

RESPIRATORY SYSTEM

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Physical Examination

Respiratory System

WIPES

Wash your hands

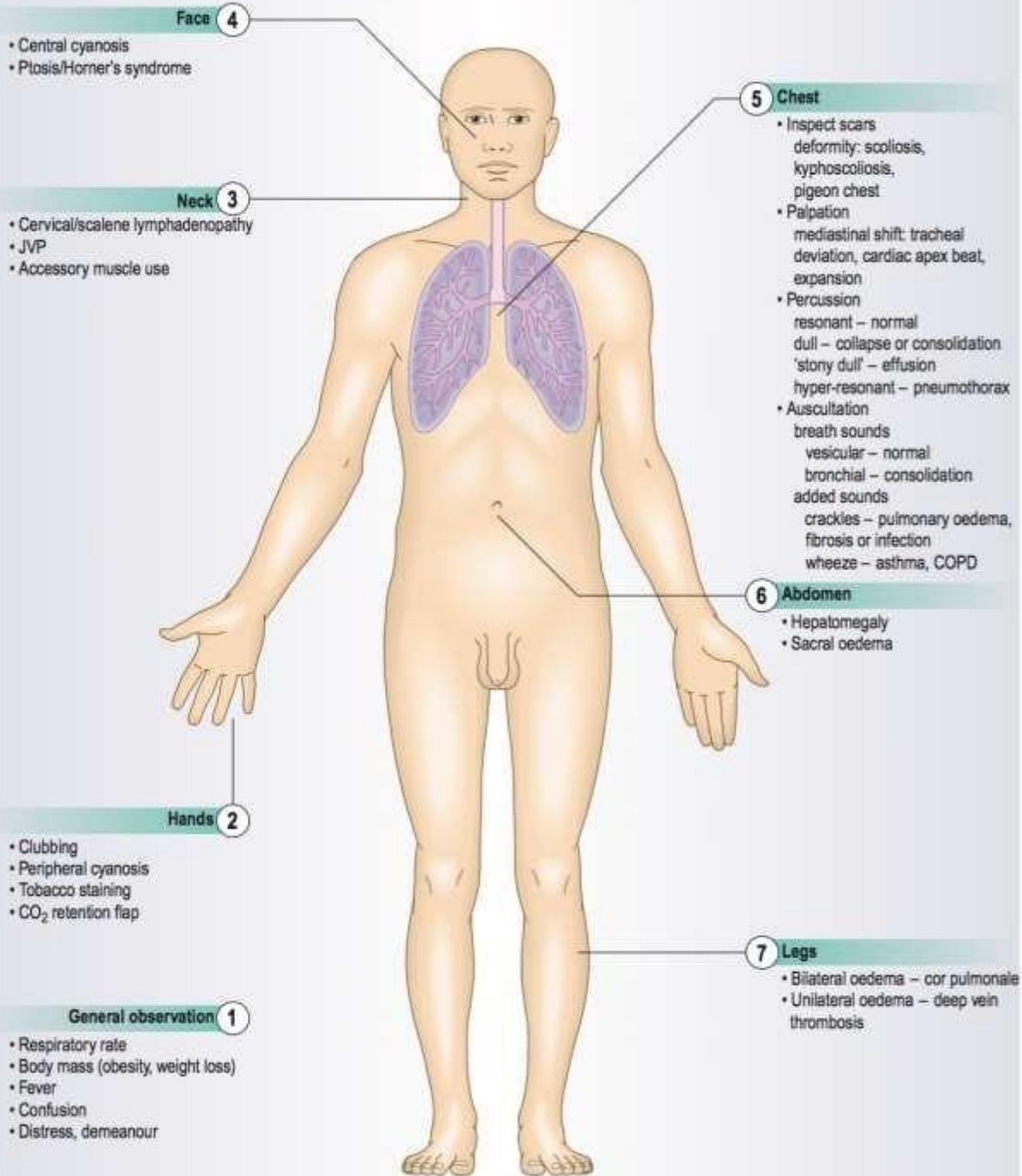
Introduce yourself

Patient details

Explain/consent

Scene survey

General Assessment





A



B

Fig. 7.6 Skin lesions associated with respiratory conditions. **(A)** Erythema nodosum on the shins. **(B)** Metastatic skin nodes of lung cancer.



Tobacco 'tar'-stained fingers.



A



B

Fig. 7.11 Superior vena caval obstruction. (A) Distended neck veins. **(B)** Dilated superficial veins over chest.

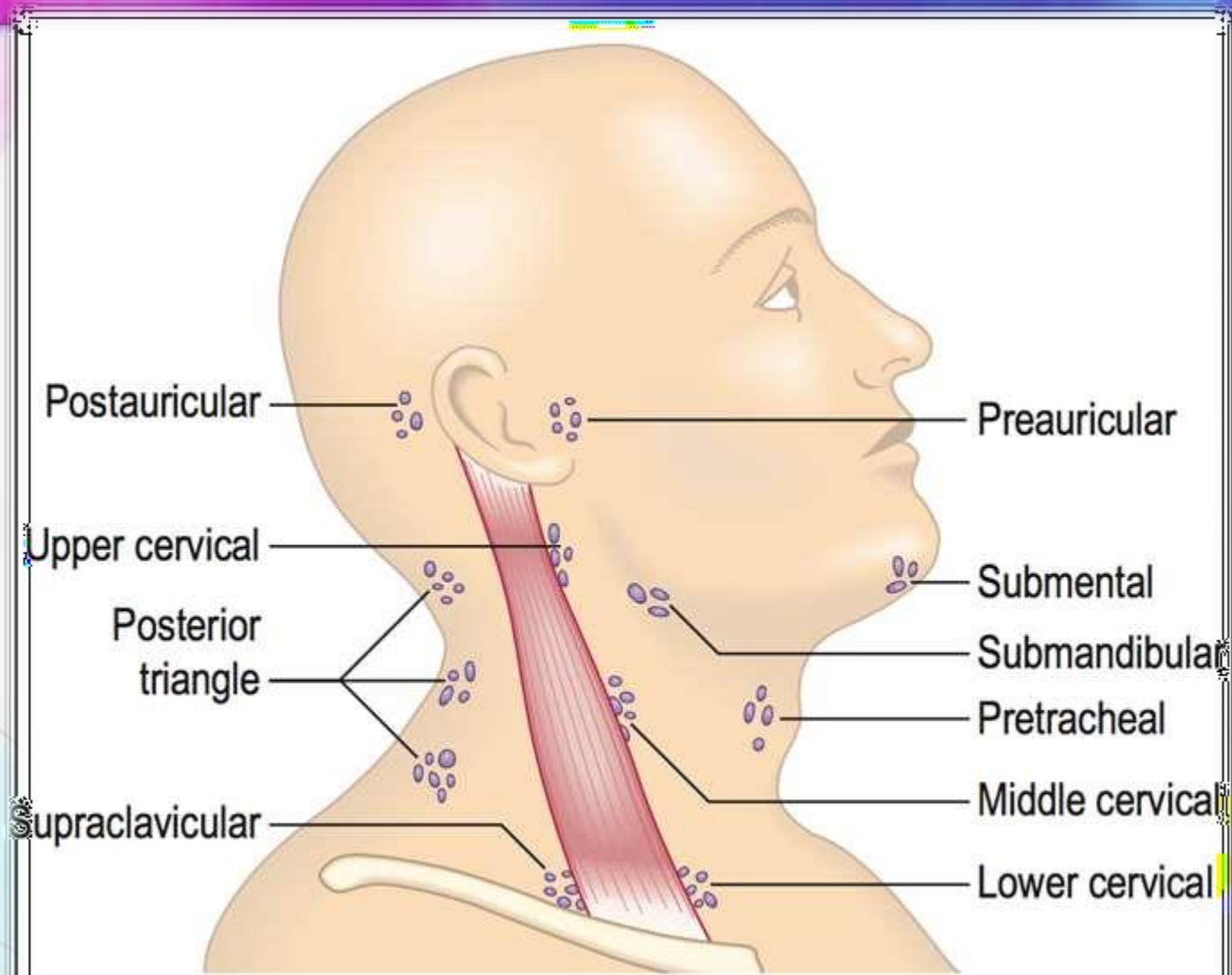


Fig. 7.12 The lymph node groupings in the neck.

- Respiratory Rate Tachypnoea Bradypnoea

- Hyperpnoea

- Breathing patterns



- Hyperventilation

- Kussmaul's breathing

- Hypoventilation

- Periodic breathing (Cheyne–Stokes respiration)



Normal



Regular and comfortable at a rate of 12-20 per minute

Bradypnea



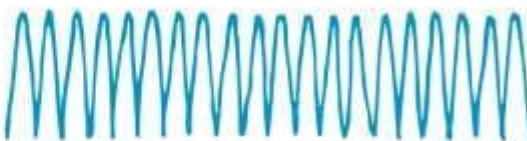
Slower than 12 breaths per minute

Tachypnea



Faster than 20 breaths per minute

Hyperventilation (hyperpnea)



Faster than 20 breaths per minute, deep breathing

Sighing



Frequently interspersed deeper breath

Air trapping



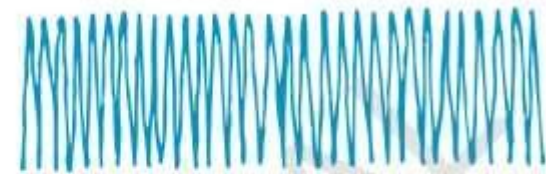
Increasing difficulty in getting breath out

Cheyne-Stokes



Varying periods of increasing depth interspersed with apnea

Kussmaul



Rapid, deep, labored

Biot



Irregularly interspersed periods of apnea in a disorganized sequence of breaths

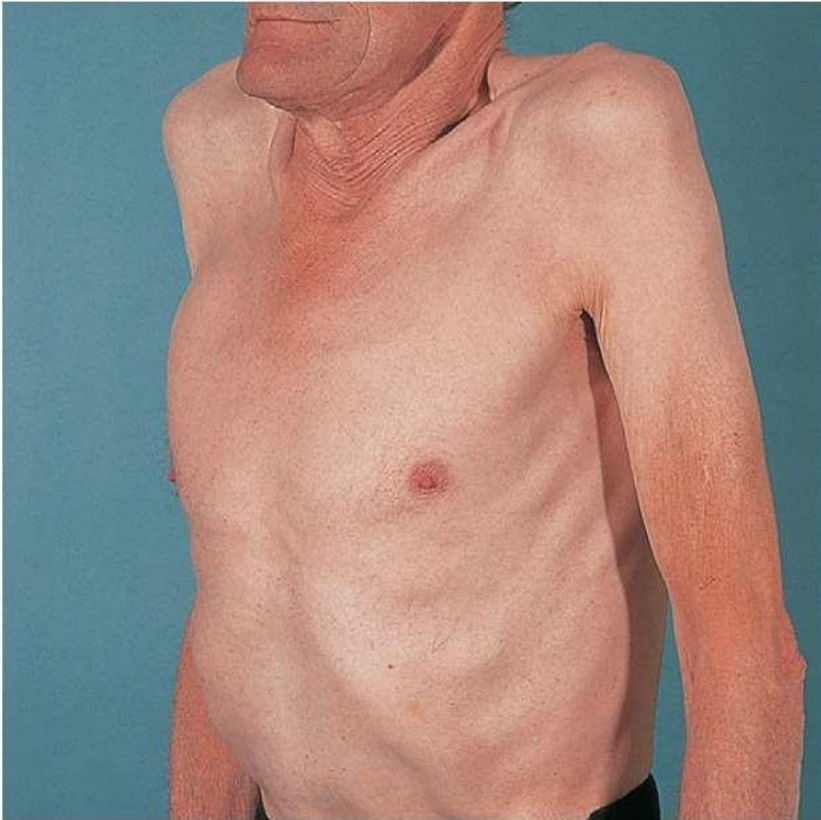
Ataxic



Significant disorganization with irregular and varying depths of respiration

- Obstructive sleep apnoea/ hypopnoea syndrome (OSAHS)

- combination of excessive daytime sleepiness and recurrent upper airway obstruction with sleep fragmentation caused by upper airway obstruction from collapse of the retropharynx



A



B

A) Hyperinflated chest with intercostal indrawing. (B) Kyphoscoliosis.



C



D

(C) Pectus carinatum with prominent Harrison's sulcus (arrow). (D) Pectus excavatum.



7.20 Common causes of tracheal deviation

Towards the side of the lung lesion

- Upper lobe or lung collapse
- Upper lobe fibrosis
- Pneumonectomy

Away from the side of the lung lesion

- Tension pneumothorax
- Massive pleural effusion

Upper mediastinal mass

- Retrosternal goitre
- Lung cancer
- Lymphoma

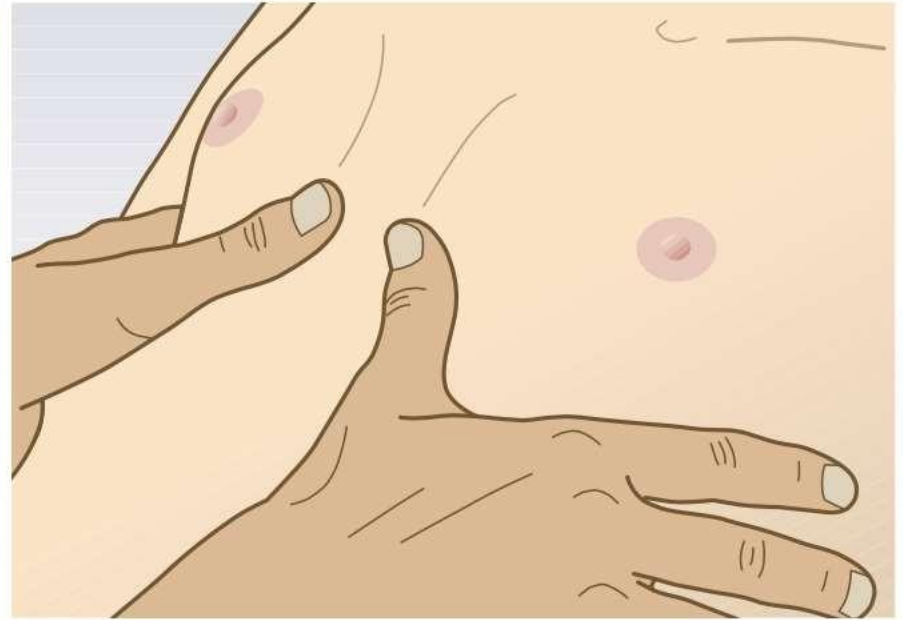


Trail sign: Sternomastoid prominence on the side of **tracheal shift**

Chest expansion



A



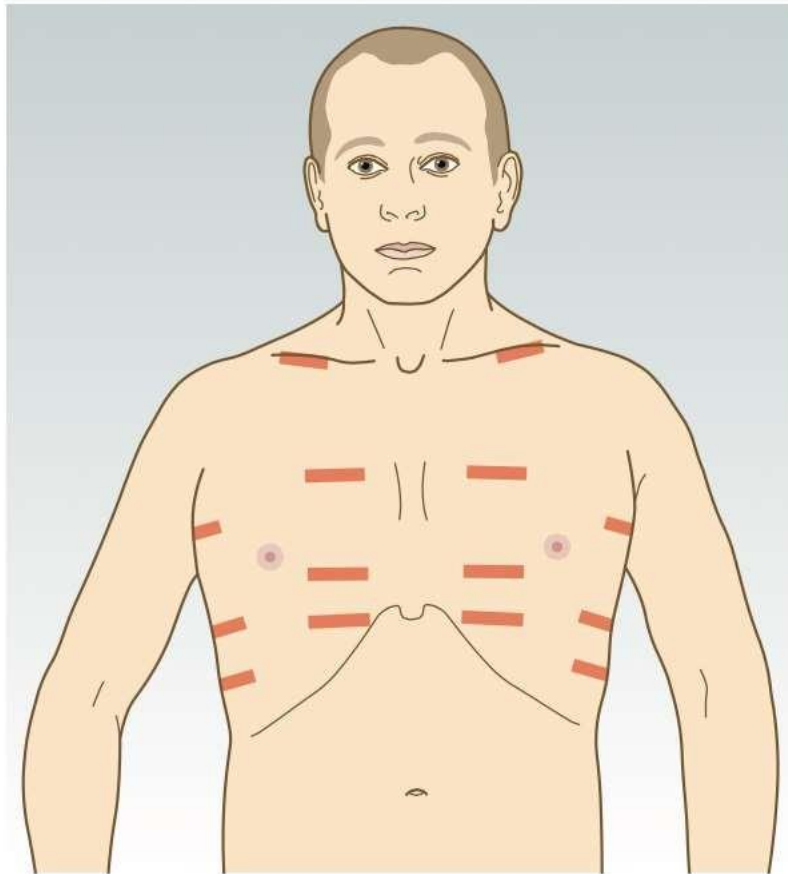
B

Reduced expansion

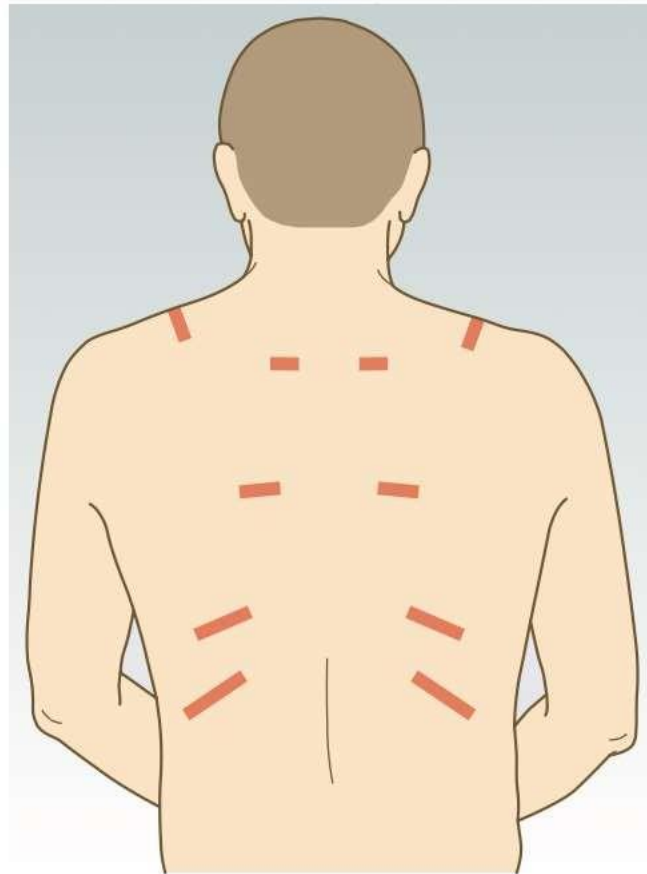
- On one side
 - pleural effusion
 - lung or lobar collapse
 - pneumothorax an unilateral
 - fibrosis
- Paradoxical inward movement
 - diaphragmatic paralysis severe
 - COPD
- Flail chest
- Bilateral
 - severe COPD
 - diffuse pulmonary fibrosis

- Subcutaneous emphysema
- Mediastinal emphysema occurs if air tracks into the mediastinum and is associated with a characteristic systolic 'crunching' sound on auscultating the precordium (Hamman's sign).
- Tenderness over the costal cartilages is found in the costochondritis of Tietze's syndrome.
- Localised rib tenderness can be found over areas of pulmonary infarction or fracture.

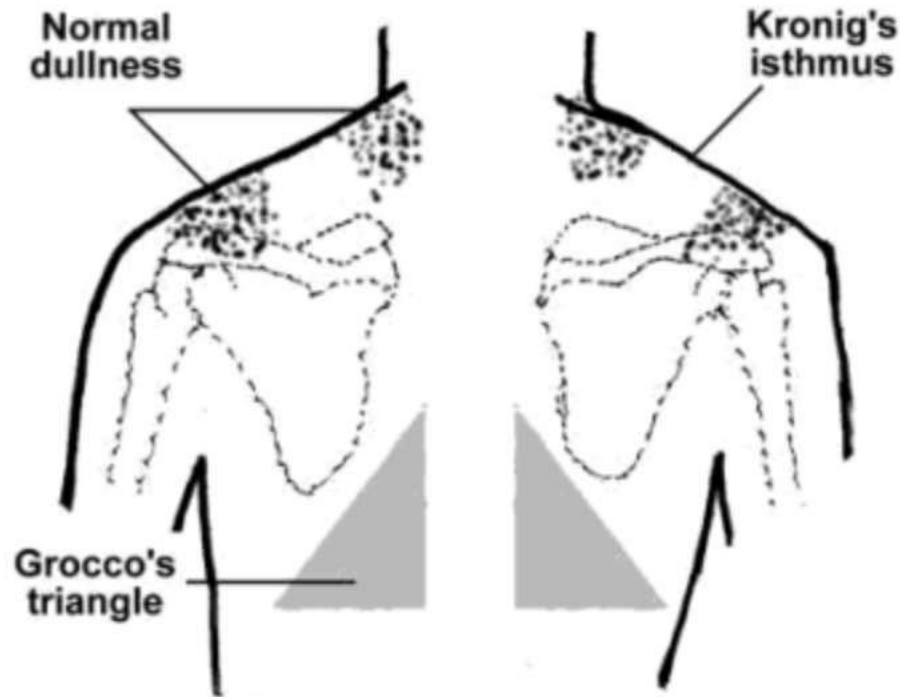
Percussion



B



Kronig's isthmus & Grocco's triangle



- Ewart's sign

- Dullness below the left scapula – large pericardial effusion

- Conner's sign

- Dullness to percussion below the right scapula – large pericardial effusion

- Kellock's sign

- Feeling increased rib vibration in the anterior chest to percussion posteriorly – pleural effusion

- D'Amato's sign

- Change in percussible dullness with change in position – pleural effusion

- Skodaic hyper-resonance

- Hyper-resonance just above an area of dullness – a useful sign of pleural effusion



7.21 Percussion note

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

Thank you