جامعة ساوة الاهلية
كلية التقنيات الصحية والطبية
قسم التخدير - اللجنة العلمية

ESOPHAGUS

جامعة ساوة

كلية التقنيات الصحية والطبية

قسم تقنيات التخدير

المرحلة الثالثة

Sawa University

محاضرة الثالثة

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ESOPHAGUS

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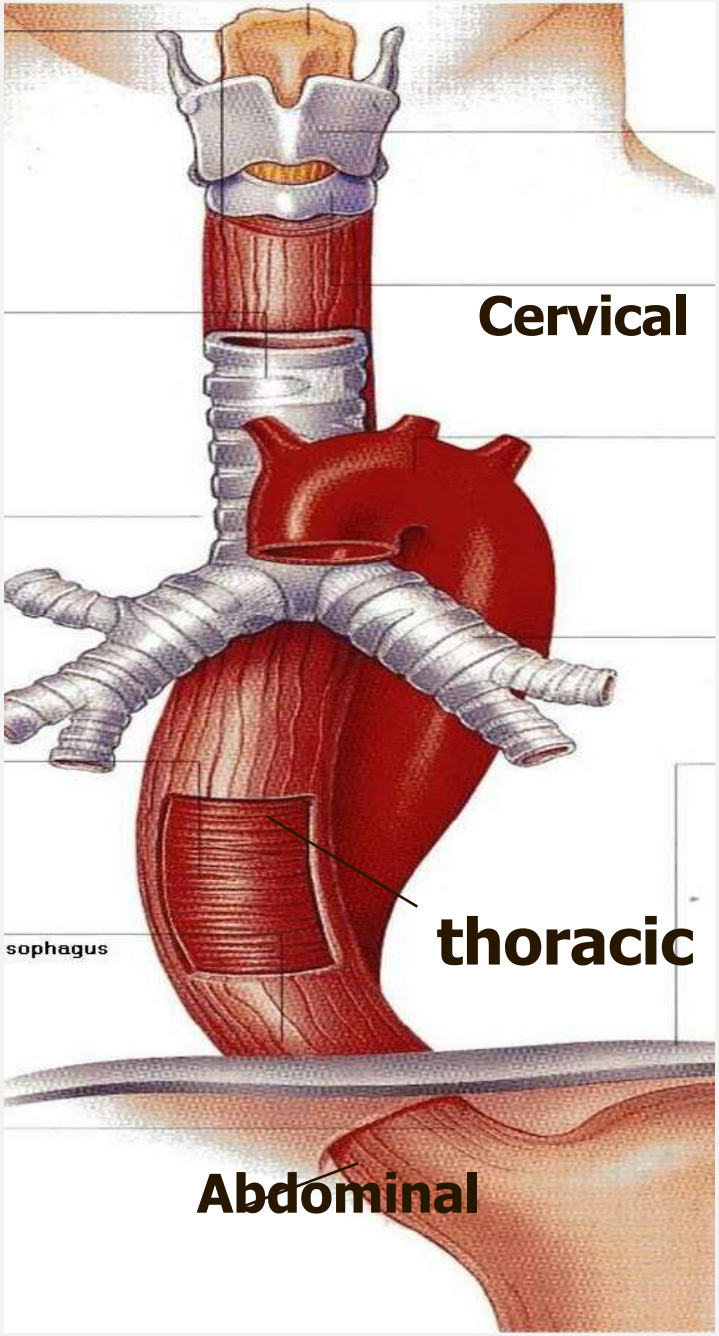
OBJECTIVES

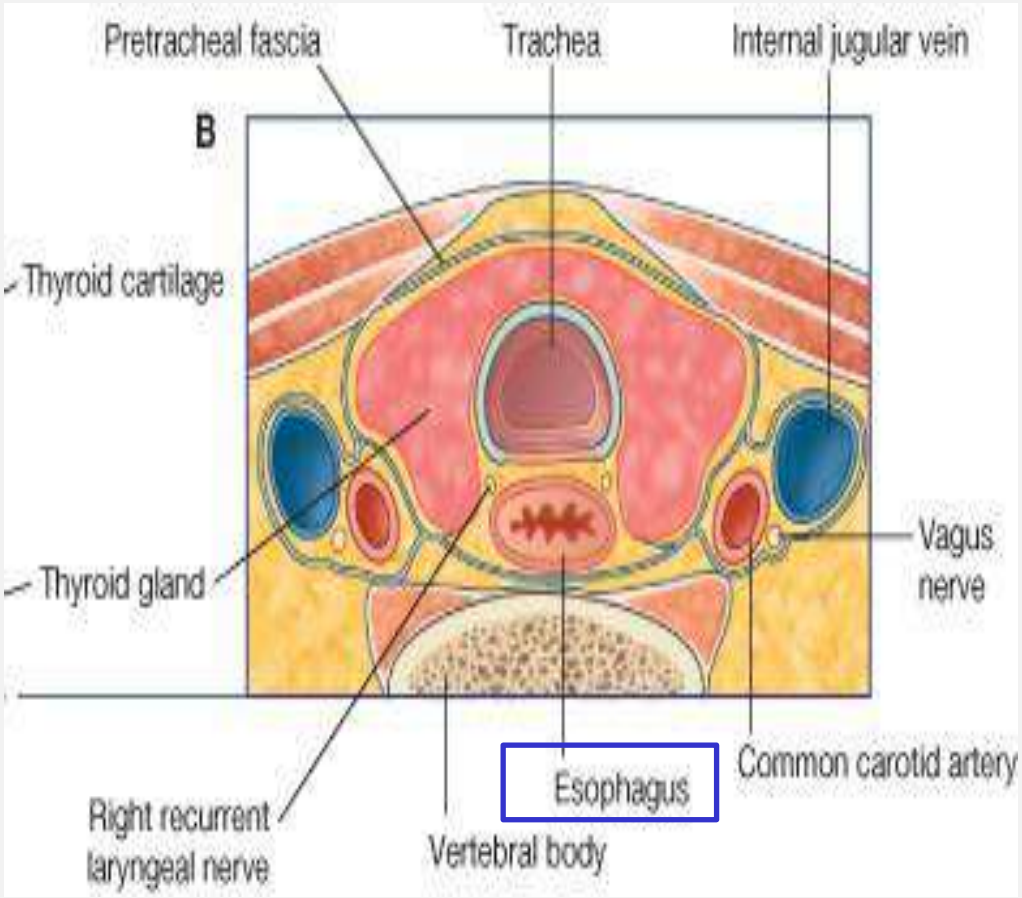
- **By the end of the lecture you should be able to**:
- Describe the anatomical view of the **esophagus;** extent, length, parts, strictures, relations, blood & nerve supply and lymphatic.

ESOPHAGUS

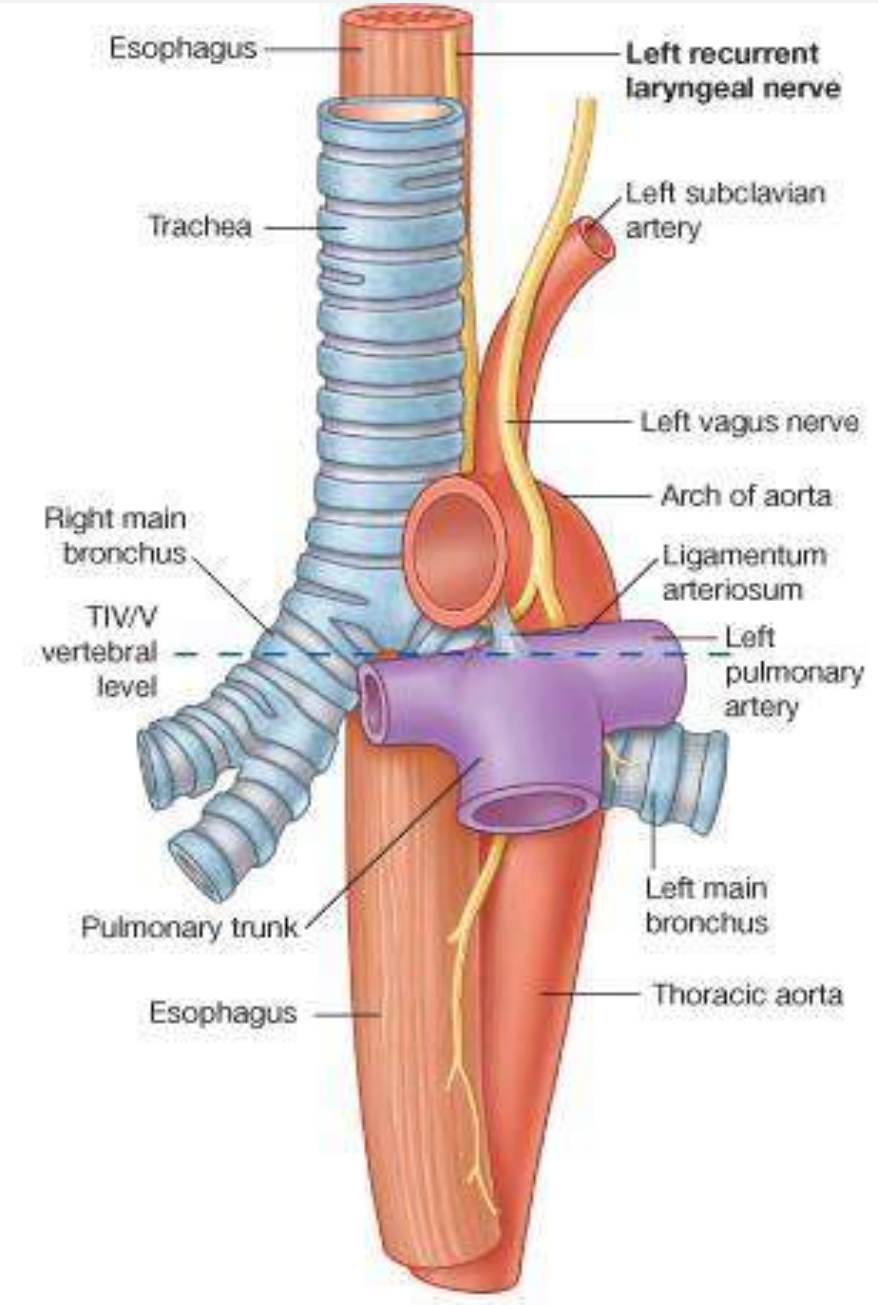


- It is a tubular structure about 25 cm long.
- It begins as the continuation of the pharynx at the level of the **6th** cervical vertebra.
- It pierces the diaphragm at the level of the **10th** thoracic vertebra to join the stomach.
- It terrminates at level of **11th** thoracic vertebra
- **It is formed of 3 parts:**
- Cervical
- Thoracic
- Abdominal

CERVICAL PART "RELATIONS"



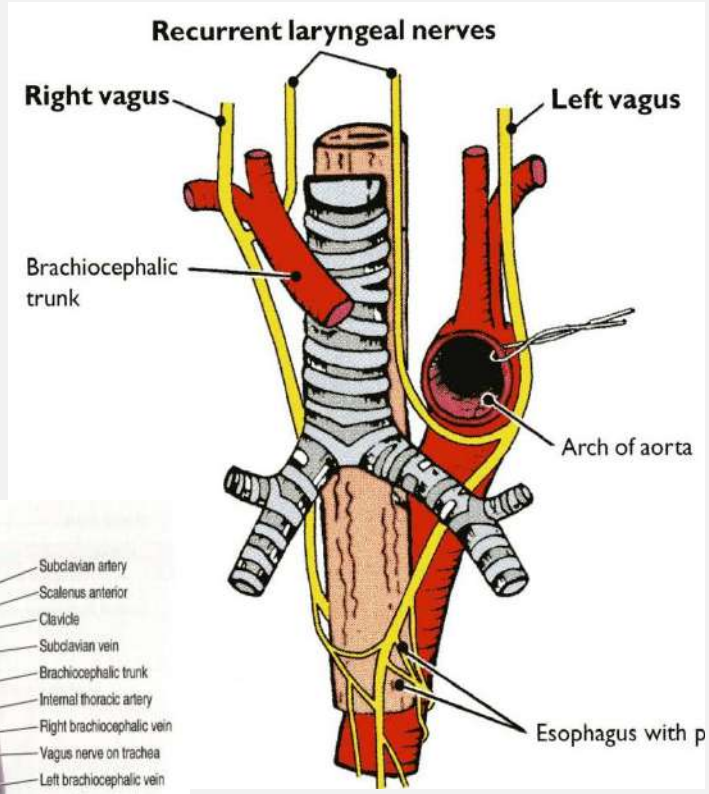
- **Posteriorly:**
- **Vertebral column.**
- **Laterally:**
- **lobes of the thyroid gland.**
- **Anteriorly:**
- **Trachea and the recurrent laryngeal nerves.**



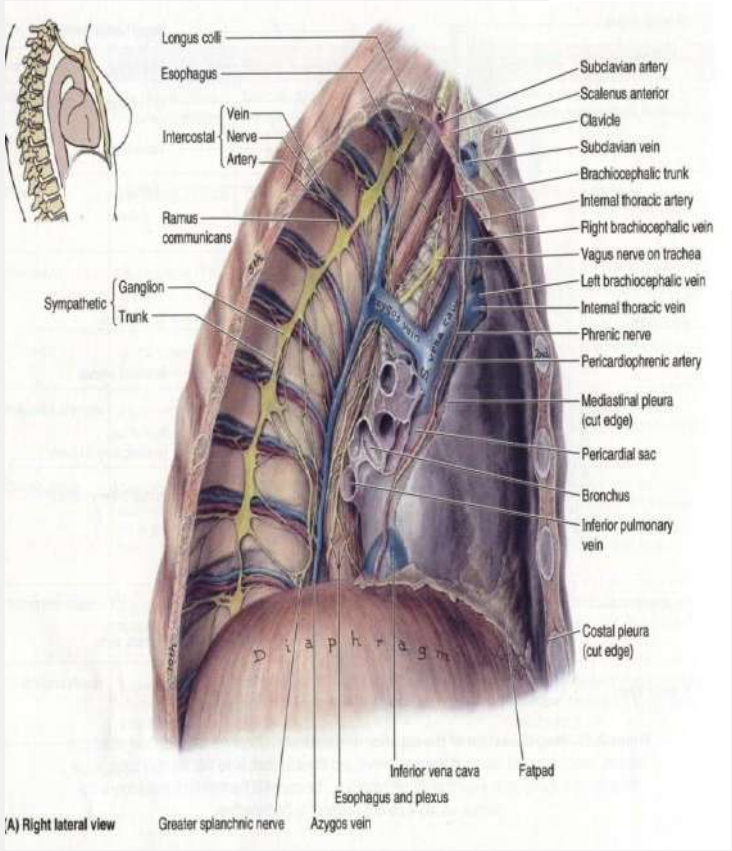
THORACIC PART

- In the thorax, it passes downward and to the **left** through superior & posterior mediastinum
- At the level of the **sternal angle**, the **aortic arch** pushes the esophagus again to **the midline**.

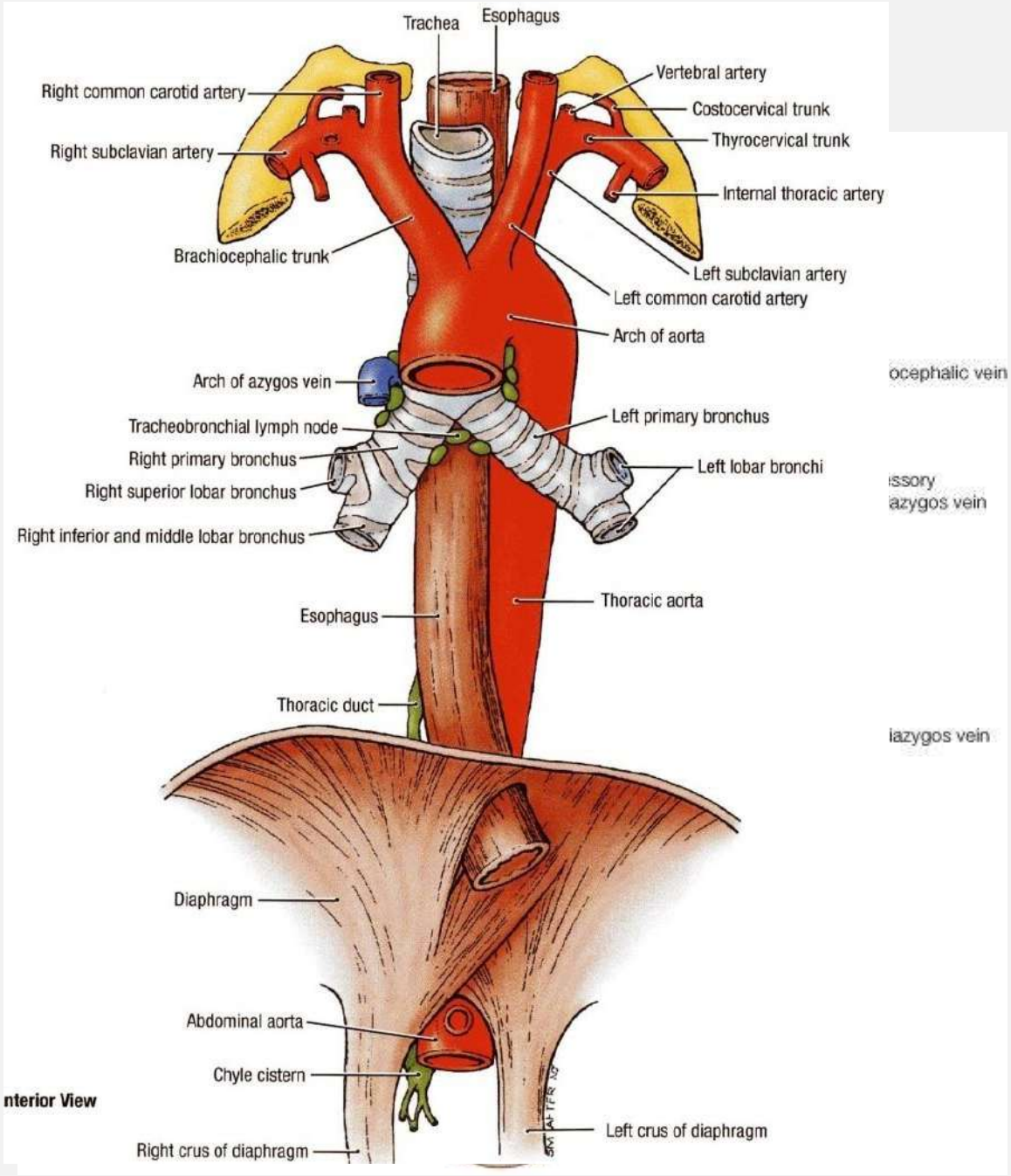
THORACIC PART



ANTERIOR RELATIONS

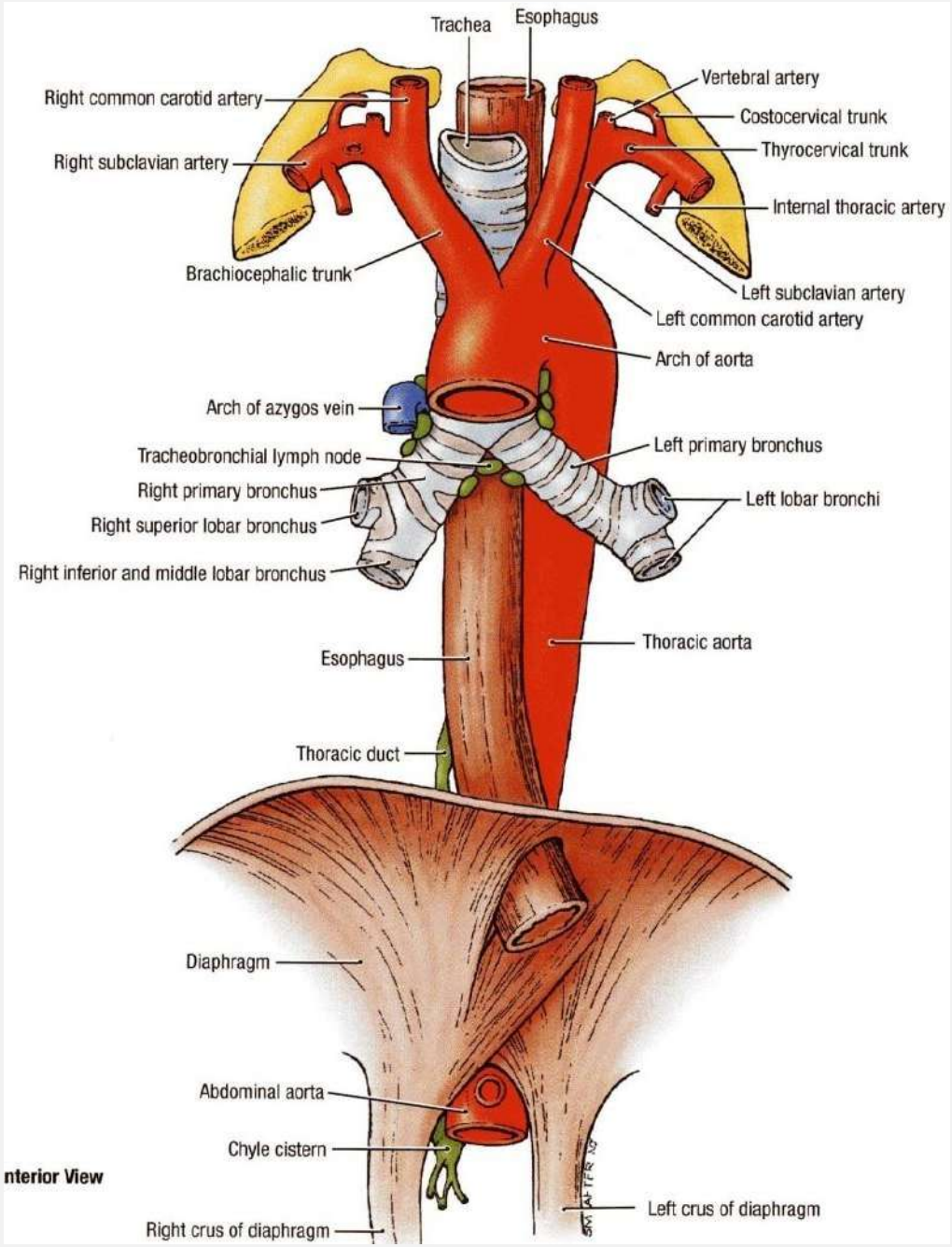


- Trachea
- Left recurrent laryngeal nerve
- Left principal bronchus
- Pericardium
- Left atrium



POSTERIOR RELATIONS

- Bodies of the thoracic vertebrae
- Thoracic duct
- Azygos vein
- Right posterior intercostal arteries
- Descending thoracic aorta (at the lower end)

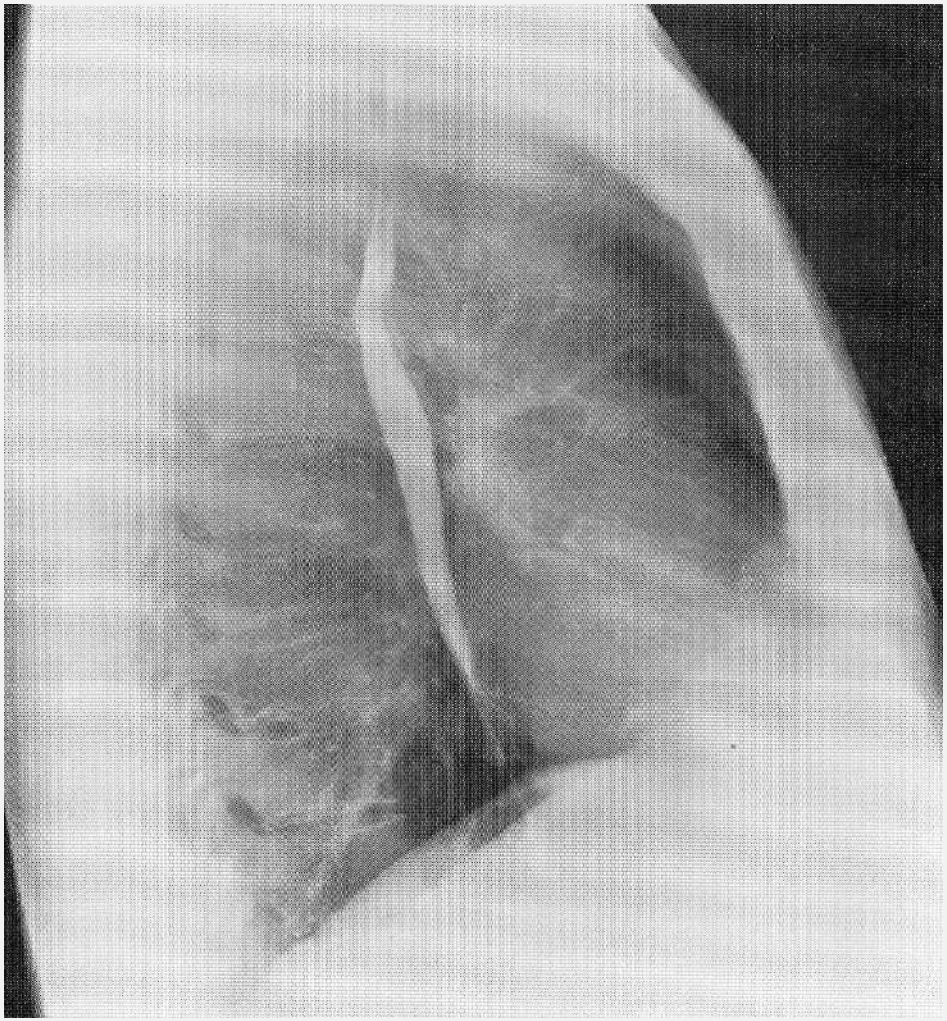


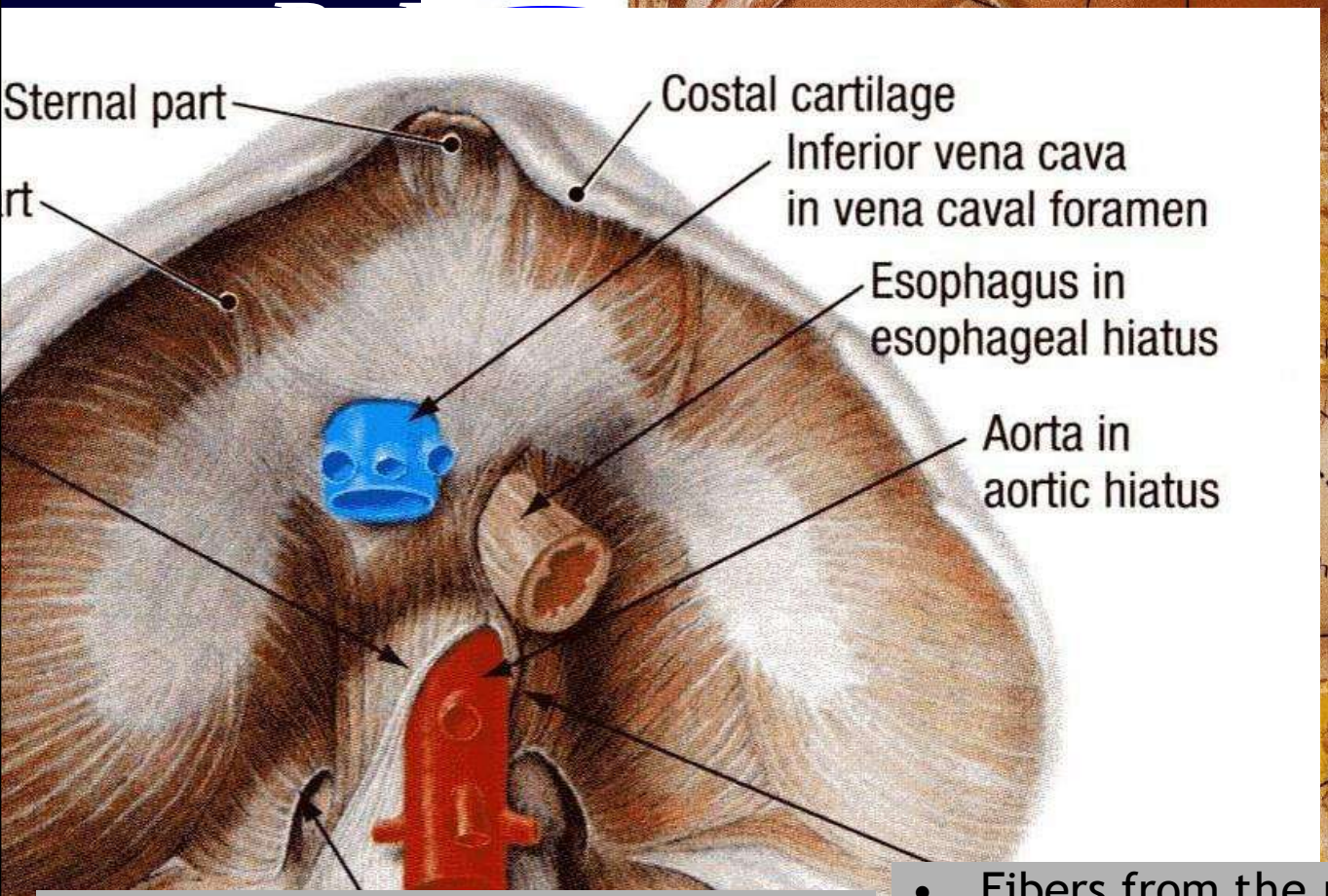
LATERAL RELATIONS

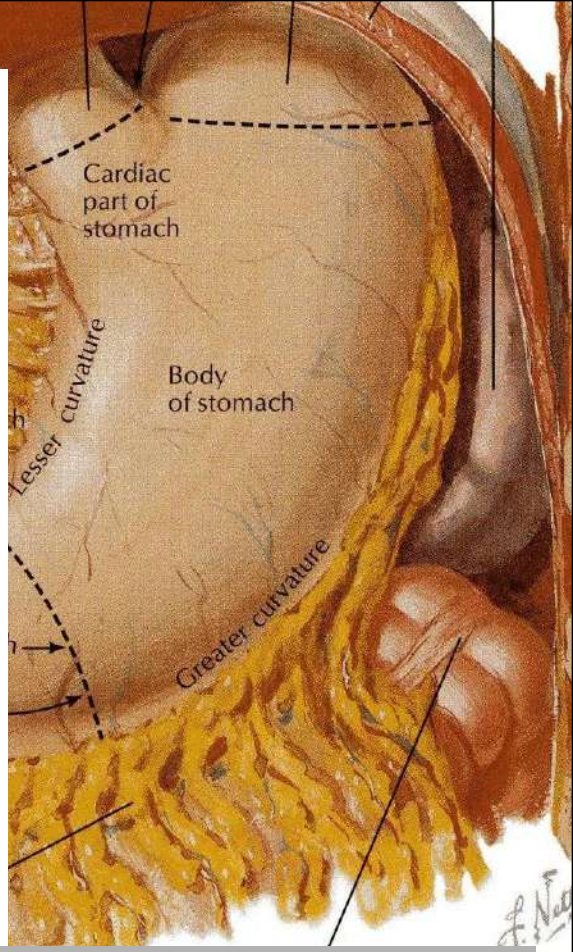
- **On the Right side:**
- Mediastinal pleura
- Terminal part of the azygos vein.
- **On the Left side:**
- Mediastinal pleura.
- Left subclavian artery.
- Aortic arch.
- Thoracic duct.

ESOPHAGUS AND LEFT ATRIUM OF THE HEART

- There is a close relationship between the left atrium of the heart and the esophagus.
- **What is the clinical application?**
- A *barium swallow* in the esophagus will help the physician to **assess the size of the left atrium (Dilation)** as in case of a heart failure.





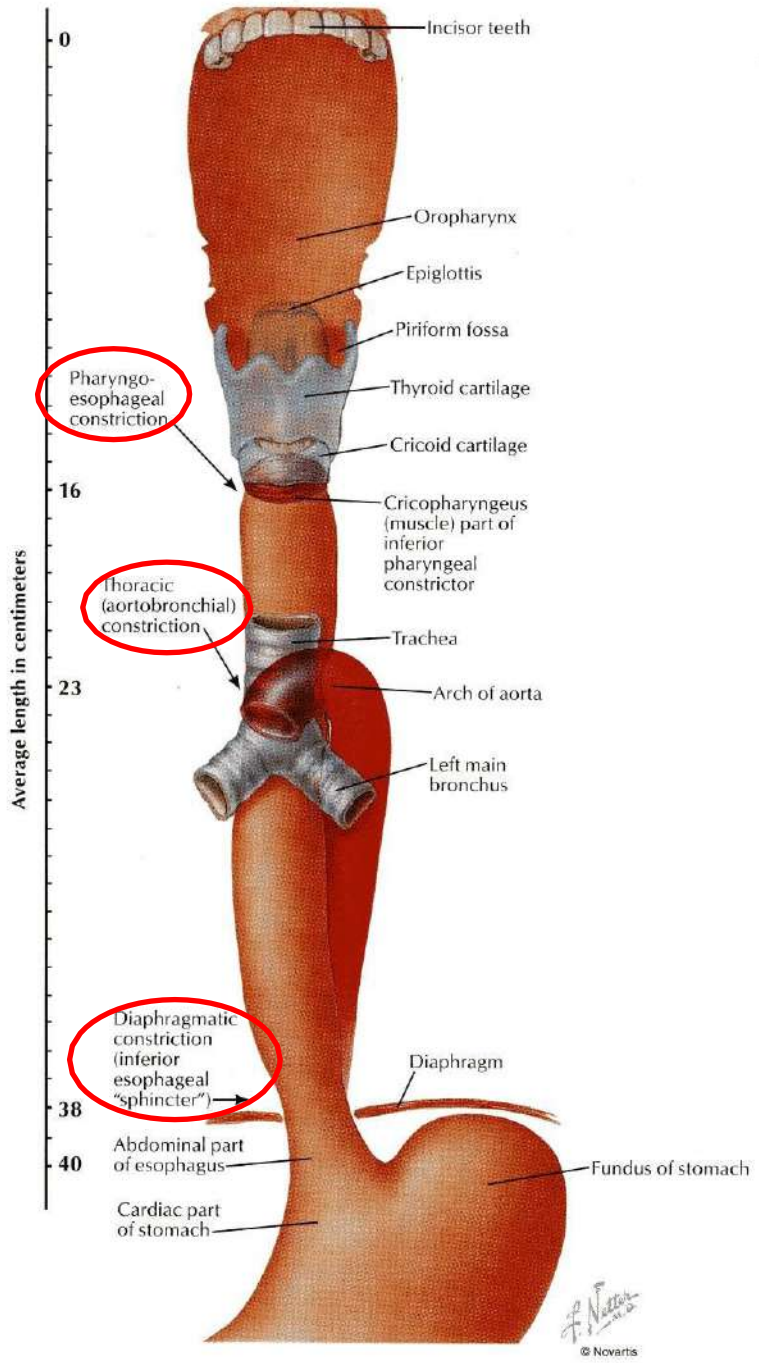


- In the abdomen, the esophagus descends for 1.3 cm and joins the stomach.
- Anteriorly, it is related to the **left lobe** of the liver.
- Posteriorly, it is related to the **left crus** of the diaphragm.

- Fibers from the right crus of the diaphragm form a **sling** around the esophagus.
- At the opening of the diaphragm, the esophagus is accompanied by:
  - The two vagi
  - **Branches of the left gastric vessels**
  - Lymphatic vessels.

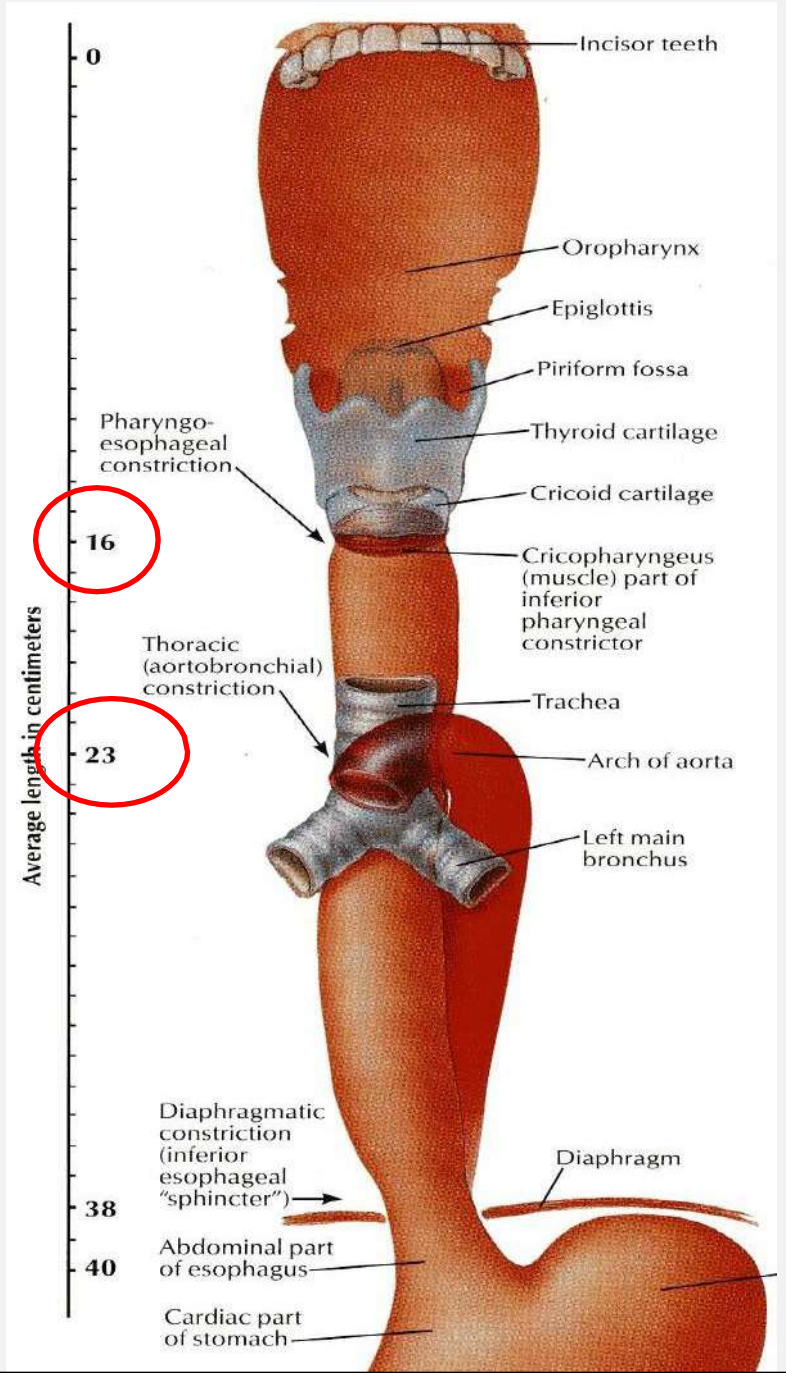
ESOPHAGEAL CONSTRICTIONS

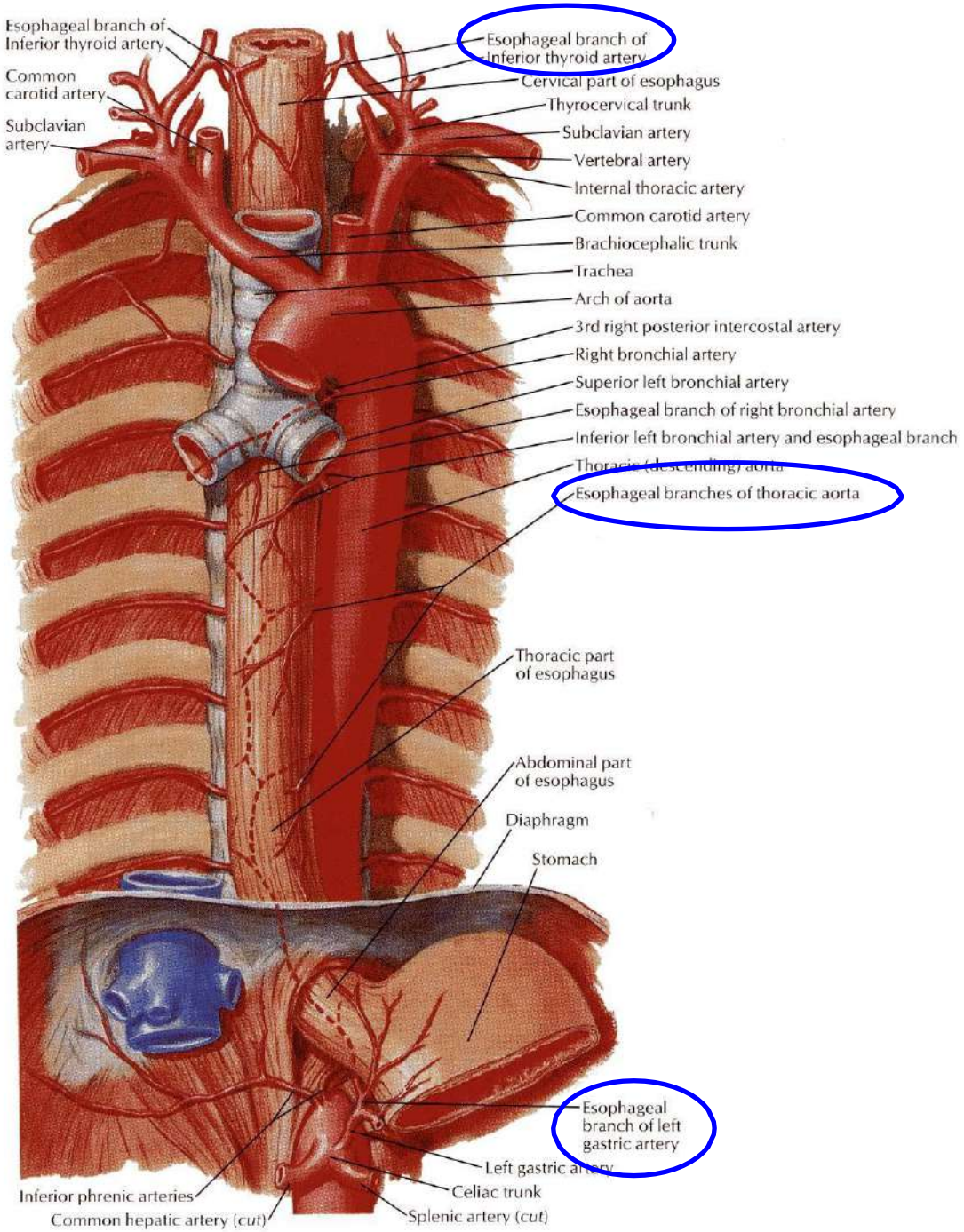
- The esophagus has **3** anatomic constrictions.
- The first is at the junction with the pharynx.
- The second is at the crossing with the aortic arch and the left main bronchus.
- The third is at the junction with the stomach.
- They have a considerable clinical importance.
- Why?



ESOPHAGEAL STRICTURES

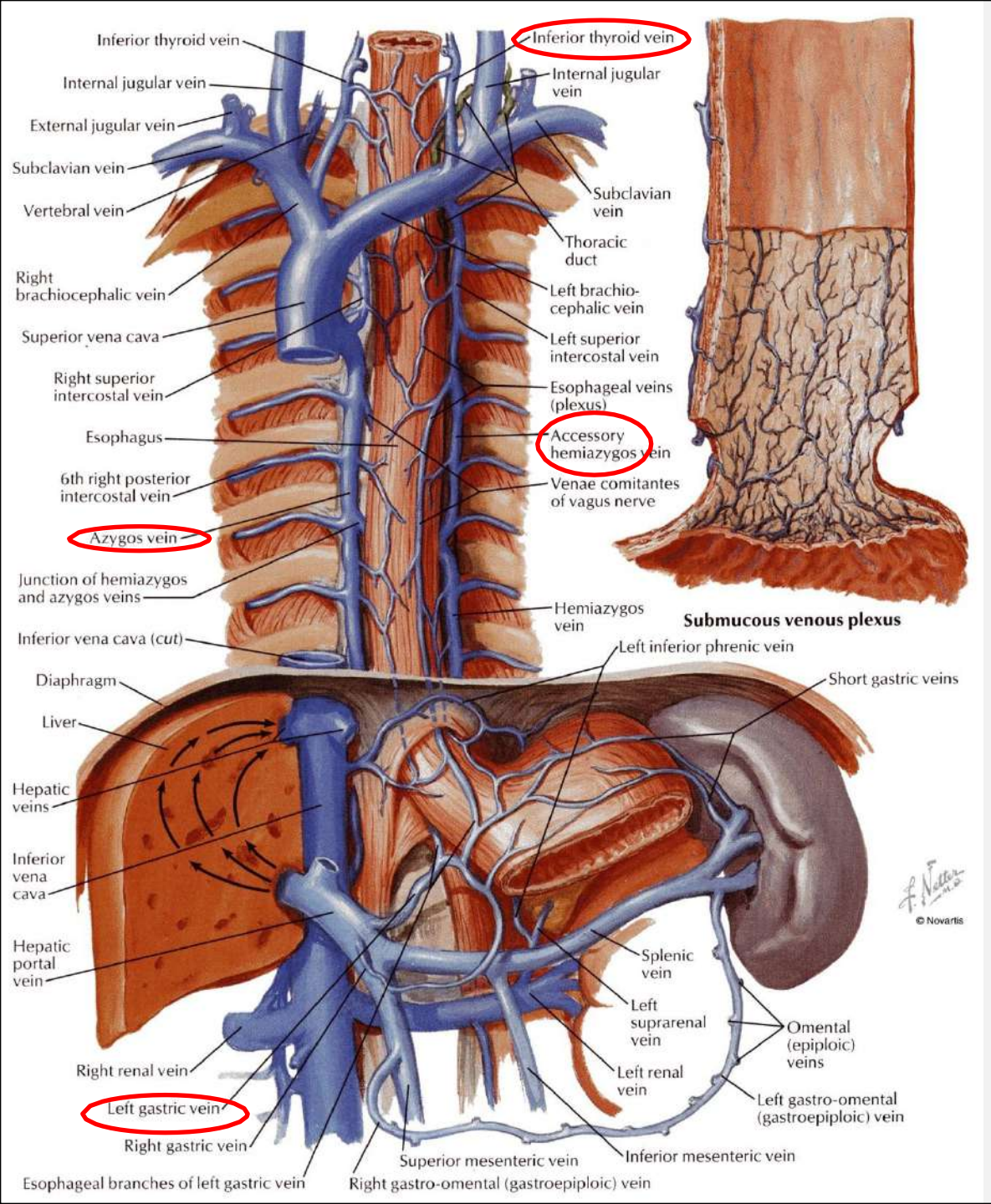
1. They may cause difficulties in passing an *esophagoscope.*
2. In case of swallowing of caustic liquids (mostly in children), this is where the burning is the worst and **strictures** develop.
3. The esophageal strictures are a common place of the development of **esophageal carcinoma.**
4. *In this picture what is the importance of the scale?*





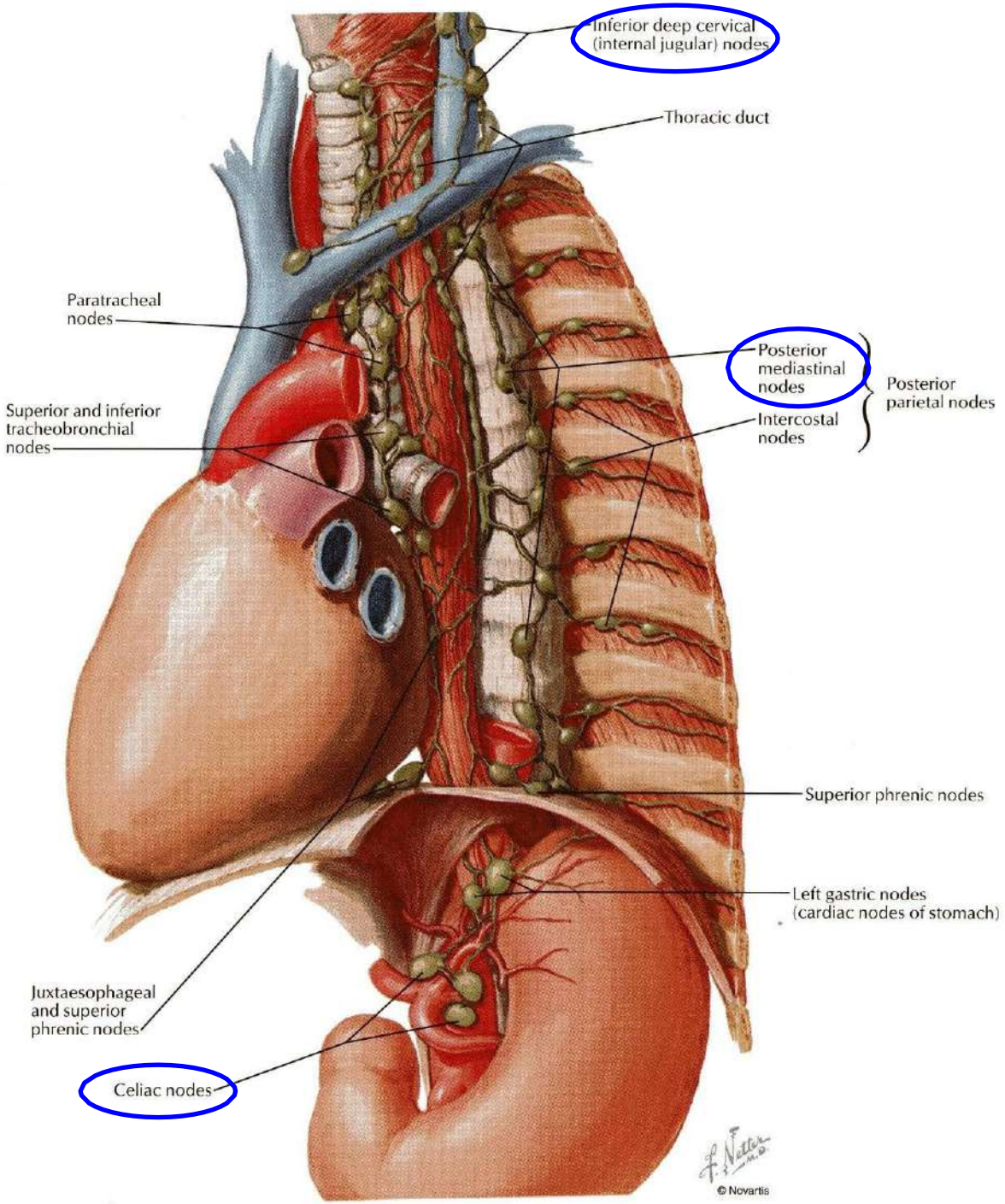
ARTERIAL SUPPLY

- Upper third is supplied by the **inferior thyroid artery**.
- The middle third by the **thoracic aorta**.
- The lower third by the **left gastric artery**.



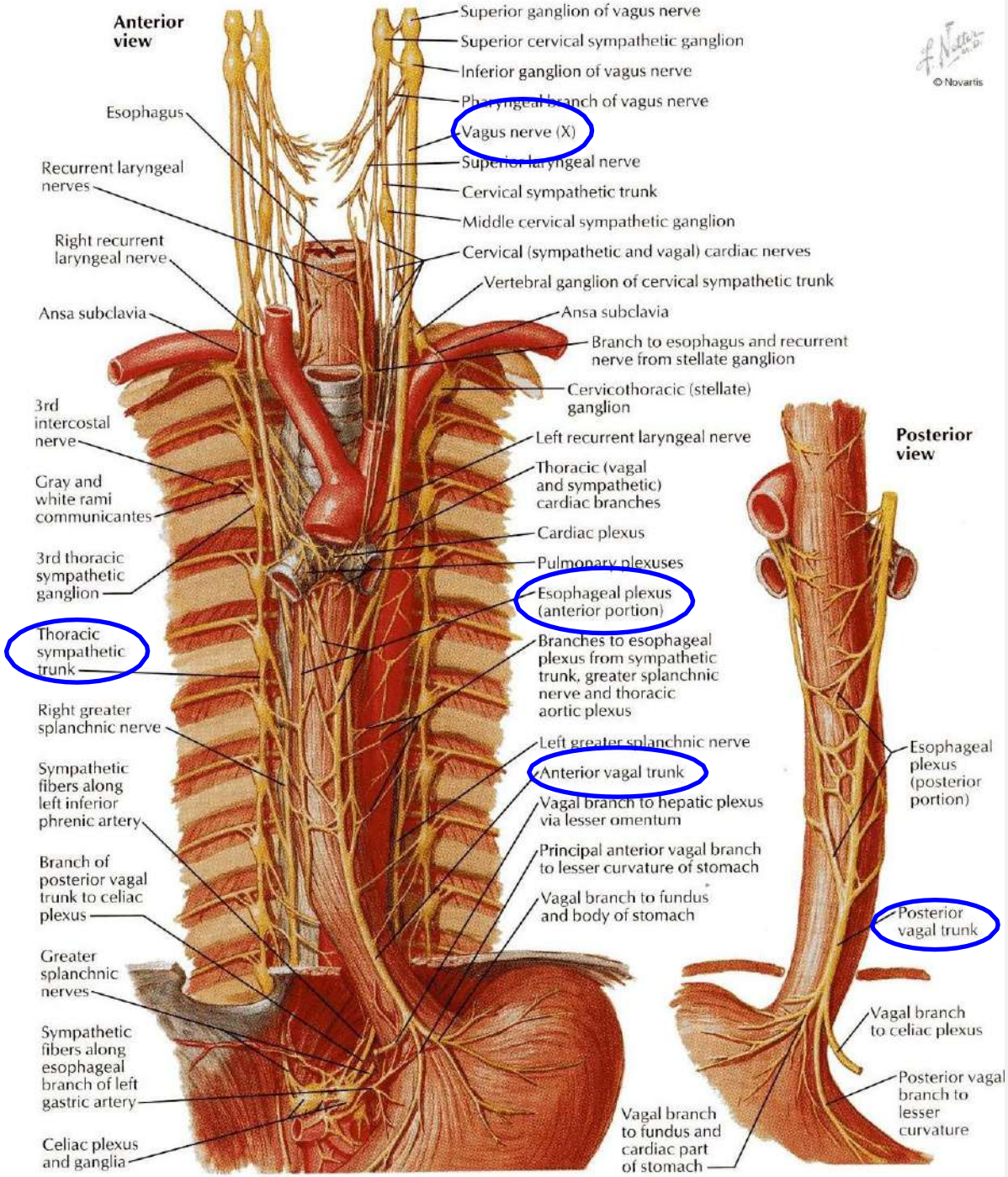
VENOUS DRAINAGE

- The upper third drains in into the **inferior thyroid veins**.
- The middle third into the **azygos veins**.
- The lower third into the **left gastric vein,** which is a tributary of the portal vein.



LYMPH DRAINAGE

- The upper third is drained in the **deep cervical nodes**.
- The middle third is drained into the **superior** and **inferior mediastinal nodes**.
- The lower third is drained in the **celiac** lymph nodes in the abdomen.



NERVE SUPPLY

- It is supplied by sympathetic fibers from the **sympathetic trunks**.
- The parasympathetic supply comes form the **vagus nerves**.
- Inferior to the roots of the lungs, the vagus nerves join the sympathetic nerves to form the **esophageal plexus**.
- The ***left*** vagus lies **anterior** to the esophagus.
- The ***right*** vagus lies **posterior** to it.

THE LAYERS OF ESOPHAGUS

1. MUCOSA
   - EPITHELIUM SURFACE
   - LAMINA PROPERIA
   - GLANDS
2. SUBMUCOSA
   - CONNECTIVE TISSUE
   - BLOOD VESSELES
   - GLANDS
3. MUSCULARIS
   - UPPER STRIATED M
   - MIDDLE STRIATED AND SMOOTH M
   - LOWER SMOOTH M
4. ADVENTITIA
   - CONNECTIVE TISSUE

The diseases of esophagus

1. GERD
2. Achalasia
3. Diverticulum
4. Injuries
5. Strictures
6. Hiatal hernia
7. Sliding hernia
8. cancers

Thank you

SCAN TO GET THE LECTURE