

TEACHING TECHNIQUES



Prolotherapy Injection Technique of the Elbow

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Prolotherapy injections into and around the elbow produce very rewarding results with a 90% success rate at eliminating or greatly reducing pain. We will first review some elbow anatomy.

The elbow contains three separate joints; the humeroulnar, humeroradial, and radioulnar joints. The osseous stability of these joints is reinforced by the medial and lateral ligament complexes. It is the stimulation of these ligament complexes with Prolotherapy that is often the key to eliminating chronic elbow pain. The medial ligament complex, or ulnar collateral ligament complex, provides valgus (or medial) stability. The lateral ligament complex provides rotational and varus (or lateral) stability. The annular ligament encircles the head of the radius, stabilizing it. (See Figures 1a & 1b.)

Typically when a patient is referred for Prolotherapy of the elbow, they carry the diagnosis of lateral epicondylitis, or tennis elbow. I prefer the term epicondylosis, signifying a pain at the lateral epicondyle of the elbow and the lack of evidence of inflammation in the area for most patients who present with lateral elbow pain. Lateral epicondylosis is seven to ten times more common than medial epicondylosis; it involves the dominant arm 75% of the time.¹ In my practice, lateral epicondylosis is the single most successfully treated diagnosis. During a careful examination of the elbow, typically the lateral epicondyle is very tender along with the annular ligament on the radial head.

The Prolotherapy technique of injecting the lateral elbow involves first having the patient sit on the edge of the exam table with the elbow bent, the palm resting on the thigh. Next the lateral epicondyle is identified and solution is “peppered” here. While the normal dextrose Prolotherapy solution can be utilized, if needed, the

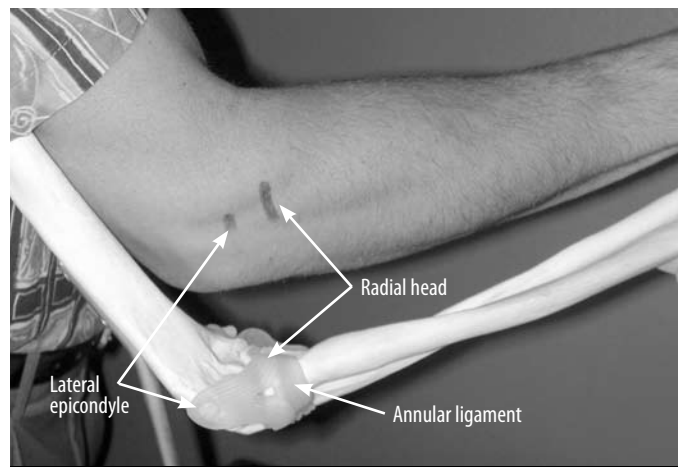


Figure 1a. Lateral view of elbow.

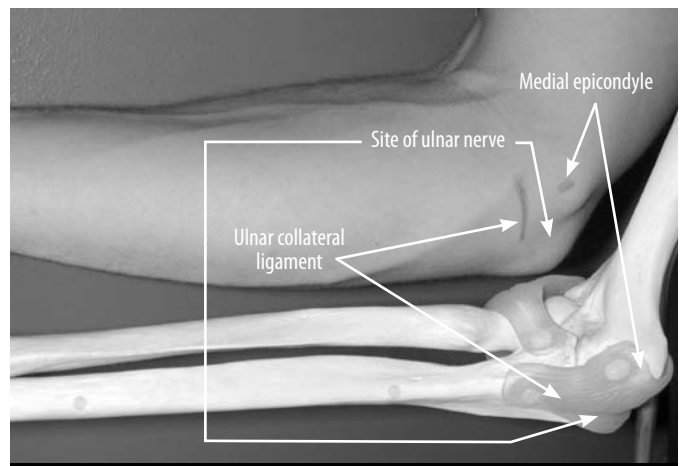


Figure 1b. Medial view of elbow.

proliferant may be augmented with sodium morrhuate. Depending on the solution used, at least 1cc of solution is utilized at the common extensor tendon attachment at the lateral epicondyle. Typically the supra-condylar ridge and radial head are also tender and these are injected with the same solution. (See Figure 2.) It is important not to



Figure 2. Injection to supra-condylar ridge.

have the needle go superior to the radius, as it is possible to hit the radial nerve. Generally, at least 3cc of solution are utilized.*

Medial epicondylosis, or golfer's elbow, is straight forward to treat. The area involved, like its lateral counterpart is readily identified. The patient, while seated on the edge of an exam table, places the palm on the crown of the head. This leaves the elbow bent to 90 degrees with the medial epicondyle facing anterior. At least 1cc of Prolotherapy solution is infiltrated at the point of injury at the common flexor tendon attachment onto the medial epicondyle. In this area, **caution** is exercised for the **ulnar nerve**, which runs immediately posterior in the ulnar groove (the space between the medial epicondyle and the olecranon process). Additionally, the median nerve runs anteriorly to the medial epicondyle. As always, the Prolotherapist must be familiar with the anatomy of the region. (See Figure 3.)



Figure 3. Injection of the medial epicondyle.

A less common cause of pain in the elbow is osteoarthritis. To treat this, the patient is put in the prone position with the elbow extended, palm down. (See Figure 4.) The humeroradial joint is identified and the skin cleansed.** The joint is then injected with 2cc of 25% dextrose solution. Afterward, the joint is flexed and extended several times to distribute the fluid throughout the joint.



Figure 4. Intra-articular injection of the humeroradial joint.

One of the main ligaments of the elbow that frequently needs Prolotherapy is the ulnar collateral ligament, which runs from the medial epicondyle to the medial edge of the olecranon and coronoid process. The patient is positioned as for medial epicondylosis. The fibrous junctions of the ligament are peppered with Prolotherapy solution again exercising caution regarding the ulnar nerve. On the lateral side of the elbow a similar structure exists, the radial collateral ligament. This extends from the lateral epicondyle to the annular ligament of the radius. To treat this ligament, the solution is again peppered over the injured segments from the lateral epicondyle to the annular ligament.

In an experienced Prolotherapist's hands, treatment of elbow pain including medial and lateral epicondylosis is very successful. Prolotherapy can often get tennis players and golfers back on the courts and course very quickly! ■

1. Leach RE, et al. Lateral and medial epicondylitis of the elbow. *Clinical Sports Medicine*. 1987;6:259-72.

* Some physicians will utilize a lot more solution.

** It is assumed before all injections that the area is cleaned.