

Ulnar Nerve Entrapped in the Cubital Tunnel

The ulnar nerve of the arm has become trapped in the region of the elbow.

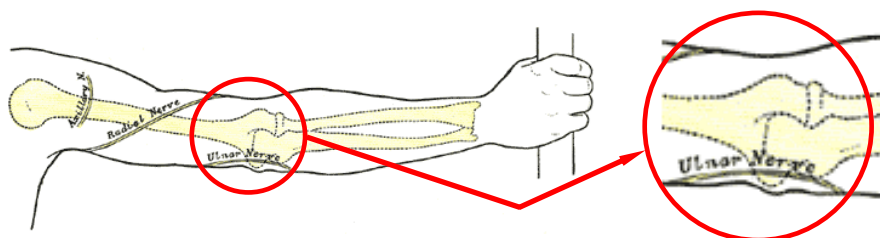
The *cubital tunnel* is a relatively common site of ulnar nerve compression or entrapment. It is called *cubital tunnel syndrome*. It occurs in men 3-8 times more often than in women.

(a) What is the Cubital Tunnel?

The word *cubitus* is Latin for elbow, and a *cubit* is an ancient unit of linear measurement meaning the distance from the tips of the fingers to the elbow.

The *cubital tunnel* is a passage or groove between the elbow bones (the *medial epicondyle* and the *olecranon*). If you hold your arm out straight with the palm up, you can feel the groove on the under-side of the elbow nearest your body. The ulnar nerve can be easily felt along this groove. When you hit the nerve in this region, you have hit your “funny bone”. The nerve is relatively unprotected, although there is a fibrous sheath across this gap in the bones called either *Osborne’s ligament* or the *cubital tunnel retinaculum*.

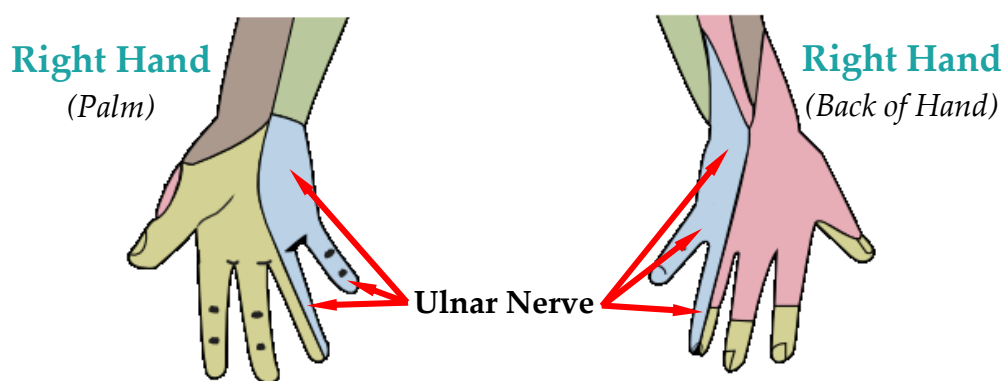
Figure 1: Location of the Cubital Tunnel



(b) Symptoms

In cases of mild compression you may experience medial forearm pain and a tingling, prickling or numbness sensation (called *paraesthesia*) of the skin in the ulnar nerve areas shown in Figure 2 below.

Figure 2: Cutaneous Distribution of the Ulnar Nerve



If untreated you will eventually experience muscular weakness resulting in:

1. Weak grip.
2. Weak pinch grip (between the thumb and index finger).
3. Difficulty in spreading the fingers apart.

(c) Causes

There are several causes of cubital tunnel syndrome.

1. *Subluxation of the ulnar nerve.* Subluxation simply means something has slipped out of its normal location. This is the most common cause. The nerve is normally held in place by *fascia*. Fascia is a kind of fibrous matrix composed chiefly of collagen. You will have seen it dividing up layers of meat if you buy cheap stewing meat. But this can lose its ability to stabilise the nerve in its correct position in the groove, and it keeps slipping out of that location. Normally surgery is used to correct this problem.
2. *Entrapment within the tunnel.* The ulnar nerve must stretch during the bending of the elbow. Irritation of the nerve is more likely if it is entrapped or inhibited from moving by some abnormality in the anatomical structure of the area; *thickening of the fascia* mentioned above for example, a *tumour*, or a *ganglion cyst* are possibilities.
3. *Raised pressure in the tunnel.* As you bend your elbow, gap between the bones that form the groove in which the nerve runs becomes wider. This stretches and tightens *Osborne's ligament* which spans the gap. If the ligament is too short it will place pressure on the nerve as the elbow is bent.

(d) Treatment

Medical Treatment

Medically speaking surgery is the commonly proposed answer. In milder cases releasing the fascia directly over the nerve may be enough, but in more serious cases the nerve is transposed (moved) to the other side of the epicondyle of the elbow (outside the groove). It is not always successful, and when it is, it may be 6-12 months before the success is evident, because nerve damage during the surgery is virtually unavoidable and nerves recover at a mere 1 mm per month. When it is not successful, the problem may have been entrapment by the Arcade of Struthers, another possible place of ulnar nerve entrapment not commonly recognised by the medical profession. The wisest course of action is to view surgery as the absolute last resort.

Massage Treatment

In many cases it may be possible to relieve the tension fascia surrounding the nerve and in *Osborne's ligament*. Your practitioner has been trained in how to carry this out. Only if this fails should surgery be considered.