Plantar Fasciitis: Exercises to Relieve Pain

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Plantar Fasciitis: Exercises to Relieve Pain

- Heel pain can be caused by stress placed on the plantar fascia ligament (See figure in appendix) when it is stretched irregularly, which causes small tears and inflammation. Stretching and strengthening exercises can help the ligament become more flexible and can strengthen muscles that support the arch, in turn reducing stress on the ligament.
- Exercises for plantar fasciitis—when combined with other steps such as resting, avoiding activities that make heel pain worse, using shoe inserts, icing, or taking pain relievers—usually succeed in relieving heel pain.
- Exercises for plantar fasciitis may be especially helpful for reducing heel pain when you first get out of bed.
- If you have questions about how to do these exercises or if your heel pain gets worse, talk to your doctor.

How to do exercises for plantar fasciitis

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- Warming up and stretching before sports or exercise may make your plantar fascia more
flexible and may decrease the chance of injury and inflammation.

- You may want to take a pain reliever such as a nonsteroidal anti-inflammatory drug (NSAID), including ibuprofen or naproxen, to relieve inflammation and pain. Some people take NSAIDs at least 30 minutes before doing recommended exercise, to relieve pain and allow them to do and enjoy the exercise. Other people take NSAIDs after they exercise. Be safe with medicines. Read and follow all instructions on the label.
- After you exercise, ice your heel to help relieve pain and inflammation.

**Stretching exercises before getting out of bed**

Many people with plantar fasciitis have intense heel pain in the morning, when they take their first steps after getting out of bed. This pain comes from the tightening of the plantar fascia that occurs during sleep. Stretching or massaging the plantar fascia before standing up can often reduce heel pain.

- Stretch your foot by flexing it up and down 10 times before standing.
- Do toe stretches (See figure in appendix) to stretch the plantar fascia.
- Use a towel to stretch the bottom of your foot (towel stretch (See figure in appendix))

Other steps can help reduce heel pain when you take your first steps after getting out of bed. You can:

- Wear a night splint (See figure in appendix) while you sleep. Night splints hold the ankle and foot in a position that keeps the Achilles tendon and plantar fascia slightly stretched.
- Massage the bottom of your foot across the width of the plantar fascia before getting out of bed.
- Always wear shoes when you get out of bed, even if it is just to go to the bathroom. Quality sandals, athletic shoes, or any other comfortable shoes with good arch supports will work.

Stretching exercises should create a pulling feeling. They should not cause pain. Ask your physical therapist or doctor which exercises will work best for you.

**Exercises to do each day**

Stretching and strengthening exercises will help reduce plantar fasciitis.

It's best to do each exercise 2 or 3 times a day, but you do not need to do them all at once.¹

- Use a rolling pin or tennis ball. While seated, roll the rolling pin or ball with the arch of your foot. If you are able to, progress to doing this exercise while you are standing up.
- Toe stretch (See figure in appendix)
- Towel stretch (See figure in appendix)
- Calf stretch (See figure in appendix)
- Plantar fascia and calf stretch (See figure in appendix)
- Towel curls for strengthening (See figure in appendix)
- Marble pickups for strengthening (See figure in appendix)

**References**
Citations


Other Works Consulted


Credits for Plantar Fasciitis: Exercises to Relieve Pain

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Appendix

Topic Images

Figure

Plantar Fascia
The plantar fascia is a ligament attached to the heel bone (calcaneus) that divides and fans out to attach at the base of the toes (metatarsals). Layers of muscles, tendons, nerves, and blood vessels run over the bottom of the foot. The plantar fascia covers these layers and acts as a bowstring on the bottom of the foot, helping the bones of the foot maintain the arch. A fat pad covers the plantar fascia beneath the heel bone. This pad cushions the heel as it takes the force of each footstep.

Figure

Toe Stretch for the Bottom of the Foot
For the toe stretch exercise for the bottom of the foot:

- Sit in a chair, and extend your affected leg so that your heel is on the floor.
- With your hand, reach down and pull your big toe up and back. Pull toward your ankle and away from the floor.
- Hold the position for at least 15 to 30 seconds.

Repeat 2 to 4 times a session, several times a day.

Figure

Towel Stretch
For the towel stretch exercise:

- Place a rolled towel under the ball of your foot, holding the towel at both ends.
- Gently pull the towel toward you while keeping your knee straight.
- Hold this position for 15 to 30 seconds.

Repeat 2 to 4 times.

Talk with your doctor or physical therapist if you have questions about how to do this or any other exercise.

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Night splints (braces) may be used to treat conditions such as Achilles tendinopathy and plantar fasciitis. The splint holds the foot with the toes pointed up. This position applies a constant, gentle stretch to the plantar fascia. It also stretches the Achilles tendon at the back of the heel, preventing it from contracting. You can wear night splints every night for up to several months. Then you can gradually reduce how often you use them as your symptoms go away.

The brace usually is adjustable, so you and your doctor can adjust it to the proper angle. There are many types of braces. This picture shows one style.

While you use night splints, you can continue other treatment with nonsteroidal anti-inflammatory drugs (NSAIDs), physical therapy, or orthotic devices.
This exercise stretches the muscles at the back of the lower leg (the calf) and the Achilles tendon. Do this exercise 3 or 4 times a day, 5 days a week. To do this stretch:

- Stand facing a wall with your hands on the wall at about eye level. Put the leg you want to stretch about a step behind your other leg.
- Keeping your back heel on the floor, bend your front knee until you feel a stretch in the back leg.
- Hold the stretch for 15 to 30 seconds. Repeat 2 to 4 times.

Repeat the exercise with the back knee bent a little, still keeping your back heel on the floor. This will stretch a different part of the calf muscles.

Talk with your doctor or physical therapist if you have questions about how to do this or any other exercise.
Stretching the plantar fascia and calf muscles can increase flexibility and reduce heel pain. You can do this exercise several times each day and before and after activity.

- Stand on a step as shown above. Be sure to hold on to the banister.
- Slowly let your heels down over the edge of the step as you relax your calf muscles. You should feel a gentle stretch across the bottom of your foot and up the back of your leg to your knee.
- Hold the stretch about 15 to 30 seconds, then tighten your calf muscle a little to bring your heel back up to the level of the step.

Repeat 2 to 4 times.

Figure

Towel Curl
For the towel curl exercise:

- While sitting, place your foot on a towel on the floor and scrunch the towel toward you with your toes.
- Then, also using your toes, push the towel away from you.
- Make this exercise more challenging by placing a weighted object, such as a soup can, on the other end of the towel.

Talk with your doctor or physical therapist if you have questions about how to do this or any other exercise.
Put marbles on the floor next to a cup. Using your toes, try to lift the marbles up from the floor and put them in the cup.