

# Sprains

A sprain is a ligament injury. 'RICE' (Rest, Ice, Compression, and Elevation) is commonly advised for the first 2 days after injury. Painkillers may be needed. Most sprains heal over a few weeks. Physiotherapy or surgery may be needed for severe sprains.

## What is a sprain?

A sprain is an injury to a ligament. Ligaments are strong tissues around joints, which attach bones together. They give support to joints. A ligament can be stretched during a sudden pull. This may partly tear some of the fibers in the ligament. Occasionally, a ligament may fully tear (rupture).

A damaged ligament causes inflammation, swelling, and bleeding (bruising) around the affected joint. Movement of the joint is painful. The aims of treatment are to keep inflammation, swelling, and pain to a minimum, and to be able to use the joint normally again as quickly as possible.

## Treatment of a sprain for the first 48 hours

Think of RICE - Rest, Ice, Compression, Elevation

- **Rest** the affected joint for 48 hours after injury.
- **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. (Do not put ice directly next to skin as it may 'ice-burn'.) A bag of frozen peas is an alternative. Gently press the ice pack onto the injured part. The cold from the ice is thought to reduce blood flow to the damaged ligament. This may limit pain and inflammation.
- **Compression** with a bandage will limit swelling, and help to rest a joint. A tubular compression bandage is used for most joints. Mild pressure that is not uncomfortable, and does not stop blood flow, is ideal. A pharmacist will advise on the correct size.
- **Elevation** will limit and reduce any swelling. For ankle and knee sprains, keep the foot up on a chair to at least hip level when you are sitting. (It may be easier to recline on a sofa and to put your foot on some cushions.) When you are in bed, put your foot on a

pillow. For hand or wrist sprains, use a sling with your hand and wrist higher than your elbow.

### **Treatment of a sprain 48 hours after injury and beyond**

- **Movement should replace rest.** For most minor sprains this will simply mean starting to use it more freely. Don't do anything that causes too much pain, but gently get the joint moving again. Sometimes it means doing gentle exercises several times a day. The aim is to ensure the joint moves around in all normal directions, and does not become stiff. Sometimes a specific exercise program is helpful for sports people, or for severe sprains. However, you should not play sport or do vigorous exercise involving the sprained joint for 3-4 weeks after an injury.
- **Compression bandages should not normally be used** after 48 hours. They limit the movement of the joint, which you should now be moving more freely.
- **Heat and massage** may be soothing. These have the opposite effect on the blood flow than ice. That is, they encourage blood flow. This helps the healing process. But, you should not use heat within the first 48 hours after injury when inflammation is developing. You can apply heat by using a hot water bottle, soaking in a warm bath, or using a hot flannel or cloth.
- **Physiotherapy** may help for more severe sprains, or if symptoms are not settling. A physiotherapist may advise on exercises and give heat, ultrasound, or other treatments.
- **Ruptured (torn) ligaments, and other severe sprains sometimes require surgery.**

### **Medication for sprains**

- **No medication may be needed** if the sprain is mild.
- **Painkillers** such as Tylenol are useful to ease pain. It is best to take Tylenol regularly, for a few days or so, rather than every now and then. An adult dose is two 500 mg tablets, four times a day. A doctor may prescribe additional painkillers such as codeine if the pain is more severe.
- **Anti-inflammatory painkillers** are an alternative. These relieve pain and may also limit inflammation and swelling. You can buy Ibuprofen at pharmacies without a prescription. Others are available only on prescription. Side effects sometimes occur with anti-inflammatory painkillers. Stomach pain, and bleeding from the stomach, is the most serious. Some people with asthma, high blood pressure, kidney failure, and heart failure may not be able to take anti-inflammatory painkillers.

### **See a doctor if:**

- You have a lot of tenderness over a bone.
- The pain is severe, or if you cannot walk because of an injury.
- Bruising is severe.
- Symptoms and swelling do not gradually settle. Most sprains improve after a few days, and the pain eases. However, the pain may take several weeks to go completely, especially when you use the injured joint.

## **Preventing sprains**

Always warm up before doing vigorous exercise. Ankle sprains are, by far, the most common sprain. Use good supporting footwear for sport. Do not do occasional bouts of vigorous exercise. Instead, aim for a general and steady build-up to fitness.