

**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 local blood vessels and reduces cell activity which helps limit bleeding and reduce 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** - For the greatest effect, the injured part should be higher than the level of the heart. This helps lower the blood pressure, 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

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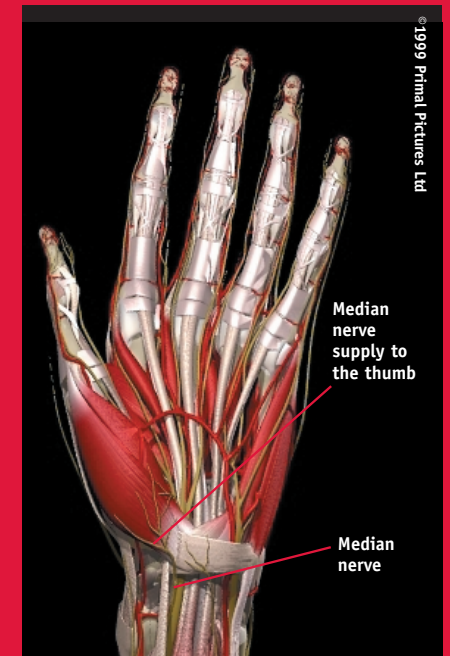


**EXERCISES FOR**

**CARPAL TUNNEL SYNDROME**

**YOUR INJURY**

Carpal tunnel syndrome is a form of repetitive strain injury (RSI) and is the result of damage to soft tissues (eg. tendons) and sometimes bones in the wrist which causes inflammation and swelling in a very restricted area. This swelling creates pressure on the median nerve in your wrist which may result in pain, tingling and numbness in your hand, wrist and also your thumb and fingers. In addition to injury of structures of the wrist, this swelling may also be caused by medical conditions such as arthritis and diabetes and may also occur during pregnancy, which in the latter case is likely to disappear after delivery. The condition is particularly common in people who use their hands repetitively such as those working on computers or assembly lines. The pain may get worse the more you use your hands. If you do repetitive work with your hands it is important to make sure you are comfortable during this work. Your physiotherapist will be able to give you information on how to make the necessary adjustments. If it is caused by a medical condition, treatment of the condition may help.



View showing the palm of the hand and wrist including the median nerve.

**TREATMENT OPTIONS**

- If you have a medical condition which may be causing the discomfort then treatment options for this condition may help.
- Applying an ice pack for 5-10 minutes every 1-hour in the early stages of the pain/numbness may help reduce the swelling and therefore the pressure on the nerve.
- Try and keep your wrist elevated when possible to reduce the potential for swelling in your wrist. When you lie down this may mean resting your hand on pillows.
- A wrist splint will help limit movement of your wrist which may help reduce the pain and risk of further swelling.
- Where possible stop any activities which make your symptoms worse.
- Ask a therapist or occupational health advisor for advice on how you can modify your work station and/or the activities that cause the pain.
- A doctor or therapist may suggest a treatment involving an injection of steroids into the carpal tunnel area to reduce inflammation.
- In some cases surgery may be necessary but only after all non-surgical methods have been exhausted
- The exercises on the following page are designed to improve the flexibility and strength of your wrist.

PRACTITIONER CONTACT DETAILS

**STRENGTHENING AND STRETCHING EXERCISES**

Specific stretching and strengthening exercises can help if carried out at the right stage of rehabilitation. Seek medical advice before attempting them. The exercises should be pain free. If you experience pain reduce the stretch or stop the strengthening exercise and seek advice from a medical professional.

**STRETCHING EXERCISES**

**1. Wrist flexion stretch**

Hold the affected wrist as shown and bend the wrist gently forward until you feel a stretch in the forearm. If this stretch causes pain then reduce the stretch. Hold for 5-10 seconds and do 10 repetitions twice a day.



**2. Wrist extension stretch**

Hold the affected wrist out in front of you and use your other hand to press the fingers of this arm back. Hold for 5-10 seconds. Do 10 repetitions twice a day.



**STRENGTHENING EXERCISES**

**1. Grip strengthening**

Squeeze a squash ball and hold for 5 seconds before releasing the grip. Do this 20 times per day. Note: this exercise must be done with the back of the hand in alignment with the forearm.



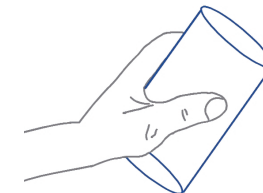
**2a+b. Wrist strengthening**

or the strengthening exercises 2a+b you can use either an elasticated tube or band available from most sports stores. The band needs to be fastened to the floor (you could stand on it). Alternatively use a household object which can be easily grasped such as a can. As your wrist

improves in strength you will need to increase the weight of the object you are holding. If you are using an elasticated band you can increase the tension or double the band before you start the exercises.

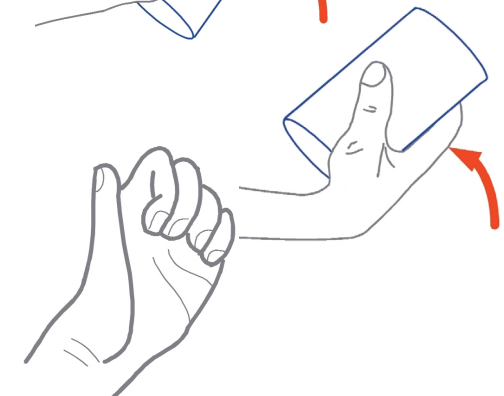
**2a. Wrist extension**

Hold onto your object/band with your palm facing down, bend the wrist up. Hold for 5-10 seconds. Do 10 repetitions twice a day.



**2b. Wrist flexion**

Hold onto your object/band this time with your palm facing up, bend the wrist up. Hold for 5-10 seconds. Do 10 repetitions twice a day.



**3. Finger curl**

Hold the affected wrist out as if to shake someone's hand. Bend your fingers at the middle joint as shown in the diagram. It should just be the top parts of your fingers that bend, Hold for 5-10 seconds. Do 10 repetitions twice a day.