

# Arch Pain

## **What is arch pain?**

There are two arches in your foot. The longitudinal arch runs the length of your foot, and the transverse arch runs across the width of your foot. The arches are made up of ligaments, which keep the bones of your feet in place. Arch pain can occur in one or both arches but occurs most commonly in the longitudinal arch.

## **How does it occur?**

Arch pain most often occurs as a result of overuse in activities such as running, hiking, walking, and jumping. People who have flat feet, or people whose feet flatten and roll inward when walking (a problem called over-pronation) are more prone to arch pain. Arch pain usually comes on slowly. However, it can occur suddenly if the ligaments are stretched or torn during a forceful activity such as sprinting or jumping.

## **What are the symptoms?**

The symptom is pain along the arch of the foot.

## **How is it diagnosed?**

Your doctor will examine your foot for pain and tenderness along the arch.

## **How is it treated?**

You should place ice packs on your arch for 20 to 30 minutes every 3 to 4 hours for 2 or 3 days or until the pain goes away. Your doctor may prescribe an anti-inflammatory medication.

Your arch needs extra support. Taping your arch or using an extra arch support in your shoe may give you the support you need. Your doctor may prescribe custom-made arch supports called orthotics.

## **When can I return to my sport or activity?**

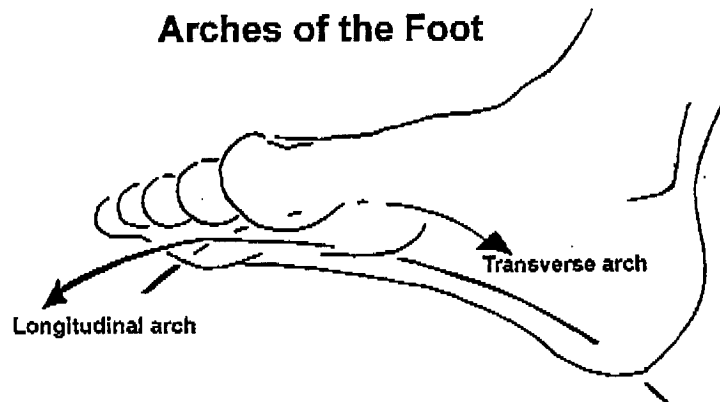
The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate.

Return to your activity will be determined by how soon your foot recovers, not by how many days or weeks it has been since your injury occurred. In general, the longer you have symptoms before you start treatment, the longer it will take to get better.

You may safely return to your sport or activity when, starting from the top of the list and progressing to the end, each of the following is true:

- You have full range of motion in the injured foot compared to the uninjured foot.
- You have full strength of the injured foot compared to the uninjured foot.
- You can jog straight ahead without pain or limping.
- You can sprint straight ahead without pain or limping.

**Arches of the Foot**



## **Arch Pain**

- You can do 45-degree cuts, first at half-speed, then at full-speed.
- You can do 20-yard figures-of-eight, first at half-speed, then at full-speed.
- You can do 90-degree cuts, first at half-speed, then at full-speed.
- You can do 10-yard figures-of-eight, first at half-speed, then at full-speed.

- You can jump on both feet without pain and you can jump on the injured foot without pain.

### ***How can I prevent arch pain?***

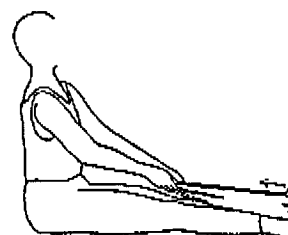
Arch pain can be prevented by wearing shoes that fit properly and have proper arch support. Stretching your feet and arches before your activity will also

help prevent this injury. You may need orthotics. Some people will need to wear orthotics all the time and others only during sporting activities.

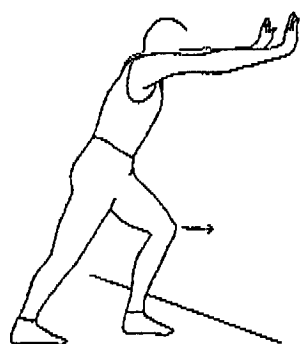
## Arch Pain Rehabilitation Exercises

You may begin exercising the muscles of your foot right away by gently stretching them with the towel stretch. When the towel stretch becomes too easy, you may begin doing the standing calf stretch, plantar fascia stretch, and sitting toe raise. Next, you can begin strengthening the muscles of your foot and lower leg by doing exercises 5 and 6.

1. **Towel stretch:** Sit on a hard surface with leg on your injured side 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.



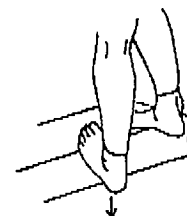
Towel stretch



Standing calf stretch

2. **Standing calf stretch:** Stand facing a wall with your hands against the wall at about eye level. Place the leg on your injured side about 12 to 18 inches behind your other leg. Gently lean into the wall by bending your forward knee and keeping your back knee straight. Keep your rear heel on the floor. You will feel a stretch in the calf muscle. Hold this position for 30 to 60 seconds. Repeat 3 times. When you can stand comfortably on your injured foot, you can begin stretching the planter fascia (the bottom of your foot).

3. **Plantar fascia stretch:** Standing 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.



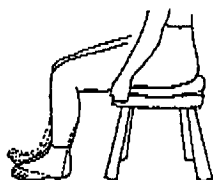
Plantar fascia stretch

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.

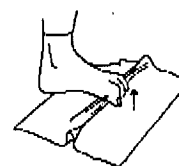


Frozen can roll

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 3 sets of 10.



Sitting toe raise



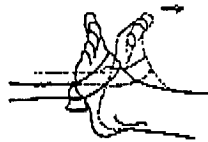
Towel pickup

6. **Towel pickup:** With your heel on the ground, pick up a towel with your toes. Release. Repeat 10 to 20 times.

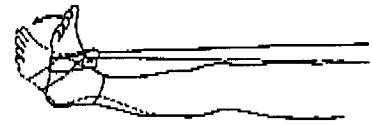
## Arch Pain Rehabilitation Exercises

### 6. Resisted Thera-Band exercises for the lower leg

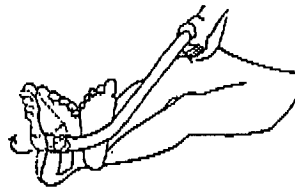
A. **Resisted dorsiflexion:** Sit with the leg on your injured side out straight injured out straight and your foot facing a doorway. Tie a loop in one end of the Thera-Band. Put your foot through the loop so that the tubing goes around the arch of your foot. Tie a knot in the other end of the Thera-Band 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.



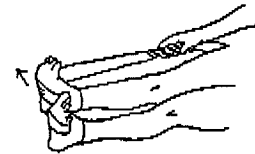
Resisted dorsiflexion



Resisted plantar flexion



Resisted inversion



Resisted eversion

B. **Resisted plantar flexion.** Sitting with your leg outstretched, 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 the leg on your uninjured side over the ankle of your injured foot. 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. Then, wrap the Thera-Band around the outside of the uninjured foot. Hold onto the other end of the tubing 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.