



## CARDINAL DIAGNOSTIC CONDITIONS CAUSING LATERAL ELBOW PAIN

### Physiotherapy

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### ABSTRACT

Lateral Elbow Pain is an extremely common clinical presentation among sports people and manual workers. The main purpose of this review article is to highlight succinctly important facets that include clinical history and evaluation of some of the cardinal conditions like lateral extensor tendinopathy, radial tunnel syndrome, posterior interosseous nerve entrapment, anconeus syndrome, elbow synovial fold syndrome, and referred pain that eventually attribute to lateral elbow pain.

### KEYWORDS

lateral elbow pain, Lateral extensor tendinopathy, anconeus syndrome, synovial fold syndrome, referred pain.

#### INTRODUCTION

Lateral elbow pain, first described by Runge in 1873, has been known with different terms such as tennis elbow, epicondylitis, lateral epicondylitis, lateral elbow pain and epicondylalgia. The presence of pain in lateral elbow area best describes the condition of LE. The prevalence of LE in general population is about 1-3% between 30 and 64 years of age.

The history commonly includes forceful and repetitive gripping and painful weakness in the gripping activities. Pain is most commonly attributed to irritation of common extensor origin.

However, a range of potential sources for pain in LE involving structures within the elbow and cervical spine have been proposed. This article presents a landscape of conditions that manifests its clinical presentations as lateral elbow pain and focuses on clinical history, evaluation and diagnosis, shedding light on the understandings for healthcare personnel.

#### LATERAL ELBOW TENDINOPATHY-

LET is related to sport or arm work pain disorder. It is defined as a cause of pain in the lateral epicondyle that failed healing tendon response rather than inflammatory or may be degenerative. The most commonly affected structure is the origin of the extensor carpi radialis brevis. It is defined as a pathology at or near the lateral epicondyle of the humerus resulting in pain, tenderness, and functional limitations. Pain can be reproduced with one of the following ways: (1) palpation on the facet of the lateral epicondyle; (2) with the elbow in extension, resisted wrist extension and/or resisted middle-finger extension; and (3) gripping activities. A study conducted by Dones VCIII, Grimmer KA et al in which pain in the lateral elbow area was replicated using Cozen test, Mill test, Maudsley test and SMHGT to confirm presence of LE and recommends replicating lateral elbow pain using Cozen test and supports its inclusion in the diagnostic criteria suggested by the UK Health and Safety Executive Workshop. The Patient-Rated Tennis Elbow Evaluation questionnaire provides a quick, standardized, and easy quantitative description of functional disability and pain in LET patients.

#### Posterior Interosseous Nerve(PIN) Entrapment And Radial Tunnel Syndrome(RTS)

The radial tunnel syndrome and compression of the posterior interosseous nerve have been cited as causes of lateral elbow and upper forearm pain, particularly in those cases of tennis elbow not responsive to conservative treatment. Common sites of entrapment are the tendinous margin at the origin of the ECRB muscle the arcade of Froese of the supinator muscle and the distal border of the supinator muscle. The symptoms include deep, aching, diffusely localized pain around the lateral side of the elbow and dorsal side of the forearm that sometimes radiates to the hand. The pain is initiated and intensified by repetitive movements incorporating forearm pronation. Greater tenderness expected over the radial tunnel. Compression of the deep radial nerve by stretching the supinator muscle by pronating the forearm to end-range with the elbow extended is another part of the examination. During muscle force testing, the finger and thumb extensors may be found to be weak. The key is to determine the location of the increased pain during the test.

#### ANCONEUS SYNDROME-

Anconeus syndrome is described as irritation of the anconeus muscle or increased compartment pressure of the anconeus. This condition typically leads to lateral elbow pain and does not respond to conventional treatment for lateral epicondylalgia. In chronic compartment syndromes the pressure may be increased. It is well known that muscles with chronic compartment syndrome require an extended time for normalization of the pressure after exercise, but different pressures and intervals have been stated to be diagnostic of the syndrome. The diagnosis is established by recording intracompartmental pressure of the muscle and computed tomography.

#### ELBOW SYNOVIAL FOLD SYNDROME-

Elbow synovial fold syndrome, or posterolateral impingement can be clinically confused with epicondylitis, frequently delaying appropriate diagnosis. Plica syndrome arises from an injury, such as a direct blow, repetitive microtrauma, and overloading, a twisting force that stretches the plica, or some other pathologic elbow condition that incites an inflammatory reaction. The symptoms mimic epicondylitis and therefore require careful evaluation. On examination, pain is usually located postero laterally, not along the lateral epicondyle or extensor tendon origin. Plicae may cause lateral elbow pain even before the development of locking or catching symptoms. Flexion-pronation test should lead the examiner to consider the possibility of a pathologic synovial plica.

#### REFERRED PAIN DUE TO CERVICAL RADICULOPATHY-

Radiculopathy that occurs at the C6 or C7 level or both may cause referral of pain into the lateral elbow area. C6 and C7 radiculopathy results in weakness and dysfunction of the wrist and finger extensor muscles particularly the ECRB muscle. Overuse injury to the weakened ECRB tendon that occurs more frequently with everyday activities is likely to initiate lateral extensor tendinopathy. The C6 and C7 radiculopathy also may cause weakness of multiple wrist and finger extensor muscles, resulting in an imbalance of the wrist and finger extensor and flexor muscles during any functional use.

#### CONCLUSION

Lateral elbow pain is the most common chronic musculoskeletal pain condition affecting the elbow. A plethora of clinical conditions are believed to cause lateral elbow pain. This study focused on highlighting some of the most cardinal conditions which are most commonly overlooked. However, there are not much researches done on cervical radiculopathy and relationship with lateral elbow pain, which indeed can be considered as a scope for further research.

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