



## ELBOW PAIN

### Anatomy

**Conditions:** Tennis Elbow • Golfers Elbow • Olecranon Bursitis • Arthritis • Ulnar Nerve Entrapment

**Procedures:** Injections • Nonprocedural Treatments

**Surgery**



### ANATOMY

The elbow is a **hinge joint** made up of the **humerus**, **ulna** and **radius**. The unique positioning and interaction of the bones in the joint allows for a small amount of rotation as well as hinge action. This rotation is easily noticed during activities such as hand-to-mouth eating motions.

The primary stability of the elbow is provided by the **ulnar collateral ligament**, on the medial (inner) side of the elbow. However, one of the most common injuries to the elbow occurs on the **lateral**, or outer, side of the elbow - it is called Lateral Epicondylitis, or Tennis Elbow.



### CONDITIONS

#### Tennis Elbow

Tennis elbow, or lateral epicondylitis, is one of the most common elbow problems seen by physicians. It is actually a tendinitis of the muscle called the extensor carpi radialis brevis which attaches to the lateral epicondyle of the humerus.

It may be caused by a sudden injury or by repetitive use of the arm. Many doctors feel that micro tears in the tendon lead to a hyper-vascular phenomenon resulting in pain. The pain is usually worse with strong gripping with the elbow in an extended position, as in a tennis back hand stroke, but this problem can occur in golf and other sports as well as with repetitive use of tools. Mechanics and Machinists seem to be particularly predisposed to this disease due to the demanding nature of their work.

Before surgery is considered a trial of at least six months of conservative treatment is indicated and consists of a properly placed forearm brace and modification of elbow activities. I have not found anti-inflammatory medication or physical therapy to be of any value. If the above treatment is not helpful, a cortisone injection can be beneficial but no more than three injections are recommended in any one location in a year.

Conservative treatment is in two phases and after Phase I (Pain relief) has been successful, Phase II, (Prevention of recurrence) is equally as important and involves stretching and then later strengthening exercises, so the micro tears will not occur in the future.

When conservative treatment has failed, then surgery is indicated. Many procedures have been described. Procedures as simple as percutaneous release of the tendon off of the bone have been described and more recently arthroscopic procedures or other procedures involving the joint and resection of a ligament as well have been described.



The most popular procedure today is a simple excision of diseased tissue from within the tendon, shaving down the bone and re-attachment of the tendon. This can be performed as an outpatient procedure with regional anesthesia (where only the arm goes to sleep) and through a relatively small incision of approximately 3" long. 85-90% of patients with this technique are typically able to perform full activities without pain after a recuperation of two to three months. Approximately 10-12% of patients have improvement but with some pain during aggressive activities and only 2-3% of patients have no improvement.

## Golfers Elbow

Similar to lateral epicondylitis, this is an inflammation at the origin of the flexor muscles of the wrist. It presents with pain with resisted wrist flexion, such as with lifting objects with the palm facing upwards.

Golfers have additional stress at this region of the elbow when hitting a ball, hence the name. It is treated in a manner similar to TENNIS ELBOW, with surgery reserved for cases which fail conservative management.

Activity modification is beneficial, and consists of avoidance of resisted wrist flexion. Further intervention may include an injection to the involved area with steroid and pain medication.

## Olecranon Bursitis

This is an inflammation of a small fluid filled sac overlying the bony prominence at the 'point' of the elbow. Treatment may consist of withdrawal of the fluid and possibly sending this fluid for testing. An Ace wrap sometimes help the swelling subside. Accurate assessment by a physician is necessary prior to treatment. Usually it will go away with activity modification and minimization of any direct trauma. In severe cases, surgery may be necessary to remove the irritated inflamed tissue.

## Arthritis

Elbow arthritis is a complex process and can result in pain and loss of range of motion. Accurate assessment is necessary, and may include diagnostic imaging as well as a comprehensive exam. Treatment varies depending on the complexity of the disease and the degree of functional deficit and pain.

## Ulnar Nerve Entrapment

One of the large nerves of the arm, the ulnar nerve, can end up getting entrapped at the level of the elbow. This nerve is the same one which is stimulated when you hit your "funny bone". Symptoms may include a tingling sensation or pain radiating down to the fingers, in particular the ring and little fingers of the hand. Symptoms may worsen with bending the elbows, for example when you are talking on the phone or driving a car. Diagnosis may include an EMG/NCS as well as an accurate history and physical exam by physician. Treatment may include splints or if necessary surgery.



## PROCEDURES

### Injections

Injections can be performed for some of the common elbow pathologies to help decrease inflammation and alleviate pain.



## Nonprocedural Treatments

### PHYSICAL AND OCCUPATIONAL THERAPY

This type of therapy may consist of exercises to improve range of motion, strength and conditioning. A good therapist will examine you, assess your deficits and disease and formulate a plan based on optimizing function and minimizing pain. These exercises are specific for the nature of your injury and should be executed under the supervision of a physician who understands your case.

### MODALITIES

Modalities include simple age-old treatments such as heat, cold and massage as well as newer treatment methods such as acupuncture, manipulation, and electrical stimulation. Your physician and therapists should formulate an optimal treatment protocol to maximize your healing potential. These modalities are often used in conjunction with Physical and Occupational therapy.

### MEDICATIONS

Depending on the nature of your problem, Non-steroidal antiinflammatory drugs ['NSAIDS'], corticosteroids, and opioids [narcotic] medications may be used. If there is a muscular spasm, a muscle-relaxant may help alleviate that aspect of your pain. Narcotics should be minimized and used only for short periods if at all possible due to rapid tolerance and all the attendant risks associated with abuse of a controlled substance.



### SURGERY

Dr. Sandhu performs minimally invasive surgeries which result in a rapid recovery and minimal risk to the patient. Although we do not perform large-scale open surgeries in our clinics, there are occasions where a problem requires surgical intervention.

We can help screen potential surgical candidates and send them for evaluation by the appropriate specialist. These surgeons are usually orthopedic surgeons or neurosurgeons with specialized training for the particular disease process involved.