

AthletiHINTS



(217) 744-PLAY

St. John's Hospital Rehab South
3631 S. Sixth Street • Springfield, Illinois 62703
Fax: (217) 529-0988



Plantar Fasciitis

Introduction

With increasing numbers of people participating in sports and the general population becoming more health conscious, problems with the feet are becoming more common. A very common problem seen in the foot is often referred to as a heel spur. Usually, this is actually plantar fasciitis, though sometimes a heel spur (an overgrowth of bone on the heel) may develop as part of this condition.

Anatomy

Plantar fasciitis is an inflammatory stress syndrome of the plantar fascia or plantar aponeurosis. The plantar fascia connects the toes to the heel and makes up part of the arch of the foot. Microtears and inflammation of the plantar fascia are a result of repeated traction of the plantar fascia at its insertion into the calcaneus (heel bone). The stress on the plantar fascia from the weight transfer up onto the toes causes a “whiplash” effect.

The plantar fascia is an important structure which stabilizes and locks the foot in supination prior to push-off in running. It is usually stressed with extensive foot pronation as the medial longitudinal arch collapses. Therefore this condition is seen most often in people who have a “flat foot” and/or roll in as they walk or run.

Also attached to the calcaneus is the heel cord, or Achilles tendon. This pulls in the opposite direction of the plantar fascia, and any restriction of movement will increase the stress on the plantar fascia.

Signs and Symptoms

Symptoms usually begin very gradually and are tolerated until they begin to affect one's activities. Typical symptoms include burning pain at the inside of the calcaneus on the sole of the foot, stiffness and pain in the morning or after prolonged inactivity, and pain as the athlete walks on the toes, runs hills or stairs, pushes off from a crouched position or does cutting motions in field sports. Pain may increase with continued activity.

Some tenderness on palpation of the calcaneus is also present in a very localized area.

Other conditions that can cause similar symptoms are calcaneal stress fracture and plantar nerve entrapment (including tarsal tunnel syndrome), medial calcaneal nerve neuroma, and subtalar joint arthritis. If symptoms persist, the athlete should consult a physician to rule out these other conditions.

Management

Treatment is aimed at reduction of the inflammation, decrease of the tension on the plantar fascia, restoration of tissue strength and mobility and controlling any biomechanical abnormality. Inflammation can be controlled with the use of ice, particularly immediately after activity. Ice can be applied as a pack for 20 minutes, or as an ice massage directly on the painful area and along the plantar fascia. Anti-inflammatory medication may help but should be taken over prolonged periods of time with caution. In cases that fail to respond to earlier treatment, a local corticosteroid injection is a treatment option. It is vital that this is done into the correct area by a qualified professional.

Over

AthletiHINTS



AthletiCare

(217) 744-PLAY

St. John's Hospital Rehab South
3631 S. Sixth Street • Springfield, Illinois 62703
Fax: (217) 529-0988



Frappier Acceleration
Sports Training

(217) 744-FAST

Stretching is important to increase flexibility and to prevent the foot from going into increased pronation to compensate for the lack of ankle movement. It is important to stretch the two muscle groups, which attach to the Achilles tendon (soleus and gastrocnemius) as well as the plantar fascia itself. Stretches should be held for 30 seconds so that the soft tissues are not springing back with an elastic band effect, which happens with short, fast stretches. Strengthening exercises for the intrinsic muscles which flex the foot are important to provide increased muscle support for the arch.

Taping of the arch to prevent pronation can also help to relieve stress to the plantar fascia. Correct footwear and possibly an orthosis will help to prevent excessive pronation when walking and running. If the heel has one very tender spot, a “donut” may be used to reduce direct pressure on this point.

Rest from the repetitive activity that is causing the problem should also be part of the management. Athletes do not find this easy, but a short break from activity with other treatments will often mean a faster return to full activity. Overall fitness can be maintained through pool running, cycling and swimming for cardiovascular training and weight lifting for maintaining strength. Running is restored through the use of a run-walk progression with hopping, skipping, and jumping activities to follow. If morning stiffness persists, the use of a night splint to maintain the foot in dorsiflexion may be helpful.

When all else has failed, and usually after 12 months of conservative care, surgery may be considered. Surgery involves the release of the plantar fascia at its origin, heel spur removal and exploration for nerve entrapment in scar tissue.

Shoe Selection

It is important to select the correct type of shoe to minimize stress to the plantar fascia. As the problem is mostly associated with overpronation, the shoe selected should be for this type of foot. The shoe should be either board- or straight-lasted. It should have maximum rearfoot stability, substantial medial and lateral support, and the firmest midsole possible. Generally, these shoes are heavier than less supportive shoes.