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Home Therapy Program – Lateral Epicondylitis (Tennis Elbow)

PHASE 1

Goals: decrease inflammation and pain and promote tissue healing, the **RICE** principle:

- **Rest** - avoid further overuse, not absence of activity. Maintain as high an activity level as possible while avoiding activities that aggravate the injury. Pain is the best guide to determine the appropriate type and level of activity.
- **Ice** - is recommended as long as inflammation is present. Ice decreases the inflammatory process and helps relieve pain and muscle spasm.
- **Compress and Elevate** if appropriate to assist venous return and minimize swelling.

PHASE 2

Goals: Improve flexibility, increase strength and endurance, increase functional activities and return to function.

STRETCHING

Gentle stretching exercises including wrist flexion, extension and rotation. The elbow should be extended and not flexed to increase the amount of stretch as required. These stretches should be held for 20-30 seconds and repeated 5-10 times, at least twice a day.



STRENGTHENING

With the elbow bent and the wrist supported perform the following exercises:

1. *Wrist Extension.* Place 1 lb. weight (soup can) in hand with palm facing downward (pronated); support forearm at the edge of a table or on your knee so that only your hand can move. Raise wrist/hand up slowly (concentric contraction), and lower slowly (eccentric contraction).



2. *Wrist Flexion.* Place 1 lb. weight in hand with palm facing upward (supinated); support forearm at the edge of a table or on your knee so that only your hand can move. Bend wrist up slowly (concentric), and then lower slowly (eccentric) (similar to exercise above).
3. *Combined Flexion/Extension.* Attach one end of a string to a cut broom stick or similar device, attach the other end to a weight. In standing, extend your arms and elbows straight out in front of you. Roll the weight up from the ground by turning the wrists. Flexors are worked with the palms facing upward. Extensors are worked with the palms facing downward.
4. *Forearm Pronation/Supination.* Grasp hammer (wrench, or some similar device) in hand with forearm supported. Rotate hand to palm down position, return to start position (hammer perpendicular to floor), rotate to palm up position, repeat. To increase or decrease resistance, by move hand farther away or closer towards the head of the hammer.



5. *Finger Extension.* Place a rubber band around all five finger tips. Spread fingers 25 times, repeat 3 times. If resistance is not enough, add a second rubber band or use a rubber band of greater thickness which will provide more resistance.



6. *Ball Squeeze.* Place rubber ball or tennis ball in palm of hand, squeeze 25 times, repeat 3 times. If pain is reproduced squeeze a folded sponge or piece of foam.



- For all of the exercises (except combined flexion\extension) perform 10 repetitions 3-5 times a day.
- With the combined flexion/extension perform until you feel fatigue.
- With all exercises use pain as your guide - all exercises should be pain free.

When to progress. Begin with a 1 lb. weight and perform 3 sets of 10 repetitions. When this becomes easy, work up to 15 repetitions. Increase the weight only when you can complete 15 repetitions 3 times without difficulty.

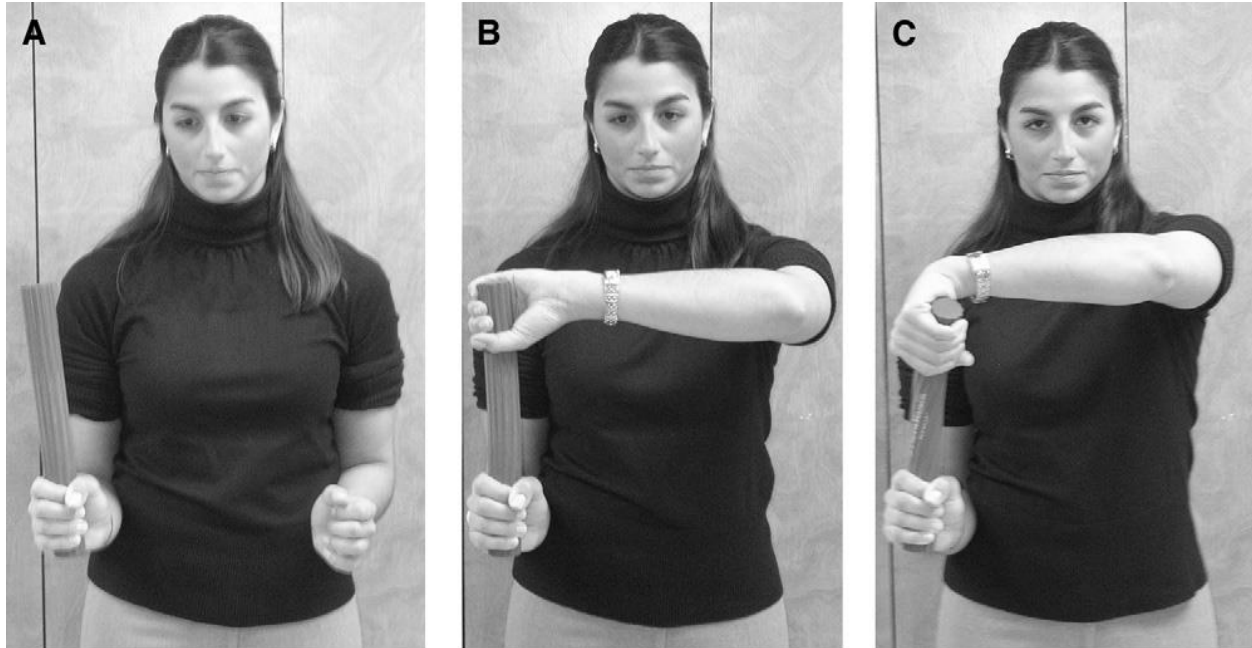
After exercising, massage across the area of tenderness with an ice cube for about 5 minutes. You might also try filling a paper cup half-full with water and freeze; peel back a portion of the paper cup to expose the ice.

Flex Bar

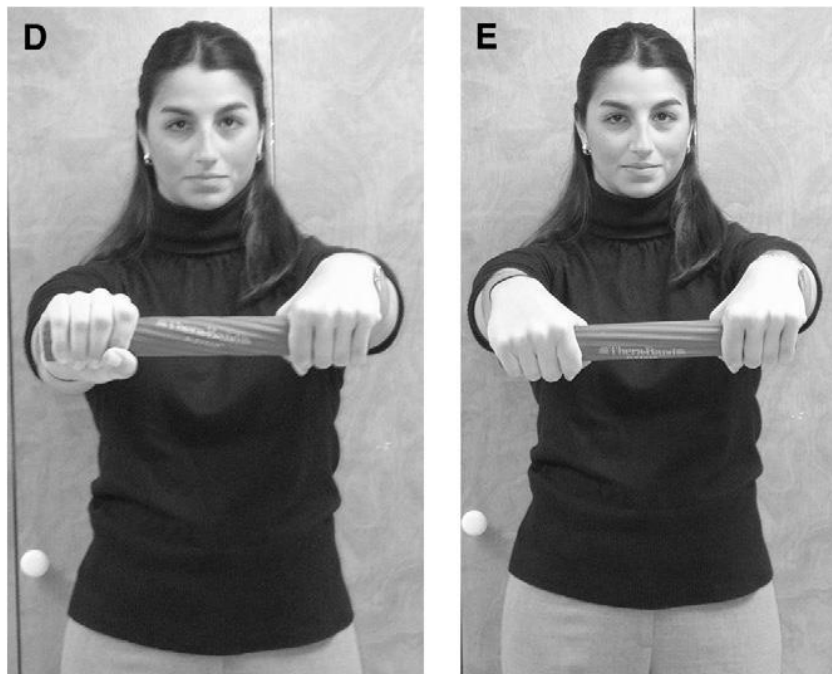
The Flex Bar is an eccentric strengthening exercise that utilizes the twisting of a rubber bar with wrist flexion of the uninvolved limb followed by slow untwisting with eccentric wrist extension by the involved limb (Figure, A-E). (Obtain a flex bar at www.ncmedical.com)

- Each eccentric wrist extensor contraction should last approximately 4 seconds (ie, slow release).
- Complete a 3 sets of 15 repetitions, 30-second rest period was timed between sets
- Intensity can be increased by using a thicker rubber bar when no longer experiencing discomfort during the exercise.

Tyler TF, Thomas GC, Nicholas SJ, McHugh MP. Addition of isolated wrist extensor eccentric exercise to standard treatment for chronic lateral epicondylitis: a prospective randomized trial. *J Shoulder Elbow Surg.* 2010 Sep;19(6):917-22.



- (A) Rubber bar held in involved (right) hand in **maximum wrist extension**.
(B) Other end of rubber bar grasped by noninvolved (left) hand.
(C) Rubber bar twisted by flexing the noninvolved wrist while **holding the involved wrist in extension**.



- (D) Arms brought in front of body with elbows in extension while maintaining twist in rubber bar by holding with noninvolved wrist in full flexion and the involved wrist in **full extension**.
(E) Rubber bar slowly untwisted by allowing **involved wrist to move into flexion**, ie, eccentric contraction of the involved wrist extensors.

