



## Ulnar Nerve Neuropathy

Ulnar nerve neuropathy or ulnar nerve syndrome is where the ulnar nerve is compressed thus affecting the function of the nerve that supplies part of the arm and hand.

The ulnar nerve is one of four major nerves that supply the upper limb. It is formed by small branches from the spinal cord and travels down in front of the arm and around the inside surface of the elbow joint. The nerve runs through the forearm supplying a number of muscles before finally ending in the hand and supplying some of the skin and small muscles of the hand.



*Ulnar nerve shown in red*  
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It has two major functions in the hand:

- It supplies the majority of the muscles within the hand.
- It supplies the sensation to the half the ring and little finger.

As the nerve runs around the elbow joint it can be compressed by three major structures:

- The membrane between various muscles within the arm.
- The ligament as the nerve passes around the bony part of the elbow joint, also called the funny bone.
- A muscle which the nerve pierces within the forearm.

### CAUSE

There are various causes for ulnar nerve syndrome or ulnar neuropathy. They include:

- Thickening of the ligament over the nerve.
- Thickening of the muscle that the nerve pierces.
- Trauma to the area that the nerve supplies, e.g. elbow fracture or large bruise.
- There may be no cause found.

### SIGNS AND SYMPTOMS

The symptoms are commonly:

- Numbness in the little finger and half the ring finger.
- Weakness of the small muscles of the hand which most commonly causes the patient to drop things.
- Tenderness around the elbow joint as the nerve passes over the bone.
- Pain is not a usual feature of this syndrome.

### INVESTIGATIONS

The main investigations used to test this condition is a:

- Nerve conduction study / EMG – these are special electrical tests to look at the function of the nerve and muscle in the affected arm. It helps delineate between a ulnar nerve neuropathy and a lower radiculopathy.
- Plain x-ray – an x-ray of the elbow is occasionally to rule out a bony malalignment or overgrowth that may compress the ulnar nerve. This is especially the case if there is a history of an elbow fracture.