Plantar Fasciitis

Also known as policeman's heel, Heel Pain, Heel Spurs, Painful Heel Syndrome, Medial Arch Sprain)

What is plantar fasciitis?

Plantar fasciitis is a condition where there is damage and inflammation to the plantar fascia (i.e. the connective tissue on the sole of the foot forming the inner arch –This usually occurs at the attachment of the plantar fascia to the heel bone. Plantar fasciitis is the most common cause of heel pain seen in clinical practice.

During walking or running, tension is placed through the plantar fascia. When this tension is excessive (often due to poor foot biomechanics such as flat feet – figure 2) or if it is too repetitive or forceful, damage to the plantar fascia can occur. Plantar fasciitis is a condition where there is damage to the plantar fascia with subsequent inflammation and degeneration. This may occur traumatically due to a high force going through the plantar fascia beyond what it can withstand or (more commonly) due to gradual wear and tear associated with overuse. Occasionally, a heel spur may develop in association with plantar fasciitis.

Causes of plantar fasciitis

Plantar fasciitis is often seen in runners, or dancers and gymnasts who perform regular activities involving end of range foot and ankle movements. It may also occur in patients who walk excessively, especially up hills or on uneven surfaces. Older patients who spend a lot of time on their feet may also develop the condition. Plantar fasciitis frequently occurs in association with calf muscle tightness or biomechanical abnormalities, such as excessive pronation (flat feet - figure 2) or supination (high arch).

Signs and symptoms of plantar fasciitis

Patients with plantar fasciitis typically experience pain underneath the heel and along the inner sole of the foot. It is usually tender to touch a specific spot on the inner aspect of the heel. Pain is typically worse first thing in the morning with the first few steps being the most painful. This pain generally eases as the foot warms up.

In less severe cases, patients may only experience pain with rest following activities such as walking, running, jumping, hopping etc. They may also experience pain and stiffness upon waking the following morning. As the condition progresses, patients may also experience pain during these activities. In more severe cases limping may occur and eventually an inability to put weight through the foot due to pain. Symptoms are usually aggravated by standing, walking, jogging or running excessively.

Diagnosis of plantar fasciitis

A thorough subjective and objective examination from a physiotherapist is usually sufficient to diagnose plantar fasciitis. Investigations such as an X-ray, ultrasound or MRI may be used to assist with diagnosis.

Prognosis of plantar fasciitis

Most patients with plantar fasciitis heal well with appropriate physiotherapy. This, however, can be a lengthy process and may take months in patients who have had their condition for a long period of time. Early physiotherapy treatment is therefore vital to hasten recovery.

Treatment for plantar fasciitis

Treatment for plantar fasciitis requires careful assessment by the physiotherapist to determine which factors have contributed to the development of the condition, with subsequent correction of these factors.

The success rate of physiotherapy treatment is largely dictated by patient compliance. One of the key components is that the patient rests sufficiently from ANY activity that increases their pain until they are symptom free. This allows the body to begin the healing process in the absence of further tissue damage. Activities that place large amounts of stress on the plantar fascia should also be minimized, these include running or, standing and walking excessively.

Activities placing minimal stress on the plantar fascia may be performed to maintain fitness. These include hydrotherapy exercises in a pool, upper body weights in sitting or lying or swimming. Once the patient is pain free, a gradual return to activity is indicated provided there is no increase in symptoms.

Ignoring symptoms or adopting a 'no pain, no gain' attitude is likely to lead to the problem becoming chronic. Immediate, appropriate treatment is essential to ensure a speedy recovery. Once the condition is chronic, healing slows significantly resulting in markedly increased recovery times.

Patients with plantar fasciitis will usually benefit from following the R.I.C.E. Regime. The R.I.C.E Regime is beneficial in the initial phase of the injury (first 72 hours) or when inflammatory signs are present (i.e. morning pain or pain with rest). This involves resting from aggravating activities, regular icing, the use of a compression bandage and keeping the foot elevated. Anti-inflammatory medication may also significantly hasten the healing process by reducing the pain and swelling associated with inflammation.

A progressive flexibility and strengthening program under direction from a physiotherapist is vital to ensure an optimal outcome. In the final stages of treatment, a graduated return to activity or sport can occur as guided by a physiotherapist.

Contributing factors to the development of plantar fasciitis

There are several factors which can predispose patients to developing plantar fasciitis. These need to be assessed and corrected with direction from a physiotherapist.

Some of these factors include:

- poor foot posture (especially flat feet – figure 1)
- foot or ankle stiffness
- muscle tightness (particularly in the calf)
- inappropriate training
- being overweight
- poor biomechanics
- poor footwear
- inadequate warm up
- muscle weakness
- leg length differences
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Physiotherapy for plantar fasciitis

Physiotherapy treatment for patients with this condition is essential to ensure an optimal outcome and hasten the healing process.

Treatment may comprise:

- soft tissue massage

- joint mobilization
- electrotherapy (e.g. ultrasound)
- arch support taping
- ice or heat treatment
- dry needling
- the use of heel padding, a heel wedge or a heel cup
- the use of crutches
- anti-inflammatory advice
- exercises to improve balance, strength and flexibility (particularly of the calf muscles)
- education
- activity modification advice
- biomechanical correction
- footwear assessment
- the use of a night splint (in some cases)
- devising an appropriate return to activity plan
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Further intervention for plantar fasciitis

Despite appropriate physiotherapy management, some patients with plantar fasciitis do not improve. When this occurs the treating physiotherapist or doctor will advise on the best course of management. This may include further investigations (such as X-rays, Ultrasound, MRI scan), pharmaceutical intervention, corticosteroid injection, autologous blood injection or referral to appropriate medical authorities who can advise on any intervention that may be appropriate to improve the condition. A review with a podiatrist may also be required for prescription of orthotics to improve foot posture and function. In very rare chronic cases surgical intervention may be considered.

Exercises for plantar fasciitis

The following exercises are commonly prescribed to patients with this condition. You should discuss the suitability of these exercises with your physiotherapist prior to beginning them. Generally, they should be performed 3 times daily and only provided they do not cause or increase symptoms.

Plantar Fasciitis Stretch

Place your toes on a wall with your heel on the ground as demonstrated (figure 3). Keeping your foot still, slowly bend your knee towards the wall until you feel a mild to moderate stretch in the sole of the foot or calf. Hold for 15 seconds and repeat 4 times provided it is pain free.

Figure 3 – Plantar Fasciitis Stretch (right foot)

Calf Stretch (Gastrocnemius)

With your hands against the wall, place your leg to be stretched behind you as demonstrated (figure 4). Keep your heel on the ground, knee straight and feet pointing forwards. Gently lunge forwards until you feel a stretch in the back of your calf / knee (figure 4). Hold for 15 seconds and repeat 4 times at a mild to moderate stretch pain-free.

Figure

If you are suffering from painful heel and want help, please contact me on +442866328200 or email info@lindaburke.co.uk