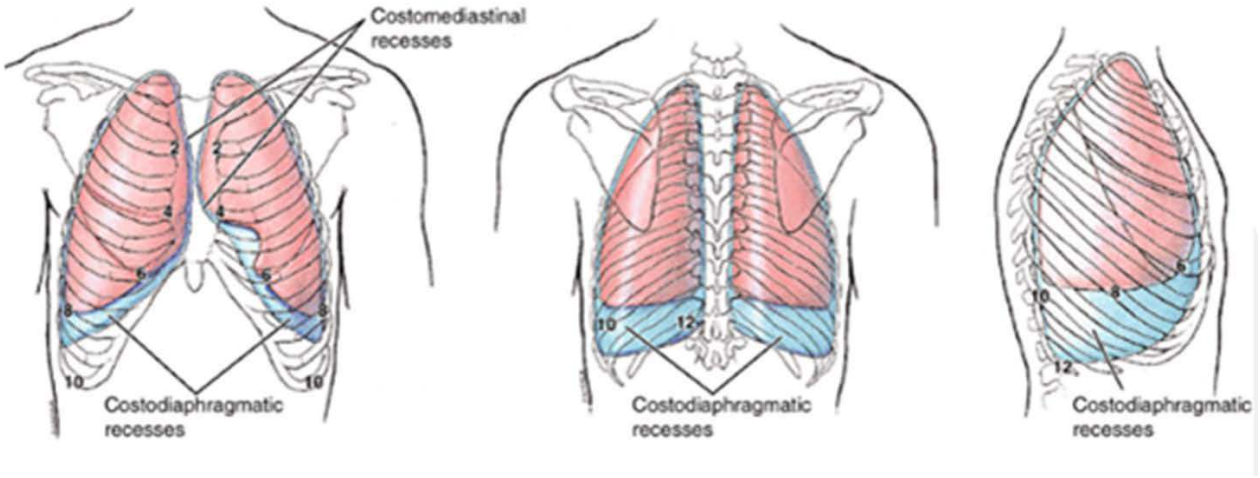

ANATOMY OF THE PLEURA

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Introduction

- The thoracic cavity is divided mainly into:
- Right pleural cavity
- Mediastinum
- Left Pleural cavity

Pleural cavity

- The pleural cavity is the space lined by a serous membrane called the pleural membrane
- The membrane covers both the lungs and the thoracic wall. *The potential space between the two membranes is the pleural cavity*
- It contains a thin layer of fluid which helps in lubricating the apposing surfaces of the parietal and viscera layers.

Visceral pleura

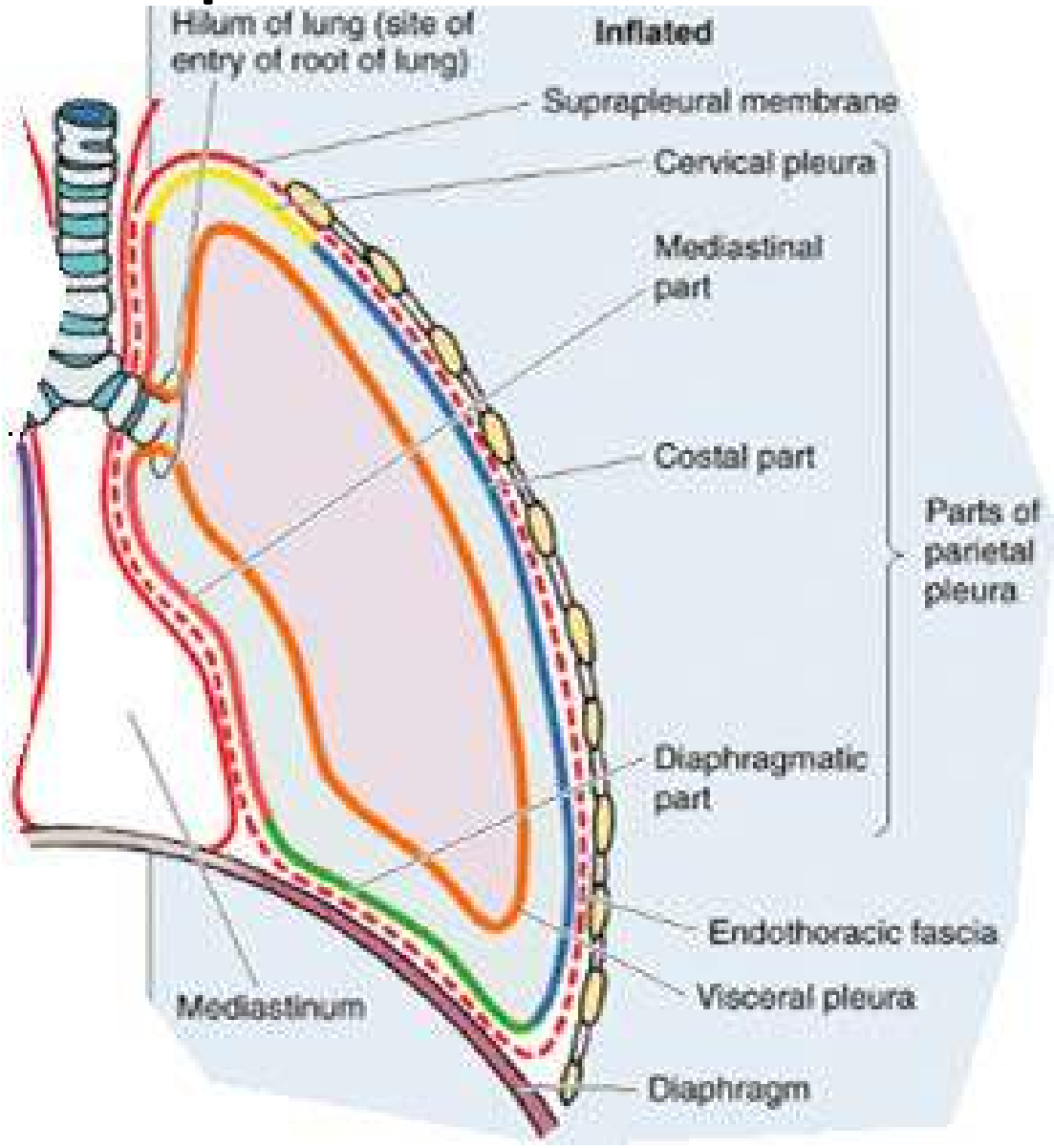
- Adheres to and covers the lobes and root of the lung
- It lines the major and minor fissure
- The pulmonary ligament extends from hilum to the diaphragm and it consists of two apposed layers of visceral pleura which is continuous with the parietal pleura.

Parietal pleura

- Lines the outer wall of the pleural cavity
- Named according to the parts of the wall with which the parietal pleura is associated
- Consequently has four parts:
  i. Diaphragmatic pleura
  ii. Coastal
  iii. Mediastinal and
  iv. Cervical

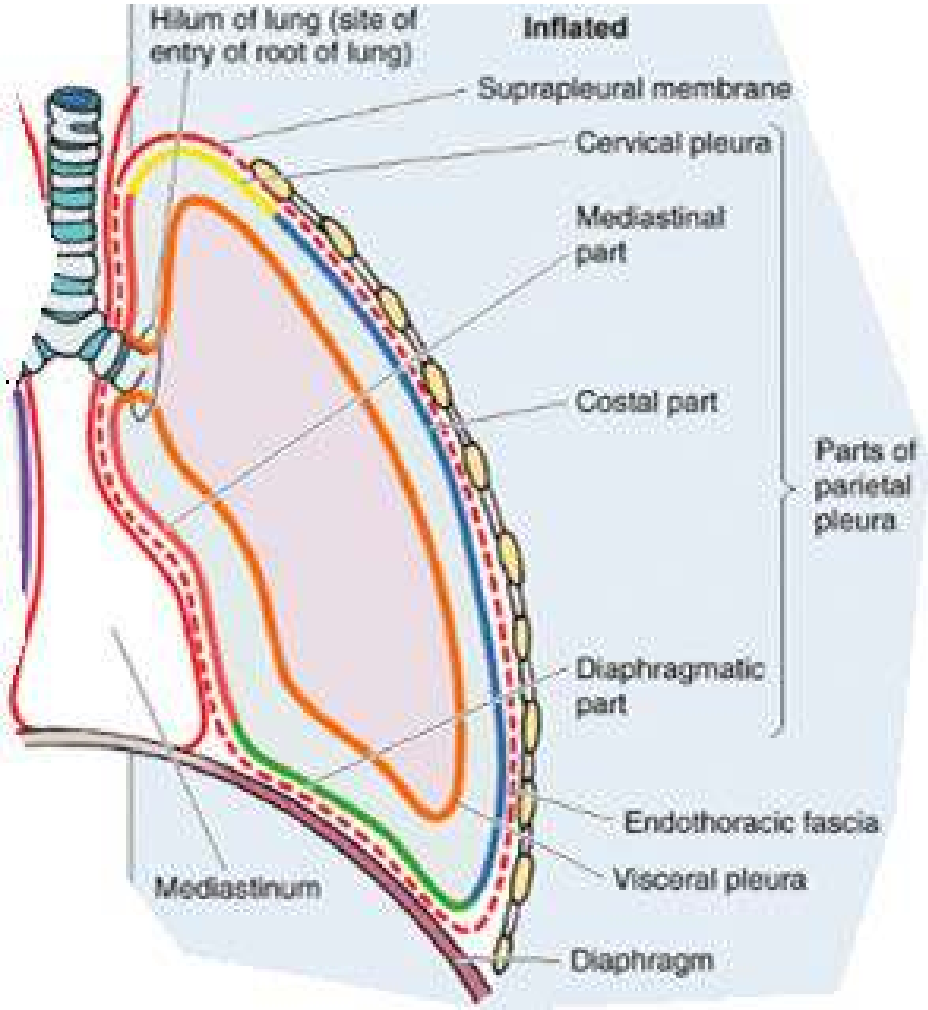
Parietal pleura

i. Diaphragmatic pleura
ii. Coastal
iii. Mediastinal and
iv. Cervical



Parietal pleura

1. Diaphragmatic pleura
   - This covers the superior surface of the diaphragm
   - It is closely adherent to the diaphragm



Parietal pleura

2. Mediastinal pleura
    - This covers the structures within the mediastinum
    - It is continuous with the visceral pleura that covers the root of the lung
    - The part that covers the pericardium also closely adherent to the pericardium

Parietal pleura

3. Costal pleura
   - This covers the inner surface of the thoracic wall
   - It is loosely attached to the thoracic wall by endothoracic fascia
   - The endothoracic fascia is the deep fascia covering the inner surfaces of the deepest muscle layer of the thoracic wall

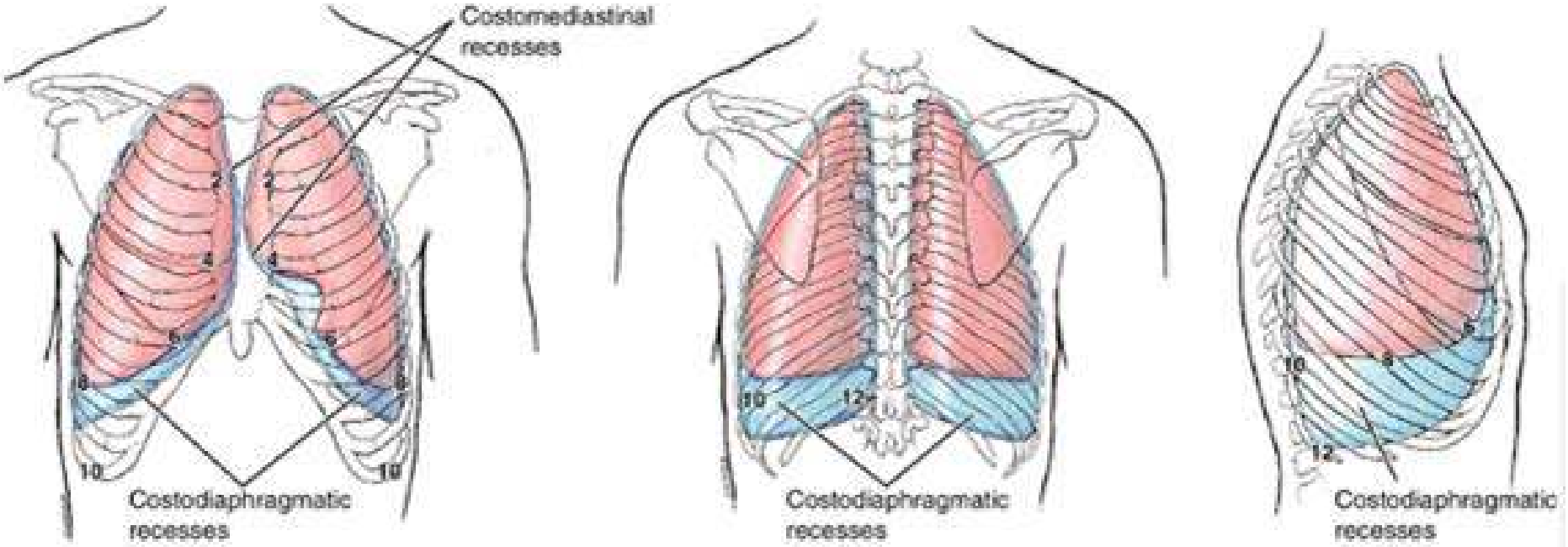
Parietal pleura

4. Cervical pleura
   - Also called the cupola
   - It loosely covers the apex of the lung that projects into the neck, superior to the 1st rib
   - The endothoracic fascia associated with the cervical pleura is called the suprapleural membrane (Sibson's fascia)
   - suprapleural membrane is a thickened, tent-like structure which extends from the transverse process of the 7th cervical vertebra to the inner border of the 1st rib

Pleural recesses

- Usually, the long does not completely fill the pleural cavity inferiorly .
- Therefore there are places where parietal plural can appose each other
- These are the pleural recesses
- They are occupied by the lungs only on (forced) deep inspirations

Pleural recesses



Pleural recesses

- Clinically, the recesses are important because
- They provide spaces in which fluid can collect in certain diseases
- They are avenues of aspiration and drainage of such drainages
- They are 2 in number:
  i. Costodiaphragmatic recess
  ii. Costomediastinal recess

Pleural recesses

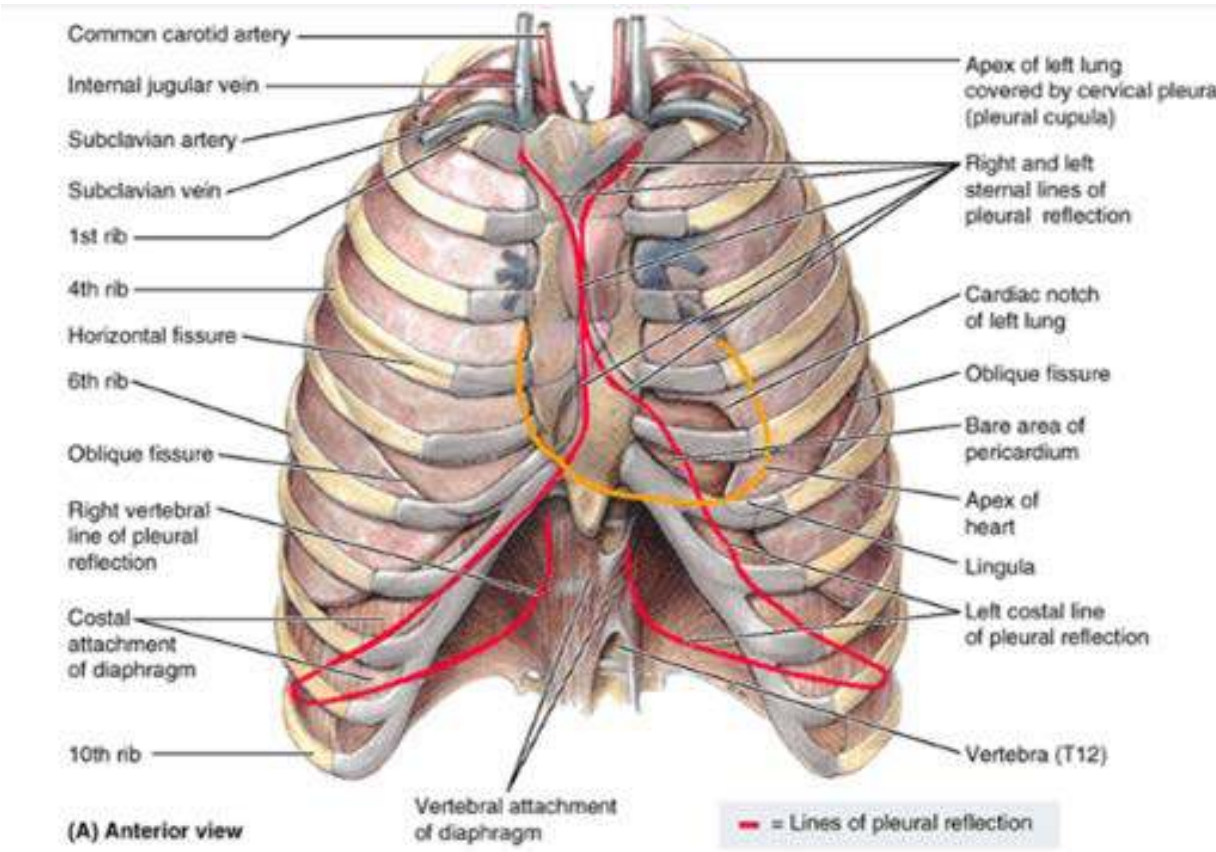
- Costodiaphragmatic recess
- This is where the costal pleura reflects onto the superior surface of the diaphragm to become diaphragmatic pleura
- It is the larger and by far, more clinically important of the two recesses
- They are shallow in inspiration and becomes deeper in expiration

Pleural recesses

- Costomediastinal recess
  - They are located behind the sternum where costal pleura doubles back to become mediastinal pleura
  - They are more conspicuous on the left in the region around the left heart chamber

Pleura reflections

- This are areas in the parietal pleura where it changes direction as it passes (reflects) from one wall of the pleural cavity to another
- There are three such reflections in either pleural cavities



Pleura reflections

- Sternal line of pleural reflection
  - It is anterior
  - Occurs where the costal pleura becomes continuous with the mediastinal pleura
  - It is sharp and abrupt

Pleura reflections

- Vertebral line of pleural reflection
  - This is the posterior counterpart of the sternal line
  - Occurs where the costal pleura becomes continuous with the mediastinal pleura posteriorly
  - It is a rounder, gradual reflection than the (sharp) anterior reflection

Pleura reflections

- Costal line of pleural reflection
- This is also sharp
- It occurs where the costal pleura becomes continuous with diaphragmatic pleura inferiorly

Blood supply of the pleura

- Visceral pleura
  - Arterial supplied is from the branches of the bronchial and pulmonary arterial systems.
  - The veins drain to the pulmonary vein.

Blood supply of the pleura

- The parietal pleura
  - They are supplied by arteries of the structures they cover:
    - Cervical pleura: intercostal vessels
    - Costal pleura: intercostal vessels
    - Diaphragmatic pleura
      i. Outer portion: intercostal vessels
      ii. Inner part : pericardiacophrenic vessels
    - Mediastinal pleura: pericardiacophrenic vessels

Nerve supply of the pleura

- Viscera pleura: No nerve supply
- The parietal pleura
  - Identical to the vascular supply
  - They are also supplied by nerves which supply the structures they cover:
    - Cervical pleura: intercostal nerves
    - Costal pleura: intercostal nerves
    - Diaphragmatic pleura
      i. Outer portion: intercostal nerves
      ii. Inner part : pericardiacophrenic nerves
    - Mediastinal pleura: pericardiacophrenic nerves

Lymphatic drainage

- Viscera
  - Drains to the pulmonary plexus located in interlobar and peribronchial spaces.
- Parietal
  - Coastal, Mediastinal and Cervical pleura: These drain into the internal thoracic chain anteriorly and intercostal chain posteriorly.
  - Diaphragmatic pleura: drains to the retrosternal and mediastinal and (sometimes) the celiac lymph node.

THE END

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