Tennis Elbow

Assessment & Treatment – Workshop

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Assessment

MacDermid et al., 2010

- Patient education, stretching, and activity modification are effective in management of acute and LE.
- Interventions commonly used by therapists in management of LE, include the above, and LE orthoses, home programs, strengthening, and pain management.
- Duration of symptoms and patient occupation are important prognostic factors for symptom resolution, whereas compliance with home exercise and work-related issues are important with respect to return to work.

MacDermid et al., 2010

- Palpation of the common extensor origin and resisted long finger extension are the clinical examination techniques most frequently used by most hand therapists to assist in making the diagnosis of LE.

- Therapists tend to rely on generic maximum grip strength and numeric pain rating to measure the outcomes of treatment, and less on more responsive measures of pain free grip and self-report scales that were designed specifically for LE.

Wixon and LaStayo, 2012

TABLE 1. Tennis Elbow Classifications

Signs and Symptoms	*Severe Symptoms* *Cyriax Acute Galloway Severe (Protocol 1) Nirschl Phases 5, 6, and 7*	*Moderate Symptoms* *Cyriax Subacute Galloway Mild/Moderate (Protocol 2) Nirschl Phases 3 and 4*	*Mild Symptoms* *Cyriax Chronic Galloway Symptoms Resolved (Protocol 3) Nirschl Phases 1 and 2*
Pain	Pain at rest—significantly limits participation in all activities	Pain with sports and work activities. Mild pain with activities of daily living. Pain limits performance in sports/work	Mild pain after activity, which resolves within 72 h after cessation of activity pain does not limit participation in activities
ROM	≥5° Motion loss at wrist/elbow	+/− Motion loss may or may not be present	No motion loss
Resisted test	Pain with minimally resisted wrist extension (elbow flexed)	Pain with resisted wrist extension (elbow flexed or extended)	Pain with resisted wrist extension (elbow extended)
Grip test	Pain/≥50% GSD with elbow flexed or extended	Pain/≥50% GSD with elbow extended. Pain/<50% GSD with elbow flexed	Mild pain with grip strength test with elbow extended and minimal to no pain with elbow flexed—may not have significant GSD
Palpation	Pain with palpation at lateral epicondyle—no blanching of finger(s) (minimal pressure)	Pain with palpation at lateral epicondyle with mild blanching of examiner's finger(s) (moderate pressure)	Pain with palpation at lateral epicondyle only with full blanching examiner's finger(s) (firm pressure)

MacDermid and Michlovitz, 2006

Test or Maneuver	*Purpose/Utility*	*Test Description*
Cozen's test	Identify lateral epicondylitis	Elbow flexed Examiner palpates lateral epicondyle while stabilizing elbow Patient makes a fist, radially deviates wrist and pronates forearm Examiner resists radially directed wrist extension
Mills test	Identify lateral epicondylitis	Examiner passively moves: pronates forearm, flexes wrist, and extends elbow
Middle finger test	Identify lateral epicondylitis; may be positive with radial tunnel syndrome	Examiner resists middle finger extension while forearm in pronation
Chair lift test (simulated chair pickup)	Assess lateral epicondylitis	Back of a chair is lifted with three digits (thumb, index middle) and then extending elbow (chair can be instrumented to record force generated)[83]

Palpation: Pressure pain threshold

Fig. 1. Pressure pain threshold testing sites. (1) Radial styloid (used as landmark only); (2) ECRB (PPT_{ECRB}; 48% of the length from the CEO to the radial styloid); (3) EDC (PPT_{EDC}; 17% of the length from the CEO to the radial styloid); and (4) CEO (PPT_{CEO}) [23]. ECRB: extensor digitorum communis; CEO: common extensor origin; EDC: extensor digitorum communis; PPT: pressure pain threshold.

Isometric low load pain tolerance test (LLT)

A 0.5 kg weight is held with forearm supported but the hand and weight unsupported. Subjects holds the weight until they can not stand the pain anymore or until the wrist flexes. The duration of the patient's ability to sustain this position is recorded. If the weight is held for **45 min (?)** the trial is stopped. The test started with the non-painful side.

Hand Grip Dynamometer

Considerations

- Self reporting Questionnaires
- Psychosocial Questionnaires
- US investigation
- MRI
- Injection (Lignocaine/Marcaine?)

Treatment

MWMs

- The patient is placed in supine position, with elbow in full extension and forearm in pronation, the therapist stabilises the distal part of the arm, and a sustained lateral glide of the forearm was applied. The patient is then asked to make a fist as the therapist maintains the lateral glide.

- Maintain for 10 secs and repeat 12 times. Repeat 2-3 times

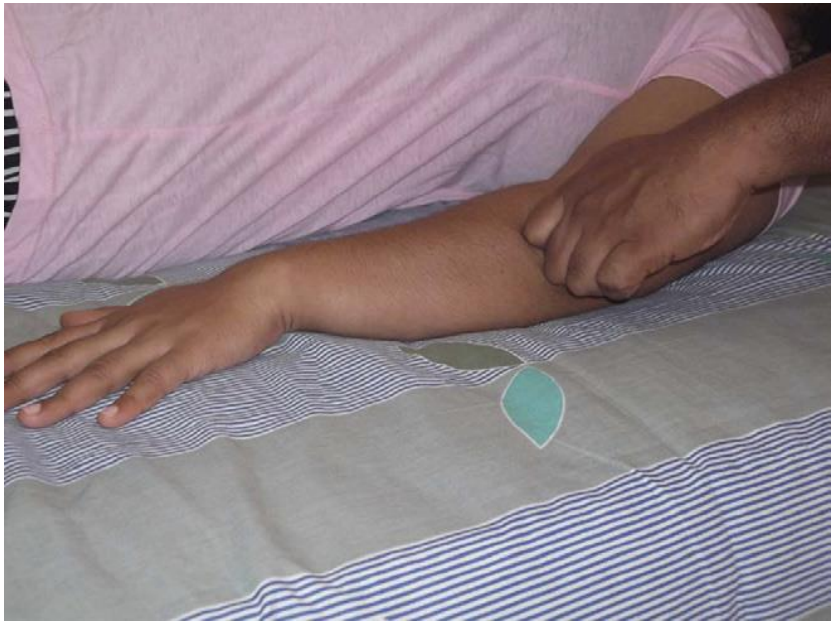
Taping

MWM is followed by taping, which is applied on the origin of extensor carpi radialis when the elbow is in slight flexion and forearm in pronation. At the beginning of taping, there should be a lateral gliding of the extensor muscles group, then putting the hypo fix to prevent skin irritation, and then putting the rigid leukotape tap firmly over it.

STM or MFR or ART: Technique 1

Treating from the CE tendon to the extensor retinaculum of the wrist. The therapist begins on the humerus, just proximal to the lateral epicondyle. The therapist uses the fingertips to engage the periosteum and carried this contact inferior to the CE tendon and then down to the extensor retinaculum of the wrist. Patients are asked to slowly flex and extend the elbow within an easy range of 5˚ to 10˚ during this procedure.

STM or MFR or ART: Technique 2



Treating through the periosteum of the ulna the therapist uses the knuckles of the hand to work over the periosteum of the ulna. Patients are asked to do alternating ulnar and radial deviation of the wrist, while periosteum
of ulna is engaged

STM or MFR or ART: Technique 3

Spreading the radius from the ulna the therapist contacts the head of the ulna with the finger pads of one hand and the dorsal tubercle of radius with the pads of the other. The therapist engages through to the periosteum and puts a line of tension in a lateral and distal direction. This is carried for just a few centimeters with a firm intent to spread the bones apart

Other Rxs

- Exercise (Conc & Eccentric)
- Bracing (supporting taping)
- Acupuncture
- Laser
- ESTW?
- Injection Therapy?
- Surgery?