

Ankle sprain

What is a sprained ankle?

Ligaments are strong bands of tissue that help to support and stabilise joints by connecting one bone to another. Ligaments on the outside of the ankle are most commonly injured when they get overly stretched, twisted or torn when the foot rolls outwards. This type of injury is called an inversion ankle sprain. Common reasons why this can occur include walking on uneven surfaces, stepping awkwardly in high heeled shoes, jumping from a height or playing sport. This is a very common injury with an estimated 5000 cases per day in the UK. Most cases will improve within 6-8 weeks. You are at a higher risk of an ankle sprain if it has happened before. Following specific advice can help in the recovery process and can reduce the chances of recurrence.

Depending on the severity, ankle sprains can be graded as follows:

- **Grade I** – a stretching or partial tear to the ligament without joint instability. Weight-bearing is not prevented.
- **Grade II** – A more significant tear (partial rupture) to the ligament. Weight-bearing is more difficult.
- **Grade III** – a complete tear (rupture) with instability and the inability to bear weight.

You may need your ankle x-rayed if there are concerns that you may have broken your ankle.

Symptoms of a sprained ankle

If you have sprained your ankle it is likely that you will experience the following:

- **Pain** – particularly with movement of the ankle, standing or walking.
- **Inflammation** – the swelling will occur quite soon after injury.
- **Bruising** – this may take hours or even days to appear.

Inversion sprain



- **Restricted mobility** – you may find it difficult initially to undertake your normal day-to-day activities, including walking.

Treatments for a sprained ankle

Inadequate or lack of treatment following an ankle sprain can lead to chronic problems such as decreased range of motion, pain and ankle joint instability. It is therefore recommended that you adhere to these treatment guidelines. The immediate goals of treating ankle sprains are to reduce the pain and swelling and to protect the ankle from further injury. The aim is also to be able to regain normal use of the ankle as quickly as possible.

Self management

As with most acute sprains and strains, the 'PRICE' treatment protocol is recommended as well as the avoid 'HARM' advice:

- P** - **protect** your ankle from further injury. A lace-up shoe with supportive high sides or walking boot is advised.
- R** - **rest** your ankle for the first 2-3 days. Limit your level of weight-bearing. Your health professional may suggest the use of crutches. Do not attempt to continue playing sports or walking long distances.

I - the application of **ice** will help to reduce the pain and swelling. An ice pack or ice/ small frozen vegetables wrapped in a towel is ideal (do not apply ice directly to the skin as this may cause an ice burn). Apply for 10-20 minutes. This can be repeated several times per day for the first 2-3 days, though leave at least 2 hours between applications.

C - **compression** by way of a tubigrip or elastic bandage is commonly recommended to help minimise initial swelling. Recent research suggests that a lace-up or semi-rigid supports can be beneficial in aiding return to normal function.

E - a further way to help minimise swelling is to keep your foot **elevated** as much as possible. When seated, ensure that your foot is kept higher than your hip. When lying, place a pillow or cushion under your foot.

For the first 2-3 days you avoid causing **HARM**:

H - **avoid applying heat** such as hot water bottles, hot baths, heat packs as this will increase the blood flow to the ankle and will cause an increase in swelling/ inflammation.

A - **alcohol should be avoided** as this can lead to increased swelling by increasing the blood flow to the ankle.

R - **avoid running, or any other form of high impact activity, as this can cause further damage.** This should be for at least 3-4 weeks and will depend upon which sport you wish to return to. There should be a phased return and your health professional can work with you in developing a rehabilitation programme specific to your sport.

M - **massage can increase swelling** so it is best avoided for the first 2-3 days.

Medication

Paracetamol can be very effective at easing the pain. It is best taken regularly throughout the day for a few days rather than taking now and again. Follow the information provided with your medication. Anti-inflammatory medication such as Ibuprofen can help reduce pain and swelling. This type of medication can have side effects and is therefore not recommended for everyone. It is best to consult your GP or a pharmacist before taking. Your doctor may prescribe codeine if they feel it is necessary.

Further treatments

Exercises to restore function and strength usually begin 48–72 hours following the injury. Studies have shown that this treatment can enable a quicker return to normal activity levels.

Ankle circles

Sit on the floor or a chair with your leg in front of you. With your toes pointed away from you, draw a big circle with your toes. Do 5-10 circles in each direction, at least 3 times per day.

Alphabet letters

Imagining your big toe as a pencil, try to write the letters of the alphabet in the air. You can alternate between uppercase and lowercase. Aim to do this 2 or 3 times a day.

Pull toes up / point toes down

With your knee straight, pull your toes towards your head, hold for 10 seconds, then point toes away from you and hold for a further 10 seconds. Repeat this 10 times in both directions. Aim to do this 2-3 times a day.

Turn foot in / turn foot out

Turn the bottom of your foot inwards as far as you can and hold this position for 15 seconds. Now turn the bottom of the foot outwards as far as you can and again hold for 15 seconds. Do this 10 times in both directions. Aim to do this 2-3 times a day.

Further intervention

You should expect your ankle to be significantly better after about 6-8 weeks though some will take longer to heal than others. Factors such as your age, the severity of your injury, compliance to the treatment programme and your general health status will influence the healing rate.

If you are still experiencing significant discomfort after 6–8 weeks, it may be necessary for you to have your ankle reassessed. Sometimes there may be a torn ligament or small fracture that is not always possible to detect shortly after the injury due to the level of swelling and pain. Your doctor/health professional may recommend a scan of your ankle or an x-ray, even if you already had one initially after the injury.

Prevent further ankle sprains

Adhering to the rehabilitation advice, particularly the balance exercises, has been shown to help prevent further ankle sprains. It is advisable to wear boots with stiff uppers such as a sturdy walking boot when you are walking long distances, particularly over uneven terrain. You may benefit from wearing a lace-up or semi-rigid ankle support for high impact sporting activities, particularly if there is a previous history of ankle sprains.

Exercises to help treat ankle sprain

A Dorsiflexion



- In sitting position, pull toes up towards shin.
- Hold for 10 seconds.
- Repeat this exercise until your muscles feel tired. Stop if your pain significantly increases.

B Plantarflexion



- In sitting position, point toes away from you.
- Hold for 10 seconds.
- Repeat this exercise until your muscles feel tired. Stop if your pain significantly increases.

C Calf raises



- In standing position, push up onto tip toes and lower steadily.
- Repeat this exercise until your muscles feel tired. Stop if your pain significantly increases.

D Calf stretches



- Stand in a short stride position with your right / left leg forward.
- Keep your back leg straight then bend your front knee until you feel a tightness down the back of your calf.
- Hold for 30 seconds.

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