

## **Planter fasciitis**

Plantar fasciitis is a common, painful foot condition. Patients, and sometimes doctors often confuse the terms plantar fasciitis and heel spurs. **Plantar fasciitis** refers to the syndrome of inflammation of the band of tissue that runs from the heel along the arch of the foot; a heel spur is a hook of bone that can form on the heel bone (calcaneus). About 70% of patients with plantar fasciitis have been noted to have a heel spur that can be seen on X-Ray.

### **Who gets plantar fasciitis?**

Plantar fasciitis is most often seen in middle-aged men and women, but can be found in all age groups. Plantar fasciitis is diagnosed with the classic symptoms of pain well localized over the heel area of the bottom of the foot. Often the pain from plantar fasciitis is most severe when you first stand on your feet in the morning. Pain often subsides quite quickly, but then returns after prolonged standing or walking.

Plantar fasciitis is sometimes, but not always, associated with a rapid gain of weight. Plantar fasciitis is also sometimes seen in recreational athletes, especially runners. In these athletes, it is thought that the repetitive nature of the sports causes the damage to the fibrous tissue that forms the arch of the foot.

### **Could something other than plantar fasciitis cause this pain?**

Plantar fasciitis can be confused with a condition called tarsal tunnel syndrome. In tarsal tunnel syndrome, an important nerve in the foot, the tibial nerve, is trapped and pinched as it passes through the tarsal tunnel, a condition analogous to carpal tunnel syndrome in the wrist. This may cause symptoms similar to the pain of a plantar fasciitis.

There are also other less common problems such as nerve entrapments, stress fractures, and fat pad necrosis, all of which can cause foot pain. Finally, several rheumatologic or arthritic conditions can cause heel pain.

### **Why did I get plantar fasciitis?**

Plantar fasciitis occurs because of irritation to the thick ligamentous connective tissue that runs from the heel bone to the ball of the foot. This strong and tight tissue contributes to maintaining the arch of the foot. It is also one of the major transmitters of weight across the foot as you walk or run. Therefore, the stress placed on the this tissue is tremendous.

When a patient has plantar fasciitis, the connective tissue that forms the arch of the foot becomes inflamed (tendonitis) and degenerates (tendinosis).

Symptoms of plantar fasciitis are typically worsened early in the morning after sleep. At that time, the arch tissue is tight and simple movements stretch the contracted tissue. As you begin to loosen the foot, the pain usually subsides, but often returns with prolonged standing or walking.

Treatment of plantar fasciitis is with short-term rest and controlling the inflammation. Here are the steps patients should take in order to cure their plantar fasciitis:

#### **Rest**

Avoiding the precipitating activity; for example, take a few day off jogging or prolonged

standing/walking. Just resting usually helps to eliminate the most severe pain, and will allow the inflammation to begin to cool down.

### **Ice**

Icing will help to diminish some of the symptoms and control the heel pain. Icing is especially helpful after an acute exacerbation of symptoms.

### **Exercises and stretches**

Exercises and stretches are designed to relax the tissues that surround the heel bone. Some simple exercises, performed in the morning and evening, often help patients feel better quickly.

### **Anti-inflammatory Medications**

Anti-inflammatory medications help to both control pain and decrease inflammation. Over-the-counter medications are usually sufficient, but prescription options are also available.

### **Shoe inserts**

Shoe inserts are often the key to successful treatment of plantar fasciitis. The shoe inserts often permit patients to continue their routine activities without pain. Heel cups and arch supports can be purchased over the counter and may give relief. A foot doctor can make custom shoe inserts.

### **Night splints**

Night splints are worn to keep the heel stretched out when you sleep. By doing so, the arch of the foot does not become contracted at night, and is hopefully not as painful in the morning.

These modalities alone will cure the plantar fasciitis pain in most patients. Be forewarned that the symptoms will not resolve quickly. Most patients find relief within about three months, and over 90% within one year.

If the pain does not resolve, an injection of cortisone can decrease the inflammation of plantar fasciitis. However, many physicians do not like to inject cortisone because there are potentially serious problems with cortisone injections in the heel area. The two problems that cause concern are fat pad atrophy and plantar fascial rupture. Both of these problems occur in a very small percentage of patients, but they can cause a worsening of heel pain symptoms.

A new treatment for chronic plantar fasciitis is being investigated. This treatment, called extracorporeal shock wave therapy, or ESWT, uses energy pulses to induce microtrauma to the tissue of the plantar fascia. This microtrauma is thought to induce a tissue repair process by the body. ESWT is recommended in patients who have failed the previously mentioned treatments, and are considering surgical options. For more information on shock wave therapy treatment:

**After successful treatment, how can I prevent plantar fasciitis from coming back?**

To prevent the recurrence of plantar fasciitis after treatment, proper fitting footwear is essential. Many people use shoe inserts to relieve pressure over the tender area. Custom orthotics can also be made if there appears to be a problem with the mechanical structure of the foot. It is also important to continue the stretching exercises. These simple exercises will help maintain the flexibility of the foot and prevent the plantar fasciitis pain from returning.

### **What if the symptoms of plantar fasciitis do not resolve?**

In a small number of cases (usually less than 5%), patients may not experience relief after trying the recommendations listed above. It is important that conservative treatments (such as those listed above) be performed for AT LEAST a year before considering surgery. Time is very important in curing the pain of plantar fasciitis, and insufficient treatment before surgery may subject you to potential complications of the procedure.

### **Stretches and exercises**

#### **CALF STRETCH**

The easiest way to do the calf stretch is by standing about 1 to 2 feet from a wall.

1. Lean against the wall with your arms outstretched.
  2. Place one foot under your shoulders, and one foot behind your body.
  3. Keep your back foot flat on the ground and feel a stretch in the back of your heel (the Achilles tendon).
  4. Hold the stretch for a count of 10, and repeat. Do both sides.
- To accentuate this stretch, point your back knee down towards the ground while keeping the foot flat on the floor.

#### **TOE DIP**

To perform a toe dip, find a sturdy box, stair step, or curb.

1. Stand on the edge of the ledge with your toes. Have something to hold on to for balance.
  2. Keeping your toes on the ledge, allow your heel to drop down to the ground.
  3. Feel the stretch in the back of the heel. Try to relax and allow the heel to continue to stretch down towards the ground.
- You can do both feet at once, but you will get a better stretch if you do one foot at a time. Start with both, and when you feel comfortable, do one at a time.

#### **CROSS LEG STRETCH**

The cross-leg stretch is done in a seated position.

1. Bend one leg over the other and grasp your foot.
  2. Pull your toes up towards your shin while holding your foot with the other hand.
  3. Feel a stretch on the bottom of the foot.
- Hold this stretch for a count of 10 while feeling the stretch along the arch of the foot. Repeat at least 3 times on each side.

#### **TOWEL PULL**

A towel pull can be done using a towel, a sheet, or a rubber Thera-Band given to you by your physical therapist.

1. Hold the ends of the towel, and loop the middle around your toes.
2. Keep your knee straight with your toes pointing up.
3. Pull the towel ends, pulling your toes towards your body.

This will stretch both the back of your leg and the bottom of your foot.