

Plantar Fasciitis

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Definition

A common cause of plantar foot pain inflammation is due to injury of the plantar fascia.

Cause

Inflammation due to injury or tearing of the fascia secondary to increased pressure, stress or strain placed on the foot.

Risk Factors

Usually, it occurs without a defined injury. People who are more prone to injury have:

- Tight calf muscles
- Obesity
- Very high arch
- Repetitive impact activity
- New or increased activity.

There may be a heel spur on X-ray - it is NOT the cause of the heel pain but a radiological indicator, and removal is not required.

Symptoms

- Plantar pain near the heel.
- Pain starts first thing in the morning.
- Pain after long periods of rest or after exercise or activity.

Examination

- Look for a high arch.
- Tenderness on the plantar heel region.
- Increased pain and tenderness on big toe extension.
- Restricted Dorsiflexion of the ankle.

Investigations

Weight-bearing X-rays will exclude other causes of the pain.

If the pain does not resolve occasionally an ultrasound or MRI will be required.

Differential Diagnosis

If the pain is protracted e.g. greater than 6 months with no improvement, there may be other causes for the pain:

- Calcaneal stress fracture - usually diagnosed on MRI scan
- Tarsal Tunnel Syndrome - may be diagnosed on US or MRI scan

Treatment

The vast majority of people improve with nonsurgical treatments:

- Rest
- Topical pain creams, e.g. NSAIDS
- Pain medications, e.g. NSAIDS such as Mobic or Panadol Osteo
- Steroid injections are sometimes tried although there is a risk of plantar fascia rupture
- Footwear modification: athletic shoes, stiffer soled shoe with rocker bottom modification, cushioned shoes
- Physiotherapy with plantar fascia and Achilles tendon stretches
- Plantar fascia exercises e.g. rolling the foot on a frozen water bottle or rolling the foot on a tennis ball
- Activity modification: improve fitness and strength via non-axial loading exercises, e.g. cycling, swimming. Avoid axial loading exercises such as running
- Off the shelf or custom orthotics
- Night splints
- Silicone heel pads (obtain at running shoe stores)
- CAM boots may be required to rest the fascia
- Weight loss management
- Shockwave therapy may help.

Surgical Treatment

Occasionally needed gastrocnemius recession

- Plantar fascia release.

Stretches

Calf stretch

Lean forward against a wall. Keep one leg straight and heel on the ground, the other knee is bent.

To stretch the calf muscles and the Achilles, push your hips toward the wall in a controlled fashion.

Hold the position for 10 seconds, then relax. Repeat 20 times each foot.

You should feel a strong pull in the calf if you are performing the stretch correctly.

Plantar fascia stretch

Performed in the seated position.

Cross your affected foot over the knee of your other leg. Grasp the toes of the painful foot and slowly pull them toward you. Do this in a controlled fashion and maintain. Use a towel wrapped around your toes if it is hard to reach them.

Place your other hand along the bottom of your foot on the plantar fascia. The fascia should feel like a tight band when stretched correctly.

Hold the stretch for 10 seconds then repeat for 20 times each foot. This exercise is best done in the morning before standing or walking.