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Information leaflet: Tennis and Golfer's elbow

What is it?

Tennis elbow is a condition in which the outer part of the elbow becomes painful and tender, while in Golfer's elbow it is the inner part of the elbow that becomes painful and tender.

Is it called by any other name?

Tennis elbow is also called 'Lateral Epicondylitis' or 'Epicondylosis'
Golfer's elbow is also called 'Medial Epicondylitis' or 'Epicondylosis'

What is its cause?

The exact cause is not known. It is not restricted to those who frequent tennis courts or golf courses.

There is a bony prominence on the outer aspect of your elbow. This prominence is called the 'lateral epicondyle of the humerus' (the upper arm bone). A group of five muscles attach to the outer bony prominence of the elbow via a common tendon. These muscles straighten the wrist and the fingers. In tennis elbow due to degeneration (ageing) it is believed that this tendon or a part of this tendon gradually tears causing symptoms. One of the muscles known as 'extensor carpi radialis brevis' is especially prone to such tears and is most commonly affected in Tennis elbow.

The bony prominence on the inner aspect of your elbow is called the 'medial epicondyle of the humerus'. The flexor group of muscles attach to the medial epicondyle and these muscles bend the wrist. As in tennis elbow, these tendons degenerate and partially tear causing symptoms.

Both conditions are associated with age and the peak incidence is in people between 40-50 years. There has been some research of the relationship between the cause of tennis/golfers' elbow and work. The prevalence of tennis elbow is the same among workers doing manual or office work. However with tennis elbow, symptoms are more likely to be worse in those people whose activities require strong gripping or repetitive wrist motions.

What are the symptoms and how are the conditions diagnosed?

The patient complains of pain on the outer aspect of the elbow (tennis elbow) or the inner aspect of the elbow (golfer's elbow). Activities that involve gripping and movements of the wrist hurt. Simple activities like holding a cup of tea may cause pain. The elbow may feel stiff in the morning. Pain can spread to the forearm and wrist. The elbow symptoms usually come on insidiously but rarely a specific event will cause acute symptoms.

Diagnosis is mainly by physical assessment. There is specific tenderness over the prominent bone on the outside or inside of the elbow. With tennis elbow the pain worsens when the patient resists pulling the wrist back with the elbow straight. Golfer's elbow may be associated with ulnar neuritis and patients may complain of tingling and numbness in the little and ring finger.

The specialist will rule out other conditions that cause pain on the outer aspect of the elbow (radio-capitellar arthritis, radial tunnel syndrome, synovitis etc) or the inner aspect of the elbow (ulnar neuritis, early ulno-humeral arthritis).

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Will further tests or investigations be needed?

An x-ray of the elbow is usually recommended to rule out any other cause of pain. Sometimes a MR scan may be advised so as to exclude some other pathology.

What is the treatment?

Treatment of tennis elbow is the most controversial and there are many interventions recommended.

1. *Painkillers and anti-inflammatory medication* is the initial conservative management.
2. *Rest* from activities that aggravate the symptoms is useful when the pain first appears.
3. *A brace or splint* may be occasionally useful.
4. *Physiotherapy* will help to reduce tendon inflammation and then rehabilitate the tendon. The physiotherapist will also advise you with regards to your sports techniques or do a workstation assessment.
5. *A steroid injection* into the tender area may relieve symptoms. The injection very occasionally causes some thinning or colour change of the skin at the site. Improvement is variable and can be temporary.
6. *Various other non-surgical treatments* are also often recommended. Many of these have limited scientific support and have not yet been clinically evaluated. These include Botox injection, laser therapy, and lithotripsy.
7. *Biologic treatment with injection of platelet rich plasma* is one of the newer biologic treatments that is gaining popularity and can be considered. Specially prepared platelets taken from the patient's own blood are re-injected into the tendon of the affected elbow. Platelets are blood components responsible for the formation of clots in response to injury, but also contain powerful growth factors; plasma is the liquid portion of the blood. The theory is that the powerful growth factors will initiate healing in the tendon and also send signals to other cells in the body drawing them to the injured area to help in repair. Because the patients' own blood is used the procedure is safe and adverse drug reactions are eliminated.
8. *Surgery* is recommended for resistant symptoms in tennis or golfer's elbow. About one in ten patients with tennis / golfer's elbow may need surgery. The aim of surgery is to release the attachment of the tendon and take the tension of the tendons. The operation is carried out as a day case procedure. The standard procedure has been an open surgical release.
9. *Arthroscopic (keyhole) surgery* is a recent surgical technique to perform the operation arthroscopically (keyhole surgery) for tennis elbow. In addition to a very small scar(s) the main advantage of this procedure over an open procedure is the ability to look inside the elbow joint with a telescope. This helps to detect and treat associated conditions (loose bodies, synovitis) that may cause elbow pain. It is estimated that 20% of patients who have surgery for tennis elbow have a problem inside the joint.

What happens if it is not treated?

It is likely that with time, pain will significantly resolve or the symptoms may resolve to such an extent that the patient is able to cope with them. Exact statistics are not readily available, but symptoms should improve over 1-2 years.

What is the success of surgical treatment?

Success following surgery is variable and it may take 3 months for full recovery. It is thought that 75-80% of the patients can get a 75-80% improvement in their symptoms after surgery.

What are the complications of surgical treatment?

1. The surgical scar may appear reddish for 2-3 weeks. It may stay tender for 2-3 months. There is a small possibility that the scar may remain unattractive. You may be left with an area of numbness around the scar. This does not cause any functional problems.
2. Infection of the wound is possible and can usually be successfully treated with antibiotics.
3. The grip strength may reduce following surgery but will recover over 6 months.
4. The operation may fail to improve your symptoms.
5. Stiffness of the elbow is possible and hence it is very important that the elbow and fingers are exercised regularly. This usually improves with hand therapy.
6. Severe complex regional pain syndrome (CRPS) is a rare but serious complication after upper limb surgery. Unfortunately it is not possible to predict this problem but needs to be monitored and treated (usually with just physiotherapy) if it develops.
7. Any surgical intervention has the risk of developing complications that are unpredicted. These complications may have the potential to leave the patient worse than before surgery.

Is there anything I can do to improve the outcome?

- Keep the wounds dry and clean until they have healed.
- After the operation you will be given a sling for comfort. It is important to discard this sling as soon as possible and do the prescribed exercises regularly both during the physiotherapy sessions and at home. It will help to keep the pain levels down with analgesics so as to keep your elbow moving.
- It is advised not to wear rings on the operated arm for 4-6 weeks after surgery.

When can I do various activities?

- If you have had surgery you should be able to start moving your elbow within 2 days and return to work within 7-10 days.
- Return to work depends on many factors including the nature of the job and hand dominance.
- Manual work should be avoided for 6 weeks.
- Driving should be possible within a few days. Before driving do check that you can manage all controls and start with short journeys.