

## Treating inflammation with PRICE - immediately after injury and for 3-5 days afterwards

Tissue injury usually involves damage to small blood vessels that results in bleeding at the site of injury. This bleeding leads to the five main signs of inflammation: heat, redness, swelling, pain and loss of function. The inflammatory reaction is necessary as it is part of the natural healing process. However the body tends to overreact to sudden traumatic injury and as a result more inflammatory fluid accumulates than is necessary for healing. This fluid contains a protein that turns into replacement 'scar' tissue. Too much scar tissue may prevent the structure returning to normal function with reduced flexibility and increased risk of re-injury. The advice below should be followed for 3-5 days depending on severity. It can be remembered by the acronym **PRICE**.

- **PROTECT** - Protect the injured tissue from undue stress that may disrupt the healing process and/or cause further injury. Make sure the mode of protection can accommodate swelling.
- **REST** - This reduces the energy requirements of the area, avoids any unnecessary increase in blood flow, ensures protection of the area and optimises healing. For example using slings, crutches or static rest (ie. sitting or lying down).
- **ICE** - The ice helps constrict the blood vessels thereby limiting bleeding and reducing the accumulation of unnecessary scar tissue. Crushed ice wrapped in a damp towel (to prevent ice burn) is best (ice cubes can be wrapped in the cloth and smashed against a wall to crush the cubes). Ice should be applied immediately after injury for 20 minutes every 3-4 hours or no more than 5-10 minutes at a time on bony areas.
- **COMPRESSION** - Simple off-the-shelf compression bandages such as Tubigrip™ and adjustable neoprene supports are adequate. It is important to ensure the bandages are not too tight to cause pins and needles or any loss of feeling around the joint.
- **ELEVATION** - Lowers the blood pressure and helps limit bleeding and encourage drainage of fluid through the lymphatic system.

When following **PRICE** it is also important to avoid **HARM**, hence the saying: 'Give **PRICE** and avoid **HARM**'.

### AVOID

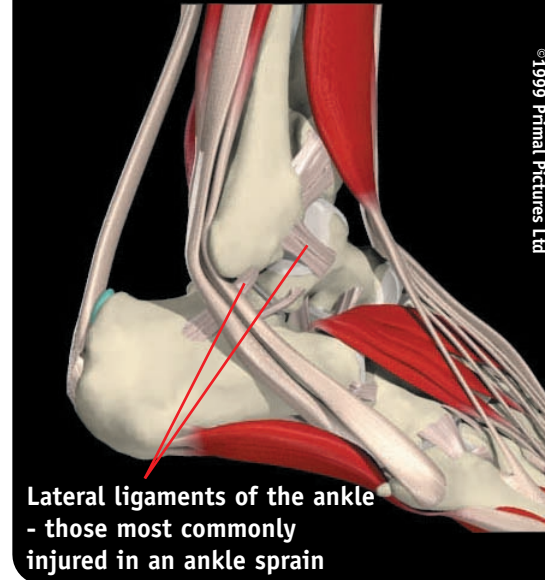
**H** - Heat (eg. hot bath, sauna)  
**A** - Alcohol  
**R** - Running  
**M** - Massage



these are counter-productive to **PRICE** treatment

## Exercises for ankle sprains

Diagram showing the lateral ligaments of the ankle



### USEFUL RESOURCES

- SportEX Medicine magazine [www.sportex.net](http://www.sportex.net)
- The Organisation of Chartered Physiotherapists in Private Practice - [www.physiofirst.org.uk](http://www.physiofirst.org.uk)
- General Osteopathic Council [www.osteopathy.org.uk](http://www.osteopathy.org.uk)
- The Sports Massage Association [www.thesma.org](http://www.thesma.org)
- The Osteopathic Sports Care Association [www.osca.org.uk](http://www.osca.org.uk)

### YOUR INJURY

'Sprains' or ligament injuries of the ankle joint occur frequently in both sporting and non-sporting situations. The dual role of the ankle in weight-bearing and in mobility make it particularly susceptible to injury. Ligament damage can take several forms ranging from minor to major damage.

- Grade 1 - mild sprain with no instability
- Grade 2 - incomplete tear with mild instability
- Grade 3 - ligament rupture with significant instability

Injury to ligaments will cause pain and inflammation and possibly limit future function if correct rehabilitation is not carried out.

### WARM UP & WARM DOWN

When injured it is particularly important that you warm up with a fast walk (at a pain free pace) for 3-4 minutes before you start your exercises. This increases your circulation and helps prepare your muscles for the activity to come. When you have finished your exercises, it is important to allow your heart rate to slow down gradually by ending the session with a gentle walk.

# Exercises for ankle sprain rehabilitation

## The first 24-48 hours

If there is extensive injury, it is important to get medical advice to gain a positive diagnosis and treatment.

Follow the PRICE guidelines on the back page immediately after injury and for up to 3-5 days after injury.

### Your rehabilitation programme

This exercise programme has specific exercises to strengthen muscles around the ankle as well as improve balance and joint position sense (proprioception) of your ankle. In order to achieve proper rehabilitation of your injury it is important to ensure the exercises are performed with good technique. Poor practice may place potential strain on your injury. The following leaflet includes some exercises to help in your rehabilitation.

## 48 hours - 3 weeks

### Mobility exercises Repeat each exercise 10 times on the injured ankle.

**1 Toe flex**  
Lie down on your back, point your toes down and then up towards the ceiling

**2 Sole to sole and out**  
Lie down on your back or sit on a chair, turn the soles of feet in against each other and then away from each other

**3 Foot circles**  
Circle the foot clockwise and anti-clockwise in a sitting or lying position

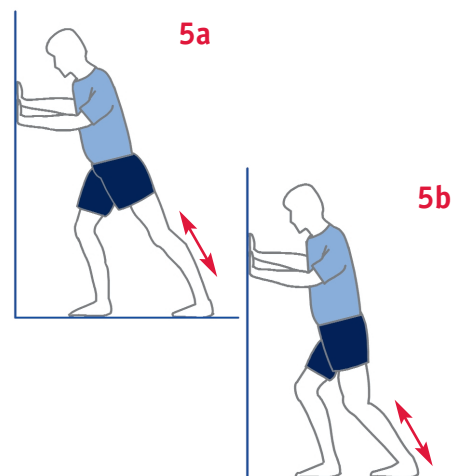
**4 Toe crunches**  
Sit on a chair, and use your toes to crumple a towel

## Static stretching exercises

### Guidance for stretching exercises

Hold all the stretches for 20 seconds each and repeat them five times on each leg. It is important to stretch the uninjured muscles so that both legs reach a similar point of flexibility.

**5 a) Gastrocnemius and b) Soleus stretch**  
Take the position on the right with your feet pointing forwards and heels in contact with floor. Bend the front knee and straighten the back one keeping your head up and hips forward. Keep heels in contact with the floor  
b) bend the back knee slightly to change the stretch to the soleus muscle



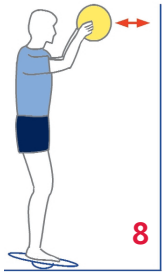
## Balance and co-ordination exercises

Do exercises 6-9 holding each one for 15 seconds, progressing to one minute as your ankle gets stronger.

**6 Single leg balance**  
Standing on one leg (injured). When you can achieve this comfortably progress to holding your arms out to the side while balancing on the injured leg and then progress to closing your eyes.

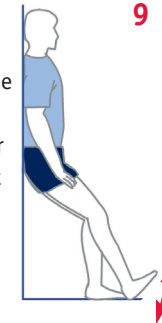
**7 Balance board**  
Stand on a balance board (your local hospital physiotherapy department will have these boards)

**8 Dynamic balance board**  
Stand on balance board – throwing and catching a ball against a wall or with a partner.

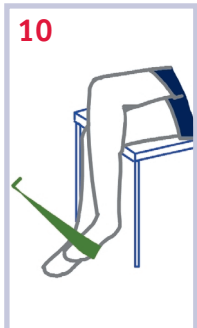


## Strengthening exercises

**9 Toe raising and lowering**  
Raise and lower the toe slowly, make sure you keep your hip, knee and foot in line with each other. Repeat 3 sets of 30.



**10 Alphabet**  
Draw the alphabet with a theraband wrapped around your foot. You should be pulling outwards against the theraband at all times. The letters should be drawn as large as possible (Fig.10). Do the exercise at a number of speeds and progress by adding repetitions until three sets of A-Z are easy



### Progression speed

Your therapist will advise you on the speed you should progress on the strengthening/movement control and proprioception progression programme. Progression is not just about being able to do the exercise but to do it correctly, with appropriate control. Remember poor practice leads to poor performance and potential strain on your injury. If at any time you feel pain or discomfort stop the exercises and consult your therapist.

### PRACTITIONER CONTACT DETAILS