



IN TOUCH

Hand Therapy **HANDout #7**

TENNIS ELBOW

Tennis elbow, also known as lateral epicondylitis/osis/opathy, presents with pain at the lateral aspect of the elbow, which often spreads to the extensor muscles of the forearm and is particularly painful when attempting to grip objects tightly. It occurs with an incidence of 4-7/1000 people per year in the general population but is seen much more commonly in women in their 40s.

The condition is a reversible degeneration of the forearm common extensor tendon and is usually caused by overload when a new activity is performed, or when the volume of work is suddenly increased. Manual tool workers or those who perform repetitive gripping activities, such as pruning, are particularly prone to developing a problem.

Tennis is only a direct cause in 5% of cases.

A recently-proposed model of the pathology of tennis elbow divides it into three stages along a continuum of tendon degeneration:

Reactive tendinopathy: The initial stage following acute overload. Increased cell production and water retention cause a diffuse, tender thickening of the tendon. Settles with a reduction in load.

Tendon disrepair: With continued overload, more focal areas of collagen breakdown occur, with some ingrowth of new blood vessels. A reversible stage if load is reduced.

Degenerative tendinopathy: With chronic overload, focal nodules of dead cells and extensive new blood vessels form. Intermittent painful episodes occur, with an increased risk of tendon rupture. There is little capacity for reversibility.

This is a self-limiting condition, with 80% of cases resolving within 1 year, as long as the tendon does not continue to be overloaded. With a controlled load, the progression of the pathology is seen to reverse along this continuum.

A number of different treatments are used in an attempt to reduce the severity and duration of the painful symptoms of tennis elbow, in addition to **Physiotherapy** (see over page).

Painkillers and anti-inflammatories: These may give some short-term relief from the symptoms but do not improve the

Long-term results. Anti-inflammatories may be more effective in the early stages of the condition.

Corticosteroid injection: Once a common treatment for tennis elbow, more recent evidence shows that steroid injections have a good pain-relieving effect for the first 6 weeks but that they are associated with a higher rate of recurrence in the longer term. There is also a small risk of side effects, such as infection, skin discolouration and fat necrosis.

Nitrate patches: Typically used for the treatment of angina, the application of a quarter of a patch over the painful lateral elbow has been seen to provide relief after 3-6 months. Unfortunately, these patches are no longer available in New Zealand.

Shock wave therapy: Administering up to 2000 rapid impacts to the injured tendon on a weekly basis is thought to both 'knock out' the pain-sensing nerves and to stimulate healing. Studies reveal variable results with tennis elbow.

Prolotherapy: The subcutaneous injection of a dextrose solution to the painful lateral elbow and the cutaneous nerves supplying that area. One study revealed promising results in the reduction of pain following treatment.

Autologous blood or Platelet-rich plasma injection: Blood is taken from the patient's arm and either directly administered into the painful extensor tendon or the plasma is separated from the cells prior to injection. Growth factors present in the plasma are thought to induce healing in areas of degeneration. Early studies reveal positive results for pain reduction with these treatments.

Surgery: Some cases may not respond to the treatments listed above and surgery may then be considered. Given that 80% of cases resolve within a year, it is prudent to only consider referral if symptoms have been present for 12 months or more. There is a low level of evidence in support of surgical treatment.

Different patients respond to different treatments and it is not uncommon for a number of treatments to be tried before any improvement is seen. Novel treatments for tennis elbow are continuously being introduced and further research needs to be performed to elicit their effectiveness. It may be that some treatments are more effective at certain stages of tendinopathy. It is important to remember that the vast majority of cases are self-limiting and that, although acute overload is most often the cause, complete rest from activity is not conducive to tendon healing.

