CENTRAL TEXAS PEDIATRIC ORTHOPEDICS
Sports Medicine

ANKLE SPRAIN, ACUTE

Description

An acute ankle sprain involves the stretching and tearing of one or more ligaments in the ankle. A two-ligament sprain causes more disability than a single-ligament sprain. Sprains are classified into three grades: In a *first-degree* sprain, the ligament is not stretched or lengthened but is painful. With a *second-degree* sprain, the ligament is stretched but still functions. With a *third-degree* sprain, the ligament is torn and does not function.

- *Lateral ankle sprains:* There are three ligaments of the outer (lateral) ankle. These are the most common sprains.
- *Medial ankle sprains:* There is one large triangular ligament of the inner (medial) ankle, which is stronger and more compact than the outer ligaments, making injuries to it less likely.
- *Syndesmosis ("high ankle") sprains:* This is the ligament that connects the two leg bones just above the ankle. This ligament is usually injured when the sprain to the ankle is very severe.

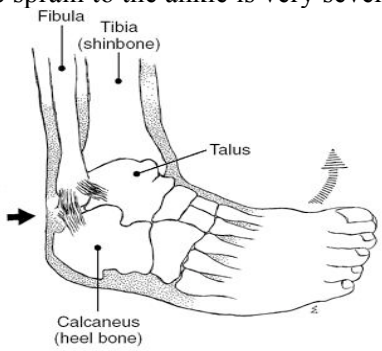


Figure 1

Common Signs and Symptoms

- Pain, tenderness, and swelling in the ankle, starting at the side of injury, that may progress to the whole ankle and foot with time
- Pop or tearing sensation at the time of injury
- Bruising that may spread to the heel
- Impaired ability to walk soon after injury

Causes

- Stress on the ankle that temporarily forces or pries the ankle bone (talus) out of its normal socket
- Stretching or tearing of the ligaments that normally hold the joint in place (usually due to a twisting injury)

Risk Increases With

- Previous ankle sprain
- Activities in which the foot may land awkwardly (such as basketball, volleyball, and soccer) or walking or running on uneven or rough surfaces
- Shoes with inadequate support to prevent sideways motion when stress occurs
- Poor physical conditioning (strength and flexibility)
- Poor balance skills
- Contact sports

Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
- Ankle and leg flexibility, muscle strength, and endurance
- Balance training activities

- Use proper technique and have a coach correct improper technique.
- Taping, protective strapping, bracing, or high-top tennis shoes may help prevent injury. Initially, tape is best; however, it loses most of its support function within 10 to 15 minutes.
- Wear proper protective shoes. (High-top shoes with taping or bracing is more effective than either alone.)
- Provide the ankle with support during sports and practice activities for 12 months following injury.

Expected Outcome

- A first-degree sprain usually heals enough in 5 to 7 days to allow modified activity and requires an average of 6 weeks to heal completely.
- A second-degree sprain requires 6 to 10 weeks to heal completely.
- A third-degree sprain requires 12 to 16 weeks to heal.
- A syndesmosis sprain often takes more than 3 months to heal.

Possible Complications

- Frequent recurrence of symptoms can result in a chronic problem. Appropriately addressing the problem the first time decreases the frequency of recurrence and optimizes healing time. Severity of initial sprain does not predict the likelihood of later instability.
- Injury to other structures (bone, cartilage, or tendon) and a chronically unstable or arthritic ankle joint are possible with repeated sprains.

General Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain and compressive elastic bandage and elevation to help reduce swelling and discomfort. A walking cast, walking boot, or brace may be recommended to provide support to the joint while trying to walk with crutches for varying lengths of time, depending on the severity of injury. Surgical treatment is rarely necessary. After the inflammation and pain are reduced, regaining motion, strength, and balance in the ankle is important to return to full capacity and to reduce recurrent injury.

Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), are used to reduce inflammation. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur. Other minor pain relievers, such as acetaminophen, may also be used.
- Topical ointments may be of benefit.
- Pain relievers may be prescribed as necessary by your physician. Use only as directed and only as much as you need.

Heat and Cold

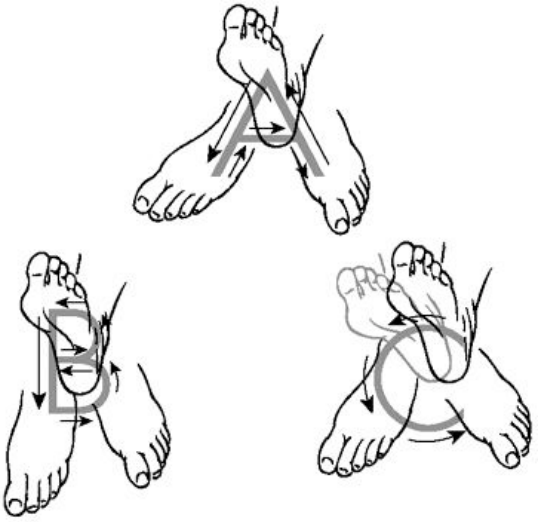
- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage. Cold compressive wrap may be used.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

Notify Our Office If

- Pain, swelling, or bruising worsens despite treatment
- You experience pain, numbness, discoloration, or coldness in the foot or toes
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

BEGINNING EXERCISES • Ankle Sprain, Acute—Phase I, Weeks 1 to 2

These are some of the ***initial*** exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. These exercises are usually used for the first 1 to 2 weeks after a sprain. The amount of time that they are used for will vary depending on the severity of the sprain.



RANGE OF MOTION (1-5 days) • Ankle Alphabet

1. Write all the capital letters of the alphabet with your foot and ankle. The motion should come from your foot and ankle, not your hip or knee.
2. Move the foot and ankle slowly, writing the letters as large as possible/comfortable for you.
3. Repeat exercise 2 times, 2 times per day.

Single Leg Stance

Pick one foot up and balance on one leg. Try to stay in one place on the floor and minimize any movement from the arms, trunk, and hips. Look straight ahead.

Balance for 1 minutes on each leg.

1. Begin after obtaining full painless ROM
2. Perform each exercise slowly and carefully.