

# Conflicting Evidence to Predict Surgical Outcome for Cubital Tunnel

Reviewing 26 studies involving a total of 1500 patients still doesn't answer the question: What factors predict the outcome of surgery for cubital tunnel syndrome? Six of the most commonly used prognostic factors were evaluated. These included age, duration of symptoms, preoperative status, results of preoperative electrodiagnostic testing, type of surgery, and Workers' Compensation status.

Cubital tunnel syndrome is a condition that affects the ulnar nerve where it crosses the inside edge of the elbow. The symptoms are the pain that comes from hitting your funny bone. When you hit your funny bone, you are actually hitting the ulnar nerve. The nerve runs through a passage called the cubital tunnel. When this area becomes irritated from injury or overuse, it causes cubital tunnel syndrome.

The ulnar nerve actually starts at the side of the neck, where the individual nerve roots leave the spine. The nerve roots pass through openings between the vertebrae. These openings are called neural foramina. The nerve roots join together to form three main nerves that go to the hand. One of these nerves is the ulnar nerve.

The ulnar nerve passes through the cubital tunnel just behind the inside edge of the elbow. The tunnel is formed by the bony structures of the elbow. You may be able to feel it if you straighten your arm out and rub the groove on the inside edge of your elbow.

The ulnar nerve passes through the cubital tunnel and winds its way down the forearm and into the hand. It supplies feeling to the hand and half the ring finger. It works the muscle that pulls the thumb into the palm of the hand, and it controls the small muscles of the hand.

But when pressure on the nerve is severe enough, constant pain, numbness, and electric shock sensations make it difficult to do your job at home and at work. The problem is usually treated conservatively with nonoperative care. Anti-inflammatory medications can help with the symptoms. The early symptoms of cubital tunnel syndrome usually lessen if you just stop whatever is causing the symptoms. Surgery is a last resort. Medication modification.

If the symptoms do not go away, even with changes in activities and nonsurgical treatments, then surgery may be advised. The goal of surgery is to release the pressure on the ulnar nerve where it passes through the cubital tunnel.

The surgical approach reviewed in this study is called ulnar nerve transposition. In this procedure, the surgeon forms a new tunnel for the ulnar nerve behind the flexor muscles of the forearm. The ulnar nerve is then moved (transposed) out of the cubital tunnel and placed in the new tunnel.

It's a delicate operation that can have variable results. It would be helpful to have some way to evaluate patients before surgery to predict those that might cause postoperative pain and disability. Having what we call predictive or prognostic factors might help surgeons choose the most careful (and specifically) for this procedure and/or change the way patients are treated.

But the results of these studies showed no clear trend and conflicting results when focusing on these six potential prognostic factors. This review says that the reasons for the lack of convincing or consistent evidence may not have to do with the factors themselves, but that the study design and general low-quality of the studies were the real problem areas. Many times there just weren't enough patients in the studies to create significant statistical data.

They concluded that future prognostic (high-quality) studies are definitely needed. One step researchers could take is to find a disease-specific outcome measure that is reliable. Research to find such a tool should be the first step. Studies with larger numbers of patients would also be helpful. And research that doesn't rely on retrospective design (patients have to recall or remember events from a long time) is preferred.

Reference: Qiyang Shi, MD, MSc, et al. Predictors of Surgical Outcomes Following Anterior Transposition of Ulnar Nerve for Cubital Tunnel Syndrome: A Systematic Review. In *The Journal of Hand Surgery*. December 2011. Vol. 36A. No. 12. Pp. 1996-2001.