Respiratory System Examination

- Refer to Macleod's videos on JU clinical.

Before any examination make sure to: introduce yourself, take permission, ensure privacy & llumination, warmth of the room and good hand hygiene.

Comment: After introducing myself, taking permission from the patient, ensuring good privacy and illumination, warmth of the room, I will now start my examination by being on the right side of my patient.

General examination:

Make sure that the patient is in the correct position & exposure:

Position: semi-sitting position (45°)

Exposure: from the upper chest till the umbilicus.

Ask about consciousness and orientation (place, time and person).

- بتعرف وين المكان اللي انت فيه حاليا؟
- احنا حاليا صبح ولا مسا؟ او بتعرف كم الساعة تقريبا؟
- بتعرف انا ايش بشتغل او تأشر على الدكتور مثلا وتسأله عنه؟

Ask yourself these questions:

- Is he lying comfortable on his bed?
- Does he look cyanosed?
- Is there any use of accessory respiratory muscles?
- Ask him to cough and then take a deep breath and listen if there is any audible sounds, wheeze, hoarseness or stridor?

Comment: my patient looks conscious, alert, oriented to place, time and person, lying comfortably on his bed, not in distress not in pain, no cyanosed, not breathless, not using any accessory respiratory muscles and there is no audible sounds such as wheeze, stridor.. etc

Vital signs:

- Blood pressure
- Respiratory rate (normal 12 – 20 breath per minute)
- Pulse rate: radial pulse over one minute
- Temp. (if it high it indicates infection)

Note about BP:
In community acquired pneumonia:
Diastolic BP < 60 mmHg
Systolic BP < 90 mmHg

Hands:

Notice if there is any:

- Clubbing? Lung CA, bronchiectasis, interstitial lung disease
- Tar staining? smoking
- Temp.? infection (pneumonia)
- Wasting? pancost tumor
- Flapping tremor? CO2 retention
- Peripheral cyanosis? COPD
- Hypertrophic pulmonary osteoarthropathy? Lung CA

Comment: There is no nail changes, no clubbing or any other nail abnormalities, there is no tar staining, the temp is normal, no muscle wasting or any peripheral cyanosis was noticed.

- Now ask the patient to hold his hand extended at wrist والأصابع متباعدة and comment: There is no flapping tremor.
- Hold the patient wrist and squeeze on it, notice if there is any tenderness or swelling. If not: no hypertrophic pulmonary osteoarthropathy

Head and neck:

- We look at the accessory muscles.
- Ask the patient to open his mouth » notice dental hygiene.
- Ask the patient to protrude his tongue » look for central cyanosis.
- Look for symptoms of Horner's syndrome (ptosis, miosis and anhydrosis) » could be due to pancost tumor compressing on the symp. chain.
- Look for lymph node especially scalene » indicates lung mets
- Look for JVP; it could be high » SVC obstruction
- Fascial plethora » COPD

Comment: **Head:** good dental hygiene, there is no central cyanosis, no symptoms of Horner's syndrome
Neck: no scars , masses, no dilated veins, JVP is normal.

1) Anterior chest:

Inspection, palpation, percussion and auscultation.

➢ **Inspection:**

- From the foot of the bed:

  I ask the patient to take a deep breath and then look for: Symmetry, pattern of breathing and chest deformity.
- From the right side of the patient:

  Scars, skin lesion, swelling, dilated veins, hair distribution.

Comment: I will start my examination from the foot of the bed by inspection: the breathing is symmetrical, no chest deformity.
Now I will move to the right side of the patient: no obvious scars or skin lesions or swelling, no dilated veins (could indicates superior vena caval obstruction)

➢ **Palpation:**

- **Superficial palpation**: move the hands continuously without gaps and look for: tenderness, subcutaneous emphysema and masses.
- **Upper mediastinum:**
  - Tracheal deviation: place the middle finger into the suprasternal notch and look for deviation.

    Comment: no tracheal deviation.

- Cicosternal distance : measure the distance between the suprasternal notch and cricoid cartilage.
  Comment: normal cricosternal distance and measures to be about 2-3 fingers
- Tracheal tug: ask the patient to take a deep breath and place your finger in the suprasternal notch.
  Comment: no tracheal tug.

- **Lower mediastinum:**
  Look for the apex beat.
- **Tactile vocal fremitus:**
  Ask the patient to say 44 in Arabic and put your hands on both side of the chest
  Comment: symmetrical bilateral TVF all over the chest
- **Chest expansion:** hold the chest with two hands and ask the patient to take a deep breath, normally the hands should separate 5cm.
  Comment: symmetrical bilateral chest expansion with thumbs apart 5cm.

➢ **Percussion:** apex, clavicle and Ant. Chest

- Place the palm of your left hand on the chest with the fingers separated and press the middle fingers of your left hand against the chest by the middle finger of the right hand.
- Percussion over normal lungs produce: resonance
- Percussion over solids structure (liver) produce: dull note
- While the patient is holding his breath on expiration, percuss over the 5th intercostals space for the liver
- If resonance is heard instead of dullness; it indicates hyperinflation.
  Comment: Symmetrical bilateral resonance note all over the chest.

➢ **Auscultation:**
By diaphragm, the same areas of percussion anteriorly from above the clavicle down to the 6th rib and laterally from the axilla to the 8th rib.
Comment: symmetrical bilateral vesicular breathing all over the chest.

Note: Do not auscultate near midline because they may transmit sounds directly from trachea or main bronchi.

- **Vocal resonance:** ask the patient to say 44
  In consolidation (pneumonia) they are clearly audible.
- **Whispering pectoriloqy:** ask the patient to whisper and then auscultate
  Not heard over normal lungs, in consolidation (pneumonia) whispering is audible.
- **Aegophony :** ask the patient to say E

- Finally comment on hepatomegaly, ascites and lower limb edema in case of right sided heart failure due to a pulmonary problem (cor pulmonale).
- The same steps are applies for the posterior chest examination.