

# 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 healthcare provider 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 healthcare provider may prescribe an anti-inflammatory medicine (adults aged 65 years and older should not take non-steroidal anti-inflammatory medicine for more than 7 days without their healthcare provider's approval).

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 healthcare provider may recommend shoe inserts, called orthotics. You can buy orthotics at a pharmacy or athletic shoe store or they can be custom-made.

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

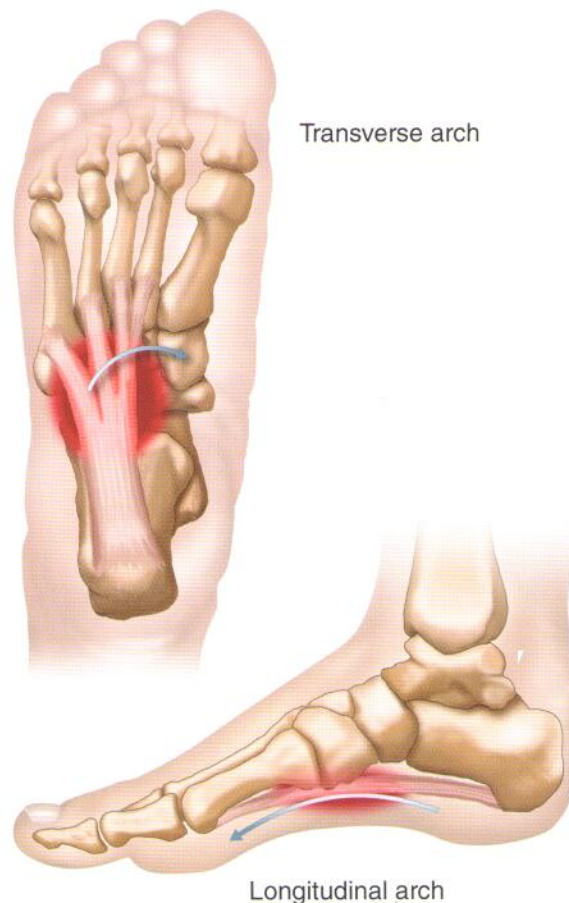
The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to your activity will be determined by how soon your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

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- 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

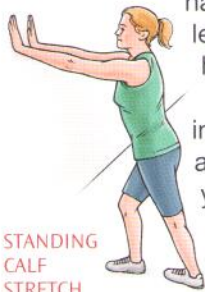
You may begin exercising the muscles of your foot right away by gently stretching them with the towel stretch. When the towel stretch becomes too easy, you may begin doing the standing calf stretch and plantar fascia stretch. Next, you can begin strengthening the muscles of your foot and lower leg by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

**1. TOWEL STRETCH:** Sit on a hard surface with one leg stretched out in front of you. Loop a towel around the ball of your foot and pull the towel toward your body keeping your knee straight. Hold this position for 15 to 30 seconds then relax. Repeat 3 times.



TOWEL STRETCH

**2. STANDING CALF STRETCH:** Facing a wall, put your hands against the wall at about eye level. Keep one leg back with the heel on the floor, and the other leg forward. Turn your back 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 15 to 30 seconds. Repeat 3 times. Do this exercise several times each day.



STANDING CALF STRETCH

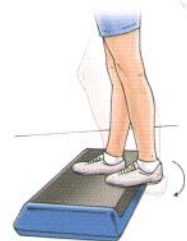
**3. SITTING PLANTAR FASCIA STRETCH:** Sit in a chair and cross one foot over your other knee. Grab the base of your toes and pull them back toward your leg until you feel a comfortable stretch. Hold 15 seconds and repeat 3 times.



SITTING PLANTAR FASCIA STRETCH

When you can stand comfortably on your injured foot, you can begin standing to stretch the plantar fascia at the bottom of your foot.

**4. PLANTAR FASCIA STRETCH:** Stand with the ball of one 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 15 to 30 seconds and then relax. Repeat 3 times.

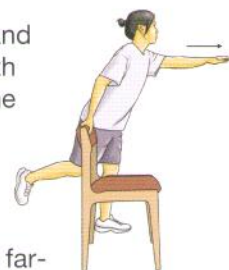


PLANTAR FASCIA STRETCH

### 5. BALANCE AND REACH EXERCISES

Stand upright next to a chair. This will provide you with balance if needed. Stand on the foot farthest from the chair. Try to raise the arch of your foot while keeping your toes on the floor.

A. Keep your foot in this position and reach forward in front of you with your hand farthest away from the chair, allowing your knee to bend. Repeat this 10 times while maintaining the arch height. This exercise can be made more difficult by reaching farther in front of you. Do 2 sets.



B. Stand in the same position as above. While maintaining your arch height, reach the hand farthest away from the chair across your body toward the chair. The farther you reach, the more challenging the exercise. Do 2 sets of 10.



BALANCE AND REACH EXERCISES

FOOT



TOWEL PICKUP

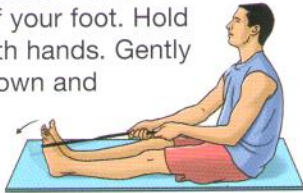
**6. TOWEL PICKUP:** With your heel on the ground, pick up a towel with your toes. Release. Repeat 10 to 20 times. When this gets easy, add more resistance by placing a book or small weight on the towel.

**7. 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

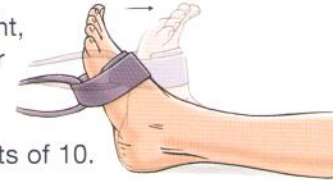
**8. RESISTED ANKLE PLANTAR FLEXION:** Sit with your leg outstretched and loop the middle section of the tubing around the ball of your foot. Hold the ends of the tubing in both hands. Gently press the ball of your foot down and point your toes, stretching the tubing. Return to the starting position. Do 3 sets of 10.



RESISTED ANKLE PLANTAR FLEXION

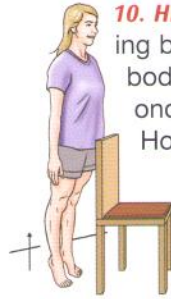
**9. RESISTED ANKLE DORSIFLEXION:** Sit with one leg out straight and your foot facing a doorway. Tie a loop in one end of elastic tubing. Put your foot through the loop so that the tubing goes around the arch of your foot. Tie a knot in the other end of the tubing and shut the knot in the door. Move backward until there is tension in the tubing.

Keeping your knee straight, pull your foot toward your body, stretching the tubing. Slowly return to the starting position. Do 3 sets of 10.



RESISTED ANKLE DORSIFLEXION

**10. HEEL RAISE:** Balance yourself while standing behind a chair or counter. Raise your body up onto your toes and hold for 5 seconds. Then slowly lower yourself down. Hold onto the chair or counter if you need to. When this exercise becomes less painful, try lowering on one leg only. Repeat 10 times. Do 3 sets of 10.



HEEL RAISE