

BAMS 1ST YEAR (2019-2020)

Subject: RACHANA SHARIR

RESPIRATORY SYSTEM IN CONTINUATION WITH TOPIC

PLEURA

DEFINITION-

The pleura-like peritoneum is a serous membrane lined by flattened epithelium (mesothelium).

Each lung is invested by and enclosed in a serous sac which consists of two continuous serous membranes—the **visceral pleura** and **parietal pleura**.

The space between the visceral and parietal pleura is called **pleural cavity**.

The outer layer is called **parietal pleura** and the inner layer is called **visceral pleura**. The visceral pleura is continuous with parietal pleura at the root of the lung. The parietal and visceral layers are separated from each other by a slit-like potential space called **pleural cavity**.

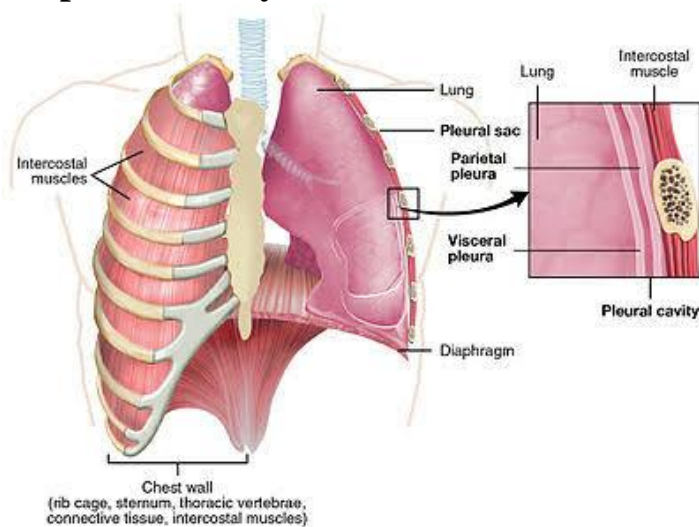


Figure: 1 showing the pleura and thorax

LAYERS OF THE PLEURA

The pleura consist of two layers:

- (a) visceral pleura
- (b) parietal pleura.

The moistened space between the two layers is called *pleural cavity*.

Visceral Pleura (Pulmonary Pleura)

The visceral pleura completely covers the surface of the lung except at the hilum and along the attachment of the pulmonary ligament. It also extends into the depths of the fissures of the lungs. It is firmly adherent to the lung surface and cannot be separated from it.

Parietal Pleura

The parietal pleura is thicker than the visceral pleura and lines the walls of the pulmonary cavity. Thus parietal pleura is divided into the following four parts:

1. Costal pleura.
 2. Diaphragmatic pleura.
 3. Mediastinal pleura.
 4. Cervical pleura.
- **Costal pleura:** It lines the inner surface of the thoracic wall (consisting of ribs, costal cartilages, and intercostal spaces) to which it is loosely attached by a thin layer of loose areolar tissue called **endothoracic fascia**.
 - **Diaphragmatic pleura:** It covers the superior surface of the diaphragm.
 - **Mediastinal pleura:** It lines the corresponding surface of the mediastinum and forms its lateral boundary.
 - **Cervical pleura:** It is the dome of parietal pleura, which extends into the root of the neck about 1 inch (2.5 cm) above the medial end of clavicle.

RECESSES OF PLEURA:

In areas of pleural reflection on to the diaphragm and mediastinum, the space between the parietal and visceral pleura is greatly expanded. These expanded regions of pleural cavity are called **pleural recesses**. They are essential for lung expansion during deep inspiration. Thus *pleural recesses serve as reserve spaces of pleural cavity for the lungs to expand during deep inspiration*. The recesses of pleura are as follows:

1. Costodiaphragmatic recesses (right and left).
2. Costomediastinal recesses (right and left).

NERVE SUPPLY OF PLEURA:

The **parietal pleura** is supplied by the somatic nerves and is sensitive to pain like intercostal and phrenic nerves.

The **visceral pleura** is supplied by the autonomic (sympathetic) nerves (T2–T5) and is insensitive to pain.

BLOOD SUPPLY:

- **PARIETAL PLEURA:** supplied by intercostal, internal thoracic and musculophrenic arteries.
- **VISCERAL PLEURA:** supplied by bronchial arteries.

The venous drainage is done by the veins similar to the arteries.

LYMPHATIC DRAINAGE:

The lymph drainage is done by intercostals and sternal nodes. Also by broncho-mediastinal lymph nodes.

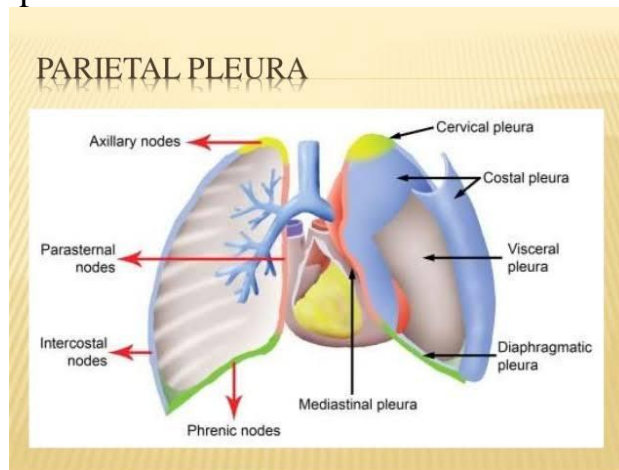


Figure 2: showing lymphatic drainage of parietal pleura

APPLIED ASPECT: following are the applied aspects of pleura.

- Injury to cervical pleura
- Pneumothorax
- Pleural effusion (accumulation of significant amount of fluid)
- Pleurisy and pleuritis (inflammation of pleura)

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