

# Lateral Epicondylitis

## (Tennis Elbow)

### What is lateral epicondylitis (tennis elbow)?

Lateral epicondylitis (tennis elbow) is the name for a condition in which the bony bump at the outer side of the elbow is painful and tender.

The elbow joint is made up of the bone in the upper arm (humerus) and one of the bones in the lower arm (ulna). The bony bumps at the bottom of the humerus are called epicondyles. The bump on the outer side of the elbow, to which certain forearm muscles are attached by tendons, is called the lateral epicondyle.

Lateral epicondylitis is also referred to as wrist extensor tendonitis.

### How does it occur?

Tennis elbow results from overusing the muscles in your forearm that straighten and raise your hand and wrist. When these muscles are overused, the tendons are repeatedly tugged at the point of attachment (the lateral epicondyle). As a result, the tendons become inflamed. Repeated, tiny tears in the tendon tissue cause pain. Among the activities that can cause tennis elbow are tennis and other racquet sports, carpen-

try, machine work, typing, and knitting.

### What are the symptoms?

The symptoms of tennis elbow are:

- pain or tenderness on the outer side of the elbow
- pain when you straighten or raise your wrist and hand
- pain made worse by lifting a heavy object
- pain when you make a fist, grip an object, shake hands, or turn door handles
- pain that shoots from the elbow down into the forearm or up into the upper arm.

### How is it diagnosed?

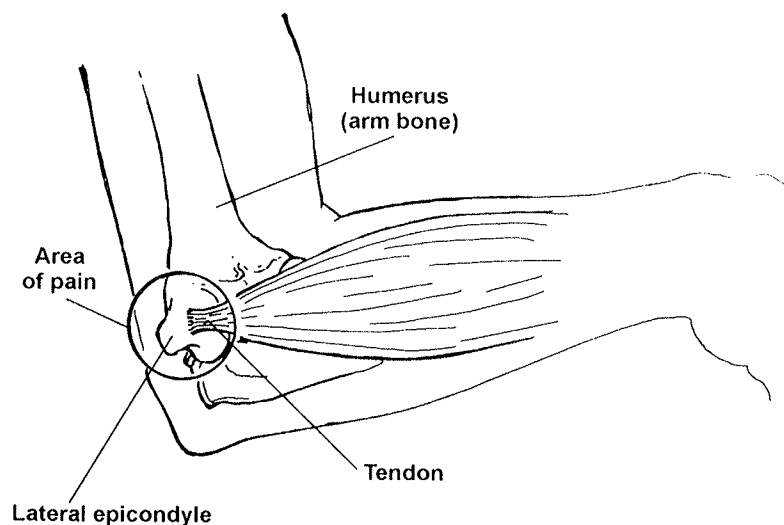
Your doctor will ask you about your daily and recreational activities. He or she will examine your elbow and arm and will have you do movements that may cause pain in the outer part of your elbow. Your doctor may order x-rays of the elbow.

### How is it treated?

Treatment includes the following:

- Put an ice pack on your elbow for 20 to 30 minutes every 3 to 4 hours for 2 to 3 days or until the pain goes away.

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- You can also do ice massage. Massage your elbow with ice by freezing water in a Styrofoam cup. Peel the top of the cup away to expose the ice and hold onto the bottom of the cup while you rub the ice over your elbow for 5 to 10 minutes.
- Do the exercises recommended by your doctor.

Your doctor may recommend that you:

- Take anti-inflammatory medication, such as ibuprofen, for 4 to 6 weeks.
- Wear a tennis elbow strap. This strap wraps around the forearm below the elbow, acting as a new attachment site for the forearm muscles and keeping them from pulling on the painful epicondyle.

While you are recovering from your injury you will need to avoid repetitive motion of the elbow and to change your sport or activity to one that does not make your condition worse. For example, you may need to run instead of play tennis. If you play tennis, your doctor may advise you to use a tennis racquet with a larger grip. He or she may suggest improvements in the way you

hold or swing your racquet.

If ice, rest, anti-inflammatory medication, and an elbow strap do not relieve your symptoms, you may need physical therapy. Also, your doctor may recommend an injection of a corticosteroid medication around the lateral epicondyle to reduce the inflammation. In severe cases, surgery may be recommended.

### ***When can I return to my sport or activity?***

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to your sport or activity will be determined by how soon your elbow recovers, not by how many days or weeks it has been since your injury occurred. In general, the longer you have symptoms before you start treatment, the longer it will take to get better.

You may return to your sport or activity when you are able to forcefully grip your tennis racquet, bat, or golf club, or do activities such as working at a keyboard with-

out pain in your elbow. In sports such as gymnastics, it is important that you are able to bear weight on your elbow painlessly. It is important that there is no swelling around your injured elbow and that it has regained its normal strength compared to your uninjured elbow. You must have full range of motion of your elbow.

### ***How can I prevent tennis elbow?***

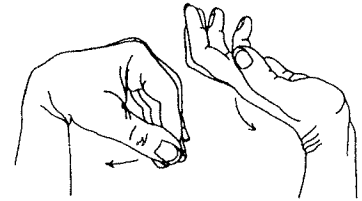
To prevent tennis elbow:

- Use proper form during your activities, whether they are sports or job-related. For instance, be sure your tennis stroke is correct and that your tennis racquet has the proper grip size.
- Warm up before playing tennis or doing other activities that involve your elbow or arm muscles. Gently stretch your elbow and arm muscles before and after exercise.
- Ice your elbow after exercise or work.
- In job-related activities, be sure your posture is correct and that the position of your arms during your work doesn't cause overuse of your elbow or arm muscles.

## Lateral Epicondylitis (Tennis Elbow) Rehabilitation Exercises

You may do stretching exercises 1 through 3 right away. You may do strengthening exercises 4 through 6 when stretching is nearly painless.

1. Wrist range of motion: Bend your wrist forward and backward as far as you can. Repeat 10 times. Do 3 sets.



Wrist range of motion

2. Forearm range of motion: With your elbow at your side and bent 90 degrees, bring your palm facing up and hold for 5 seconds then slowly turn your palm facing down and hold for 5 seconds. Repeat 10 times. Do 3 sets. Make sure you keep your elbow bent at 90 degrees throughout this exercise.



Forearm range of motion



Elbow range of motion

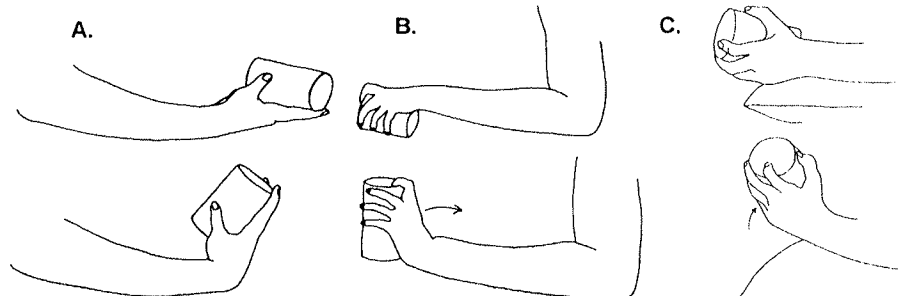
3. Elbow range of motion: Gently bring your palm up toward your shoulder and bend your elbow as far as you can. Then straighten your elbow out as far as you can. Repeat 10 times. Do 3 sets.

4. Wrist strengthening:

A. Wrist flexion: Holding a soup can or hammer handle with your palm up, slowly bend your wrist up. Slowly lower the weight and return to the starting position. Repeat 10 times. Do 3 sets. Gradually increase the weight of the can you are holding.

B. Wrist extension: Holding a soup can or hammer handle with your palm down, gently bend your wrist up. Slowly lower the weight and return to the starting position. Repeat 10 times. Do 3 sets. Gradually increase the weight of the can you are holding.

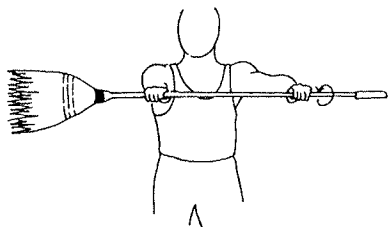
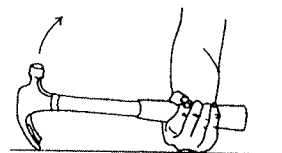
C. Wrist radial deviation: Hold your wrist in the sideways position with your thumb up. Holding a can of soup or hammer handle, gently bend your wrist up with your thumb reaching towards the ceiling. Slowly lower to the starting position. Do not move your forearm throughout this exercise. Repeat 10 times. Do 3 sets.



Wrist strengthening

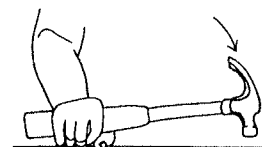
## **Lateral Epicondylitis (Tennis Elbow) Rehabilitation Exercises**

5. Pronation and supination: Hold a soup can or hammer handle in your hand, with your elbow bent 90 degrees. Slowly rotate your hand with palm upward and then palm down. Repeat 10 times. Do 3 sets.



**Wrist extension**

6. Wrist extension: Stand up and hold a broom handle in both hands. With your arms at shoulder level, elbows straight and palms down, roll the broom handle backward in your hand as if you are reeling something in using the broom handle. Repeat for 1 minute and then rest. Do 3 sets.



**Pronation and supination**

# EXERCISE TREATMENT FOR TENNIS ELBOW

Developed by Allan M. Levy, M.D.

## I. Arm Curl (Standing)

Hold a dumbbell with your palm facing forward and your hand at your side. Bend your elbow and lift the weight to your shoulder. Slowly lower the weight to the starting position.



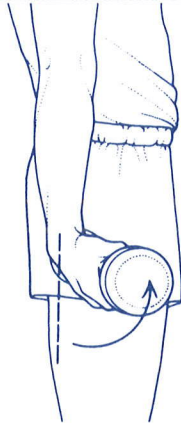
## II. Reverse Arm Curl

Hold a dumbbell with your palm facing backward and your hand at your side. Bend your elbow and lift the weight to your shoulder. Slowly lower the weight to the starting position.



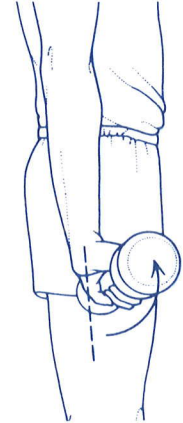
## III. Wrist Curl

Hold the dumbbell with your arm down by your side and your elbow locked. With your palm facing forward, flex the wrist forward all the way and then let it back down.



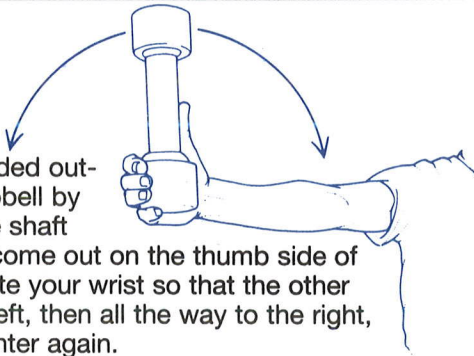
## IV. Reverse Wrist Curl

Put your arm down by your side and turn your hand so that the palm faces backward. Holding the dumbbell, flex your wrist forward as far as it will go and then let it down.



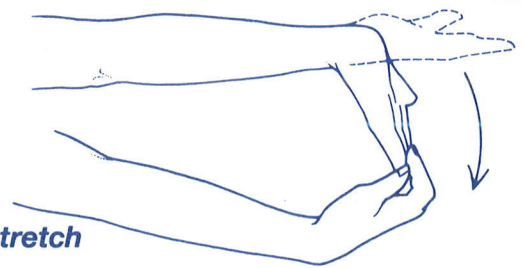
## V. Unbalanced Wrist Rotation

With your arm extended outward, hold the dumbbell by one knob so that the shaft and the other knob come out on the thumb side of your hand. Now rotate your wrist so that the other knob rotates to the left, then all the way to the right, and then back to center again.



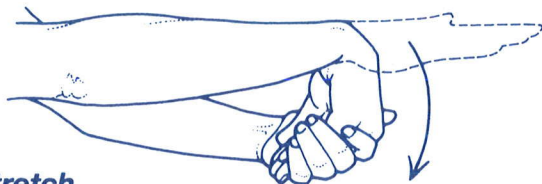
## VI. Elbow Stretch (Palm Up)

Extend your arm straight out, that is, parallel to the floor with the elbow locked and palm facing up. With your other hand, push the palm and fingers of the extended hand toward the floor. Hold for 15 to 20 seconds.



## VII. Elbow Stretch (Palm Down)

Extend your arm straight out, that is, parallel to the floor with the elbow locked and palm facing down. Push the top of your hand and fingers of the extended hand down toward the floor with your other hand. Hold for 15 to 20 seconds.



Exercises I - V should be done 50 times each, or to muscle exhaustion if this comes first. Start with 2-3 lb. dumbbell and increase weight as strength and pain allow. Try to work through pain unless it becomes severe.

Exercises VI & VII - 3-4 repetitions 6-8 times/day for each. Be sure elbow is completely straight to make stretch effective.