

Neurological Hand Examination

Introduction

- **W**ash hands, **I**ntroduce self, ask **P**atient's name & DOB & what they like to be called, **E**xplain examination and get consent
- Expose arms above elbows; place pillow on their lap and rest hands on
- **General inspection:** patient risk factors – pregnancy, hypothyroidism, obesity, trauma, acromegaly etc

Hand inspection

- Muscle wasting (especially thenar (**median**) and hypothenar eminences)
- Wrist drop (**radial**)
- Tremor, fasciculations

Motor Power

- Median (e.g. carpal tunnel syn)
 - **Thumb abduction** (patient lie hand flat on pillow with palm up and then point thumb towards ceiling – “don’t let me push it down”)
 - Pincer grip/thumb opposition (patient touches tip of thumb to tip of little finger AND “don’t let me break it”)
- Ulnar (e.g. trauma behind elbow)
 - **Finger abduction** (spread fingers against resistance)
 - **Grip card** between little and ring finger while hands vertical AND examiner tries to pull away (adduction of little finger)
 - **Grip card** between thumb and index finger while hands vertical AND examiner tries to pull away (if adductor pollicis is weak, patient will flex the thumb to grip the card = *Froment’s sign*)
- Radial (e.g. saturday night palsy or humeral shaft fracture)
 - **Wrist extension**
 - Finger **extension** (all together)
 - Thumb **extension** (with hand vertical, point thumb to ceiling – “Don’t let me push it down”)

Median nerve muscles (“LOAF” i.e. all thumb muscles except adductor pollicis)

Lateral two lumbricals

Opponens pollicis

Abductor pollicis brevis

Flexor pollicis brevis

Ulnar nerve muscles (intrinsic hand muscles except most of thumb)

Adductor pollicis

Lumbricals (flex MCP joints and extend IP joints)

Palmar interossei (**adduct** fingers)

Dorsal interossei (**abduct** fingers)

Pad Dab

Radial nerve muscles (extensors)

Extensors

Sensory (Light Touch)

- With palm facing up:
 - over DIPJ of index finger (median nerve)
 - over DIPJ of little finger (ulnar nerve)
- With palm facing down:
 - anatomical snuffbox (radial nerve)

Special tests

- **Phalens test:** reverse prayer sign for 1m. Positive test = causes pain and carpal tunnel syndrome symptoms
- **Tinels test:** tap median nerve at its course in wrist. Positive test = tingling worsens

Function

- **Function:** test pincer grip; squeeze my fingers (C8 root); prayer sign; carry out everyday tasks e.g. undo buttons, write sentence, hold cup

Summary

- Thank patient and cover them
- Summarise and suggest further investigations you would do after a full history

