

# Tennis elbow

An overview of best practice

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- Lateral epicondylitis is a condition caused by repetitive micro-trauma and a failure of the healing process in the soft tissue attachments of the lateral epicondyle of the humerus.
- Pain typically comes on after strain of the extensor carpi radialis brevis origin during occupational or sporting activities involving significant wrist extensor function.
- Symptoms can be related to both intensity of action and duration of arm use.
- Most cases are diagnosed by clinical examination.
- Most cases respond to initial management with relative rest and activity modification, anti-inflammatories and a counterforce strap over a three to six-month period.
- A small proportion will go on to require specialist intervention.

### Epicondylitis

Epicondylitis is a condition that involves the musculo-tendinous-periosteal tissue either near the origin of the wrist extensors in the region of the lateral epicondyle of the humerus (commonly termed tennis elbow), or near the origin of the wrist flexor muscles in the region of the medial epicondyle of the humerus (commonly termed golfer's elbow).

Although epicondylitis implies the presence of inflammation, pathological studies of cases

undergoing surgery show that angiofibroblastic hyperplasia exists and the term epicondylosis may be more appropriate especially in chronic cases. However, not all epicondylar pain is necessarily explained by epicondylosis.

### Aetiology

The aetiology of epicondylitis (lateral or medial) remains inadequately understood but is thought to be complex and multifactorial. However, repetitive, forceful use through activities that involve the hand in gripping and/or manipulation tasks have been associated with an increased risk of developing this problem.<sup>1</sup>

The occurrence of epicondylitis as a consequence of direct trauma such as a blow is considered rare; furthermore, it is unclear whether direct trauma precipitates an otherwise quiescent (sub-clinical) condition or directly accounts for the condition.

### Epidemiology

The prevalence of lateral epicondylitis is approximately 1.3% in the general population and is most common in the 40-55 age group. Medial epicondylitis is less common. The majority of cases have no biomechanical association with either work or non-work exposures and may be termed idiopathic.<sup>2</sup> However, epicondylitis is more prevalent in certain manufacturing industries where forceful and repetitive movements are required eg. meat processing workers. Epidemiological data does not support a causal role for repetition alone, in the absence of force.<sup>3</sup>

### Clinical presentation

The typical characteristics of epicondylitis (lateral or medial) are: localised pain (which may radiate distally into the forearm), muscular tenderness and functional difficulties with tasks involving gripping. Appropriate symptoms, clinical signs and tests are:<sup>4</sup>

### Lateral epicondylitis

Pain in the vicinity of the lateral epicondyle, pain on palpation immediately distal to the lateral epicondyle (within 1-5cm), and either symptomatic pain reproduction on resisted active wrist extension, or symptomatic pain reproduction on resisted active extension of the middle finger. Health care providers should compare pain responses on the contralateral limb, as discomfort may ordinarily be experienced from palpation in this region.

### Medial epicondylitis

Pain in the vicinity of the medial epicondyle, and pain on palpation immediately distal to the medial epicondyle, and either symptomatic pain reproduction on resisted active wrist flexion, or symptomatic pain reproduction on resisted flexion of the fingers.

## Conservative treatment

Initial conservative treatment options that may be considered by primary health care providers for patients diagnosed with lateral epicondylitis include physiotherapy and 'watchful waiting' (advice, prescription of analgesia, activity modification, use of forearm braces as required).<sup>1</sup> However, the choice between these interventions should be made explicitly in consultation with the patient; whilst physiotherapy has been demonstrated to be statistically superior to 'watchful waiting' over the short term (up to six weeks), the relative gain of physiotherapy in this time interval may be marginal. Moreover, there is robust evidence that there is no difference between these approaches over the long-term (up to one year). An alternative long term management strategy that additionally may be considered is the prescription of an off-the-shelf forearm brace, or taping.

If the objective of treatment is to obtain maximal relief of symptoms in the short term, corticosteroid injections (1mL triamcinolone acetonide (10mg/mL) plus 1-2% lidocaine) may be a considered option, however primary health care providers should caution patients that effects are liable to be reversed after six weeks, with a high rate of recurrence anticipated within three months and less symptomatic improvement at one year. A less invasive consideration, where short-term clinical results are of significance, may include application of topical non-steroidal anti-inflammatory preparations.

With regards to medial epicondylitis, the evidence is sparse and it is not known whether interventions recommended for lateral epicondylitis are equally effective in patients with medial epicondylitis. Primary health care providers should consider either of the detailed 'physiotherapy' or 'watchful waiting' protocols as the initial intervention for cases diagnosed with medial epicondylitis.

Clear evidence of effectiveness has not been substantiated for autologous blood or sclerosing injections. There is no evidence to indicate whether surgery is effective.<sup>5</sup>

## Prognosis

For cases managed conservatively ('physiotherapy' or 'watchful waiting'), 80-90% of patients are expected to report clinically significant improvement or complete resolution within one year. Recurrences are not uncommon.

## Rehabilitation

It is important to both control symptoms and maintain employability. For someone who is not managing at work, a worksite assessment should be obtained and modifications of duties should be considered.

Where vocational difficulty is encountered, the wider determinants of pain and disability should be considered. It is important to note that psycho-social factors are a key determinant of rehabilitation outcome. In such circumstances ACC can facilitate any necessary assessment.

## Issues of relevance to ACC

Epicondylitis may be covered if work related, but there must be a particular causal characteristic in that work that would increase risk for persons undertaking that work. Cover is commonly granted for workers in the meat processing, forestry and construction industries or where the person's tasks are akin to such work.

It is worth noting that ACC does not accept claims for epicondylitis said to be caused by keyboard typing, as the essential element of forcefulness is missing.

ACC is unable to accept claims for epicondylitis that is gradually caused by factors unrelated to employment.

Given the difficulty in explaining how a 'tendinosis-like' pathology could result from a single event, ACC does not usually provide cover for lateral epicondylitis or medial epicondylitis that is attributed to an accident.

## References

1. ACC Best practice evidence-based clinical guidelines for the primary care management of distal upper limb musculoskeletal conditions. [in press]
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5. Buchbinder R, Green S, Bell S, Barnsley L, Smidt N, Assendelft WJJ. Surgery for lateral elbow pain. *Cochrane Database of Systematic Reviews* 2002, Issue 1. Art. No.: CD003525. DOI: 10.1002/14651858.CD003525.