

Diaphragm

It is a thin musculetendinous structure that fills the inferior thoracic aperture. It separates the thoracic cavity from the abdominal cavity and it is dome-shaped.

Positions

It is attached peripherally to:

- Xiphoid process
- Costal margins of the thoracic wall
- Ends of the 11th and 12th ribs
- Ligaments that go across posterior abdominal wall
- Vertebrae of Lumbar region

The pericardium is attached to the central tendon, where fibres converge.

Structures through the Diaphragm

- **Aortic hiatus** - Aorta
- **Oesophageal hiatus** - oesophagus, vagus nerve, azygous and hemiazygous vein
- **IVC foramen** - Inferior Vena Cava through central tendon

Innervation

Motor innervation

- Phrenic nerve

Sensory innervation

- Intercostal nerves (ribs 6-12)
- L1 and L2 roots
- Phrenic nerve

Function

For inspiration and raising intra-abdominal pressure

Mechanism of Breathing

Inspiration

1. Intercostal muscles contract
2. Ribs elevate transversely and anteriorly
3. Diaphragm contracts and flattens
4. Thorax volume increases, decreasing pressure
5. Air goes in

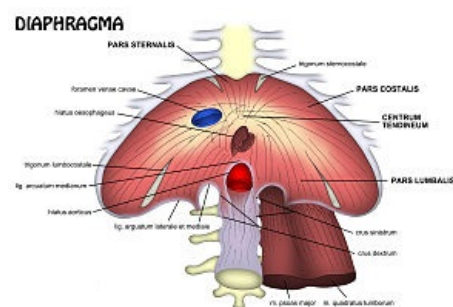
Expiration

1. Intercostal muscles and diaphragm relax
2. Thorax volume decreases, increasing pressure
3. Air is forced out

Links

Bibliography

SNELL, Richard S. *Clinical Anatomy by Regions*. 8th Edition edition. 2004. ISBN 978-0-7817-6404-9.



Diaphragm scheme.