Hand Examination

You should be able to perform the hand examination slickly and efficiently as there may be little time for this examination.

Follow the same principle of Look – Feel – Move and you wont go wrong.

Important to ask before you begin if the patient has any pain anywhere as these patients may have very painful hands

Inspection

As ever, very important, you can often get the diagnosis from inspection alone.

- First ensure adequate exposure, ask the patient to lift up sleeves to beyond the elbow
- Ensure that you inspect the elbow at this time, looking at the joint for any obvious swelling, but more importantly for any stigmata such as a rheumatoid nodule that will be firm, nodule of calcinosis as in CREST which will be hard, a plaque of psoriasis on the extensor surface.
- Don't forget to place a pillow on the patients lap

- Ask the patient to place hands palm down onto the pillow so that you can inspect the dorsal surface
    - Comment on obvious changes such as amputated digits
    - Skin – skin changes such as erythema, rashes such as psoriasis, sclerodactyly, obvious pallor which could be suggestive of Raynauds phenomenon, digial gangrene, scars, Gottrons patches
    - Soft tissue – small muscle wasting of the hand, nodules such as Heberdens nodes (DIP) or Bouchards (PIP)
    - Nails – any pitting or onycholysis (psoriasis), sub-ungual calcinosis
    - Joints – obvious swelling and importantly the pattern of involvement e.g. symmetrical/asymmetrical, MCP/PIP suggests RA, DIP could be OA, psoriatic etc.
    - Bones – bony deformity – especially ulnar deviation of the MCP's (often associated with radial deviation of the wrist), Boutonieres, Swan neck, Z deformity of thumb etc.

- Ask the patient to turn over the hand to allow inspection of the palmar surface, again inspecting in a systematic manner:
    - Skin – any obvious changes as above, palmar erythema, telangiectasia
    - Soft tissue – thenar wasting with carpal tunnel (RA), or indeed carpal tunnel scar which can be very fine indeed and easily missed
    - Joints and Bones – as above, further inspection

By now you should have a very good idea as to the diagnosis, and further examination acts only to confirm and demonstrate the activity of disease and functional status.

Palpation

- Start by feeling for the temperature of the joints with the dorsal surface of your hand – feeling over the wrist, MCP and IP joints
- Note any obvious reduction in temperature distally which could be suggestive of Raynauds
- Palpate the wrist joint noting any tenderness
- Palpate over the anatomical snuff box if any concern over scaphoid #. In addition, it is in this area that tenderness may be elicited in De Quervains tenosynovitis (pain can be produced by Finkelsteins test – hand moved into ulnar deviation at the wrist and the thumb then flexed across the palm, should bring on the tenderness of De Quervains)
- Characterise any joint swelling that is identified – typically into i) Hard – bony ii) Boggy – soft tissue swelling or iii) Fluctuant – suggesting effusion of the joint.
- Palpate each of the MCP's in turn – ideally looking at the patients face for tenderness.
- Bi-manually palpate each of the interphalangeal joints looking for swelling and tenderness. The examiner may stop you, or ask only to concentrate on one hand only.

Move

The aim is to assess joint mobility but also hand function.

- This should be conducted in a smooth sequence to look slick – but ensure you know what and why you are testing the individual movements;
- The sequence:
    - With palms facing up, clench hands into a fist – looking especially at the ability to bury the distal phalanges in the palm, looking for any reduction which is commonly present with inflammatory arthritides
    - Turn the fist so palms face down – looking at ability to pronate
    - Extend the little finger – extensor tendons can be damaged especially in RA – and t is found to be a progressive phenomenon – starting with the extensor to digiti-minimi – so testing this is looking at the state of the extensor tendons
    - Extend the remaining fingers
    - Palm to palm – looking for any fixed flexion deformity (such as diabetic cheiroartropathy!)
    - In this position bring out elbows looking at wrist extension
    - Dorsum to dorsum – looking at ability to extend all fingers
    - Bring out elbows in this position to test wrist flexion

- The above tests the movements of the hand. Next is the test of hand function:
    - Ask the patient to oppose the thumb to the tips of the remaining fingers on that hand – tests thumbs ability of opposition
    - Ask the patient to generate a pincer grip and try to pull it apart
    - Ask the patient to generate a hook grip and try to undo
    - Ask the patient to squeeze two fingers in a clenched fist
    - Ask the patient to undo/do up a button

    - Ask the patient to grip a piece of paper/your name card like a key, and attempt to pull it away (this is also a test of ulnar nerve function – in an ulnar nerve lesion adductor pollicis is paralysed and the paper can only be held by flexing the finger – flexor pollicis (median nerve) – this is described as Froments test)
    - Ask the patient to write their name (look out for pen and paper at such stations)

- This completes the moving part of the examination, and by now you should have a clear idea of the diagnosis, but importantly also able to comment on the activity of the disease (e.g. warm tender joints etc.) but more importantly the functional impairment that s secondary to the arthritis

This may be as far as you need to go but offer to examine the neurovascular status of the hand

Vascular

- Perform Allens test of the arterial supply of the hand. Patient clenches fist and the radial and ulnar arteries are occluded with pressure. Consequently the hand is unclenched and the return of erythema to the palm is observed on release of one of the arteries and repeated for the other.

Neurological

This can be performed quickly as follows:

- Motor:
    - Median nerve – abductor pollicis brevis (best way of getting into appropriate position is to ask the patient to place palms apart but facing each other, then thumbs to point towards each other and then test thumb abduction)
    - Ulnar nerve – test interossei of the hand with abduction and adduction
    - Radial – wrist and finger extension

- Sensory – test grossly with soft touch
    - Medial tip of index finger (median n. and C6)
    - Palmar tip of middle finger (C7)
    - Lateral tip of little finger (ulnar n. and C8)
    - First dorsal web space (radial n)
    - With finger, run up dorsal surface of hand from tip of middle finger to the forearm (proximal neuropathy)

When examining hands in an exam, think of the most common diagnoses and look for the obvious features: Rheumatoid arthritis, psoriatic arthritis, CREST etc.

(Note, psoriatic arthritis can mimic almost any inflammatory arthropathy and should be included in the differential for all hand arthritides. Be able to recall the 5 types [arthritis mutilans, DIP arthropathy, oligoarticular arthritis, RA like polyarthritis and Ankylosing spondylitis like])