Other treatment options

Systematic reviews highlight treatments other than exercise that may be beneficial, including:

- Acupuncture*[18,28]
- Manipulations and mobilisations of cervical spine*[18] Mulligan's mobilisation with movement*[29,30]
- Wrist manipulation (individual studies, not systematic review)[31,32]
- Ultrasound*#[18,33]
- Phonophoresis*[18]
- Rebox (transcutaneous electrotherapy)*[18]
- Ionisation with diclofenac*[18]
- Elbow orthoses (short-term pain relief and increase grip strength only when in use)[34,35]
- Corticosteroid injections (in the short term, long term unclear due to lack of high-quality studies – Bisset et al. found despite positive short-term effects 72% of subjects experienced recurrence after three to six weeks, much greater than physiotherapy (8%) or wait and see (9%)[23,36,37]
- Prolotherapy[38,39]
- Hyaluronate injection[38]
- Platelet-rich plasma injections[41]
- Autologous blood injections (although this technique is considered risky due to the potential for adverse events)[40]
- Cyriax physiotherapy (friction massage and Mill's manipulation) conflicting evidence[9,41,42]

*At least 2b level (individual cohort study or low quality randomised controlled trials (e.g. <80% follow-up))

#Smidt et al. concluded "Despite the large number of studies, there is still insufficient evidence for most physiotherapy interventions for lateral epicondylitis due to contradicting results, insufficient power, and the low number of studies per intervention." It should be noted that all systematic reviews "synthesised evidence from all eligible studies regardless of their scientific quality" and "included studies with small sample sizes."[6]

Evidence indicates that the following interventions may be ineffective:

- Laser therapy[18]
- Pulsed electromagnetic field therapy[18]
- Extracorporeal shock wave therapy[43]
- Ultrasound[44]

Observation of a tear greater than 6 mm within the extensor carpi radialis brevis tendon or lateral collateral ligament indicates that conservative treatment will most likely fail and therefore exercise prescription may not be the best approach under these circumstances.[45]

Radial tunnel syndrome

It is thought that in rare cases the radial nerve can be intermittently compressed through the radial tunnel by a variety of structures including bands of fascia, radial recurrent vessels, edge of supinator, haemangioma, lipoma, dislocated head of radius, inflamed synovium or accessory muscles.[46-49] This concept is controversial because:

- The condition is not always associated with extensor muscle weakness
- The only consistent symptom is pain; resisted middle finger extension does not always cause pain as would be expected[50]
- Electromyography and nerve conduction velocity studies are usually negative[51,52]
- Magnetic resonance imaging commonly shows no pathology.[46]

The only suggested differentiating feature of radial tunnel syndrome (compared with lateral epicondylalgia) is that the tenderness on palpation is 5 cm distal to the lateral epicondyle as opposed to on or very near the lateral epicondyle.* Alternative treatment options suggested are the addition of nerve gliding exercise (radial nerve slider – no studies conducted) or surgical decompression (success rate estimated between 10 – 95%).[47] Given the uncertainty, a diagnosis of radial tunnel syndrome should be used with caution.

Confusingly, some argue that radial nerve compression is the cause of many lateral epicondylalgia symptoms. This is because a cadaveric study identified a muscular or tendinous arch (formed by the extensor carpi radialis brevis) around the posterior branch of the radial nerve in 40.2% of specimens.[53] The authors speculated the nerve may be compressed during pronation although it is unclear if this would occur invivo. This highlights the need for further research.

Radial tunnel syndrome should not be confused with posterior interosseous nerve entrapment where one of the branches of the radial nerve (posterior interosseous nerve) becomes compressed (most commonly in the Arcade of Frohse) resulting in progressive weakness of the extensors of the digits as well as extensor carpi radialis brevis.[54] Pain is not necessarily a symptom.

*This lack of diagnostic accuracy is not unusual for elbow injuries. A 2017 review found the diagnostic accuracy for clinical tests in this area (distal biceps rupture, triceps rupture, posteromedial impingement, medial collateral ligament insufficiency, posterolateral rotatory instability, lateral epicondylitis and medial epicondylitis) were "… seldom accompanied with data on diagnostic accuracy. None of the described tests can provide adequate certainty to rule in or rule out a disease based on sufficient diagnostic accuracy."[55]

Role of neck pain

It should be noted that neck pain is more common in those with lateral epicondylalgia and those who report neck and/or shoulder pain have poorer prognoses.[56,57] Having said this, it is unclear if exercise interventions for the neck will improve the outcome as there do not appear to be studies specifically investigating this.

A few small studies found that cervical manipulation induced an immediate hypoalgaesic effect (increase in pain pressure thresholds over the elbow region) in those with lateral epicondylalgia and one indicated an increase in pain-free grip force.[58-60]