

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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ADVICE FOR

'TENNIS ELBOW' INJURY

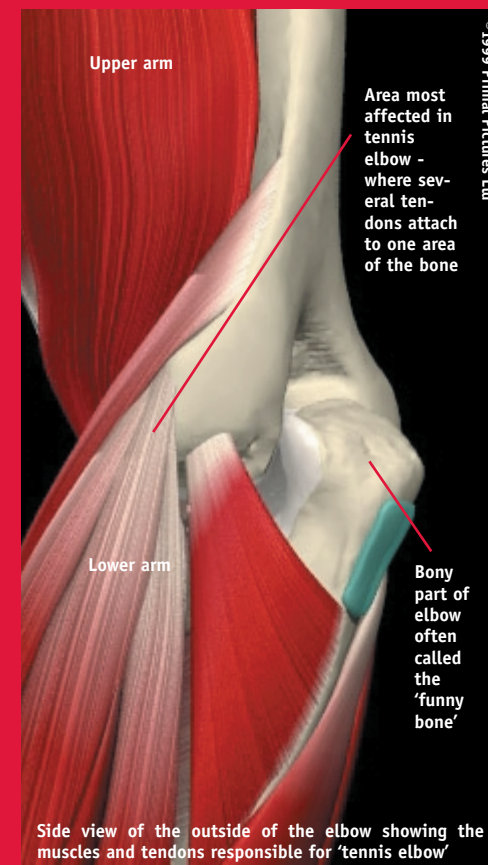
YOUR INJURY

Tennis elbow (lateral epicondylitis) is an inflammation of the outer elbow where the tendon attaches to the bone. It is caused by the repetitive movements and the gripping actions common in tennis hence the term 'tennis' elbow. However it may also occur in other activities requiring repetitive gripping actions. Lateral epicondylitis affects 40-50% of recreational tennis players, most often those over the age of 30. Unfortunately rest as a treatment is rarely helpful.

WARM UP & WARM DOWN

When injured it is particularly important that you warm up with a brisk walk for 3-4 minutes before you start any exercises. This increases your circulation and helps prepare your muscles for the activity to come. This is just as important whether your injury is to the upper or lower limb.

When you have finished your exercises, it is also important to allow your heart rate to slow down gradually by ending the session with a gentle walk for 3-4 minutes.



Side view of the outside of the elbow showing the muscles and tendons responsible for 'tennis elbow'

FACTORS CONTRIBUTING TO TENNIS ELBOW

- 🔗 Age 30+
- 🔗 Frequency of play
- 🔗 Force and flexibility of forearm extensors ie. tightness of grip
- 🔗 Unskilled players are more prone
- 🔗 Racket factors ie. weight, string tension, grip size and cushioning, head size
- 🔗 Older balls
- 🔗 Poor technique
- 🔗 Single-handed backhand

PREVENTION

There are modifications you can make to your tennis equipment to help reduce the risk of your tennis elbow injury recurring. If the injury is not due to tennis, the same principles can be applied to other equipment that may be causing the problem.

- 🔗 Try a lighter racket
- 🔗 Increase grip size
- 🔗 Maybe use string vibration dampers
- 🔗 Have the string tension reduced
- 🔗 Ensure larger racket head size
- 🔗 Newer balls to play with
- 🔗 More flexible shaft needed
- 🔗 Allow balls to dry out if you have played in wet weather
- 🔗 New, softer grip material

WHEN YOU THINK YOU HAVE TENNIS ELBOW

1. Do not return to the activity responsible until you have sought medical advice.
2. Ice the elbow using a bag of peas or ice pack wrapped in a damp towel. Apply the ice over the affected area for five minutes. Repeat every 15 minutes if possible.
3. Take a full dose of anti-inflammatory medication such as Nurofen available from your chemist. Take for one week, then as required (provided you have no allergies or gastric irritation from this type of medication).
4. Attend your nearest sports injury clinic for further early treatment. You will be asked to do regular stretching exercises (see exercises on next page) and it may be worthwhile obtaining a wrist/forearm splint to help rest the inflamed tendon.
5. Physiotherapy/osteopathy/chiropractic can all help in the first instance.
6. Injections should be considered if you have already undergone a full course of treatment to no avail. In this instance you are more likely to obtain a longer lasting result from injection.
7. Surgery can be carried out under local injection (subcutaneous tenotomy) with a 95% success rate and no deficiency in grip strength. (The scar is usually almost invisible).

STRETCHING AND STRENGTHENING EXERCISES

Specific stretching and strengthening exercises can help if carried out at the right stage of rehabilitation. Seek medical advice before attempting them. Make sure you remember to repeat each exercise on both arms.



1. Wrist flexion stretch

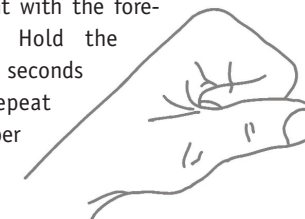
Hold the affected wrist as shown. Bend the wrist until you feel a stretch in the forearm. Hold each stretch for 5-10 seconds and repeat 10 times twice a day.

2. Wrist flexion

Hold the affected wrist, as shown. Bend the wrist until you feel a stretch in your wrist and forearm. Hold this for 5-10 seconds and repeat 10 times twice a day.

3. Grip strengthening

Squeeze a squash ball in the palm of your hand. This exercise must be done with the back of the hand in alignment with the forearm as shown. Hold the squeeze for three seconds and release. Repeat this 20 times per day.



IF YOU PLAY TENNIS CONSIDER THE FOLLOWING TECHNIQUE CHANGES

- P**erception of tennis as upper body sport
- E**lbow leading at ball strike
- T**runk rotation too early
- E**xcessive use of tennis as a conditioning tool
- S**ustaining grip throughout stroke
- A**llowing ball contact behind line of body
- M**oving into position too late to play shot
- P**oorly co-ordinated sequential movement of body parts
- R**acket head dropped below elbow at ball strike
- A**bnormal flexibility/strength in forearm controlling wrist movement
- S**ingle to double handed backhand change

PRACTITIONER CONTACT DETAILS