

Ulnar nerve

- @ wrist
 - superficial laceration of palmar branch & main nerve, but not of dorsal branch
 - “CLAW HAND” due to loss of MP flexion & PIP/DIP extension (interossei, lumbricals III & IV) + unopposed actions of flexor digitorum (PIP/DIP flexion) & extensor digitorum (MP extension)
 - paralysis of hypothenar muscles
 - loss of sensation along medial side of palm (palmar branch) and distal fifth finger
- @ distal ulna
 - fracture
 - same as above, except no loss of sensation along medial side of palm (palmar branch spared)
- @ elbow
 - same as above, except deformity is less severe because of loss of ulnar half of flexor digitorum profundus (more proximal injury), decreasing flexion of fingers 4 & 5
 - loss of sensation along medial side of palm (palmar branch), medial side of dorsum (dorsal branch) & distal fifth finger

Median nerve

- @ wrist (carpal tunnel)
 - paralysis of thenar muscles, with loss of opposition & weakening of flexion & abduction; paralysis of lumbricals I & II has negligible effect because interossei still function
 - loss of sensation in 2nd & 3rd digits & portion of 4th digit
 - *NO loss of sensation over proximal palm (palmar cutaneous branch spared)*
- @ wrist (superficial laceration)
 - no motor deficits
 - loss of sensation over proximal palm
- @ wrist (deep laceration)
 - paralysis of thenar muscles (see above)
 - loss of sensation over proximal palm, 2nd & 3rd digits & portion of 4th digit
- @ elbow
 - medial epicondyle fracture
 - “HAND OF BENEDICTION” due to loss of flexion of 2nd & 3rd fingers (flexor digitorum superficialis & radial half of flexor digitorum profundus) but not of 4th & 5th fingers (ulnar half of FDP preserved); loss of opposition of thumb (thenar muscles); paralysis of flexor pollicis longus, lumbricals I & II has negligible effect
 - loss of sensation over radial side of palm and digits lateral to center line of 4th finger

Radial nerve

- most commonly injured nerve in the body (long course along shaft of frequently fractured bone, the humerus)
- @ point distal to humeral epicondyles
 - radial fracture
 - “WRIST DROP” from loss of wrist extension (deep branch; ECRB, ECU, EI)
- @ point proximal to humeral epicondyles
 - humeral fracture
 - both deep & superficial branches affected
 - deep branch: “WRIST DROP” (see above) plus pronation (loss of supinator) & inability to extend digits & thumb (extensor digitorum, EPB, EPL)
 - superficial branch: loss of sensation to dorsum of hand & thumb
 - NOTE: some supination still possible because biceps is preserved

Posterior cord

- “Saturday night palsy” OR “crutch palsy”
- “WRIST DROP” (see above) & maybe “WAITER’S TIP” (loss of abduction of arm, loss of some supination)
- loss of sensation in distribution of axillary & radial nerves

Lower trunk

- “Klumpke paralysis”
- breach delivery, shoulder dislocation, apical lung tumor, cervical rib, scalene syndrome
- maybe “CLAW HAND” from loss of ulnar nerve (but loss of radial & median nerves makes it complicated); inability to adduct arm in lowered position against resistance (medial pectoral nerve)
- hypesthesia over C8, T1 dermatomes

Upper trunk

- “Erb-Duchenne palsy”
- most common plexus injury
- violent downward displacement of arm (horse, motorcycle accident)
- “WAITER’S TIP” from loss of abduction (deltoid-axillary nerve), loss of radial flexion (biceps, brachialis-musculocutaneous nerve), loss of external rotation (infraspinatus-suprascapular nerve, teres minor & posterior deltoid-axillary)

nerve), loss of supination (supinator-radial nerve, biceps-musculocutaneous nerve) & loss of wrist extension (WRIST DROP-radial nerve); arm is extended, adducted & internally rotated; elbow is extended and forearm pronated; wrist is flexed

- inability to touch opposite shoulder (loss of lateral pectoral nerve)
- hypesthesia over C5, C6 dermatomes