injury Clinic we have found the most common cause of plantar fasciitis is very tight calf muscles which decreases the range of motion available when landing, so the body will find it somewhere else which tends to be over pronation of the foot (a rolling inward action). This in turn produces repetitive over-stretching of the plantar fascia leading to possible inflammation and thickening of the tendon. As the fascia thickens it loses flexibility and strength.

I always advise my clients to see a podiatrist who can determine if you have a foot posture problem. If you walk or run a lot always get the podiatrist to assess your walking and running. Sometimes you may need to be filmed as the problem may not be spotted at full speed.

Excessive walking in footwear which does not provide adequate arch support has been attributed to plantar fasciitis (flip flops, plimsols)

As you get older the arch of the foot can naturally weaken, if you do a lot of running you may find that later your arch has dropped slightly and inserting an orthotic into your trainer can help prevent any niggles you may have started to get. Remember if there is an alignment problem at the feet it can affect the whole body.

## Treatment

What can the athlete do?

- Rest is advised but not always practical. Cross train using swimming or cycling so fitness is not lost, strength and flexibility work can still be kept going. To help rest the calf muscles a cork heel raise in your shoes can help.
- A good plantar fasciitis taping technique with kinesio tape can help the foot get the rest it needs by supporting the plantar fascia. Tape is applied in strips across the plantar fascia taking the stress off the foot. It can also help with reducing tightness in the calf. At Pro-Am we would show you how to do this so you can continue it at home.
- Apply ice or cold therapy to help reduce pain and inflammation. Cold therapy can be applied regularly until symptoms have resolved. A cold can rolled under the foot is quick and easy is apply or putting the foot into a bucket filled with water and ice (not nice but it works).
- Self massage can help to keep the area stimulated for healing and allow for correct alignment of tissue. Pain is usually felt due to a failed healing response and tissue lying down incorrectly.
- Stretching the plantar fascia and calf muscles is an important part of treatment and prevention. Simply reducing pain and inflammation alone is unlikely to result in long term recovery. The plantar fascia tightens up making the origin at the heel more susceptible to stress. Stretches should be done gently, over stretching can just irritate the fascia.
- Pro-Am does not recommend night splints
- Here's our video on self management techniques for Plantar Fasciitis. <http://youtu.be/wY7nNboiDVU>

What can we do for you?

- Apply sports massage techniques to reduce the tension in the plantar fascia and also stretch the calf muscles.
- Tape the foot and instruct the athlete how to tape the foot. This is an excellent way of allowing the foot to rest. We use Kinesio Tape.

If it does not resolve in 3 months. Referral to podiatrist if not recommended previously. A Podiatrist will prescribe orthotics or insoles. An insole can restore normal foot biomechanics if over pronation is a problem however it will still take time to resolve. We may refer you for an X ray to see if there is any bone growth (calcification). An X-ray may be able to show bone growth which may be a cause of pain but research has shown that the presence of a bony growth does not necessarily mean the athlete will

feel pain. Bony growth can worsen even after symptoms have completely resolved. If it is believed to be a problem then they will operate if symptoms do not resolve. This is more common for patients with a rigid high arch where the plantar fascia has shortened to benefit from surgery.

This condition can take time to resolve especially as most will not seek treatment until symptoms have been present for at least a month. For some just getting rid of the cause (incorrect shoes) can resolve the problem within a few weeks some it may take up to 6 months.

Here at Pro-Am Sports Injury Clinic we show you how to self manage the condition with just a few appointments needed to check on progress and do some specific soft tissue work. You may sometimes have sports massage of the entire lower limb including the glutes as the compensations can spread, many people with plantar fasciitis have tight rotators of the hip or back problems.