

TENNIS ELBOW

Tennis elbow or “lateral epicondylitis,” is used to describe a painful condition that causes pain and tenderness in the bony bump on the outer part of the elbow. The condition was so named because it is frequently seen in tennis players but, in reality, very few of the patients with this disorder are actually tennis players.

Typically, tennis elbow affects both males and females between 20 and 60 and is often associated with sporting or occupational activities that require stressful use of the forearm and hand.

The lateral epicondyle is located on the outer side of the arm, slightly above the elbow joint. It is a projection from the humerus bone of the upper arm and serves as the point of origin for most of the forearm muscles responsible for wrist and finger straightening or extension.

Activities such as tennis, golf, or repetitive twisting or extension of the wrist and fingers during work or play, may strain or even tear these muscles at the site where they join the bone on the outside of the elbow.

The condition usually occurs slowly over time without a specific moment of injury, although a sudden onset of symptoms may be related to a direct blow to the outside of the elbow. Some degeneration of the tissues, which connect the muscles to the bone, may develop and reduced blood supply to the injured area is felt to play a part in tennis elbow.

If the entire elbow is painful or there is some associated numbness or tingling, a condition other than tennis elbow may exist. In those instances, the patient should seek consultation with a physician to make sure that elbow arthritis, shoulder problems or nerve compression are not present.

Causes of Tennis Elbow

Despite the name of the condition, tennis elbow can be caused by other activities besides playing racquet sports. Many commonplace activities can strain the tendons, such as:

- Painting
- Carrying heavy items
- Golf
- Carpentry
- Typing
- Knitting
- Machine work
- Tennis

Basically, any activity that twists and extends the wrist can lead to tennis elbow. In rare circumstances, a direct blow to the outside of the elbow can also lead to the condition.

Symptoms of Tennis Elbow

Patients with tennis elbow usually experience soreness to direct touch and pain with use. In particular, repetitive grasping, pulling or carrying objects with the elbow extended will be uncomfortable and activities which require straightening of the wrist and fingers will make the condition worse. Unfortunately, tennis elbow can be very annoying, difficult to treat and last for a long time.

If left untreated, a dull constant pain or sharp shooting pain can be felt. Swelling may be present. Other symptoms include:

- Pain when the wrist or hand is straightened
- Pain felt when lifting a heavy object
- Pain when making a fist or shaking hands
- Shooting pains from the elbow down to the forearm or up into the upper arm

Sometimes other conditions that are not linked to tennis elbow can cause pain in the elbow. For example, arthritis of the elbow, a pinched nerve in the neck and carpal tunnel syndrome are other conditions that cause similar symptoms. Your doctor will be able to accurately diagnose your condition by asking you about your daily and recreational activities and examining your elbow and arm. You will probably have to do movements that cause pain in the outer part of the elbow. In addition, he or she may order X-rays of the elbow.

Direct fingertip pressure usually identifies a point of tenderness just beside the bony prominence on the outside of the elbow. The tender spot is well localized and not much larger than a quarter. Resisted extension of the wrist will also produce pain at the same area of the elbow because of the tension it puts on the site of muscle origin. Some associated – but less severe – tenderness may also be present in the fleshy forearm muscle mass just beyond the elbow.

The examining physician will also carry out some additional tests to rule out other potential sources of elbow pain. X-rays of the elbow are usually of little help in diagnosing tennis elbow, but may aid in identifying any calcium deposits around the elbow or the presence of arthritis.

Treatments of Tennis Elbow

The main goal of treatment of tennis elbow is to eliminate or reduce the discomfort so that the patient can

Various splints and braces may be used to try and relax the muscles around the outside of the elbow and decrease the pull of these muscles on the inflamed area. During an acute or severe phase of the condition, a splint that extends the wrist may be very beneficial by both decreasing the strain on the elbow and insuring that the arm will be rested. Splinting and rest may be required for several weeks to obtain a reasonable relief of symptoms and, once the symptoms have decreased to the point that medication is no longer necessary, an exercise program designed to lessen the likelihood of recurrence can be started.

Exercises for tennis elbow are designed to increase the strength, flexibility and endurance of the affected elbow muscles and should be carefully carried out according to a specific protocol. While therapists should be consulted to provide the routine for the orderly progression of tennis elbow rehabilitation, the program usually involves a cautious use of repetitive wrist exercises and weights. Progression to more vigorous strengthening and weight use is permitted only when the existing exercises are essentially painless. Once elbow and forearm rehabilitation has been achieved, a maintenance program is recommended.

Several types of bands and braces designed to minimize muscle tension overload to the elbow are commercially available and may be purchased in drug or sporting goods stores or applied by therapists or physicians. These bands are most effective when the patient's tennis elbow condition is not severe and are mainly used to decrease the likelihood of recurrence.

Sports equipment and technique modifications are important aspects of the conservative management of tennis elbow. Using less tightly strung racquets and graphite or titanium frames is recommended to dampen ball impact and transmit less vibration to the forearm. Proper grip size also is important for torsion control of the racquet.

Work-related tennis elbow also requires activity modification. The posture of the arm during work is important and should be reviewed and modified when necessary. Those jobs that involve a lot of forearm pronation – that is palm down towards the floor - while the wrist is extended are particularly at risk to produce the condition. Physician supported discussions with employers and supervisors can often result in favorable job changes which will lessen the chance of developing severe and chronic tennis elbow symptoms.

If severe symptoms persist after a reasonable period of conservative treatment, surgery is recommended.

Surgery for Tennis Elbow

Surgical procedures for tennis elbow vary somewhat and are based on the experience and individual preference of the treating surgeon. In general, the procedures are designed to remove the diseased and degenerated tissue around the outside of the elbow and stimulate the improvement of the blood supply to the involved area. Release of a portion or all of the origin of the affected extensor muscles may also be part of the operation.

Surgery for tennis elbow may be performed as either an in-patient or outpatient procedure performed under regional block or general anesthesia.

A surgical incision will be placed over the outer aspect of the elbow and the removal of deteriorated tissue and release of muscle tendon tissues will be carried out. In some instances, some bone will be removed

form the bony prominence –lateral epicondyle – on the outside of the elbow. The skin will be closed with sutures or staples and a big dressing including a rigid long arm splint from the hand to the armpit will be applied.

The fingers and thumb are usually left free for motion. Elevation of the entire upper extremity for several days and vigorous finger motion is extremely important to prevent undesirable swelling and stiffness. Use of the arm will not be possible for several weeks and patients need help for those tasks requiring two hands.

The surgical dressing and splint will be removed at one to three weeks and all sutures will be removed at that time. Although gentle elbow motion is usually permitted at that time, a light splint or compressive dressing should be worn most of the time until the elbow is healing well and comfortable.

At approximately four to six weeks a therapy program is initiated to restore motion and strength to the elbow. While a trained therapist may instruct and assist the patient, much of the exercise program will be carried out by the patients themselves. Advice will be given regarding the use of the elbow and arm during office and therapy visits.

It is very common for patients to experience discomfort during the initial phases of rehabilitation following surgery for tennis elbow. There is predictable discomfort as the exercises stretch the structures around the elbow and some mild inflammation may be present around the surgical site. This reaction gradually resolves and, by three to six months, most patients experience complete or near-complete pain relief and the recovery of a satisfactory range of elbow motion. Strength recovery takes longer and may take as long as one year depending on the amount of weakness that the patient had before surgery and how vigorously strengthening exercises are carried out.

Possible Complications of Surgery for Tennis Elbow

Although surgery for tennis elbow is usually without any significant problems, there may be occasional unforeseen complications associated with anesthesia, including respiratory or cardiac malfunction. The surgery itself may be complicated by anatomic abnormalities or accidental injury to adjacent tissue structures such as tendons, nerves or blood vessels. Rarely, the post-operative discomfort and or elbow stiffness may be greater than expected and require longer therapy. Unfortunately, there are some instances when the surgery fails to resolve the symptoms of tennis elbow.

A condition known as reflex sympathetic dystrophy may occur in a few individuals and result in generalized pain, swelling and stiffness of the entire extremity. Wound infection, although very infrequent, may occur after any surgery and hamper a positive result.

Although the speed of recovery is variable for different patients following surgery for tennis elbow, most recover excellent elbow motion and functionally acceptable strength within a year of surgery. Pain relief is fairly predictable and almost all patients are pleased with their surgery.

To prevent tennis elbow from reoccurring, it is important to make sure you keep the muscles strong by exercise and using the proper form whether playing tennis or lifting heavy objects. Warming up before starting to use the muscle will also help prevent the condition. After exercising, you may want to ice and stretch the elbow and arm muscles.

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