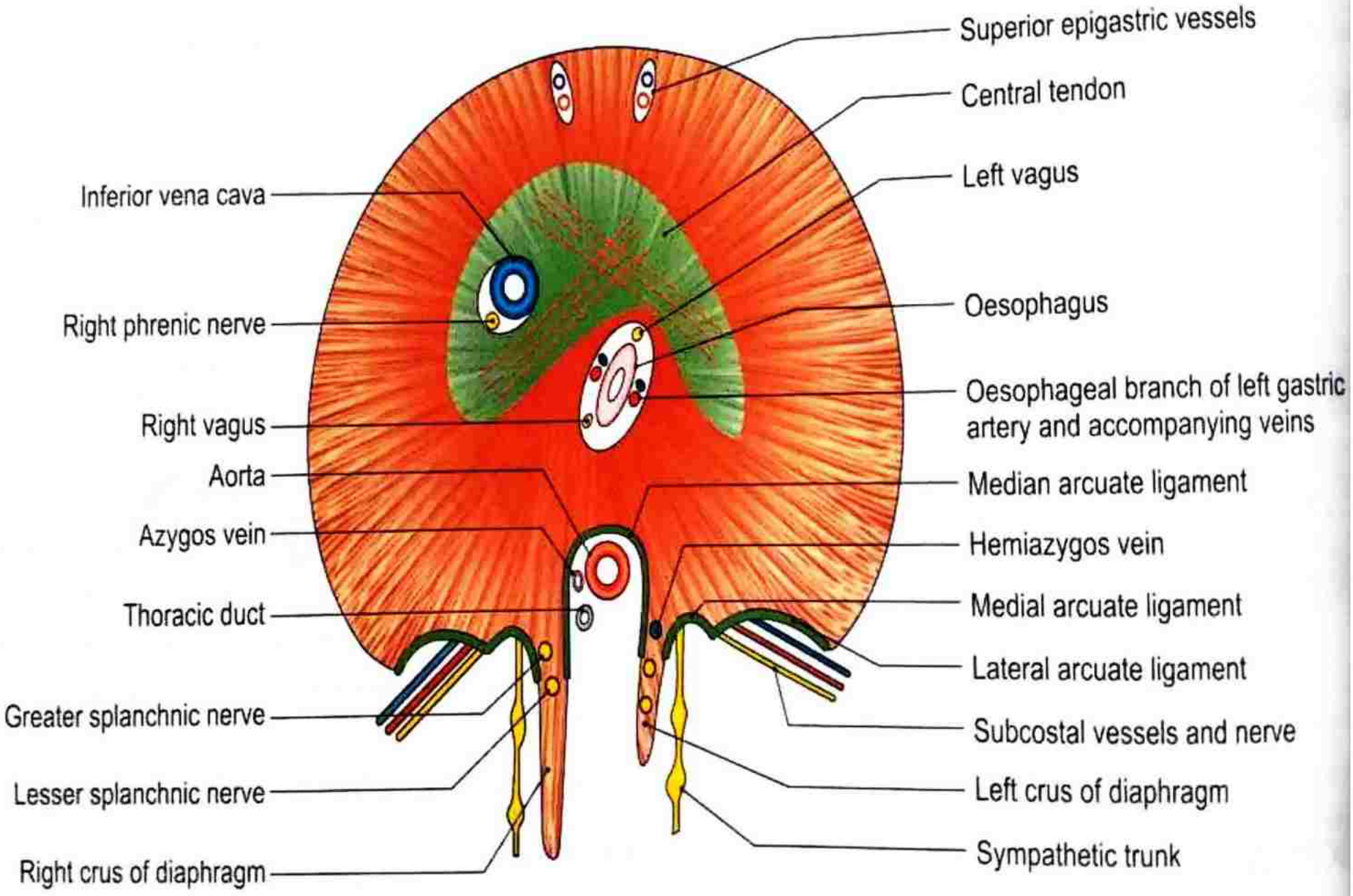


Fig. 26.1: The diaphragm as seen from below

5. Mediastinum [મધ્યપટલ અંતરાલ]

→ The Mediastinum is the structure b/w the two Pleural sacs containing lungs.

→ Important structures that lie in the Region include —

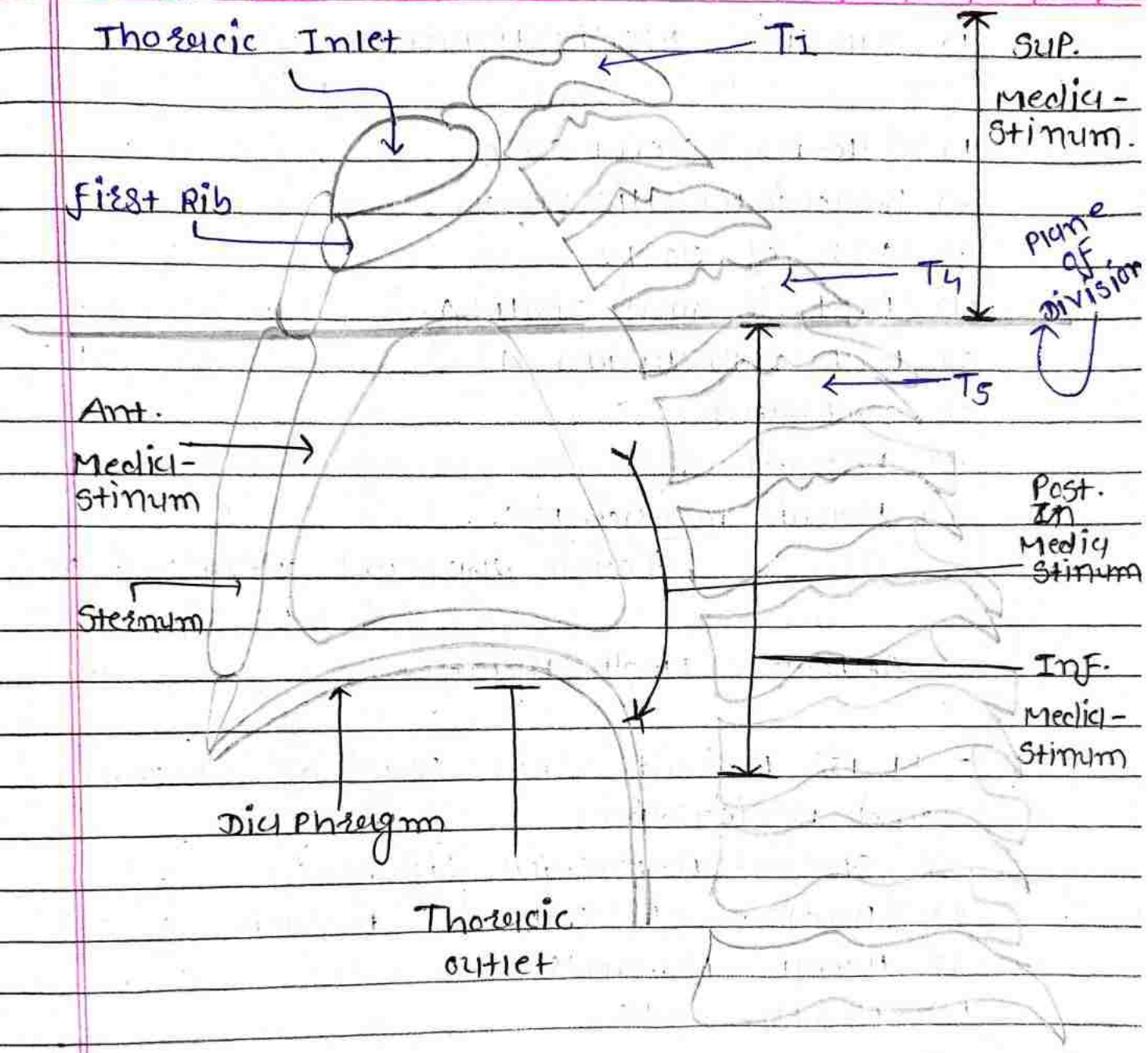
1) Heart
2) Oesophagus
3) trachea
4) Large blood vessels.

* Relations —

- Anteriorly :- Sternum.
- Posteriorly :- Thoracic vertebral column.
- Superiorly :- Thoracic Inlet.
  (ઉપર દ્વારા થવાનો માર્ગ)
- Inferiorly :- Thoracic outlet
  (નીચે નીકળવાનો માર્ગ)
  :- Diaphragm.
- Laterally :- Lungs and Pleurae

* Division of Mediastinum

→ An Imaginary Horizontal plane b/w Manubriosternal Joint and lower surface of T4 vertebral



Division of Mediastinum

→ Heart is present in Middle Inferior Mediastinum part.

→ Inferior mediastinum is further subdivided into anterior, posterior and medial divisions.

Teacher's Signature.....

1) Superior Mediastinum

1) Superior Vena cava
2) brachiocephalic vessels
3) Arch of aorta
4) left common carotid A.
5) left subclavian A.
6) oesophagus
7) trachea.
8) thymic Remnants
(ગાંઠ થાય પછી જોવા મળે)

2) Anterior Mediastinum

- It is present b/w Body of sternum and Pericardium
1) Sterno-Pericardial ligament.
2) Branches of Internal thoracic A.
3) thymic Remnats
4) lymph Nodes.

3) Middle Mediastinum

- It is a largest Part
1) Heart
2) Pericardium
3) Ascending aorta
4) azygos vein
5) Sup. Vena cava
6) trachea.
7) Pulmonary trunk and arteries, vein
8) Principal bronchi

Teacher's Signature.....

4) Posterior Mediastinum

- It is present behind Pericardium and Diaphragm.
1) Descending aorta
2) Azygos vein
3) oesophagus
4) thoracic duct
5) Lymph Nodes.

* Clinical Significance.

1) Mediastinal Syndrome
-(કોઈ પણ બીજા ભાગ માં કેન્સર થાય અને આજુબાજુ ના ભાગ ને Irritate કરે)
→ It is a group of disorders due to Malignant or non-Malignant conditions characterized by Infiltration entrapment or compression of Mediastinal structures.

- compression of trachea (Respiratory Insufficiency)
- compression of oesophagus. (Dysphagia)
- Sup. Vena cava and Nerves can become trapped. —(vein distension)
—(oedema of face or upper extremities)

* Diaphragm (महाप्राचिर कला)

- The Diaphragm is the dome-shaped Muscle and Tendon.
- It is main Muscle of Respiration.
- It separates the Thorax from the Abdomen.
- The Diaphragm consists of 2 parts
  i) Peripheral Muscle
  ii) central tendon.

- The Peripheral Muscle is made up of Many Radial Muscle fibres ; that - come together on the central tendon.

- The Muscle Fibres are grouped into 3 parts

1) Sternal Part (Anterior Part) —
- It arises from the Back of the Xiphoid Process.

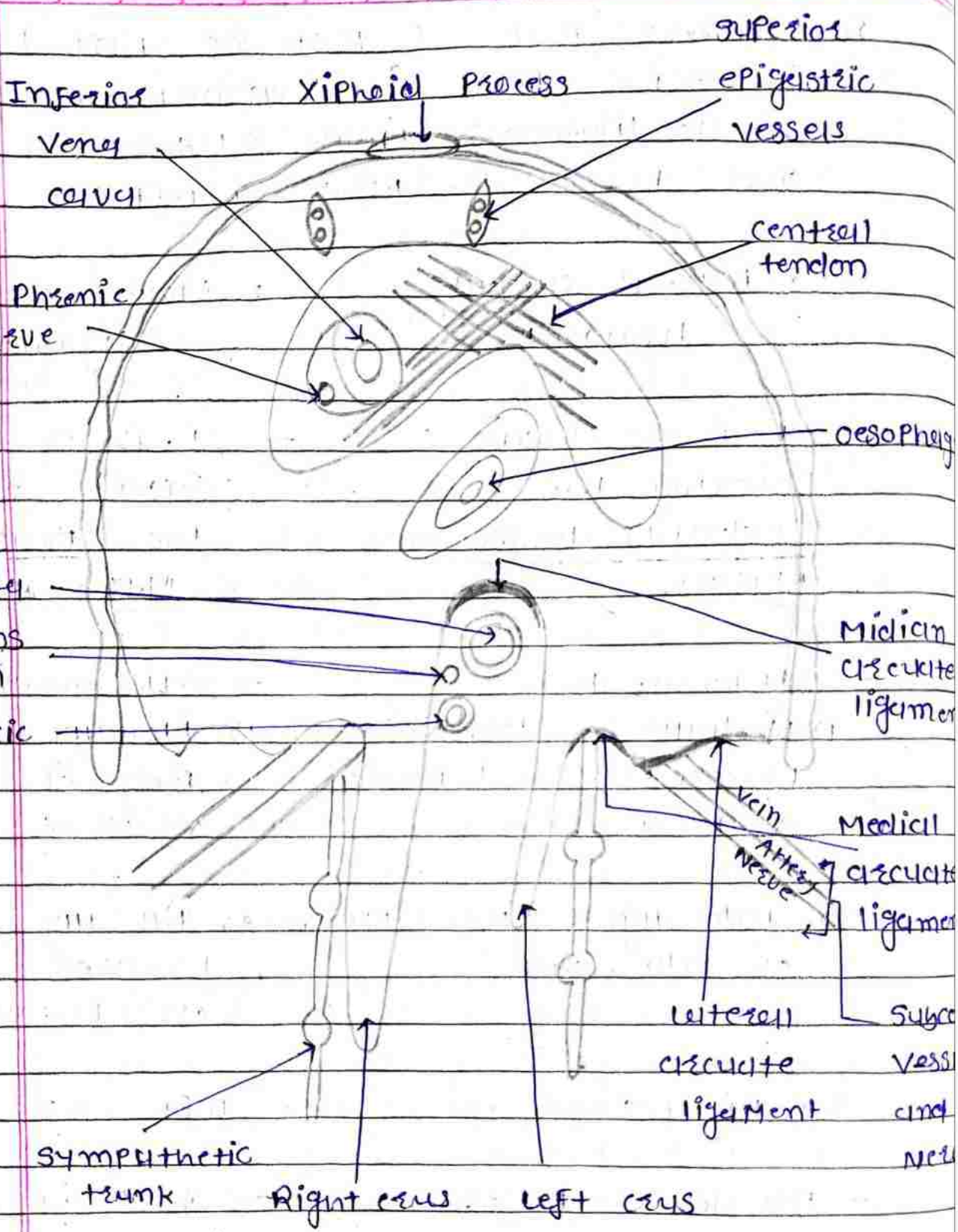
2) Costal Part (Lateral Part) —
- It arises from the Inner surface of the Inferior 6 costal cartilages, adjacent Ribs and Transversus abdominis Muscles.

Teacher's Signature.....

3) Lumbar Part (Posterior Part)

- It arises from two aponeurotic arcuate ligaments (Medial & Lateral) and two crus. (Right & Left)

• Lateral arcuate ligament •	• Medial arcuate ligament •
- It is a fascia covering the quadratus lumborum Muscles.	- It is a fascia covering the Psoas Major Muscle
- Attachments —	- Attachments —
1) Medially :- transverse Process of 1st lumbar vertebra	1) Medially :- Body of L1 vertebra
2) Laterally :- lower Margin of 12th Rib.	2) Laterally :- transverse process of L1 vertebra.
• Right crus •	• Left crus •
- Broader & longer	- Short
- Attachments —	- Attachments —
i) L1, L2, L3 vertebrales Body and Inter ii) vertebral Discs	i) L1, L2 vertebrales Body and Inter vertebral Discs —



· Inferior Aspects of the Diaphragm

→ Medial arcuate ligament :- It forms to medial tendinous margins of both crura meet in the midline.
- which encloses the aortic hiatus.

→ Muscle fibres from the circumferential origin. , arch upwards and inwards to form the Right & left domes.

→ Right dome > left dome
- bcz, Present liver or, occupied by liver
- bcz, occupied by fundus of the stomach

* Central Tendon

- The muscle fibers converge towards the central tendon for their Insertion.
- The Muscle fibres in the Diaphragm contract and pull the central tendon Inferiorly into the abdominal cavity
- This enlarges the thorax and allows air to inflate the lungs.

* Opening of the Diaphragm -

1) Descending aorta
2) esophagus.
3) Inferior venal cava.
4) Phrenic and Vagus Nerves.

* Arteries -

- Pericardio - Phrenic artery
- Musculo - Phrenic artery.
- Superior Phrenic artery.
- Internal Intercostal artery.
- Inferior - Phrenic artery
- Superior epigastric artery.

* Veins

- Inferior - Phrenic vein

* Lymphatics.

- Superior Diaphragmatic Lymph Nodes.

* Nerves.

- Sensory & Motor - Phrenic Nerves.

Teacher's Signature.....

* Actions -

1) Diaphragm is a Principal Muscle of Inspiration

2) Sneezing, coughing, laughing, crying vomiting, Micturition, Defecation

* Applied Anatomy ---

1) Hiccup :- It is Due to the Spasmodic contraction of Diaphragm.

causes :- a) Due to local irritation of Diaphragm and it's Nerves

b) Due to irritation of Hiccough centre in the Medulla.

2) Shoulder tip Pain :- Irritation of the Diaphragm may cause referred Pain in the Shoulder as the Phrenic and Supraclavicular Nerve have the same Root values (C_3 & C_4)

3) Hiatal Hernia :- In this Hernia the Stomach bulges up into the thorax through the oesophageal opening (Hiatus) of the Diaphragm

Teacher's Signature.....