

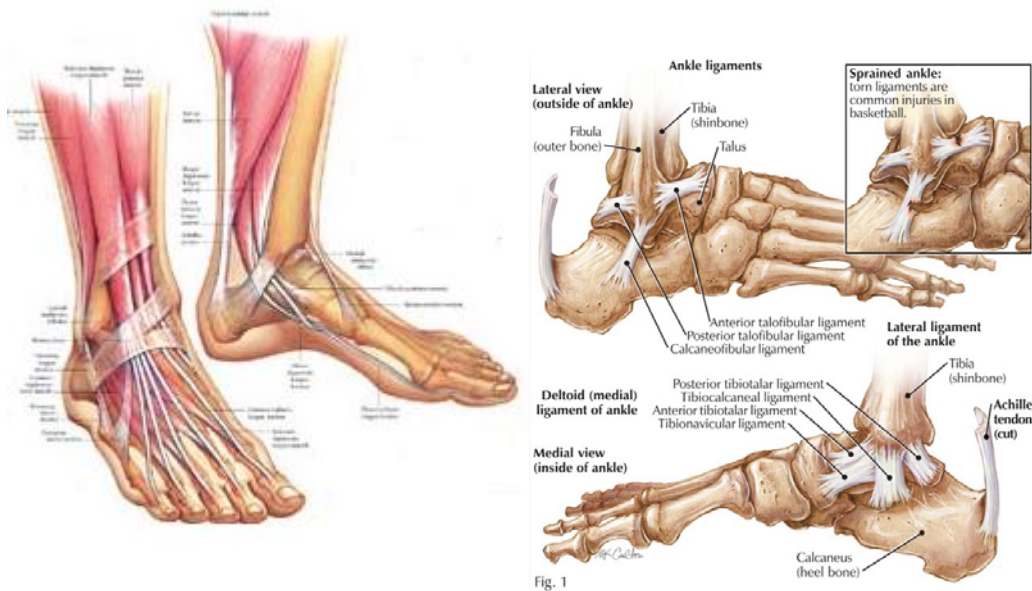


Physical & Hand Therapy Services  
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## ANKLE SPRAINS

During basketball season, one of the more common injuries seen is the ankle sprain. It generally happens when a player lands on another athlete's foot and rolls their ankle. Ankle sprains can happen when the athlete goes to plant their foot and take off another direction.

### ANATOMY:



The ankle is made up of 7 bones; the calcaneous, talus, navicular, cuboid, and cuneiform I, II, and III. Your two lower leg bones, the tibia (your shin bone) and fibula come down and connect with your foot bones creating the ankle. If you feel the bump on the inside of your ankle, you are touching the base of the fibula known as the *medial malleolus*. And just beneath that bump is a “fan like” group of ligaments known as the deltoid ligament. The deltoid is most commonly injured with an eversion type ankle sprain and those are not as common. Now move to the outside bump of your ankle. That is the base of the fibula and it is called the *lateral malleolus*. You have 3 ligaments which come off of the lateral malleolus and connect to your calcaneal bone, the anterior talofibular (ATF), calcaneal fibular (CF), and the posterior talofibular (PTF). These are the ligaments that are usually injured with the most common type of ankle sprain, an inversion ankle sprain. You also have a group of 3 muscles that run down the outside of

your lower leg and attach on the foot. They are the peroneal muscle group and their main job is to help you from rolling your ankle.

### **TYPES OF ANKLE SPRAINS:**

**Inversion:** when you roll your foot to the outside (MOST COMMON)

**Eversion:** when you roll your foot to the inside

**1<sup>st</sup> Degree:** minimal damage – usually stretching of the ATF ligament

**2<sup>nd</sup> Degree:** the ATF & CF ligaments are usually involved and there may be a tear

**3<sup>rd</sup> Degree:** the ATF, CF and PTF ligaments are involved and usually one has a tear

**High Ankle Sprain:** When the ligaments that connect the tibia and fibula together are stretched or torn. This type of ankle sprain takes longer to heal.

### **TREATMENT:**

The first rule of thumb is **R.I.C.E.** Rest, ice, compression, and elevation.

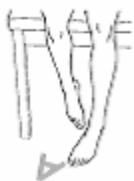
*\*\*\*\* If there is a lot of pain, swelling, bruising, or if you heard a snap or pop when you injured it go see a doctor for x-rays to rule out any fractures or torn ligaments \*\*\*\**

If the athlete wants to return to play as quickly as possible, physical therapy will be the key. There are machines and modalities that will help to get the swelling out of the joint quickly to help the athlete return to play. Swelling in the joint is what increases the pain, decreases the range of motion and slows down the recovery process.

Restoring proprioception (your bodies ability to know where the center of balance is at any given time) will be the key factor to help prevent your from re-current ankle sprains. Without this, the athlete's chances of rolling their ankles are increased You will also want to strengthen the muscles that help prevent your from rolling your ankles; your anterior tibialis (the muscle that is on the front of your shin) and your peroneal muscles that run down the outside of your lower leg and attach to the foot. Standing activities will also help strengthen the muscles and get the ankle ready for all game type situations.

### **EXERCISES:**

#### Alphabet



Using ankle and foot only, trace the letters of the alphabet. Perform A to Z. Repeat 1 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

#### Towel Curls



With injured foot resting on towel, slowly bunch up towel by curling toes. Repeat 10-20 times per set. Do 1 set per session. Do 1-2 sessions per day.

### Soleus Stretch



Stand with injured foot back, both knees bent. Keeping heel on floor, turned slightly out, lean into wall until stretch is felt in lower calf. Hold 20 seconds. Repeat 4 times per set. Do 1 set per session. Do 1-2 sessions per day.

### Gastro Stretch



Stand with injured foot back, leg straight, forward leg bent. Keeping heel on floor, turned slightly out, lean into wall until stretch is felt in calf. Hold 20 seconds. Repeat 4 times per set. Do 1 set per session. Do 1 session per day.

### Dorsiflexion: Resisted



Facing anchor, tubing around foot, pull toward face. Repeat 20 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

### Plantar Flexion: Resisted



Anchor behind, tubing around foot, press down. Repeat 20 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

### Inversion: Resisted



Cross legs with injured leg underneath, foot in tubing loop. Hold tubing around other foot to resist and turn foot in. Repeat 20 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

### Eversion: Resisted



With injured foot in tubing loop, hold tubing around other foot to resist and turn foot out. Repeat 20 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

### Single Leg Balance



Attempt to balance on right leg, eyes open. Hold 60-90 seconds. Repeat 4 times per set. Do 1 set per session. Do 1-2 sessions per day. When it becomes easier, try to perform exercise with eyes closed.

### Heel Raises



Rise on balls of feet. Repeat 20 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

### Toe Raises



Stand tall and pull the balls of your feet off the ground. Repeat 20 times per set. Do 1-2 sets per session. Do 1-2 sessions per day.

### Single Leg Balance with Forward Bend



Stand on injured foot, hands on hips. Keeping hips level, bend forward as if to touch forehead to wall. Hold 5-10 seconds. Relax. Repeat 10 times per set. Do 1 set per session. Do 1 session per day.