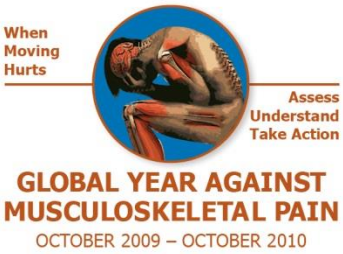

• **FACT SHEET No. 12**

Epicondylalgia

Introduction

Lateral epicondylalgia (LE) is a musculoskeletal pain disorder characterized by local pain and mechanical hyperalgesia at the lateral epicondyle, which can spread to the forearm and wrist, and by decreased manual force production, particularly of the wrist extensor muscles.

Epidemiology and Economics

- LE is a relatively common disorder of the upper extremity, affecting 1–3% of the general population and 15% of manual workers.
- The prevalence of LE is greater in adults between the age of 35 and 50 years, with no gender preference.
- The impact of LE on work disability and physical function is substantial.

Pathophysiology

The pathophysiology of LE is not completely understood. A number of morphological changes, neurotransmitters, and neurosensory and motor impairments have been implicated on its pathogenesis:

- Morphological changes: Tissue-based local pathology, including degenerative changes consistent with tendinopathy, particularly in the extensor carpi radialis brevis muscle
- Neurotransmitters: Higher levels of algogenic substances (e.g., substance P, glutamate, and calcitonin gene-related peptide) but not inflammatory markers (e.g., prostaglandin E2)
- Neurosensory changes: Larger areas of muscle referred pain, bilateral trigger points, widespread mechanical pain sensitivity, and thermal pain hyperalgesia (central amplification of pain or central sensitization).
- Motor impairments: Bilateral motor dysfunction in the form of reduced reaction time and speed of movement

Clinical Features

- LE usually has a gradual onset triggered by repetitive microtrauma (e.g., delayed-onset muscle soreness).

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- The pain is described as deep, aching, and throbbing, with sensation in the forearm muscles and sometimes numbness.
- Clinical symptoms associated with LE are deficits in grip strength and neck and shoulder pain.
- LE patients have abnormal reactivity to painful stimuli:
  - Patients have a lower pain threshold to mechanical and cold stimuli over the symptomatic area.
  - Patients have widespread mechanical pain hyperalgesia in deep tissues.
  - Infusion of hypertonic saline evokes muscle pain with a longer duration and referred pain that spreads to a larger area than in healthy subjects.
  - Bilateral manual exploration of myofascial trigger points elicits referred pain that spreads to a larger area than in healthy controls in both the symptomatic and the contra-lateral forearm.
  - Thermal hyperalgesia has been recently associated with poor prognosis and severity.

Diagnostic Criteria

The criteria for LE diagnosis that are most commonly used in scientific studies are as follows:

1) spontaneous pain over lateral side of the elbow
2) pain on palpation over the lateral epicondyle
3) elbow and/or forearm pain with gripping
4) clinically related decreased grip strength in the affected arm
5) elbow pain with resisted static contraction or stretching of the extensor muscles

Diagnosis and Treatment

Management of LE is multimodal, although physical therapies are most commonly used:

- Topical application of nonsteroidal anti-inflammatory drugs is effective for short-term pain relief.
- Corticosteroid injection provides short-term, but not long-term, pain relief.
- Ultrasound therapy is effective for relief of pain.
- Exercise programs, including eccentric contractions of the wrist muscles, are necessary for decreasing pain and improving function.
- Cryotherapy is recommended in some patients for decreasing pain.
- Physical therapy, particularly joint mobilization, is effective over both the short and long term.
- Physical therapy is cost-effective compared to corticoid steroid injections.

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