

# Ask the Doctor: Ankle Sprains

## Q: What is an ankle sprain?

A: An ankle sprain is defined as a twisting injury to the ankle. It occurs when the ankle is turned unexpectedly in any direction that is further than the ligaments are able to tolerate. The ankle can twist inward (most common), outward, rotate, or a combination. The twisting of the ankle stretches or tears the ligaments that holds the ankle and foot bones together, and can lead to instability and re-injury. Many individuals report hearing a “snap” or “pop” at the time of injury. Typical signs and symptoms include an ankle that is painful, swollen, and often bruised. The ankle sprain is the most common orthopedic injury.

## Q: What causes an ankle sprain?

A: Most ankle sprains occur during sports/recreational activities, especially those involving jumping, running, or sharp turning (i.e. basketball, volleyball, snow-skiing, soccer). Landing awkwardly after jumping, or landing on another person’s foot are two common causes. However, ankle injuries can also occur when walking on uneven or slippery surfaces, stepping into a pothole, or stepping awkwardly off a curb.

## Q: What should I do if I sprain my ankle?

A: To speed recovery and minimize pain, tissue injury and swelling, follow the **PRICE** rules:

**P: PROTECT** the injured ankle: The ankle may be splinted, taped, or braced to help prevent further injury

**R: REST:** Avoid (as much as possible) all activities that cause pain to the ankle.

**I: ICE:** Also called cryotherapy. Ice the ankle for 15-20 minutes (not longer) 3-5 times a day for the first 1-3 days after injury. Ice in a plastic bag, a thermal ice wrap, or even frozen vegetables can be used. Ice will help decrease pain and reduce the amount of swelling and soft tissue damage that typically occurs after an ankle sprain.

**C: COMPRESSION:** Apply comfortable compression to the ankle with an elastic bandage from the toes to about mid-calf. The compression will help reduce the amount of swelling in the ankle. Loosen the wrap if the toes start to turn blue or feel cold.

**E: ELEVATION:** Elevate the ankle above the level of the heart.  
Gravitational pull will help reduce fluid accumulation in the ankle.

Also, for the first 24-72 hours after injury, avoid the following:

- Hot showers
- Heat Rubs (e.g. Ben Gay)
- Hot Packs
- Drinking Alcohol
- Aspirin (may increase bleeding into the ankle)

## **Q: How do I know how bad I injured my ankle?**

A: If the ankle is obviously fractured/dislocated or the injury is causing severe pain/disability, then medical attention should be sought immediately. Ankle sprains are classified according to severity.

**Grade I:** A Grade I (First Degree) sprain is the most common and requires the least amount of treatment and recovery. The ligaments connecting the ankle bones are often over-stretched and damaged microscopically, but not actually torn. The ligament damage has occurred without any significant instability developing. There is minimal or no loss of function to the ankle.

**Grade II:** A Grade II (Second Degree) sprain is more severe and indicated that the ligament has been more significantly damaged, but there is no significant instability. The ligaments are often partially torn. Moderate to severe pain may be present initially, and swelling and joint stiffness will develop. It may take up to 2-3 months before full strength and stability of the ankle joint is restored.

**Grade III:** A Grade III (Third Degree) sprain is the most severe. This indicates the ligament has been significantly damaged (ligaments completely torn), and that instability has resulted. Severe pain may be present initially, followed by little or no pain due to total disruption of the nerve fibers. Swelling may be profuse and the joint becomes stiff some hours after the injury. Some form of immobilization lasting several weeks is usually required. There is complete loss of function to the ankle and necessity for crutches. Recovery can be as long as 4 months.

## **Q: Why do I keep re-spraining my ankle?**

A: Often, after an ankle sprain, the ligaments remain stretched. As a result instability and weakness develops in the ankle. The ankle then becomes more susceptible to being re-sprained. In fact, spraining your ankle can increase your risk of re-injury as much as 40-70%.

**Q: Are there exercises I can do to help prevent future ankle sprains?**

A: Yes. In fact, stretching and strengthening exercises are vital to restoring normal motion, stability, and strength to the ankle. These exercises can also help avoid chronic ankle pain, laxity (looseness) of the ankle, or arthritis.

**Stretching Exercises:**

**1) Basic Calf Stretch (With Towel):** Sit with your knees straight and loop a towel around the ball of your foot. Keep the leg straight and slowly pull until you feel your calf stretch.

2) **Basic Calf Stretch (Sitting With Towel):** Repeat same stretch as above, but this time keep the knee slightly bent during the stretch. This stretch will emphasize a different muscle in the calf.

3) **Advanced Calf Wall Stretch (Leg Straight):** Place the injured foot behind the other with your toes pointing forward. Keep the heels down and back straight. Slowly bend the front knee until you feel the calf stretch in the back leg.

4) **Advanced Calf Wall Stretch (Knee slightly bent):** Repeat the same stretch as above, but this time keep the back leg slightly bent during the stretch.

**Active Range of Motion Exercises:** These exercises should be initiated within 1-3 days after injury to help restore normal motion to the ankle and gently strengthen the muscles supporting the ankle.

1) **Ankle Alphabets:** In sitting, move your injured foot in various directions as you attempt to “spell” the alphabet. Go from A to Z. You can be creative with this exercise (i.e. capital letters, small letters, cursive, etc.)

2) **Ankle Push Up and Downs:** In sitting, start by pushing your foot downward and inward as far as possible (Figure 1), then lift your foot upward and outward as far as possible (Figure 2). Keep the knee still to maximize movement at the ankle.

**Figure 1**

**Figure 2**

Strength Exercises: Initial strengthening should be isometric (non-moving in nature). This will help protect the ankle by strengthening the ankle muscles while putting minimal stress on the weak and injured ankle.

1) **Push Out:** In sitting, place the foot so the outer edge is next to a wall. Slowly push the ankle outward against the wall. Hold for 3-5 seconds, and repeat 10-15 times.

Ankle sprains are among the most common of orthopedic injuries, and can be very debilitating. After a sprain, it is important to take the appropriate steps to minimize the extent of injury, expedite recovery and return to full function. Proper rehabilitation will help reduce the chances of future pain and injury.