

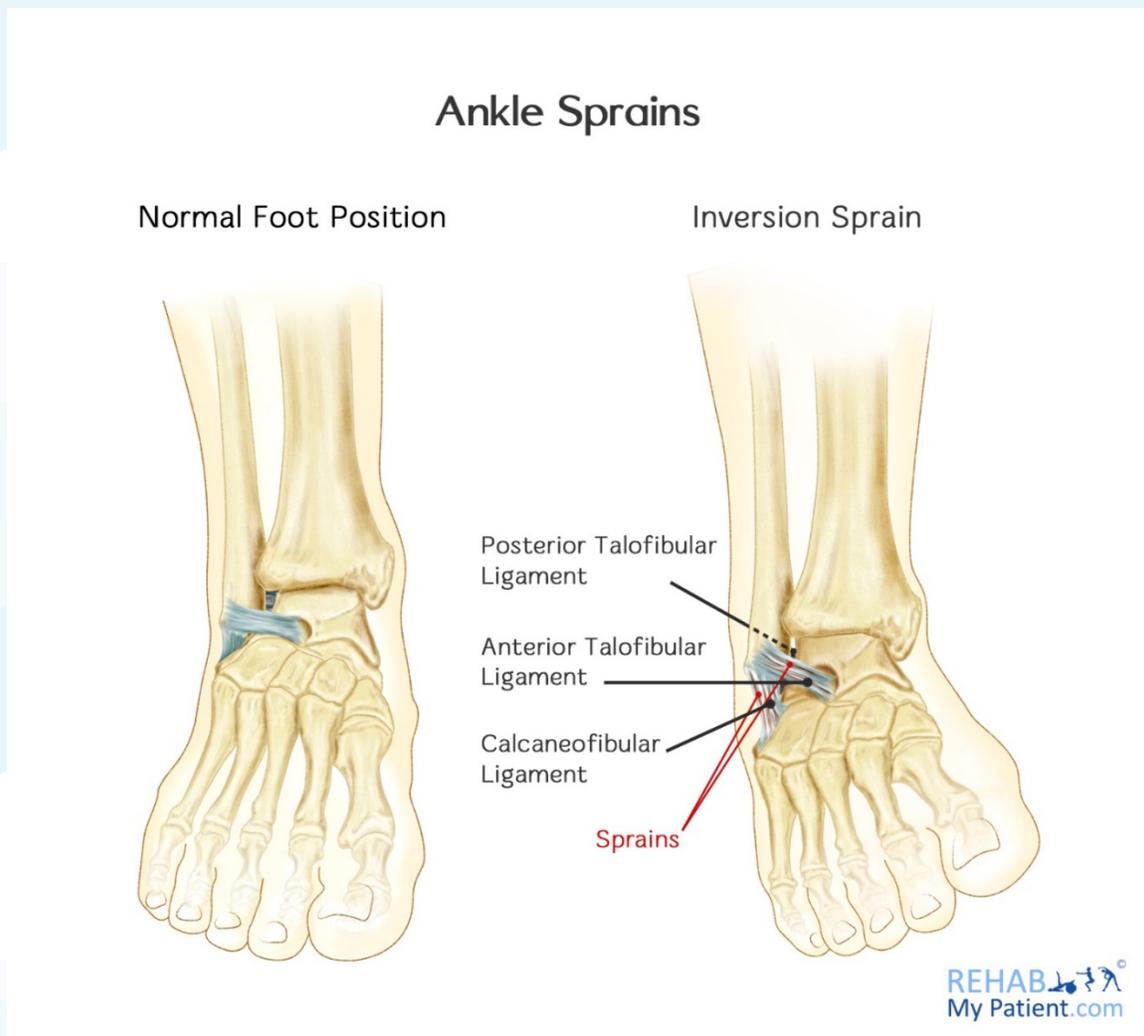
Inversion Sprain of the Ankle

An inversion ankle sprain tends to be one of many common injuries to high-intensity athletes participating in football, basketball, netball and soccer. It tends to occur when the foot is forced into an inversion position beyond muscular and ligamentous control. Due to the excessive force, ligament failure might occur.

As with the majority of joints in the body, specific ligaments work to prevent any excessive movement of that joint. When it comes to the ankle, the calcaneofibular ligament and anterior talofibular ligament are the main restraints. Since sprains commonly occur when the foot is in plantar flexion, the ATF tends to be the one injured the most. This mechanism might occur when partaking in any high-intensity activities that involve lateral movement, running or jumping. It can also occur when taking a leisurely walk on uneven ground. On occasion, foot abnormalities can predispose athletes to sprains.

Inversion Sprain of the Ankle Anatomy

Ankle joints have two bones that pivot and glide over each other, the talus and the tibia. There is a thick covering surrounding the entire ankle joint that keeps all of the joint fluid within the ankle joint. Synovial fluid and the smooth cartilage lining the end of the bone in the joint let the ankle joint move with a minimal amount of friction.



There are three main ankle ligaments that can be affected during an ankle sprain – namely the anterior talofibular ligament (ATFL), calcaneofibular ligament (CF) and the posterior talofibular ligament (PTFL). All three ligaments are located on the outside of the ankle where the main bony bump is. When you roll over the outside of your ankle, the ligaments at the side can be sprained or in severe cases torn.

Inversion Sprain Ankle Symptoms

When rolling your ankle the first time, you will have sharp pain and will be unable to weight bear on your foot (depending on the severity of the damage). Your ankle will swell up, and it is likely to bruise. Sometimes the bruising can be very severe with a lot of the foot turning purple. You may need to use crutches for up to 2 weeks to aid your walking.

Ankle Inversion Sprain Causes

75% of all ankle sprains are recurring, which means that if you sprain your ankle once there is a much higher chance of spraining the ankle again. That is because the damage and stretch to the ligaments will mean the ankle is not supported as well in future, making rolling the ankle more likely.

Children are often affected, because balance is usually not so well developed, and also the ligaments are not strong enough to stabilize the ankle if it's rolled badly. Also children tend to throw themselves into sport and often have tumbles and falls. Girls are more susceptible to injury than boys as girls tend to have more flexible ligaments, so there is less support at the ankle.

Certain sports are also more prone to problems. Sports that involve a lot of twisting such as netball, basketball, or field sports are wear problems can occur. You may notice that basketball players wear high sided trainers – well that's to provide support to the ankle joint.

Also sports that are on uneven ground can be problematic, especially fields that are poorly maintained. It is easy to step into a pothole and sprain the ankle during sport.

How to Treat an Inversion Sprain of the Ankle:

1. Rest

When an injury first occurs, you need to refrain from using the ankle and provide it with the time it needs to heal. Elevate the foot to allow the swelling to reduce. Avoid all sport unless you can comfortable weight bear on the ankle. Gentle walking is fine if you can, but if you cannot you should use a crutch or two crutches.

2. Ice

Apply ice to the affected area for 5-10 minutes at a time three to five times per day. Make sure to wrap the ice in a towel to prevent an ice burn from occurring. It can take several months for swelling to reduce, depending on how severe the sprain was.

3. Anti-Inflammatory Medication

To help eliminate swelling and pain in the area, you can take an anti-inflammatory medication. As the swelling subsides, the pain will tend to lessen as well. This is only useful in the short term and under guidance from your doctor.

4. Movement Restoration

Begin with an active range of movement into plantar flexion and dorsiflexion. Inversion and eversion might prove to be too painful to tolerate any activities, which is why it is important that you perform this activity passively or with an active-assist. Slowly work on bearing weight during the day to increase mobility.

5. Strengthening, Endurance and Agility Exercises

Endurance and agility activities should slowly be introduced to allow you time to return to your normal functions in athletic and functional activities. Strengthening should focus on eversion and dorsiflexion, since these muscles are the ones responsible for resisting any inversion sprains.

Above all, make sure you work with a therapist to restore full mobility and strength to the ankle. This will help prevent future sprains. Most people simply leave the ankle to recover on its own, making them very susceptible to future sprains.

On returning to sport, it may be advisable to wear an ankle brace or support to give your ankle extra stability. Don't become reliant on it, as you should also train your muscles to get stronger around the ankle.



Tips:

- Depending on the severity of your injury, the amount of time before returning to activities will vary accordingly.
- When you have minimal to no swelling in the joint, you should be fine to return to your full range of activities.
- Bracing and taping has proven beneficial in preventing sprains.
- Continue strengthening the ankle to prevent any inversion sprains, regardless of whether it is in season or out of season.
- Using orthotics can help to prevent being vulnerable to any inversion sprains.