

# Ankle Sprain

## What is an ankle sprain?

An ankle sprain is an injury that causes a stretch or tear of one or more ligaments in the ankle joint. Ligaments are strong bands of tissue that connect bones at the joint.

Sprains may be graded I, II, or III depending on their severity:

- grade I sprain: pain with minimal damage to the ligaments
- grade II sprain: more ligament damage and mild looseness of the joint
- grade III sprain: complete tearing of the ligament and the joint is very loose or unstable.

Sometimes sprains are just classified as mild or severe, depending on the amount of ligament damage.

Most sprains occur on the outside part of the ankle, but they can occur on the inside as well.

## How does it occur?

A sprain is caused by twisting your ankle. Your foot usually turns in or under but may turn to the outside.

## What are the symptoms?

Symptoms of a sprained ankle include:

- mild aching to sudden pain
- swelling
- discoloration
- inability to move the ankle properly
- pain in the ankle even when you are not putting any weight on it.

## How is it diagnosed?

To diagnose a sprained ankle, the health care provider will review how the injury occurred and consider your symptoms. He or she will examine your ankle carefully. X-rays may be taken of your ankle.

## How it is treated?

Treatment may include:

- Applying ice packs to your ankle for 20 to 30 minutes every 3 to 4 hours for the first 2 to 3 days or until the pain goes away. Thereafter, ice your ankle at least once a day until the other symptoms are gone.

- Elevating your ankle by placing a pillow underneath your foot. Try to keep your ankle above the level of your heart.
- Wrapping an elastic bandage around your ankle to keep the swelling from getting worse.
- Wearing a lace-up brace or ankle stirrup (an Aircast or Gel cast).
- Using crutches until you can walk without pain.
- Taking anti-inflammatory medication, such as ibuprofen, or other pain medication prescribed by your provider.
- Doing ankle exercises to improve your ankle strength and range of motion. The exercises will help you return to your normal activity or sports.

Rarely, severe ankle sprains with complete tearing of the ligaments need surgery. After surgery your ankle will be in a cast for 4 to 8 weeks.

## How long will the effects last?

The length of recovery depends on many factors:

- age
- health
- severity of injury and previous injuries to that joint.

## 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 sport or activity will be determined by how soon your ankle 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 ankle compared to the uninjured ankle.
- You have full strength of the injured ankle compared to the uninjured ankle.
- 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.

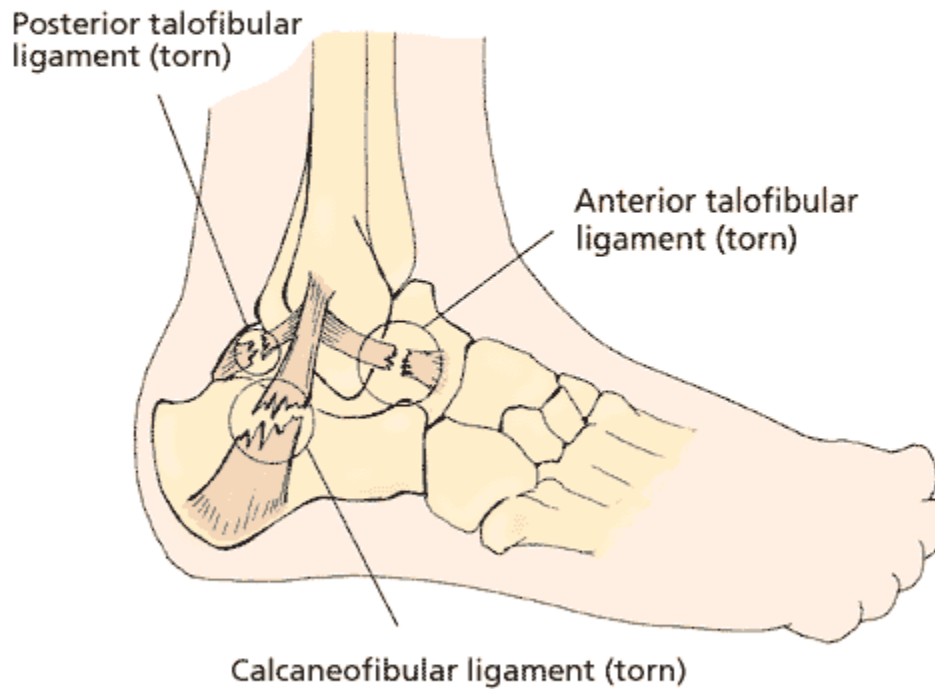
## How can I help prevent an ankle sprain?

To help prevent an ankle sprain, follow these guidelines:

- Wear proper, well-fitting shoes when you exercise.
- Stretch gently and adequately before and after athletic or recreational activities.

- Avoid sharp turns and quick changes in direction and movement.
- Consider taping the ankle or wearing a brace for strenuous sports, especially if you have a previous injury.

## Ankle Sprain



# Ankle Sprain Rehabilitation Exercises

As soon as you can tolerate pressure on the ball of your foot, begin stretching your ankle using the towel stretch. When this stretch is too easy, try the standing calf stretch and soleus stretch.

- **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 keeping your knee straight. Hold this position for 15 to 30 seconds then relax. Repeat 3 times.
- **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 15 to 30 seconds. Repeat 3 times. Do this exercise several times each day.
- **Standing soleus stretch:** Stand facing a wall with your hands at about chest level. With both knees slightly bent and the injured foot back, gently lean into the wall until you feel a stretch in your lower calf. Once again, angle the toes of your injured 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.

You can do the next 5 exercises when your ankle swelling has stopped increasing.

- **Ankle range of motion:** Sitting or lying down with your legs straight and your knee toward the ceiling, move your ankle up and down, in and out, and in circles. Only move your ankle. Don't move your leg. Repeat 10 times in each direction. Push hard in all directions.
- **Resisted dorsiflexion:** Sit with your injured leg out straight and your foot facing a doorway. Tie a loop in one end of the 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 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 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 tubing is anchored there at one end. Hold the other end of the tubing in your hand. Turn your injured foot inward and upward. This will stretch the tubing. Return to the starting position. Do 3 sets of 10.
- **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 tubing. 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 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. Do 3 sets of 10.

You may do the rest of the exercises when you can stand on your injured ankle without pain.

- **Heel raises:** Balance yourself while standing behind a chair or counter. Raise your body up onto your toes and hold it for 5 seconds, then slowly lower yourself down. Repeat 10 times. Do 3 sets of 10.
- **Step-up:** Stand with the foot of your injured 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 injured leg and straighten the knee as the uninjured leg comes off the floor. Lower your uninjured leg to the floor slowly. Do 3 sets of 10.
- **Static and dynamic balance exercises**
  - A. Place a chair next to your non-injured leg and stand upright. (This will provide you with balance if needed.) Stand on your injured foot. Try to raise the arch of your foot while keeping your toes on the floor. Try to maintain this position and balance on your injured side for 30 seconds. This exercise can be made more difficult by doing it on a piece of foam or a pillow, or with your eyes closed.
  - B. Stand in the same position as above. Keep your foot in this position and reach forward in front of you with your injured side's hand, 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.
  - C. Stand in the same position as above. While maintaining your arch height, reach the injured side's hand across your body toward the chair. The farther you reach, the more challenging the exercise. Do 2 sets of 10.
- **Jump rope:** Jump rope landing on both legs for 5 minutes, then on only the injured leg for 5 minutes.

# Ankle Sprain Exercises



**Towel stretch**



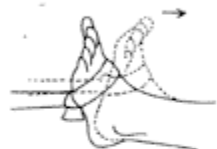
**Standing calf stretch**



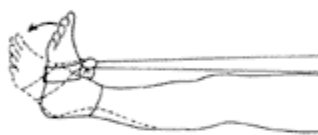
**Standing soleus stretch**



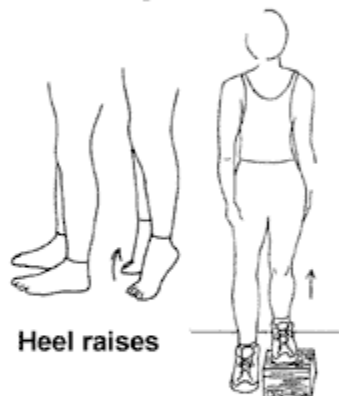
**Ankle range of motion**



**Resisted dorsiflexion**



**Resisted plantar flexion**

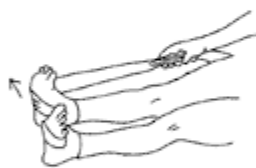


**Heel raises**

**Step-up**



**Resisted inversion**



**Resisted eversion**



A



B



C

**Static and dynamic balance exercises**



**Jump rope**