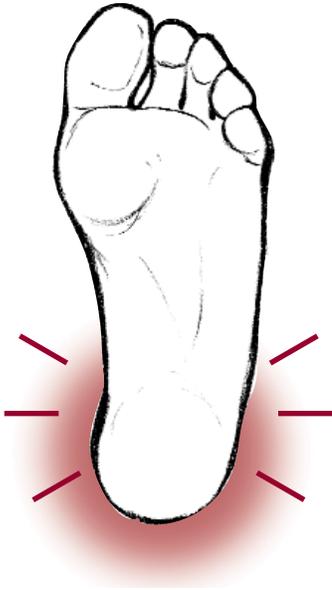


## Heel Pain



Pain in the heel is one of the most common complaints that an orthopedic foot and ankle specialist hears. With treatment, however, most patients can be relieved of their symptoms or significantly improved.

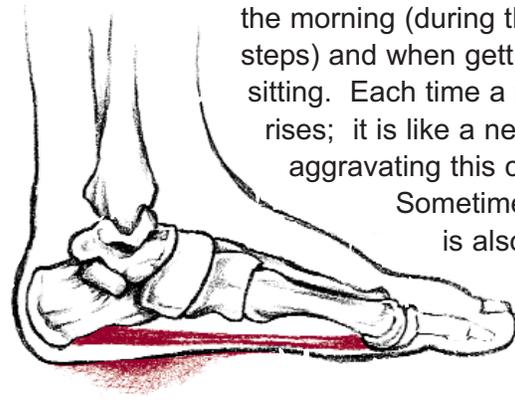
## Causes

Causes of heel pain include:

- Plantar Fasciitis
- Injury to the fat pad under the heel
- Nerve entrapment
- Stress fracture of the heel bone
- Arthritic conditions (i.e. Gout, Seronegative Spondyloarthropathies)

## Plantar Fasciitis

The most common cause of heel pain is the pull on the heel bone exerted by the ligament (Plantar Fascia) that supports the arch of the foot. This is an overuse condition called Plantar Fasciitis. This condition typically is very painful in the morning (during the first few steps) and when getting up after sitting. Each time a person rises; it is like a new injury aggravating this condition.



Sometimes the pain is also worse at the end of the day.

## Causes

- Being overweight
- Shortened heel cords and calf muscles
- Relaxation of the arch of the foot (flat feet)
- Arch strain from improper shoes
- Over activity such as running, or walking and standing on hard surfaces for long periods of time

A heel spur is seen on x-ray in approximately 40% of the patients. It forms at the attachment of the muscles to the heel bone. Heel spurs are not the cause of the pain and most people who have heel spurs never develop heel pain.

## Treatment

Treatment of Plantar Fasciitis is usually performed in stages, according to the duration of the problem and the degree of pain.

**STAGE I:** Anti-inflammatory medication, shoe modification (athletic shoes and not going barefoot), temporary limitation of activities, weight loss and heel cord stretching will usually relieve the pain. A night splint is helpful to stretch the fascia during the night and it helps prevent the pain and reinjury when you first get up in the morning.



**Athletic shoes are recommended in Stage I Plantar Fascia treatment**

**STAGE II:** If the problem continues, activity and job modifications may be necessary. An arch support (orthotic) may also be helpful. For the difficult or more chronic problem, a cast to stretch and rest the fascia for a prolonged time may be suggested. Cortisone is not used as frequently as it has in the past because of the risk of rupture of the Plantar Fascia

**STAGE III:** Surgery is rare, but may be necessary if all other treatments fail. The goal is to remove the diseased part of the plantar fascia and to release the pressure on a small nerve in the area that may be causing the pain. Removal of a heel spur may also be done at this time.

Fortunately, this problem is usually improved or resolved with the above-described treatment without the need for surgery. However, it often takes a long time (3-9 months) to reach your maximal improvement especially if the condition has been longstanding.



### **GASTROC STRETCH:**

Stand facing the wall. Put involved foot behind the other. Turn foot in slightly. Keep knee straight and heel on the floor. Lean forward until comfortable stretch is felt in calf.

Hold each stretch for 2-3 minutes and do 5 times per day.

Do not bounce in/out of stretch.

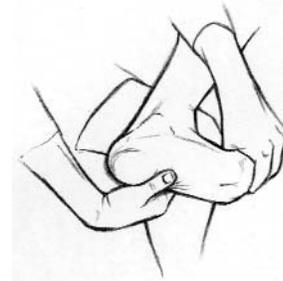


### **SOLEUS STRETCH:**

Stand facing the wall. Put involved foot behind the other. Turn foot in slightly. Bend knee and imitate a sitting position until stretch is felt in achilles tendon. Be sure to keep your heel on the floor.

Hold each stretch for 2-3 minutes and do 5 times per day.

Do not bounce in/out of stretch.



### **PLANTAR FASCIA STRETCH:**

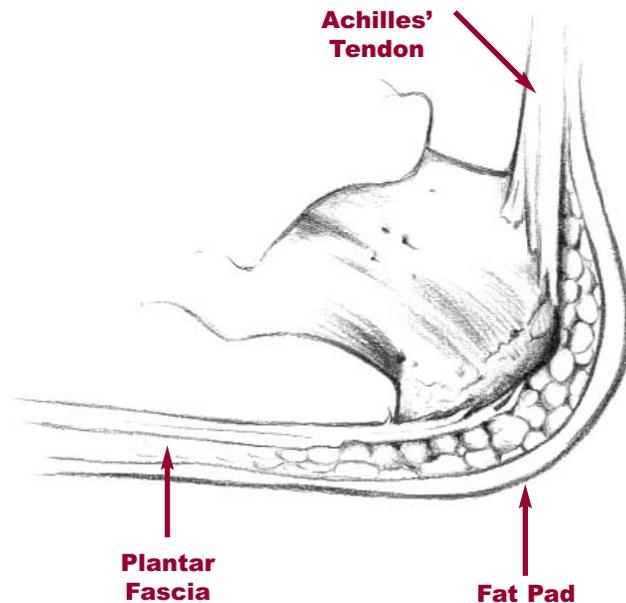
Hold for 40 seconds and repeat 4 times. Do this stretch before arising in the morning and after long periods of sitting before you stand up. Perform this exercise at least 4 times a day.

## Painful Heel Pad Syndrome (Inadequate Fat Pad Syndrome)

There is usually an aching or burning discomfort under the heel bone that is worse with standing, walking, and toward the end of the day.

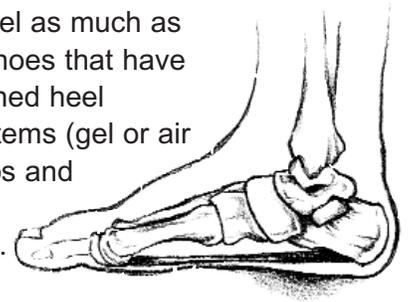
### Causes

- Atrophy (wasting) of the Fat Pad secondary to age or injury.
- Acute bruise of the Fat Pad from a fall landing on the heel.
- Standing and walking on hard surfaces for long periods.
- Walking fast and taking long strides.
- Wearing shoes with little or no cushioning in the heel or going barefoot.



### Treatment

- Modify activity to take weight off the heel. This may include crutch walking for a prolonged period (1-4 months).
- Cushion the heel as much as possible with shoes that have specially designed heel cushioning systems (gel or air pads), heel cups and heel pads. Do not go barefoot.
- Take short and slow steps to decrease the stress on the fat pad.
- Cortisone and surgery are not indicated for this condition and would actually make it worse, permanently.



### Nerve Entrapment

Patients do not improve with conservative treatment may have nerve compression. These people usually have a burning type of heel pain. A nerve test may be needed to aid in the diagnosis of this condition.

### Causes

- Compression on the nerves in the area of the heel by the muscles, Plantar Fascia, or abnormal growths.

### Treatment

- Modify activity to take weight off the heel. This may include crutch walking for a prolonged period (1-4 months.)