



# IN TOUCH

## Hand Therapy **HANDout #8**

### PHYSIOTHERAPY MANAGEMENT OF TENNIS ELBOW

We see many variations on a theme when assessing patients with tennis elbow. Acute tenderness over the lateral epicondyle, pain on resisted wrist and/or middle finger extension and painful grip strength testing, along with stiffness of the superior radio-ulnar joint and problems with supinator muscle.

Mechanisms of injury can vary considerably. Three mechanisms for the source of lateral elbow pain have been described in the rehabilitation literature.

**Firstly:** acute tendon involvement leading to symptomatic tendon pathology.

**Secondly:** sensitisation of the nervous system involving the nerves surrounding the insertion point at the lateral epicondyle

**Thirdly:** faulty or stressful alterations of the biomechanics surrounding the area.

This could be either workplace stresses and/or weakness of the shoulder girdle and upper limb musculature. Often we see predominant use of Extensor Carpi Radialis Longus with relative disuse of the Flexor Carpi Ulnaris (FCU) during repetitive work tasks and a forearm posture, which favours end range forearm pronation. Biomechanically FCU is the strongest forearm muscle group and is often underused. Education regarding pacing, grip modification and workplace ergonomics can be helpful.

Occasionally there are signs of irritation of the radial nerve, and if pain is present above the level of the elbow joint, dysfunction of the soft tissues of the shoulder girdle, shoulder joint and cervical spine should be assessed in more detail.

**Strengthening programmes** for upper limb and shoulder girdle stabilisers are given to address muscle imbalance or weakness issues.

**Activity modification** is individual to each patient depending on handedness, occupation and expected activities of daily living.

**Counterforce bracing** is helpful if resisted tests feel significantly more comfortable when the brace is applied. This is worn during the day and removed at night.

**Pain relief** is important in the early stages of management, especially if there is an expectation that eccentric exercise will be part of the programme. This can include an explanation of causes of symptoms, massage, acupuncture or other modalities such as TNS. Some authors suggest that in cases of tennis elbow there is a degree of nervous system sensitisation, which should be addressed. Sensitised spinal segment pain can also be treated.

**Eccentric exercises** are given with the intention of strengthening the collagen fibres of the common extensor tendon. These may need to be continued for a period of 3-4 months for optimal effect.

**Joint mobilisations or Mobilisations with Movement** can be extremely helpful if there are signs of stiffness or pain of the superior radio-ulnar joint, humero-ulnar joint or if there has been a 'jolting' aspect to the injury.

**Radial tunnel syndrome** is a differential diagnosis in some cases. Resisted testing of supinator is painful and tenderness is over the supinator muscle rather than the CEO. There may be paraesthesia over the dorsum of the wrist and pain is neural in nature. Radial nerve glides can be restricted and often counterforce bracing is aggravating. Conservative treatment includes activity modification, massage, local ultrasound, acupuncture and nerve mobilisation techniques.

**It is important to emphasise to your patients that if a local injection becomes part of the treatment, that once pain relief is achieved it is still important to continue with ongoing strengthening for an optimal long term result.**

