

ANKLE SPRAINS

Lateral Ankle Ligament Injuries



SCAN FOR THE
ONLINE VERSION



Stanford
MEDICINE

WHAT IS AN ANKLE SPRAIN?

An ankle sprain is a stretch or tear of the ligaments that hold the ankle bones together. **Most sprains involve the ligaments on the outside of the ankle.** They are one of the most common injuries in sport and in everyday life.

Three ligaments support the outside of the ankle. The **anterior talofibular ligament (ATFL)** is the weakest and is usually the first one injured. The **calcaneofibular ligament (CFL)** is often injured along with it in more significant sprains. The **posterior talofibular ligament** is the strongest of the three and is rarely injured except in severe sprains.

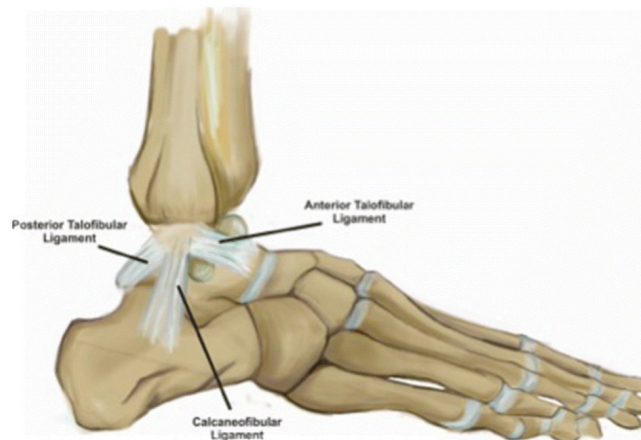


Illustration: Hur ES, et al. Curr Rev Musculoskelet Med. 2020;13:494-500

HOW ANKLE SPRAINS HAPPEN

The classic mechanism is **rolling the ankle inward with the foot pointed down**. This often happens when landing on another player's foot, cutting/pivoting, or stepping on uneven ground. Sports with running, jumping and quick changes of direction such as basketball, volleyball and soccer carry the highest risk.



Rolling the ankle inward



Landing on another player's foot



Cutting or pivoting



Stepping on uneven ground

The strongest risk factor for a sprain is having had one before. An ankle that has been sprained is more likely to be sprained again, especially if strength and balance have not fully recovered. This is why **rehabilitation matters even after a mild sprain.**

Common Symptoms

- Pain and tenderness on the outside of the ankle
- Swelling and bruising, which can spread down into the foot over the first few days
- Difficulty putting weight on the foot in more severe sprains
- Some people feel or hear a pop at the time of injury
- Stiffness and a feeling that the ankle is weak or unstable

How It Is Diagnosed

- A history of how the injury happened and a physical examination
- An X-ray may be performed to rule out other associated injuries.
- MRI is usually only needed if the ankle is not healing as expected

GRADES OF ANKLE SPRAIN

Grade 1



WHAT IT MEANS

The ligament is stretched without a real tear. Swelling is mild and the ankle feels stable.

GENERAL APPROACH

Walking as comfort allows, a brace for support and a home exercise program

Grade 2



WHAT IT MEANS

A partial tear. There is moderate pain, swelling and bruising with some loss of motion.

GENERAL APPROACH

A brace, weight bearing as tolerated and a structured rehabilitation program

Grade 3



WHAT IT MEANS

A complete tear. Swelling and bruising are significant and walking is often difficult.

GENERAL APPROACH

Sometimes a short period in a walking boot, then a brace and a full rehabilitation program

High ankle sprain



WHAT IT MEANS

An injury to the ligaments just above the ankle that join the two leg bones. This is usually from the foot twisting outward.

GENERAL APPROACH

Recovery is usually longer. Imaging may be needed and surgery is occasionally required

When a Sprain Is Not Just a Sprain

Some injuries can look like a simple sprain at first, including **small fractures, cartilage injuries inside the joint and injuries to the tendons on the outside of the ankle**. A high ankle sprain can also be hard to recognize early.

Let us know if the ankle is not improving as expected or if you feel **catching or locking in the joint**.

YOUR TREATMENT OPTIONS

Almost all ankle sprains heal without surgery. The best evidence supports early movement and a guided exercise program rather than long periods in a cast or boot.

Nonoperative Treatment

Early movement and weight bearing as tolerated lead to a faster recovery than resting the ankle in a cast. A brace gives better support than an elastic wrap. A more rigid brace is often used for the first several weeks, followed by a lace-up brace when you return to sport.

For severe sprains, **a short period in a walking boot of up to about 10 days** can settle pain and swelling before rehabilitation begins. Ice, elevation and a short course of acetaminophen or an anti-inflammatory medication can help with pain.

Rehabilitation is the most important part of recovery. The goal of an ankle sprain rehabilitation program is to restore motion, strength and balance. Balance training in particular is important to help lower the chance of another sprain.

The right first step for:

- Nearly all first-time sprains, whether mild, moderate or severe



Start the rehabilitation program promptly and finish it even after the ankle feels better. This helps the muscles around the ankle regain strength and develop proprioceptive ability to help prevent future injuries.

Surgical Treatment

Surgery is considered for select cases of **chronic ankle instability**. This refers to an ankle that keeps giving way or limits activity despite a proper course of bracing and rehabilitation. We generally want to see three to six months of consistent rehabilitation prior to considering surgery.

The most common operation is a **modified Broström repair**, which tightens and reattaches the stretched ligaments on the outside of the ankle. It has a long track record of good results.

Often recommended if:

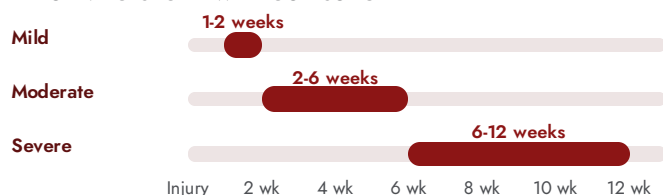
- The ankle keeps giving way after three to six months of consistent rehabilitation and bracing
- Repeated sprains are limiting your sport, work or daily activity
- A related injury such as a cartilage injury or tendon tear also needs treatment



RECOVERY AND RETURN TO SPORT

Recovery and Return to Activity

RETURN TO SPORT WITHOUT SURGERY



Without surgery:

- Most people are walking comfortably in a brace within days to a couple of weeks, depending on the severity
- **Return to sport is typically about one to two weeks after a mild sprain, two to six weeks after a moderate sprain and six to twelve weeks after a severe sprain**
- A high ankle sprain usually takes longer, often at least **six to eight weeks**
- Return is based on how the ankle is working not just the time since injury. You should have full motion, normal strength and balance, and be able to hop and change direction without pain.
- Ongoing pain, repeat sprains, stiffness or a feeling that the ankle is unstable can be signs that rehabilitation is not yet complete.
- **Consider wearing a brace for sports for up to 12 months after the injury**

After surgery:

- Return to sport after a ligament repair usually takes several months, often around five to six months

Risks to Understand

- **Repeat sprains are common.** This is more likely in the first year or when rehabilitation is cut short.
- There is a small risk of **chronic ankle instability**, with an ankle that keeps giving way. Effective rehab and recovery help reduce this risk.
- Some people have lingering pain, swelling or weakness for months, even after a mild sprain
- **Bracing and balance training are the best ways to lower the chance of another sprain.**

Selected Background Sources

The guidance in this handout reflects current peer-reviewed orthopedic literature and professional society recommendations. Selected sources include:

- American Academy of Orthopaedic Surgeons. Sprained Ankle. OrthoInfo.
- Vuurberg G, et al. Diagnosis, treatment and prevention of ankle sprains: update of an evidence-based clinical guideline. Br J Sports Med. 2018.
- Kaminski TW, et al. National Athletic Trainers' Association position statement: conservative management and prevention of ankle sprains in athletes. J Athl Train. 2013.
- Martin RL, et al. Ankle stability and movement coordination impairments: lateral ankle ligament sprains revision 2021. J Orthop Sports Phys Ther. 2021.
- Lamb SE, et al. Mechanical supports for acute, severe ankle sprain: a pragmatic, multicentre, randomised controlled trial. Lancet. 2009.
- Kerkhoffs GM, et al. Functional treatments for acute ruptures of the lateral ankle ligament: a systematic review. Acta Orthop Scand. 2003.
- Hupperets MD, et al. Effect of unsupervised home based proprioceptive training on recurrences of ankle sprain: randomised controlled trial. BMJ. 2009.
- Janssen KW, et al. Bracing superior to neuromuscular training for the prevention of self-reported recurrent ankle sprains: a three-arm randomised controlled trial. Br J Sports Med. 2014.
- Roemer FW, et al. Ligamentous injuries and the risk of associated tissue damage in acute ankle sprains in athletes: a cross-sectional MRI study. Am J Sports Med. 2014.
- Hur ES, et al. Lateral ligament instability: review of pathology and diagnosis. Curr Rev Musculoskelet Med. 2020.
- Aicale R, Maffulli N. Chronic lateral ankle instability: topical review. Foot Ankle Int. 2020.

This handout is for education and does not replace the discussion with your surgeon. Ask Dr. Tummala about anything that applies to your specific ankle.

Notes

Sai Tummala, MD

Sports Medicine and Shoulder Surgery



Dr. Sailesh Tummala is an orthopaedic surgeon at Stanford Health Care and a clinical assistant professor at Stanford University School of Medicine with fellowship training in sports medicine and shoulder surgery. A former collegiate basketball player, he cares for athletes and active patients of all ages and emphasizes nonoperative care while also offering minimally invasive and complex reconstructive surgery. He has authored more than 100 peer-reviewed papers and has received grant funding for his research. He assists with teams at all levels across the Bay Area, including the Stanford men's basketball and football teams.



Website
saitummalamd.com



Stanford profile
profiles.stanford.edu