



Orthopaedic Protocols

Lateral Epicondylitis "Tennis Elbow" Conservative Management

0-3 Weeks:

- A comprehensive initiated evaluation is performed to provide beneficial information for minimizing the recurrence of the patient's lateral epicondylitis. The baseline evaluation should include any previous medical history, current medical history, pain assessment edema, ROM & grip strength. Included along with the pain assessment should be a list of those activities that aggravate the pain. Besides evaluating pain in follow-up visits, it is helpful to evaluate both ROM & grip strength. The optimal street testing position for measuring ROM is to fully extend the elbow with the forearm pronated & attempt full wrist flexion. To monitor the patient's progress with achieving increased wrist flexion is key information. In addition, to measure the grip strength both in the standard fashion along with a "stress testing position" is valuable information. For stress testing grip strength, the elbow should be extended & the forearm pronated as the patient grips the dynamometer.
- The initial phase of therapy consists of pain management & promoting healing of the soft tissue structures. A wrist immobilization splint, along with a counterforce tennis elbow band, is fitted for continual basis. An alternative to the combination of a wrist immobilization splint & air cast splint would be a long arm splint with the elbow in 90 degree of flexion, the forearm in a neutral position & the wrist in 45 degree of extension. The Chief advantage of the long arm splint is to quiet any soft tissue inflammatory response noted with the supinator, in conjunction with the extensor muscles.
- Manual massage is recommended for 5 mins sessions 2 times a day. Massage should be performed in clockwise fashion, counter clockwise, along the length of the muscle & perpendicular to the muscle.
- Moist heat (i.e. moist heat heating pad) is initiated to the elbow for 10 minutes sessions 2 times a day. The moist heat promotes soft tissue healing & increases the flexibility of the muscles surrounding the elbow.
- Patient education is critical. It is important to review the list of activities & movements that aggravate the pain. Patients should be instructed in lifting objects with the palm up as opposed to grasping objects with the palm down.
- A general conditioning program, using a treadmill etc., 2-3 times a week is encouraged. This will serve as positive reinforcement for good general health & maintaining a positive attitude for athletes, it is less likely that they will be de-conditioned upon returning to their sports.
- Progressive strengthening exercises for the shoulder & trunk muscles are initiated. This is particularly important for the athlete & those for the athlete and those individuals with lateral epicondylitis to have limited shoulder girdle strength &/or trunk muscle power.

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3 Weeks:

- Utilizing moist heat (i.e. moist heat heating pad) to the elbow for 10 min sessions prior to beginning active stretching is recommended.
- Phase II exercises consist of restoring flexibility through active stretching exercises. Each active stretching exercise is held at the end range to a count of 15, which should last approximately 30 seconds. Active stretching exercises are initiated 4 times a day for 10 repetitions. [Refer to Lateral Epicondylitis Phase II exercise sheet]

4-6 Weeks:

Phase III passive stretching & strengthening exercises are initiated.

- Prior to beginning the stretching exercises, it is important to apply moist heat for 10 min sessions. Following the moist heat, the active stretching exercises are performed. This is followed by performing the passive stretching exercises in the same 4 positions. The passive stretching exercises are done 4 times a day for 10 min sessions. Each passive stretch should be performed to a count of 15. For example, if the patient is able to perform the 1st & 2nd passive stretching exercises but cannot perform the 3rd exercise, the patient should continue with the 1st & 2nd stretches. With the follow up visit, the patient can be re-evaluated to determine if the patient can tolerate the next exercise. The goal is to perform the passive stretches within the patient's comfort level. The exercises must not be painful.
- Progressive strengthening exercises may be initiated. The progressive strengthening exercises should be done through a mid range.
- To begin the strengthening with a 1 # weight, 25 repetitions, every-other-day is recommended. The progressive strengthening program must be individually tailored to each patient. The goal of therapy should be a progressive build. Initially, the strengthening should not include resistance for wrist extension with the forearm pronated. Emphasize strengthening with the elbow partially flexed & forearm supinated.

6-9 Weeks:

- Progressively increase the strengthening exercises through the entire arc of motion. It is critical that the strengthening not allow pain along the area of the lateral epicondyle. All progressive strengthening exercises should be performed with the counterforce band in place.
- Individuals who have developed lateral epicondylitis secondary to sports may begin returning to sports (practice only), 1 hour a day. The movement patterns with the sport should be those that will not or do not elicit pain in the elbow. The counterforce brace should be worn at all times while practicing. For tennis players & golfers, it is important to evaluate technique & equipment prior to returning to their sport.

9-12 Weeks:

- Individuals may return to sports in an unrestricted capacity so long as the elbow pain is resolved. By this time frame the goal is to have equally strengthened the upper extremity & have restored normal ROM (in the stress position). It is recommended the individual continue a counterforce brace a minimum of 6 months with all sports activities. It is critical for the individual to warm up & perform the active & passive stretching prior to participating in their given sport.

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Considerations:

Ultrasound may be beneficial as a deep heat, particularly for patients who are having difficulty transitioning from one exercise to the next during Phase II or Phase III exercises.

Phonophoresis may prove to be beneficial, particularly for persistent pain. When using ultrasound or phonophoresis the most common parameters include: Frequency 3 MHz; Intensity .8-1.5WCm²; Mode: 100% continuous; Sound head: medium; & Duration: ultrasound 3 mins followed by phonophoresis for 5 mins. Treatments should be every 2 days for 6-8 sessions. The drug of Choice with phonophoresis is Dexamethasone .334%. Since the half-life of Dexamethasone is 26-54 hours, it is important to perform the treatment sessions 3 times a week, it at all possible.