

CUBITAL TUNNEL SYNDROME

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The Cubital Tunnel

- roof - aponeurotic attachment of 2 heads of FCU - spans from medial epicondyle of humerus to the olecranon of ulna (Osborne's ligament)
- floor – MCL of elbow - extends in fanlike fashion from medial border of olecranon process to base of epicondyle
- cubital tunnel begins where the ulnar nerve passes beneath Osborne's ligament
- aponeurosis of origin of the FCU (Flexor Carpi Ulnaris)
- aponeurosis is drawn taut over nerve in elbow flexion

The Cubital Tunnel

- at level of medial epicondyle before nerve enters cubital tunnel, it gives off the articular branches to the elbow joint;
- ulnar nerve reaches groove behind medial epicondyle accompanied by ulnar collateral artery;
- anterior band of medial collateral ligament is anterior to ulnar nerve, which does not cross it;
- branches to FCU & medial half of FDP are given off distal to entry of nerve into cubital tunnel, yet these 2 muscles are usually spared in cubital tunnel syndrome;

Cubital Tunnel Syndrome

- Cubital tunnel contains the ulnar nerve as it passes behind the medial elbow
- A compressive neuropathy may develop at various points
 - Common
 - between the two heads of FCU (most common site)
 - arcade of Struther's (hiatus in medial intermuscular septum)
 - Osborne's ligament which goes from medial epicondyle to the olecranon

Cubital Tunnel Syndrome

- less common sites of compression include
 - fibers within the FCU
 - anconeus epitrochlearis muscle
 - fractures
 - cubitus valgus deformity
 - elbow contracture release
 - tumour and ganglions cysts

Symptoms

- **Sensory**
 - Pain and/or paraesthesia in ulnar 1 ½ digits worsened by excessive flexion e.g. mobile phone use
- **Motor**
 - paralysis of the intrinsic muscles (adductor pollicis, deep head FPB, interossei, and lumbricals 4 and 5)
 - weak grip strength (loss of MP joint flexion power)
 - weak pinch strength (loss of thumb adduction)
- **Night pain caused by sleeping with arm in flexion**

Examination

- Examine neck, arm and hand
 - Weakness and sensory changes
- Tinnel's sign when percussing over cubital tunnel
- Froments sign
- Jeane's sign
- Pollock's test
 - identifies weakness of two ulnar FDPs
- Elbow flexion test

Investigations

- Radiographs - osteophytes and associated DJD
- Nerve Conduction Studies
- Electromyography

Conservative management

- May be effective in 50% of cases
- Activity modification
- NSAIDs
- Night time bracing in 45 degrees of extension

Operative management

- cubital tunnel retinaculum release
- ulnar nerve anterior transposition (subcutaneous, submuscular, intermuscular)
- medial epicondylectomy
- Recurrence is a complication