

What You Need to Know About Ankle Sprains



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ANKLE INJURIES

The ankle is an important joint because everything that occurs at the foot and ankle affects higher joints such as the knees, hips, and even the lower back. Many different structures including bones, tendons, and ligaments can be injured in the foot and ankle. Lateral ankle sprain (injury to the outside ankle ligaments) is the most common ankle injury and is often referred to as a “rolled ankle.”

Anatomy

The ankle joint is composed of three bones: the tibia, fibula, and talus. The ligaments that provide ankle stability on the lateral aspect of the foot are the anterior talofibular, calcaneofibular, and posterior talofibular ligaments. The medial ligament is the deltoid ligament. Multiple muscles are associated with the movement of the foot and ankle.



Sprains

Ankle sprain is one of the most common injuries experienced by physically active/athletic people. According to the American Orthopedic Foot and Ankle Society approximately 25,000 people sprain their ankles everyday. Ankle sprains occur when the ankle joint is forced beyond its normal working motion stretching or tearing various ligaments (fibrous bands connecting bone to bone). This may occur when stepping in a hole in the park, landing on an opponent’s foot in basketball, or even stepping off a curb the wrong way.

Ankle sprains can be categorized by degree of severity:

- **First degree (grade I):** stretch and/or minor tear of the ligament without laxity (loosening)
- **Second degree (grade II):** tear of ligament plus some laxity
- **Third degree (grade III):** complete tear of the affected ligament (very loose)

INITIAL CARE

Signs and Symptoms

Usually the individual can walk (although somewhat painfully), and may have mild swelling and discoloration (black and blue). These signs and symptoms usually occur on the outside of the ankle as a result of stretching or tearing of the ligament tissue.

Initial care

The first thing to do following this type of injury with these symptoms would be to follow the R.I.C.E. principle which is Rest, Ice, Compression (with an elastic bandage), and Elevation of the extremity. Some people may find it useful and necessary to use crutches in order to get about. Individuals may find some pain relief from over-the-counter anti-inflammatory medications such as Advil, Ibuprofen, or Aleve if allowed by your physician.

R.I.C.E.

- **Rest:** Rest your ankle. This is the first step in treating ankle sprains. Activities that aggravate the injury should be avoided or diminished. Rest allows the small tears in the ligaments to heal.
- **Ice:** Apply cold therapy to decrease inflammation and pain. Treat the ankle with an ice bag two to three times a day for a period of 15-20 minutes each time.
- **Compression:** Use an elastic bandage or compression sleeve to keep swelling from accumulating in the ankle and going to the toes.
- **Elevation:** Elevate your ankle to help reduce swelling. Be sure to elevate your ankle above your heart. At night you can place some books between the mattress and box springs of your bed.



STAGES OF REHABILITATION

Stage I: Initial Phase (Goals and treatment)

- 1) Control swelling: RICE approach, E-stimRange of Motion (ROM): Ankle pump, “ankle alphabet”
- 2) Ambulation: Use of assistive device such as crutches to ambulate pain-free
- 3) Bracing: Use of an aircast / Ankle Support Orthosis (ASO) to provide additional support to the ankle



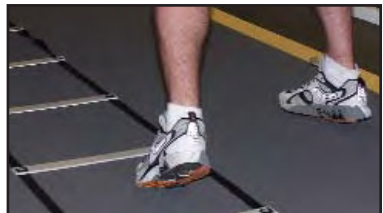
Stage II: Intermediate Phase (Goals and treatment)

- 1) **Range of Motion (ROM):** Obtain ROM to equal the nonaffected ankle joint by aggressively stretching the muscles surrounding the injured ankle joint
- 2) **Strengthening:** Advance to strengthening the ankle joint with the use of Therabands, calf raises, etc.
- 3) **Ambulation:** Wean off the use of assistive device if able to ambulate without a noticeable limp.
- 4) **Proprioception:** Encourage appropriate firing of the ankle joint muscles with activity such as single leg stance exercise, lateral slide, fitter, etc.
- 5) **Bracing:** Advance from an aircast to an ASO or discontinue bracing as appropriate.
- 6) Return to normal daily activities.



Stage III: Advance Phase (Goals and treatment)

- 1) Advance strengthening exercise: Progressively increase the Theraband/weight resistance.
- 2) Advance proprioception: Advance to single leg stance on unlevel surfaces, incorporate various sport chord exercises, and add agility ladder drills.
- 3) Sport/Lifestyle specific activities: Begin straight plane jogging progressing to sprinting to side to side sport specific movement.
- 4) Return to sports/ recreation.
- 5) Discharge from therapy.



WHAT TO EXPECT

Physician Care

On occasion, when the ankle is “turned” a fracture (break) may be present depending on the force of the injury; therefore if your symptoms do not begin to resolve in 2-3 days, you should seek qualified medical attention. Many times you may need an X-ray to rule out a fracture. Vanderbilt Sports Medicine has X-ray facilities on site and physicians who can read the X-ray for immediate results.



Therapy

For minor sprains that gradually improve in the first couple of days, some simple strengthening and balance exercises in addition to R.I.C.E. will be enough to return you to a functional level of living. Other more serious injuries will greatly benefit from rehabilitation where a physical therapist or athletic trainer will guide you through a series of exercises, as described in the previous section, to strengthen and return you to full function.

Preventive Tips

- Wear proper, well fitting shoes when you exercise or play
- Stretch before and after athletic or recreational activities
- Consider taping or bracing the ankle for strenuous sports

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