CLINICAL SKILLS: RESPIRATORY EXAMINATION

- **Wash hands**
- **Introduce yourself and explain the examination**
- **Ask permission to examine their respiratory system**
- **Expose (the whole of their upper body)**
- **Reposition (to a 45 degree angle on a bed)**

This examination should be split into two parts:

1. Peripheral examination
2. Examination of the precordium (chest)

Peripheral examination:

- Look around the bed for non-invasive ventilation machines (e.g. CPAP or BiPAP), peak flow metres, sputum pots, inhalers, oxygen masks, cigarette packs, etc. also take note of patient's current state in general (are signs of respiratory distress obvious from the end of the bed?)
- Examine the hands first:
    - For finger clubbing (could be related to Fibrosing ***A***lveolitis, ***B***ronchial carcinoma, ***C***hronic suppurative disorder inc. Cystic Fibrosis and bronchiectasis, suppuration, and ***M***esothelioma)
    - For signs of smoking, e.g. tar staining of fingernails
    - For peripheral cyanosis
    - Ask patient to stretch out arms and hands and close their eyes. Look for a tremor which MAY indicate use of beta agonists such as salbutamol
    - With their arms stretched out, ask the patient to cock their wrists back and observe for a flap (due to Carbon Dioxide retention)
    - Measure the heart rate at the radial pulse for 15 seconds
    - Measure respiratory rate for 15 seconds (but do so subtly so that the patient doesn't modify their breathing -e.g. take at the same time as taking the pulse)
- Examine the head:
    - Eyes: for conjunctival pallor and chemosis (oedema), as well as signs of Horner's syndrome. Horner's syndrome is the finding of unilateral ptosis (drooping of upper eyelids), miosis (constriction of pupil), enopthalmos and anhydrosis, and is suggestive of the presence of an apical lung tumour compressing the sympathetic trunk.
    - Mouth and under tongue: for central cyanosis
- Examine the neck:
    - Examine the JVP (method discussed in the cardiovascular examination)
    - Palpate the trachea for its position. Place your index and ring fingers on the medial ends of their clavicles and use your middle finger to feel the trachea. Warn patient it may feel uncomfortable before doing this.
    - Ask patient to sit upright and examine the lymph nodes

Precordial Examination:

- Examine this part by Inspecting first, then Palpating, then Percussing and Auscultating. Both back and front of the chest need to be examined with all of these components
- The order you carry out this part of the examination should minimise the number of times you ask the patient sit up/lie back. It may be useful to inspect and palpate the front of the chest, then ask the patient to sit up to allow for inspection, palpation, percussion and auscultation of the back of the chest. After this, the patient can lie back again and allow you to percuss and auscultate of the front of the chest. Remember: the best signs are often at the back of the chest!
- Inspect:
    - For asymmetry of chest on breathing
    - For use of accessory muscles on breathing
    - For colour of patient (?cyanosed/?pale)
    - For chest wall deformities such as Pectus Excavatum or Pectus Carinatum, and for spinal deformities such as kyphosis and scoliosis which may affect chest expansion
    - For scars (previous operations)
    - For overexpansion of the chestv (COPD/asthma)
    - At the same time, listen for audible abnormal noises (e.g.: wheezing/stridor)
    - Palpate:
        - To examine chest expansion:
            - Place hands across chest with thumbs lifted off the skin but touching in midline
            - Ask patient to breathe deeply in and out
            - Assess symmetry of chest expansion as well
            - Do this in both upper and lower zones of the chest
    - Percuss:
        - N.B.: at each point, check left then right sides (like for like)
        - Tap your middle finger of one hand onto the middle finger of your other hand which is in turn held on 4 areas of the front of the chest (directly on the clavicle, beneath the clavicle, by nipple, and on the axilla). For the latter three areas, you should place the finger you are tapping on an intercostal space and NOT over a rib. For best results, the finger you place on the skin should be as straight and stiff as possible.
        - When percussing the clavicle you map tap your middle finger directly onto the clavicles instead of your other hand
        - When examining the back of the chest, percuss at 4 evenly spaced out points, again insuring that you percuss bother sides at each point before moving on to the next point (compare like with like). The upper three points should be percussed a few centimetres lateral to the midline (to avoid the scapula), but over the lower chest you can move closer to the axilla.
    - Auscultate:
        - Ask the patient to take deep breathes in and out throught their mouth and use your stethoscope to listen to the same points that we described above for 'percussion'.
        - On each breath, check for quality of air entry, character of breath sounds (e.g. vesicular, bronchial, etc.) and the presence of any added sounds such as wheezes and crackles/crepitations.
        - Vocal resonance:

- Listen at each of the areas of the chest as above, asking the patient to say '99' at each point.
- You are testing to see if the resonance is the same throughout (which is normal), increased (e.g.: in consolidation), or decreased (e.g.: in pleural effusion or pneumothorax)

- **Thank patient and offer them assistance in getting dressed**
- **Turn to examiner and explain that you would then like to finish your examination by checking the following;**
  - **Sputum pot**
  - **O2 saturation**
  - **Ankle oedema**
  - **PEFR (peak expiratory flow rate)**