

## Ulnar Nerve Compression at Cubital Tunnel

### What is it?

The ulnar nerve is one of the major nerves that supplies the muscles of the hand and feeling for the little and ring fingers. The ulnar nerve passes around the inside of the elbow behind the bony prominence on the inside of the elbow that passes through the cubital tunnel at this site. The boundaries of the cubital tunnel are formed by the ulnar bone and a soft tissue sling overlying the nerve in this region. If the nerve becomes trapped at this site, patients often feel numbness and tingling in the little finger and ring finger.

### What are the symptoms of cubital tunnel compression of the ulnar nerve?

People with cubital tunnel syndrome may experience tingling and numbness in the little and ring fingers. This may be intermittent or eventually become permanent. People may also notice weakness and wasting of the small muscles of the hand and may note that they are clumsier and drop things more often.

### Clinical examination

In the early stages of the syndrome patients may have no clear signs. As the muscles weaken in the hand, they may show signs of muscle wasting. Numbness of the ring and little fingers may be seen and irritation on tapping on the nerve at the elbow and possibly the wrist, may produce tingling down to the little fingers. Weakness of grip strength or finger a reduction will be examined by Dr. Taylor and these signs are also consistent with ulnar nerve injury.

### What investigations are required?

When investigations are required, nerve reduction studies are frequently performed which records the speed of conduction through the nerve at the level of the elbow and at the wrist. This can be compared to the other hand or to normal population data. The test takes about 20 minutes to complete and is slightly uncomfortable to perform.

## What are the treatment options?

There are two main treatment options for cubital tunnel syndrome: non-operative treatment and operative treatment.

### Non-Operative

Non-operative treatments may include elbow splints worn at nighttime if the symptoms are predominantly nocturnal. A steroid injection into the cubital tunnel could be considered which may improve their symptoms. This may give transient effect however, and a number of patients who have troublesome symptoms progress to surgical treatment.

### Operative

Surgery may be indicated in severe cases. This is frequently performed as an open procedure for most, although a number of different operations are proposed, the evidence suggests that for most people a simple decompression of the nerve in situ will produce good results. In some circumstances, if the nerve is unstable or under tension, it may be required to transpose the nerve anterior to the bony bump on the medial side of the elbow. In occasional circumstances, some of the bone may be removed at the elbow to reduce the tension of the nerve. The outcome of surgery is usually very good but it depends on the grade of disease at the time of surgery.

### Possible complications

Most people will be able to return to driving approximately two weeks after surgery. Splints may be used. It is important to note that over 50% of patients will still have some symptoms after surgery, although most patients will claim this is a successful procedure. The aim of surgery is to stop the symptoms from getting worse, but total recovery cannot be guaranteed. Some complications, specifically related to this surgery, include infection, which is a less than 1% chance, damage to the very nerve we try and release, which can become painful, and recurrent symptoms which may require future surgery. Please note that repeating surgery on the same site is less likely to provide a good outcome and may not be in the patient's best interests.