

# ACHILLES TENDON INJURY

## What is an Achilles tendon injury?

The Achilles tendon is a band of tissue that connects the heel bone to the calf muscle of the leg. Injury to the tendon may cause it to become inflamed or torn.

Achilles tendinopathy is an injury to your Achilles tendon from overuse. The term tendinopathy includes tendonitis and tendinosis. Achilles tendonitis is the term used when the tendon is inflamed. Tendinosis refers to tiny tears in the tendon. They both cause pain at the back of your leg by the heel.

## How does it occur?

Achilles tendinopathy can be caused by:

- overuse of the Achilles tendon
- tight calf muscles
- tight Achilles tendons
- lots of uphill running
- increasing the amount or intensity of sports training, sometimes along with switching to racing flats, which are racing shoes with less heel lift
- over-pronation, a problem where your feet roll inward and flatten out more than normal when you walk or run
- wearing high heels at work and then switching to lower-heeled shoes for exercise

An Achilles tendon may tear during sudden activity. For example the tendon might tear when you jump or start sprinting.

## What are the symptoms?

Achilles tendinopathy causes pain and may cause swelling over the Achilles tendon. The tendon is tender and may be swollen. You will have pain when you rise up on your toes and pain when you stretch the tendon. The range of motion of your ankle may be limited.

When the tendon tears or ruptures, you may feel a pop. If there is a complete tear, you will be unable to lift your heel off the ground or point your toes.

## How is it diagnosed?

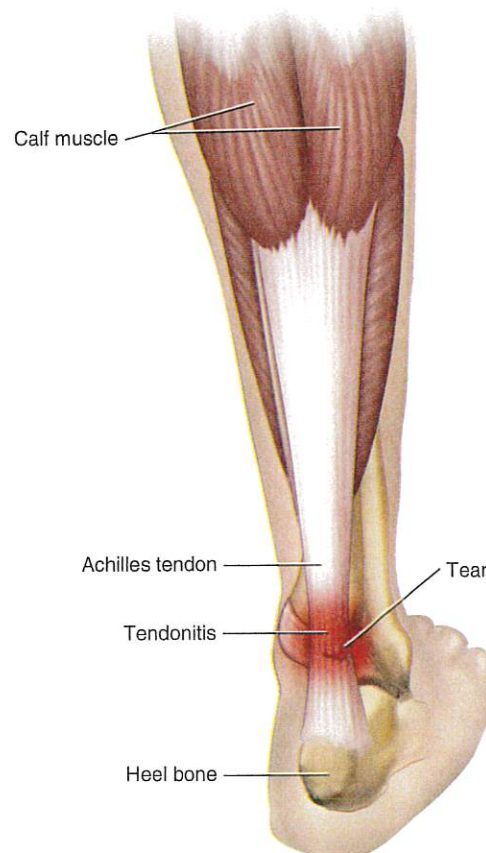
Your healthcare provider will examine your leg, looking for tenderness and swelling. Your provider will watch your feet when you walk or run to see if you over-pronate.

## How is it treated?

- Put ice packs on the Achilles tendon for 20 to 30 minutes every 3 to 4 hours for the first 2 or 3 days or until the pain goes away.

- Raise your lower leg on a pillow when you are lying down.
- Take anti-inflammatory medicine as prescribed by your healthcare provider (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)
- If your healthcare provider prescribes a heel lift insert for your shoe, wear it at least until your tendon heals and possibly longer. The lift prevents extra stretching of your Achilles tendon.
- While you are recovering from your injury, change your sport or activity to one that does not make your condition worse. For example, you may need to swim instead of run.
- Do any exercises your healthcare provider gives you to stretch and strengthen your Achilles tendon.
- If you over-pronate, your healthcare provider may recommend shoe inserts, called orthotics, to keep your foot stable. You can buy orthotics at a pharmacy or athletic shoe store or they can be custom-made.

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- In some severe cases of Achilles tendinopathy, your foot may be put in a cast for several weeks.
- A tear of the tendon may require surgery. If you don't have surgery, your foot may be put in a cast for 6 to 10 weeks.

### 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 is determined by how soon your Achilles tendon area 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 leg compared to the uninjured leg.
- You have full strength of the injured leg compared to the uninjured leg.

- 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.
- You can do 10-yard figures-of-eight, first at half-speed, then at full-speed.
- You can jump on both legs without pain and you can jump on the injured leg without pain.

### How can I prevent Achilles tendinopathy?

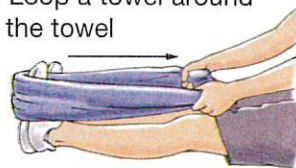
The best way to prevent Achilles tendon injury is to stretch your calf muscles and Achilles tendons before exercise. If you have tight Achilles tendons or calf muscles, stretch them twice a day whether or not you are doing any sports activities that day.

If you have a tendency to get Achilles tendinopathy, avoid running uphill a lot.

## ACHILLES TENDINOPATHY REHABILITATION EXERCISES

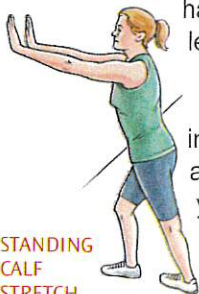
You can do the towel stretch right away. When the towel stretch is too easy, try the standing calf stretch, soleus stretch, and leg lift. When you no longer have sharp pain in your calf or tendon, you can do the step-up, heel raises, and static and dynamic balance exercises.

**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. STANDING SOLEUS STRETCH:** Stand facing a wall with your hands on a wall at about chest level. With both knees slightly bent and one foot back, gently lean into the wall until you feel a stretch in your lower calf. Angle the toes of your back foot slightly inward and keep your heel down on the floor. Hold this for 15 to 30 seconds. Return to the starting position. Repeat 3 times.



STANDING SOLEUS STRETCH

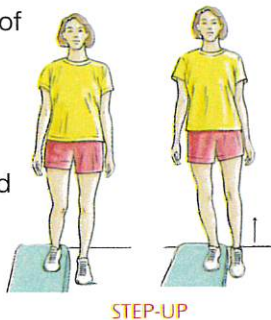
**4. SIDE-LYING LEG LIFT:** Lying on your side, tighten the front thigh muscles on your top leg and lift that leg 8 to 10 inches away from the other leg. Keep the leg straight. Do 3 sets of 10.



SIDE-LYING LEG LIFT

ANKLE

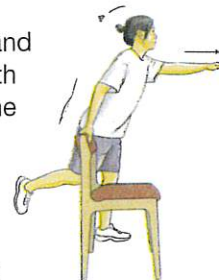
**5. STEP-UP:** Stand with the foot of one leg on a support (like a block of wood) 3 to 5 inches high. Keep your other foot flat on the floor. Shift your weight onto the leg on the support and straighten the knee as the other leg comes off the floor. Lower your leg back to the floor slowly. Do 3 sets of 10.



**7. 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

**6. 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