

Faculty Of Medicine

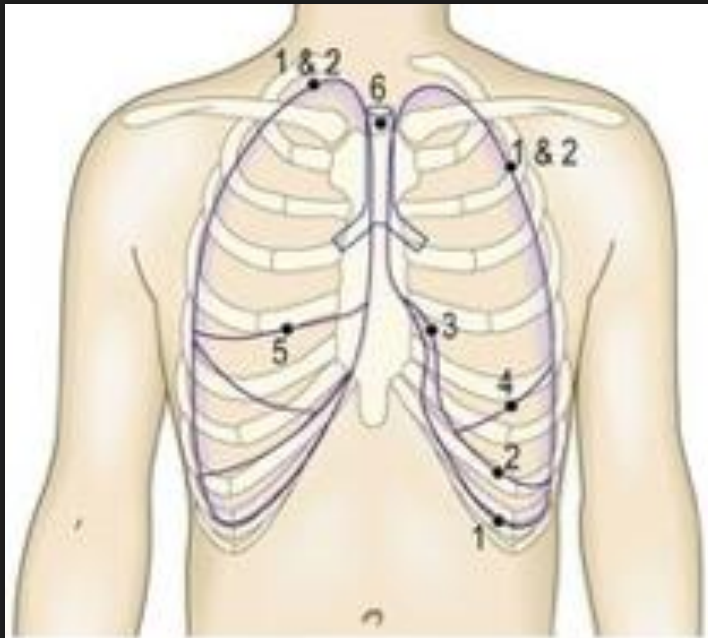


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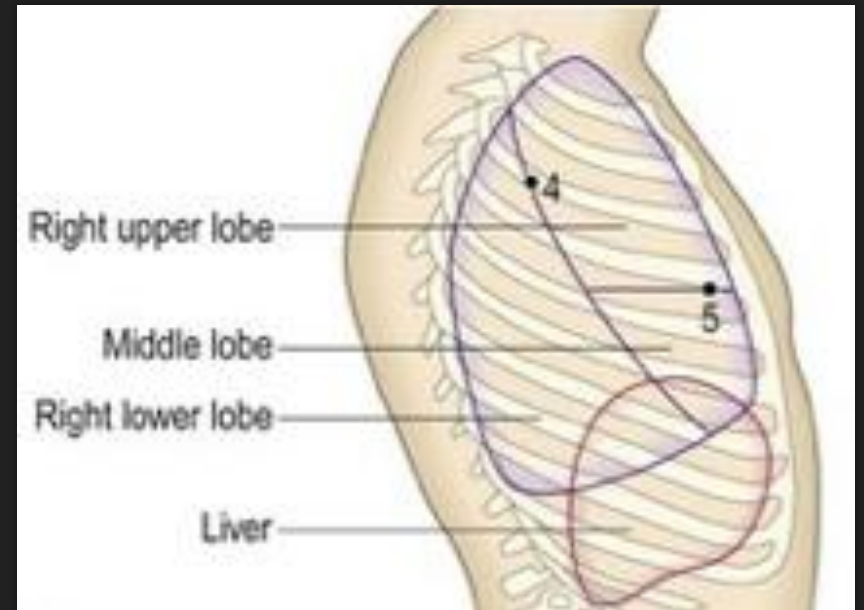
Respiratory System Examination

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Surface Anatomy



- | | |
|--------------------|----------------------|
| 1 Pleural markings | 4 Oblique fissure |
| 2 Lung markings | 5 Horizontal fissure |
| 3 Cardiac notch | 6 Trachea |



- Right upper lobe
- Middle lobe
- Right lower lobe
- Liver

Inspection

What do you see?

Inspection - General

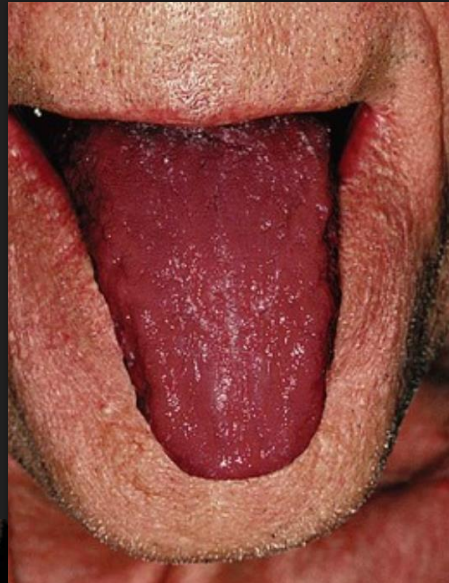
What do you see on walking into the room?

- Breathlessness
 - Respiratory rate, work of breathing (accessory muscles, tripod position, pursing lips, paradoxical abdominal movement)
- Abnormal breathing patterns
 - Cheyne-Stokes, Kussmaul
- Abnormal breath sounds
 - Stridor, wheeze
- Weight loss
- Mental State

Inspection – Other General

- Blood pressure and pulse
 - Hypotension, pulsus paradoxus
- Mouth/Tongue
 - Cyanosis
- Skin/Hair/Nails
 - Erythema nodosum, manifestations of cancer, discoloration from tar
- Hands
 - Clubbing, tremor, asterixis
- Vascular
 - Jugular venous pressure (JVP)
- Lymph nodes

Inspection - Images



Inspection – Chest

How?

- Positioning – Seated
- Sequence – Back to front

What?

- Skin
- Chest wall
 - Anteroposterior diameter to lateral diameter/hyperinflation
 - Kyphoscoliosis, pectus carinatum, pectus excavatum

Palpation

What do you feel?

Palpation

- Mediastinum position
 - Trachea, cardiac apex beat, right ventricular heave
- Chest expansion
- Subcutaneous emphysema



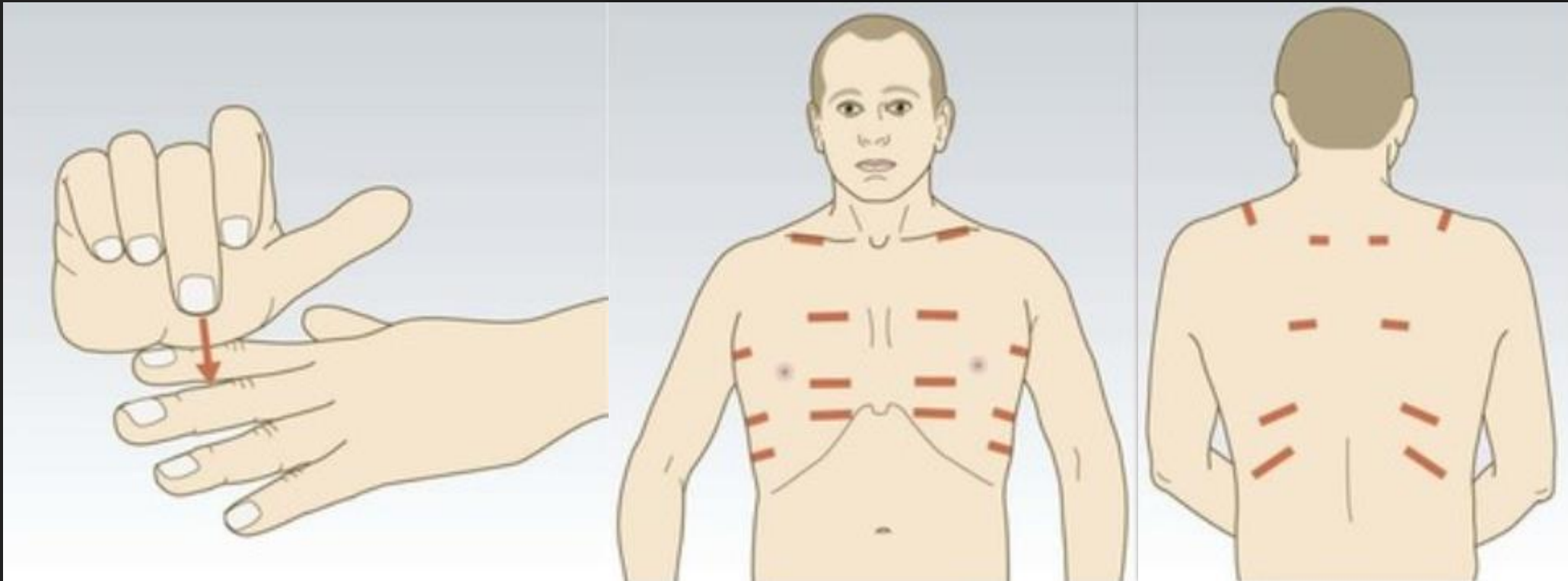
Palpation - Other

- Ribs
 - Costochondritis (Tietze's Syndrome)
 - Fracture
 - Pulmonary infarction

Percussion

What sound does it make?

Percussion



Percussion

| Type | Detected over |
|---------------|---------------------------|
| Resonant | Normal lung |
| Hyperresonant | Pneumothorax |
| Dull | Pulmonary consolidation |
| | Pulmonary collapse |
| | Severe pulmonary fibrosis |
| Stony dull | Pleural effusion |
| | Haemothorax |

Auscultation

What do you hear?

Auscultation

How?

- Patient relaxed, breathing deeply through mouth
- Side to side
- Anteriorly from above clavicle to 6th rib
- Laterally from axilla to 8th rib
- Posteriorly to 11th rib

Auscultation

What?

- Quality and amplitude of breath sounds
 - Vesicular, bronchial
- Gaps in inspiration and expiration
 - I:E ratio
- If sounds decreased, have patient cough

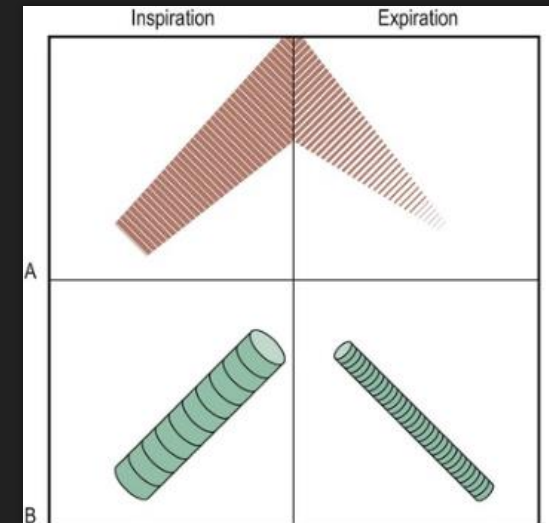


FIG. 7.19 Diagrammatic representation of breath sounds. **(A)** Vesicular. **(B)** Bronchial. Note the gap between inspiration and expiration and change in pitch and the blowing, tubular quality of bronchial breath sounds.

Auscultation

- Have patient say, "one, one, one"
- Have patient whisper, "one, one, one"
- In normal lung, the whisper is not heard

Auscultation – Extra Sounds

- Crackles - from opening of collapsed peripheral airways on inspiration
- Wheeze – musical, with expiration, from airway narrowing
- Pleural friction rub – crunch “like treading on fresh snow,” from inflammation (maybe vasculitis, pneumonia), heard best at end of deep inspiration

| Phase of inspiration | Cause |
|----------------------|--|
| Early | Small airways disease, as in bronchiolitis |
| Middle | Pulmonary oedema |
| Late | Pulmonary fibrosis (fine) |
| | Pulmonary oedema (medium) |
| | Bronchial secretions in COPD, pneumonia, lung abscess, tubercular lung cavities (coarse) |
| Biphasic | Bronchiectasis (coarse) |

Putting It All Together

Putting It All Together

Examination sequence

- Note the patient's general appearance and demeanour.
- Look for central cyanosis of the lips and tongue.
- Examine the skin for rashes and nodules.
- Listen for hoarseness and stridor.
- Examine the hands for finger clubbing, peripheral cyanosis and tremor.
- Measure the blood pressure.
- Examine the neck for raised JVP and cervical lymphadenopathy.
- Record the respiratory rate.
- Observe the breathing pattern, and look for use of accessory muscles.
- Inspect the chest front and back for abnormalities of shape and scars.
- Feel the trachea and cardiac apex beat for evidence of mediastinal shift.

- Percuss the chest front and back for areas of dullness or hyperresonance.
- Listen to the chest front and back for altered breath sounds and added sounds.

Certain groups of physical signs are typically associated with particular pathological changes in the lungs (Figs 7.20 and 7.21).

Summary



The End

Thank You!