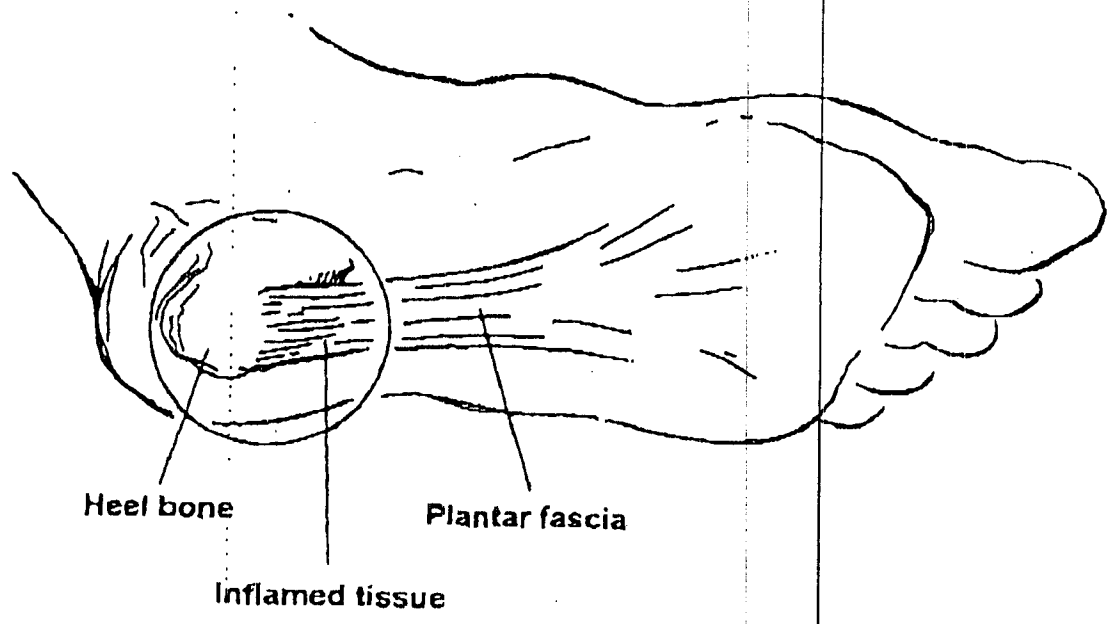
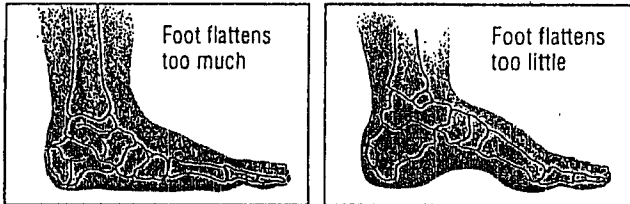


Plantar Fasciitis



WHAT IS PLANTAR FASCIITIS?

The plantar fascia is a ligament-like band running from your heel to the ball of your foot. This band pulls on the heel bone, raising the arch of your foot as it pushes off the ground. But if your foot moves incorrectly, the plantar fascia may become strained. The fascia may swell and its tiny fibers may begin to fray, causing plantar fasciitis.



Causes

Plantar fasciitis is often caused by poor foot mechanics. If your foot flattens too much, the fascia may overstretch and swell. If your foot flattens too little, the fascia may ache from being pulled too tight.

Related Problems

A **heel spur** is extra bone that may grow near the spot where the plantar fascia attaches to the heel. The heel spur may form in response to the plantar fascia's tug on the heel bone.

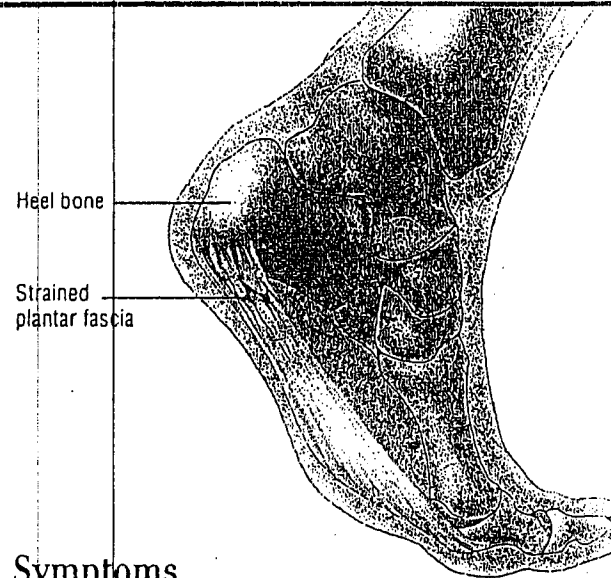
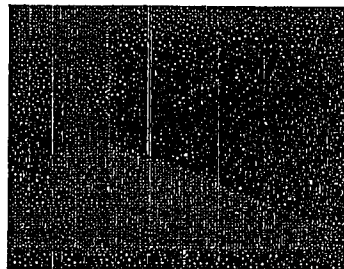
Bursitis is the swelling of a bursa, a fluid-filled sac that reduces friction between a ligament and a bone. Bursitis may develop if a swollen plantar fascia presses against a plantar bursa.

Medical History and Physical Exam

Where and when does your foot hurt? Your podiatrist may first ask about your symptoms. Then he or she may feel for damaged ligaments, inflamed tendons, and displaced bones or joints. Your podiatrist may also watch you walk to see if your symptoms are caused by incorrect foot movement.

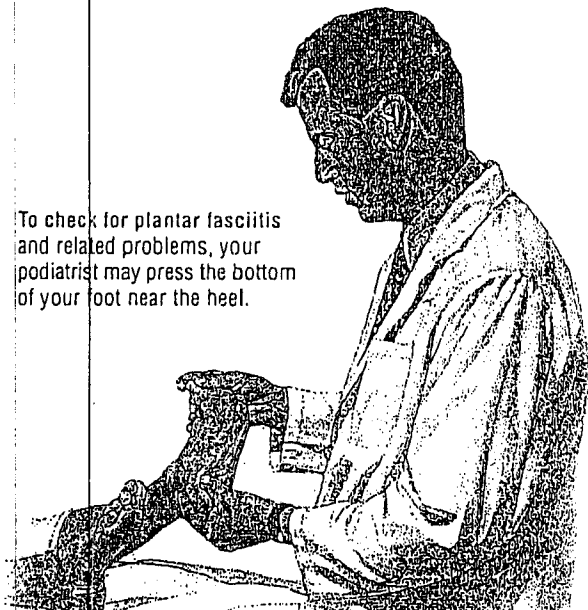
Testing

X-rays of your foot may be taken, or you may have a bone scan to confirm a suspected heel spur or a stress fracture of the heel bone.



Symptoms

With plantar fasciitis, the bottom of your foot may hurt when you stand, especially first thing in the morning. Pain usually occurs on the inside of the foot, near the spot where your heel and arch meet. Pain may lessen after a few steps, but it comes back after rest or with prolonged movement.



To check for plantar fasciitis and related problems, your podiatrist may press the bottom of your foot near the heel.

The Moore Orthopaedic Clinic, P.A.
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Plantar Fasciitis Rehabilitation Exercises

You may begin exercising the muscles of your foot right away by gently stretching them as follows:

1. **Towel stretch:** Sit on a hard surface with your injured leg stretched out in front of you. Loop a towel around the ball of your foot and pull the towel toward your body, stretching the back of your calf muscle. Hold this position for 30 seconds. Repeat 3 times. When the towel stretch becomes too easy, you may begin doing the standing calf stretch.
2. **Standing calf stretch:** Facing a wall, put your hands against the wall at about eye level. Keep the injured leg back, the uninjured leg forward, and the heel of your injured leg on the floor. Turn your injured foot slightly inward (as if you were pigeon-toed) as you slowly lean into the wall until you feel a stretch in the back of your calf. Hold for 30 to 60 seconds. Repeat 3 times. When you can stand comfortably on your injured foot, you can begin stretching the planter fascia at the bottom of your foot.
3. **Plantar fascia stretch:** Stand with the ball of your injured foot on a stair. Reach for the bottom step with your heel until you feel a stretch in the arch of your foot. Hold this position for 30 to 60 seconds and then relax. Repeat 3 times.

After you have stretched the bottom muscles of your foot, you can begin strengthening the top muscles of your foot.

4. **Frozen can roll:** Roll your bare injured foot back and forth from your heel to your mid-arch over a frozen juice can. Repeat for 3 to 5 minutes. This exercise is particularly helpful if done first thing in the morning.
5. **Sitting toe raise:** Sit in a chair with your feet flat on the floor. Raise the toes and the ball of your injured foot off the floor while keeping your heel on the floor. Hold for 5 seconds. Repeat 10 times. Do three sets of 10.
6. **Towel pickup:** With your heel on the ground, pick up a towel with your toes. Release. Repeat 10 to 20 times.

Next, you can begin strengthening the muscles of your foot and lower leg by using a Thera-Band.

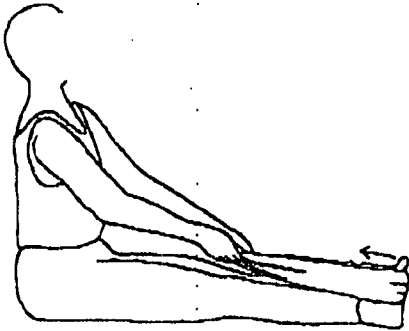
7. **Resisted Thera-Band exercises for the lower leg**
 - A. **Resisted dorsiflexion:** Sit with your injured leg out straight and your foot facing a doorway. Tie a loop in one end of the Thera-Band. Put your foot through the loop so that the tubing goes around the arch of your foot. Tie a knot in the other end of the Thera-Band and shut the knot in the door. Move backward until there is tension in the tubing. Keeping your knee straight, pull your foot toward your face, stretching the tubing. Slowly return to the starting position. Repeat 10 times. Do 3 sets of 10.
 - B. **Resisted plantar flexion.** Sit with your leg outstretched and loop the middle section of the tubing around the ball of your foot. Hold the ends of the tubing in both hands. Gently press the ball of your foot down and point your toes, stretching the Thera-Band. Return to the starting position. Repeat 10 times. Do 3 sets of 10.
 - C. **Resisted inversion:** Sit with your legs out straight and cross your uninjured leg over your injured ankle. Wrap the tubing around the ball of your injured foot and then loop it around your uninjured foot so that the Thera-Band is anchored there at one end. Hold the other end of the Thera-Band in your hand. Turn your injured foot inward and upward. This will stretch the tubing. Return to the starting position. Repeat 10 times. Do 3 sets of 10.
 - D. **Resisted eversion:** Sit with both legs stretched out in front of you, with your feet about a shoulder's width apart. Tie a loop in one end of the Thera-Band. Put your injured foot through the loop so that the tubing goes around the arch of that foot and wraps around the outside of the uninjured foot. Hold onto the other end of the tubing

Plantar Fasciitis Rehabilitation Exercises

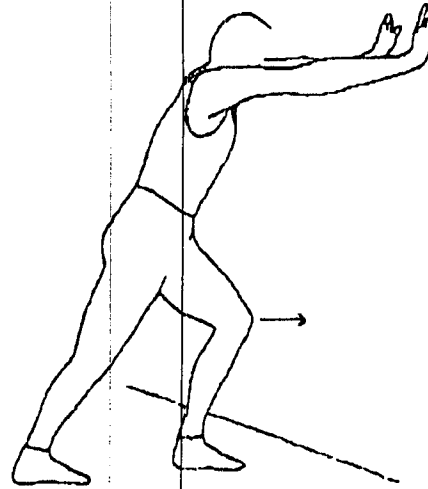
with your hand to provide tension. Turn your injured foot up and out. Make sure you keep your uninjured foot still so that it will allow the tubing to stretch as you move your injured foot. Return to the starting position. Repeat 10 times. Do 3 sets of 10.

Written by Tammy White, M.S., P.T., for Clinical Reference Systems.

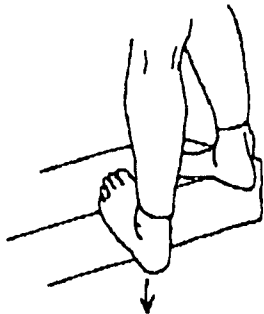
Plantar Fasciitis Exercises



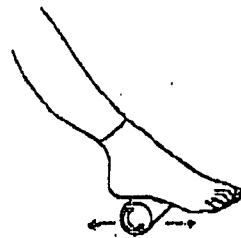
Towel stretch



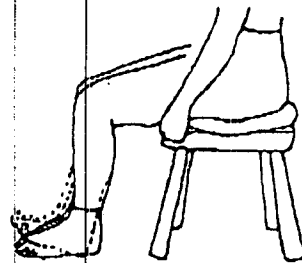
Standing calf stretch



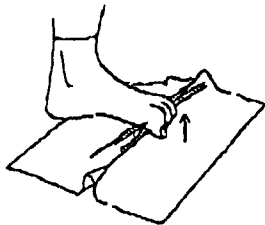
Plantar fascia stretch



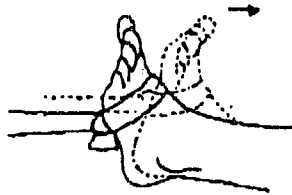
Frozen can roll



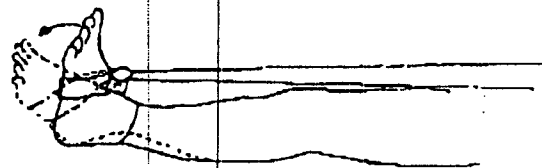
Sitting toe raise



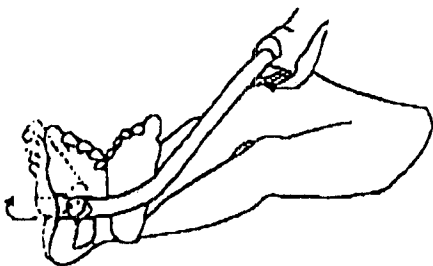
Towel pickup



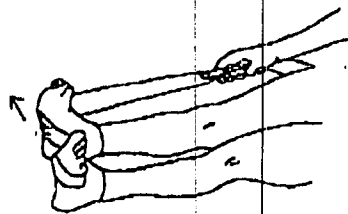
Resisted dorsiflexion



Resisted plantar flexion



Resisted inversion



Resisted eversion