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A Patient's Guide To Tennis Elbow (Lateral Epicondylitis)

WHAT IS TENNIS ELBOW?

Tennis elbow is breakdown and degeneration of tendons which attach to the outside (or lateral side) of the elbow. The muscles which work the hand and wrist begin as tendons which attach on a bony prominence on the lateral side of the elbow. This prominence is the lateral epicondyle of the humerus, so tennis elbow is degeneration of the tendons that attach to the lateral epicondyle (and so it is also called "lateral epicondylitis"). The pain can radiate into the forearm and occasionally into the hand.



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WHAT CAUSES IT?

Tennis elbow typically is caused by repetitive gripping and grasping activities or occasionally from direct trauma to the outside of the elbow. Examples include when someone increases the amount of squeezing or gripping they perform, such as trimming the hedge or playing more tennis than usual. Once the tendons get injured it can be difficult to eradicate because those tendons are used every time the hand grips or squeezes.

IS IT A SERIOUS CONDITION?

Tennis elbow can be a painful and debilitating problem but does not lead to serious problems, like arthritis. However, x-rays or an ultrasound scan may be necessary in some cases to evaluate the elbow joint. An examination by a physician in the office will confirm the diagnosis of lateral epicondylitis. Lateral epicondylitis is the type of condition that will never get so bad that treatment cannot be performed. In many cases, it will resolve over time with non-operative treatments.

HOW IS IT TREATED?

A vast majority of cases of tennis elbow do get better with treatment. This sometimes takes months so it is important that the patient be consistent with the treatment to be successful. This usually consists of the following (not all techniques may be presented by your doctor at once as every patient's treatment plan is individualized).

1. Modification of Activity: General activities which make the pain worse should be avoided or at least cut back. This may mean playing less tennis or cutting back on activities that involve gripping or grasping. For tennis players, modifying the stroke or the grip size of the racquet may help.

2. Ice: Cold therapy is very helpful for this condition. It is recommended that the area be iced daily or sometimes 2-3 times a day. Ice massage can be done by freezing water in a paper Dixie cup, tearing off the top of the cup, and rubbing the ice over the area while holding the base of the cup. You should ice until the area becomes numb and then ice for 5 more minutes- "Numb Plus 5". It is recommended that the area be iced after any aggravating activity, especially sports.

3. Over The Counter Pain Medication (such as Ibuprofen, Advil, Aleve, Motrin, Naprosyn, Tylenol.): These medications are very helpful in reducing the pain of tennis elbow. They should be used under the direction of a physician. We recommend the medicine be used as needed when treating severe cases. You can take either 2 Aleve OR 3 Ibuprofen/Advil with 2 Extra Strength Tylenol at the same time as needed for the pain.

4. Straps: A tennis elbow strap, also called a "counterforce brace," is found to be helpful by some patients. There are several different models available and they are designed to be worn 2-3 centimeters below the elbow. This is intended to take the stress off the tendon where it is attached to the bone. The brace is to be worn during sports or work and does not need to be worn at rest.



5. Wrist braces: These are worn on the wrist to keep the wrist bent backwards, taking the stress off of the elbow. Although not utilized routinely, some physicians utilize them when other measures have failed. They are primarily to be used at night while sleeping, or during the day when performing work on a computer as well.



6. Cortisone injections: Cortisone injections are not routinely recommended for true lateral epicondylitis pain, as this is a degenerative process of the tendon, not an inflammatory process. Cortisone is intended to reduce inflammation and the pain caused by it, and actually inhibits healing; therefore, we find that it is not beneficial in true lateral epicondylitis. However, cortisone injections can be used if there is suspected inflammation within the elbow joint itself, but this is usually utilized after other treatment modalities have failed.

7. Physical therapy: Physical therapy can be very helpful to repair the degenerative tendon that causes tennis elbow pain. This consists of exercises, stretches, and occasionally a form of ultrasound. Patients who work diligently and consistently in their physical therapy exercises may still require several months of therapy to alleviate their symptoms.

WHEN IS SURGERY INDICATED?

Surgery is indicated when all of the above measures have failed and the pain continues to prevent activity. As most lateral epicondylitis resolves in 6-12 months, surgery is rarely indicated. Surgery is indicated if the pain continues to prevent the patient from being active and they have failed a course of conservative treatment.

WHAT IS THE SURGERY?

There are two main types of surgery for tennis elbow that persists despite conservative measures:

1. **TENEX procedure:** An ultrasound machine is used to locate the area of degenerative tissue and a local anesthetic is injected to numb the area. A small incision is made (about 5 mm or smaller) and the damaged tendon is removed using a micro blade on the TENEX hand piece, which both rapidly cuts the tendon and simultaneously removes the diseased tendon. Since the incision is very small, only an adhesive Steri-strip is applied for dressing.
2. **Open surgery:** Usually a general anesthetic is required. A small incision is made (3-4 centimeters) over the lateral epicondyle and the diseased tendon is excised. The defect created is sewn back together and allowed to heal and the skin incision is closed. An arthroscopy of the elbow is usually done at the time of the lateral epicondylar debridement. If patients have intra-articular elbow symptoms, an elbow arthroscopy is often recommended to address all of their symptoms. The patient usually goes home the same day. The elbow is covered with soft dressing and a sling.

WHAT IS DONE AFTER SURGERY?

- **Following the TENEX procedure:** Patients go home the same day and have no restrictions with the elbow. However, we ask that they refrain from soaking in a bath or hot tub until their small incision can heal. They are encouraged to rest, ice, and elevate the elbow and use anti-inflammatory or pain medications as needed but may use the elbow as tolerated. To prevent stiffness in the elbow, we recommend that patients begin the stretching and gentle exercises that they were taught in physical therapy as soon as they can tolerate them. Recovery time varies from patient to



patient with this procedure: some patients will return to work the next day while others will experience pain and swelling of the elbow or hand that can last several days after surgery. Remember, although it is a minimally invasive procedure, the trauma of removing that damaged tendon from an area that is already very sore, and the healing process that follows, can still cause a good deal of pain or irritation to the elbow.

- Following an open procedure: Most patients go home the same day of surgery using an arm sling. The arm is to be elevated and the patient is in a removable wrist splint for 4-6 weeks. Stitches are removed 5-7 days after surgery and motion is begun. Rehabilitation and recovery depends upon the extent of the surgery and the type of surgery done. Most people cannot drive for a week and cannot return to heavy use of the arm for several months due to lifting restrictions. The success of this operation is quite good, with 80-90% of patients having relief from the pain and improvement of their function. However, recovery takes a few months and return to sports and normal activities may take longer.