

Everything You Need to Know About Sprained Ankles

An ankle sprain is a very common injury. If we have not experienced a sprained ankle personally then we almost certainly know someone who has. This is most likely due to the fact the ankle joint is the second most common body part to be injured during sports.¹ This article will cover what ankle sprains are, why they happen, and what treatment options are available.



Before we get into what an ankle sprain is, we need to understand the basic anatomy of the ankle.

Anatomy

Our ankles are made up of multiple ligaments that help to stabilize our joints and prevent our ankle bones from moving out of place.² The most common type of ankle sprain is a lateral ankle sprain.^{1,3} This means that the ligaments in your outer ankle get injured. These ligaments include: the **anterior talofibular ligament (ATFL)**, **calcaneo-fibular ligament (CFL)**, and the **posterior**

talofibular ligament (PTFL).³ It is possible for all of these ligaments to become injured however, due to anatomical location, the ATFL is the one that is most frequently injured.¹ In addition, it is still entirely possible for you to sprain your medial (inner) ankle, however it is pretty rare in comparison to a lateral ankle sprain.⁴

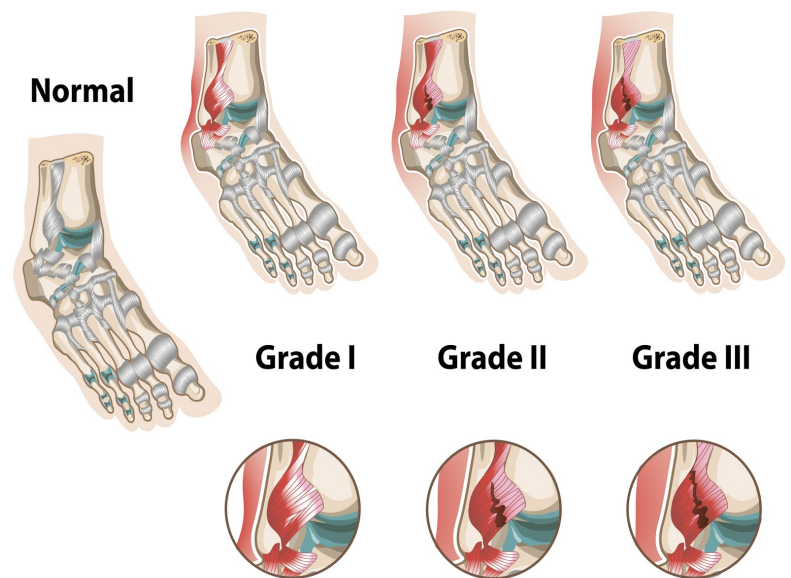
Now that we have gone over all the necessary anatomy, we can move onto what an ankle sprain is and why it occurs.

What is it?

An ankle sprain is when your ankle ligaments end up either stretching or tearing, due to being forced beyond their usual range of movement.⁵ There are three different grades of ankle sprains and they include^{2,6}:

- **Grade I (mild)**
 - Ligaments are only stretched not torn
 - Ankle is still relatively stable
 - Some pain and stiffness
- **Grade II (moderate)**
 - One or more ligaments are partially torn
 - Ankle is becoming unstable
 - Moderate swelling and pain
 - Abnormal looseness in the ankle joint with certain movements
- **Grade III (severe)**
 - One or more ligaments is completely torn
 - Ankle is unstable
 - Very limited range of motion
 - A lot of swelling and pain

Different Grades Ankle Sprain



So what causes it?

A sprained ankle is caused by a sudden twisting, turning, or rolling movement of the ankle. These movements then cause the ankle joint to move out of its normal position.⁷

These movements can occur during a variety of activities like^{2,5}:

- Walking or exercising on an uneven surface
- Falling
- Another person stepping on your foot while you are running
- Landing weirdly on your foot after jumping or pivoting
- Making rapid shifting movements while one of your feet is planted

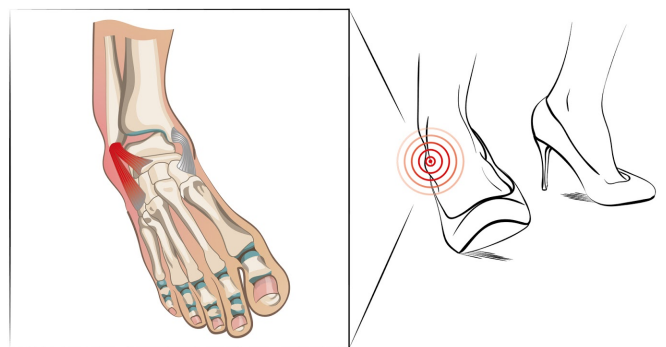


Are there any risk factors?

Some risk factors to take into consideration are^{5,6}:

- Being an athlete; most sports often require frequent quick changes of direction, also known as the **cutting action**, which increases your chances of twisting or rolling your ankle.
- Uneven surfaces
- Having sustained previously an ankle sprain or injury
- Having poor strength and flexibility in and around your ankle
- Wearing shoes that do not fit properly
 - High heels in general increase the risk of rolling or twisting your ankle
- Having balancing problems

Ankle Sprain



What does a sprained ankle look and feel like?

Symptoms of a sprained ankle may include:

- Pain and tenderness in the ankle^{2,5}
- Swelling^{2,5}
- A throbbing sensation⁴
- Bruising^{2,5}
- Restricted range of motion and stiffness⁵
- Instability in the ankle²
- Redness and a feeling of warmth in the ankle⁶
- Trouble walking and weight bearing in general^{6,7}
- Hearing or feeling a pop or snap at the time of injury; this is usually only in severe cases⁵



How is it diagnosed?

To diagnose an ankle sprain, your healthcare provider will start with a physical exam.² They will gently press around the affected ankle (palpate) to test for pain, check for tenderness, and to help determine which ligaments are injured. They also may decide to assess your range of motion by passively moving your ankle in different directions.

Your healthcare provider may also recommend that you go for imaging tests.

- **X-rays** are mainly used to rule out any broken bones and fractures⁵
- **MRIs** are only used if the doctor suspects that the injury is severe like a fully torn ligament, small bone chips, or damage to the cartilage^{2,6}
- **Ultrasounds** allow your doctor to view the ligament(s) while they move the ankle around^{2,5,6}
- **CT scans** can also be used to rule out any damage to the bone^{5,6}

How is it treated?

The treatment you will receive depends on the severity of your ankle sprain and which grade classification it falls under.

Treatment for a grade I mild ankle sprain will most likely include:

RICE Protocol^{2,5}

- Effective only for the first 2-3 days
- R- rest, avoid activities that may cause pain, swelling, and/or discomfort
- I- ice, use an ice pack for 15-20 minutes 3-4 times daily
- C- compression, use either dressings or bandages to wrap the affected ankle. This helps to immobilize and support the ankle as well as prevent swelling.
- E- elevation, this is another way to help reduce the swelling. Make sure to elevate your ankle above the level of your heart by using a pillow.



Assistive devices like **crutches** may also be needed for the first 2-3 days after injury since swelling and stiffness is at its worst during this time frame.²

For grade II and grade III ankle sprains, in addition to the treatments listed above, your healthcare provider may also recommend:

Medical devices⁵

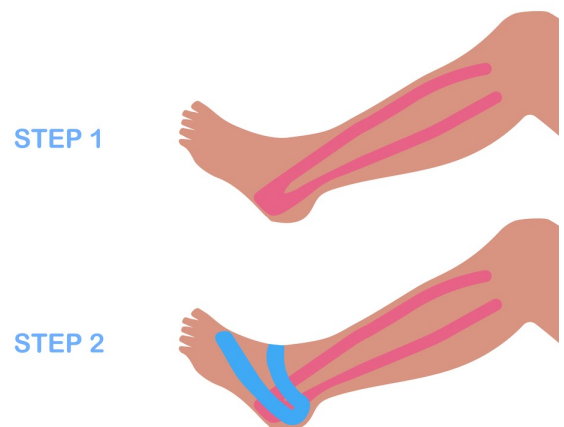
- Sports/ kinesio tape
- An ankle support brace to help with stability
- Cast or walking boot; only used in severe cases when the ankle needs to be immobilized

Physiotherapy⁴

Your treatment will depend on what they find during the assessment and may include:

- Reducing pain and swelling
 - The use of modalities such as ultrasound therapy, electrical stimulation, ice and heat therapy, and acupuncture

LATERAL ANKLE SPRAIN



- Improving motion and flexibility
 - Restore your full range of motion and prevent any stiffness
 - You will start off with passive exercises then you move onto active exercise that you can perform yourself
- Improving strength and muscular endurance
 - Various exercises will be assigned to you to help regain strength in the muscles and tendons in your ankle and lower leg
 - Muscular endurance will also be restored through these exercises so you can return to normal activities, like biking
- Improving balance
 - Poor balance can lead to another sprain and instability in the ankle
- Restoring and improving agility
 - For those involved in athletics, this is important for a return to sports since there are many cutting movements, pivoting, and sudden changes of direction
- Introducing a home program
 - Your physio will teach you a home exercise program that will focus on strength, mobility, and pain reduction to avoid future injuries
- Return to sport/activities
 - Your physio will guide you and provide training on performing certain tasks/activities that you would like to get back to, so as to prevent further and future injury.

Surgery²

Surgical intervention is only used as a last resort if you are still experiencing persistent ankle pain and instability after trying all non-surgical treatments.

Surgical treatment may include:

- Arthroscopy
 - Removes any loose fragments of bone or cartilage or parts of the ligament that may be stuck in the joint
- Reconstruction
 - Repairs the torn ligament with either stitches or sutures
 - Or replaces the torn ligament with a tissue graft taken from ligaments and/or tendons found in the foot and ankle

Exercises

1. Heel raises

Stand up straight facing a high, supportive surface. Place your hands onto the surface and ensure your legs are hip-distance apart. Using your arms to assist the movement, rise up onto the balls of both feet. Your heels should come away from the floor. You can vary how much or how little your legs do by increasing or decreasing the support of your arms. Control the movement as you lower back down, and repeat. Complete 2 sets of 5 reps.



2. Ankle Alphabet

Sit down with your legs extended or hanging off the table. Draw the capital letters of the alphabet with your ankle, accentuating all of the ranges of motion. Repeat 2-3 times.



3. Calf stretch

Stand up straight facing a wall. Step your affected leg back behind you. Keep the heel on the floor and the toes pointing forwards. Bend the front knee, moving your body forwards, until you feel a stretch in the back of the calf. Make sure your heel does not come off the floor and your back knee does not bend. Hold for 10-15 seconds and repeat 3-5 times.



What Next?!

If you think you have a sprained ankle or have been diagnosed by a doctor, you should see a physiotherapist. Together we can come up with a treatment plan that works best for you! Email us at informphysio12@gmail.com or call us at (905)-851-1400 for more information!

Disclaimer

The information provided on this account is general information only. The content provided is not medical advice, a diagnostic tool, a treatment plan, or therapeutic care. It is not intended to change or replace any advice, a diagnosis, and/or treatment you have been given from your healthcare team. Always speak to your healthcare provider if you have any questions or concerns that you think may be relevant to you.

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