Ankle Joint Dislocation

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A **strain** refers to a painful condition of the ankle joint brought about by inflammation, overuse (or unbalanced) use. It includes inflammation of muscles and tendons such as the Achilles tendon at the back of the heel.

A **sprain** is an injury to the band which connects two or more bones to a joint. This band is called a ligament. A sprain is usually caused by the joint being forced suddenly outside its usual range of movement. Most sprains heal within a few weeks. A severe sprain may look and feel like a fracture, and it can be difficult for health professionals to tell the difference between the two.

Ankle pain may also arise from existing conditions of the joint itself, such as arthritis or gout, which may be aggravated by movement, impact or strain.

A sprain is an injury to a ligament. Ligaments are strong band-like structures around joints, which attach bones together and give support to joints. A ligament can be injured, usually by being overstretched during a sudden pull. The ligaments at the side of the ankle are the ones most commonly sprained.

A damaged ankle ligament causes inflammation, swelling, and bleeding (which shows as bruising) around the affected joint. Moving of the joint is painful. The picture shows a badly sprained ankle with fairly extensive bruising.

The severity of a sprain is graded according to how badly the ligament has been stretched and whether or not the ankle joint has been made unstable. The joint can become unstable when the damaged ligament is no longer able to give it the normal support:

Grade I - mild stretching of the ligament without joint instability.

Grade II - partial tear (rupture) of the ligament but without joint instability (or with mild instability).

Grade III - a severe sprain: complete rupture of the ligament with instability of the joint.

High ankle sprain (syndesmosis sprain)

This is one in which the ligament above the ankle joint is torn. This ligament links the two bones of the lower leg (the tibia and fibula).

It is particularly seen in sports such as skiing and football where injury results from going 'over' on the ankle at speed.

A high ankle sprain takes longer to heal compared to the usual type of ankle sprain, where the ligaments at the side of the joint are injured.

A high ankle sprain may be suspected if the joint is still painful more than six weeks after the original injury.

Another name for this type of sprain is syndesmosis sprain, because the ligament involved is also called a syndesmosis.

The main aims of treatment are:

To keep inflammation, swelling, and pain to a minimum.

To be able to use the ankle joint normally again as quickly as possible.

Usually, the damaged ligament heals by itself over time. Some scar tissue may be produced where there has been a tearing of tissues.

The treatment of a sprained ankle

The usual initial treatment is described as PRICE (**P**rotect, **R**est, **I**ce, **C**ompression, and **E**levation), together with avoiding HARM (**H**eat, **A**lcohol, **R**unning, and **M**assage). RICE has been updated by the National Institute for Health and Care Excellence (NICE) to PRICE - adding in P for **P**rotection at the start

These are commonly advised for the first 48-72 hours after a sprained ankle. This treatment must be balanced fairly early with early controlled weight-bearing and ensuring as normal a gait pattern as possible. This assists in retaining the power and balance of the muscles of the upper and lower legs and in maintaining a healthy posture. Painkillers may be needed.

For the first 48-72 hours think of:

RICE - Rest, Ice, Compression, Elevation. To this has been added P for Protect.

Do no HARM - no Heat, Alcohol, Running or Massage

PRICE

Protect from further injury (for example, by a support or high-top high-lace shoes).

Rest the ankle joint for 48-72 hours following injury. For example, use a bandage and/or ankle support, or a boot with high sides. It is important that the ankle is not rested for too long as this may delay recovery. In most cases, early controlled weight-bearing with the ankle well supported is

Ice should be applied as soon as possible after injury, for 10-30 minutes. (Less than 10 minutes has little effect. More than 30 minutes may damage the skin.) Make an ice pack by wrapping ice cubes in a plastic bag or towel, or by using a bag of frozen peas. Do not put ice directly next to skin, as it may ice burn. Gently press the ice pack on to the injured part. The cold is thought to reduce blood flow to the damaged ligament. This may limit pain, inflammation and bruising. Recommend re-applying for 15 minutes every two hours (during daytime) for the first 48-72 hours. Do not leave ice on while asleep.

Compression with a bandage will limit swelling, and help to rest the joint. A tubular compression bandage or an elastic bandage can be used. The bandage should not be too tight - mild pressure that is not uncomfortable and does not stop blood flow is the aim. A pharmacist will advise on the correct size. Remove the bandage before going to sleep. You may be advised to remove the bandage for good after 48 hours, so that the joint can move.

Elevation aims to limit and reduce any swelling. For example, keep the foot up on a chair to at least hip level when you are sitting. (It may be easier to lie on a sofa and to put your foot on some cushions.)

When you are in bed, put your foot on a pillow

Avoid HARM for 72 hours after injury

That is, avoid:

Heat - for example, hot baths, saunas, heat packs. Heat encourages blood flow which will tend to increase bruising and inflammation. So, heat should be avoided when inflammation is developing. However, after about 72 hours, no further inflammation is likely to develop and heat can then be soothing.

Alcohol, which can increase bleeding and swelling and decrease healing. **R**unning, which may cause further damage.

Massage, which may increase bleeding and swelling. However, after 72 hours, gentle massage may be soothing

Other treatments

Do not stop moving the joint. Don't do anything that causes much pain, but gently get the joint moving again. The aim is to get the ankle joint moving in normal directions, and to prevent it becoming stiff.

Consider wearing an ankle support until symptoms have gone. There are various forms of ankle supports which can be used - from an elasticated bandage to a specialised brace. The aim is to give some support to the joint whilst the damaged ligament is healing, but to allow the ankle to move to a reasonable degree

Physiotherapy may help for more severe sprains, or if symptoms are not settling. A physiotherapist can advise on exercises and may give heat, ultrasound, or other treatments. The aim of physiotherapy includes:

To get the ankle joint back to a full range of normal movement. To improve the strength of the surrounding muscles. The stronger the muscles, the less likely it is that a sprain will happen again. Improving proprioception. This means the ability of your brain to sense the position and movement of your joints. Good proprioception helps you to make immediate, unconscious minor adjustments to the way you walk when walking over uneven ground. This helps to prevent further sprains, and is achieved through special exercises. You should not play sport or do vigorous exercise involving the ankle for at least 3-4 weeks after a sprain

Treatment of severe sprains

Extra treatment may be needed for some types of ankle sprain:

Severe sprains (where the ligaments are badly torn (ruptured) or the joint is unstable).

A high ankle sprain, where the ligament above the ankle joint is torn

There is some evidence that these types of sprain may heal more quickly if treated with a short period of immobilisation. This means wearing a brace or a plaster cast on the lower leg and ankle for a few weeks.

In some cases, if ligaments are very badly torn or the joint is too unstable, surgery may be advised. Your doctor will assess if this is necessary (but it is not needed in most cases).

If the sprained ankle is still very painful six weeks after the original injury, you may be advised to have additional tests on the joint, such as a further X-ray or scan. Sometimes there are torn ligaments or small breaks (fractures) which do not show up at when the injury first happens. The ankle may initially have been very swollen and small additional points of damage might have been difficult to detect.

About medication

You may not need any medication if the sprain is mild and you can tolerate the pain. If needed, painkiller options include the following:

Anti-inflammatory painkillers,

if the injury is severe,

You suspect a bone may be broken or a ligament is ruptured.

You have a lot of tenderness over a bone.

The leg or joint looks out of shape (deformed) rather than just swollen. This may mean there is a break (fracture) or dislocation which needs urgent treatment.

There is loss of circulation in the foot (a numb, cold foot with pale or bluish skin). If this occurs, treatment is urgent. The pain is severe . You cannot walk or weight bear because of the injury

Bruising is severe.

The joint does not seem to work properly or feels unstable after the pain and swelling have gone down. This may be a sign of an additional injury such as a torn tendon.

Symptoms and swelling do not gradually settle. Most sprains improve after a few days, although the pain often takes several weeks to go completely, especially when you use the injured joint.


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Portable

Gait: Enquire if the patient can walk without a supportand be prepared to provide support for elderly patients and those who may unsteady on their feet. Ask the patient to walk as per their normal gait. Observing the gait from the front and the back help to assess the shoulder and pelvic tilt. Looking from at the hip movements, knee movements, initial contact, three rockers, stride length, cadence and antalgesia. The patient should then be asked to walk on his/her tiptoes, then heels, inner borders and finally the outer borders of the feet.

Look: Start with meticulous inspection of the sole then

the rest of the foot. Look for skin discoloration, scar, ulcer, lack of hair (circulatory changes), nails, any skin

thickening (callosity), hard/soft corns and any signs of

infection

Feel: First ask the patient if there are any areas which are painful to touch, so you can try to avoid causing pain during the examination. Then you start with gentle feel of the skin temperature, always comparing to the other side

Move: Start with active movement by asking the patient

to perform dorsiflexion, plantar flexion, inversion, and

eversion

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