



Pharmaceutical  
Society of Australia



# Sprains and Strains

**Sprains and strains are injuries to muscles, tendons and ligaments. They are very common sports injuries, but can also happen during normal daily activities. Correct treatment given promptly leads to the best possible recovery in the shortest possible time.**

## Muscles

A **strain** (or pulled muscle) involves stretched or torn muscle fibres causing pain, reduced movement and sometimes swelling. A strain often causes some bleeding within the muscle, leading to contusion (bruising) or haematoma (blood clot). Muscle strains often also involve tendon damage.

## Tendons

Tendons join muscles to bones. **Tendonitis** is inflammation of a tendon. It causes pain and tenderness near a joint. Tendons are surrounded by a protective sheath. **Tenosynovitis** is inflammation of the tendon sheath. It causes pain, swelling and sometimes a grating sensation or crackling sound when the joint is moved. Tendonitis and tenosynovitis are usually due to a strain, injury or overuse (e.g., tennis elbow).

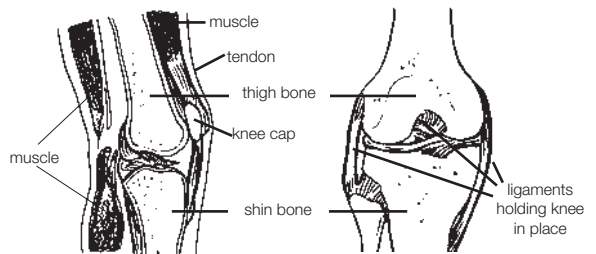
## Ligaments

Ligaments join bones to bones to help form and stabilise joints. A **sprain** involves stretched or torn ligaments (and other tissue that holds a joint together) usually due to twisting or wrenching (e.g., sprained ankle). A sprain causes pain, tenderness and swelling around the joint, sometimes followed by bruising and difficulty with movement.

## First aid

RICER first aid should be followed for the first 48-72 hours after injury.

- **R**est and support the injured part for at least 48-72 hours to protect from further damage.
- **I**ce the injury for 20 minutes every two hours for as long as the area around the injury feels



Knee from side

Knee from front

hot. Use ice blocks, a pack of frozen peas, or a cold pack. Wrap in a damp cloth to avoid 'burning' the skin. Ice reduces pain, inflammation and bruising.

- **C**ompression – apply a firm, wide, elastic bandage to reduce swelling and bleeding. The bandage should extend well above and below the injury and should not be too tight (do not cut off circulation). When using an ice pack, hold it in place with the bandage.
- **E**levation – if possible, keep the injured part above the level of the heart, to reduce swelling and bleeding. This is most important in the first 24-48 hours and while applying ice.
- **R**efers to a doctor or physiotherapist for advice and ongoing care.

**Note:** If any part of the hand is injured, remove rings from fingers immediately, in case swelling occurs.

## Medicines

Medicines can help reduce pain and swelling – ask a doctor or pharmacist for advice.

- Pain relievers (e.g., paracetamol, codeine) can reduce pain.

- Non-steroidal anti-inflammatory drugs (NSAID (e.g., aspirin, ibuprofen, naproxen, diclofenac) can reduce pain and inflammation. They are available as tablets, gels, creams and sprays.

**Note:** Aspirin should not be given to children under 16 years of age, unless advised by a doctor.

- Liniments and heat rubs can help reduce pain and stiffness. Avoid for first 48-72 hours after injury or while injury is still swollen or warm.
- Local anaesthetic sprays can numb the pain.

## Self care

### Preventing injury

- Wear correct footwear and clothing when playing sport or exercising.
- Stay flexible with regular stretching exercises.
- Maintain proper physical fitness for sport.
- Warm up prior to sport or vigorous activities. A warm up should involve 5-10 minutes of light activity (e.g., walking).
- Stretch before and after moderate exercise – warm up before stretching.

### Important

It can be difficult to know if an injury is a sprain, break or dislocation. Support the injured part and consult a doctor if:

- Injury swells immediately, with severe pain
- Any part of the injured area is numb
- Excessive range of movement in any joint
- Injury is to a child under 12 years or an elderly person
- Injured part is unable to support any weight
- Pain and swelling does not reduce after 2-3 days.

For the first 48-72 hours after an injury, or while the injury still causes severe pain and is swollen, follow NO HARM:

- No Heat – it increases bleeding
- No Alcohol – it increases swelling and bleeding
- No Running or Exercise – it can make the injury worse
- No Massage – it increases swelling and bleeding.

- Cool down after exercise by gradually reducing your activity level and then stretching.
- Run on even surfaces.
- Keep to a healthy weight.
- Eat regular, healthy meals, including plenty of fruit, vegetables and grains. Limit foods high in fat, sugar or salt.
- To reduce your risk of falls, have your eyesight and balance checked and secure loose mats and rugs around your home.

**Note:** Some medicines can make you dizzy or slow your reactions – ask a pharmacist.

### Recovering from injury

- As pain and swelling reduce, gently and gradually increase your level of movement (e.g., progress from walking to running).
- Supportive strapping of injured part may be necessary to reduce risk of reinjury.
- Strains and sprains can take from two to 12 weeks or more to heal completely.

Ask a doctor or physiotherapist for advice.

### Related fact cards

- *Exercises for Flexibility*
- *First Aid in the Home*
- *Pain Relievers*
- *Preventing Falls*

### For more information

**A physiotherapist** – consult your nearest public hospital, local Community Health Centre or the yellow pages of the phone book.

**HEALTHInsite** – website [www.healthinsite.gov.au](http://www.healthinsite.gov.au)

**Sports Medicine Australia** – phone (02) 6241 9344 or website [www.sma.org.au](http://www.sma.org.au)

**St John Ambulance** – website [www.stjohn.org.au](http://www.stjohn.org.au)

**Consumer Medicine Information (CMI)** leaflets – your pharmacist can advise on availability.

**NPS Medicines Line** – phone 1300 888 763 Monday to Friday, 9am to 6pm EST.

**The Poisons Information Centre** – in case of poisoning phone 131 126 from anywhere in Australia.

Pharmacists are medicines experts. Ask a pharmacist for advice when choosing a medicine.

Your **Self Care** Pharmacist