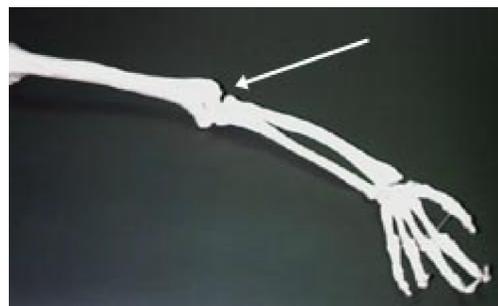


## TENNIS and Golfer's ELBOW

Tennis elbow also known as lateral epicondylitis is an injury to the muscles and tendons on the outside (lateral aspect) of the elbow that usually comes from overuse or repetitive use. It is not just seen in tennis players and occasionally can occur with an injury. Golfer's elbow known as medial epicondylitis occurs on the inner part of the elbow and is also do to overuse or repetitive use.



### **How is it caused?**

**Tennis elbow** is generally caused by overuse of tendons on the back of the forearm in tennis players but also occurs with other overuse activities.

**Most** patients with tennis elbow symptoms are **not** tennis players at all. Activities that require repetitive use of the elbow (e.g., painting a house, using a mouse, cutting hair, etc.) can cause this condition. However, sometimes patients will have pain without a history of repetitive use. This is mostly due to the normal aging process of tendons or to weakness in the arm.

**Golfer's elbow** is less common and usually occurs with flexing the wrist or gripping with the hand. It occurs in golfers but also with using hand or power tools, throwing a ball or even swimming.

### **Treatment**

The main treatment is initial rest and ice to control the pain followed by a stretching and strengthening program.

**These conditions can become a chronic problem if not addressed early.** Regaining full strength and flexibility is critical before returning to your previous level of sports activity.

### **The Treatment Program has three phases:**

*Goals:* decrease inflammation and pain, allow the tissues to heal, and avoid muscle atrophy.

#### **PHASE 1**

**Rest** - this means stopping the activity that caused the pain to begin. This doesn't mean don't do anything. You want to use the arm within as long as it is pain-free. Simply, let pain guide your activities.

**Ice** – is strongly recommended to decrease inflammation during the entire recovery process.

## **PHASE 2**

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

### **Stretching**

Gentle stretching exercises including wrist flexion (bending the wrist down), extension (bending the wrist up). The elbow should be fully straightened. These stretches should be held for 20-30 seconds and repeated 5-10 times, at least twice a day. Vigorous stretching should be avoided - do not stretch to the point of pain that reproduces your symptoms.



### **Strengthening**

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

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



***Wrist Flexion.*** Place 1 lb. weight in hand with palm facing upward; support forearm at the edge of a table or on your knee so that only your hand can move. Bend wrist up slowly, and then lower slowly (similar to exercise below).

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**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.

**Forearm Rotation.** Grasp hammer (or similar device) in hand with forearm supported. Rotate hand to palm down position, return to start position, rotate to palm up position, repeat. Increase or decrease



resistance, by move hand farther away or closer to the head of the hammer.



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



**Finger Extension.** Place a rubber band around all five fingers. Spread fingers 25 times, repeat 3 times. If resistance is not enough,



add a second band or use a thicker band.

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. The axiom "No Pain No Gain" does **NOT** apply here.

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.

### **PHASE 3**

*Goals:* Improve muscular strength and endurance, maintain and improve flexibility, and gradually return to prior level of sport or high level activity.

Continue the stretching and strengthening exercises. When your symptoms are resolved and have regained full mobility and strength, you may **gradually** increase your level of playing activity.

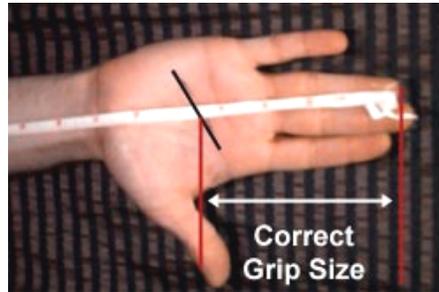
### **Equipment Modifications**

Using the wrong tennis racquet may have been a contributing factor to your injury. Guidelines for racquet selection for non-tournament players are provided below.

**Racquet material** - Graphite composites are currently considered the best in terms of torsion and vibration control.

**Head size** - A midsize racquet (95-110 square inches) is preferred. The popular oversized racquets cause problems because they make the arm susceptible to injury due to the increased torque effect of shots hit off-center.

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**String tension** - stay at the lower end of the manufacturer's recommendation. While higher string tensions provide improved ball control, it also increases the torque and vibration experienced by the arm.

**Stringing material** - synthetic nylon (re-string every 6 months).

**Grip size** - A grip too large or too small lessens control and promotes excessive wrist movement. To measure an appropriate grip size for your hand see image above.

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