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The website for the answer to all your Orthopaedic Questions

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- **Patient information** is provided in the form of downloadable information sheets.
- **Orthopaedic advice** and second opinions can be provided by our expert internationally renowned Consultant Orthopaedic Surgeons.
- **Online review** of patients' X rays or MRI scans can also be provided and any proposed treatment plans reviewed.
- **Book a clinical consultation** with one of our internationally renowned consultant orthopaedic surgeons in Bristol or London.
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Plantar Fasciitis

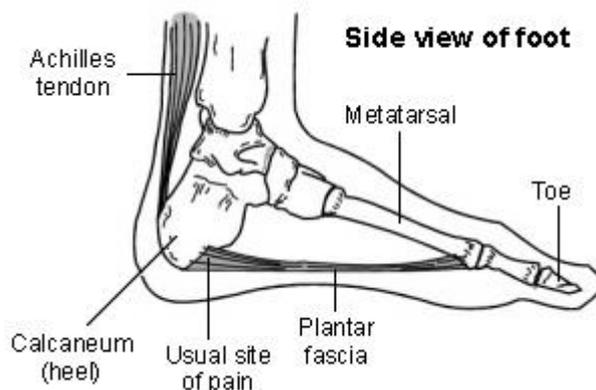
Introduction

Plantar fasciitis is a condition which causes pain under the heel. It is related to the amount of cushioning in the shoes worn. The condition may spontaneously settle but is helped by treatment. Simple measures include use of cushioned insoles or training shoes, NSAID's and reducing the amount of walking undertaken. A steroid injection or surgery may be used in more severe cases.

The Anatomy of Plantar fasciitis?

Plantar fasciitis means inflammation of the plantar fascia. The plantar fascia is a strong band of fibrous tissue that stretches from the heel to the base of the toes. It supports the arch of the foot.

The fascia helps with the mechanics of walking. When in the "toe off" phase of the gait cycle the heel is raised and the toes bent the fascia is tightened which raises the longitudinal plantar arch which helps to efficiently transfer the power exerted by the calf muscles to the forefoot and toes which and powers the body forwards. Plantar fasciitis is the condition in which the fascia and its attachments become inflamed probably as a result of overuse, ageing or trauma. The pain and inflammation within the fascia inhibits the transfer of the muscle pull normally and affects the normal walking gait.



Injuries to the plantar fascia can result from a poorly padded pair of shoes. Leather soled traditional formal shoes are particularly bad in this respect. Alternately a fall or unusually long walk can cause

inflammation and precipitate the characteristic symptoms. The area of inflammation is usually in the heel where the plantar fascia attaches to the calcaneum or heel bone.

Symptoms

Pain is the main symptom. This can be felt anywhere on the underside of the heel. Commonly one spot is found as the main source of pain. This is often immediately in front of the heel prominence within the sole of the foot. This area is usually tender to touch. The pain usually eases on resting the foot, but is often worst when first walking in the morning. Gentle exercise may then ease things a little as the day goes by, but a long walk often makes the pain worse. Sudden stretching of the sole of the foot may also make the pain worse, for example, walking up stairs or standing on tip-toes. Radiographs or X-rays of the heel may show a characteristic bony spur or traction osteophyte at the point at which the plantar fascia inserts into the heel bone or calcaneum.

Plantar fasciitis is quite a common condition. It mainly affects people over 40 and is more common in women. It is also common in athletes. Other situations where the condition may occur include:

- Unusually prolonged activity such as; walking, running, or standing.
- Wearing shoes with poor cushioning.
- Sudden gains in weight or being overweight will put extra strain on the heel.
- Overuse or sudden stretching of the sole. For example: athletes who increase their running intensity or distance..
- Tightness of the Achilles tendon (at the bottom of the calf muscles above the heel).
- Stiffness of the toes.
- Diabetes.

Often there is no apparent cause, particularly in older people. A common wrong belief is that the pain is due to the bony growth or 'spur' coming from the heel bone although the bony spur is commonly associated with the condition it is not the cause.

Treatment

Usually the inflammation and pain will ease in time. Although the condition may take several months or more to go. However, the following measures may help alleviate the condition:

- **Rest the foot.**
- **Footwear.**
- **Heel pads.**
- **Night Splint.**
- **Surgery**

Further information about these treatments can be found in the Orthopaedic 100 Physiotherapy information sheet.

Surgery may be considered in difficult or resistant cases. This is usually advised if the pain has not eased after several weeks and at least one injection. Surgery is often of great benefit. However it is not always successful, and in a small proportion of cases, surgery may leave the heel permanently sore.

The surgical procedure involves detaching the proximal insertion of the fascia from the calcaneum or heel bone. This then usually relieves the pain. Although detachment of the fascia theoretically reduces the mechanical advantage of the effect of the calf musculature being transferred to the toes for walking. In patients with chronic symptoms this is of little consequence.

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