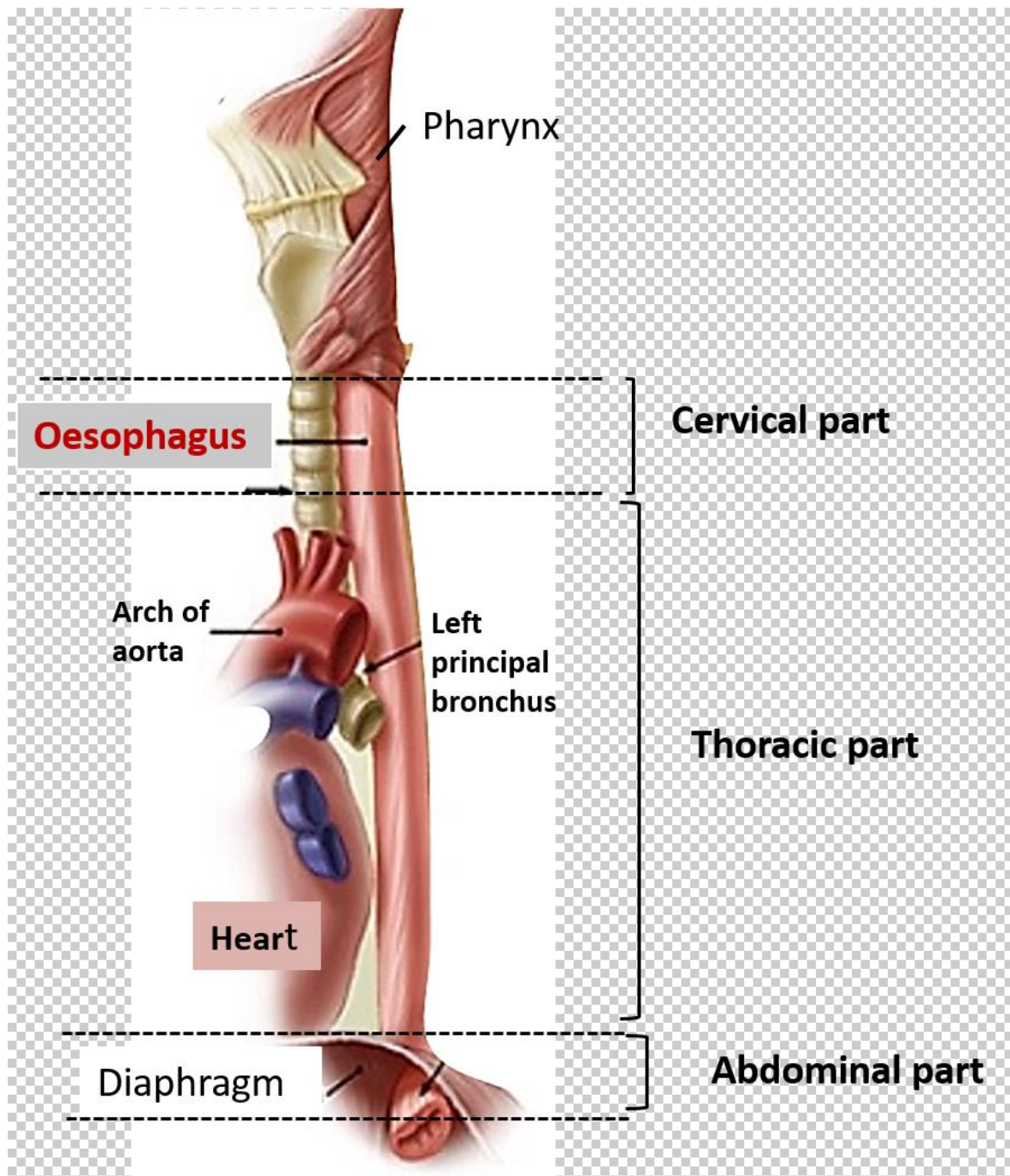


# ESOPHAGUS

Preasented by  
Dr Abhilasha

# INTRODUCTION

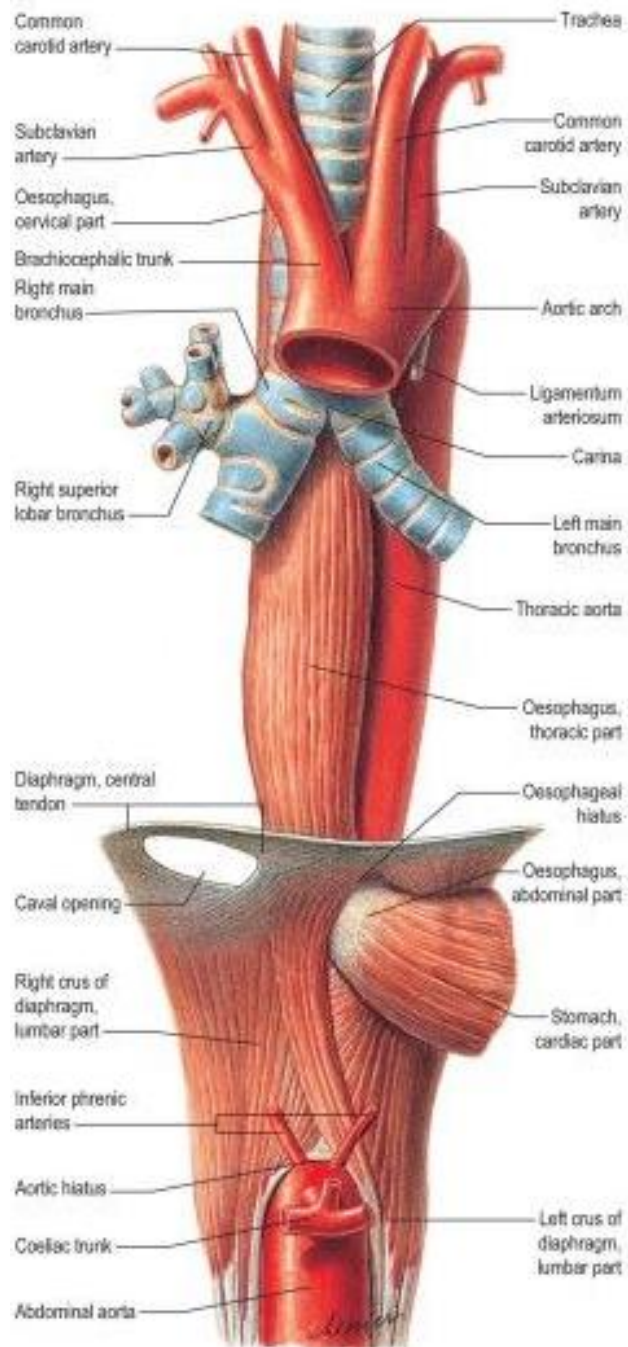
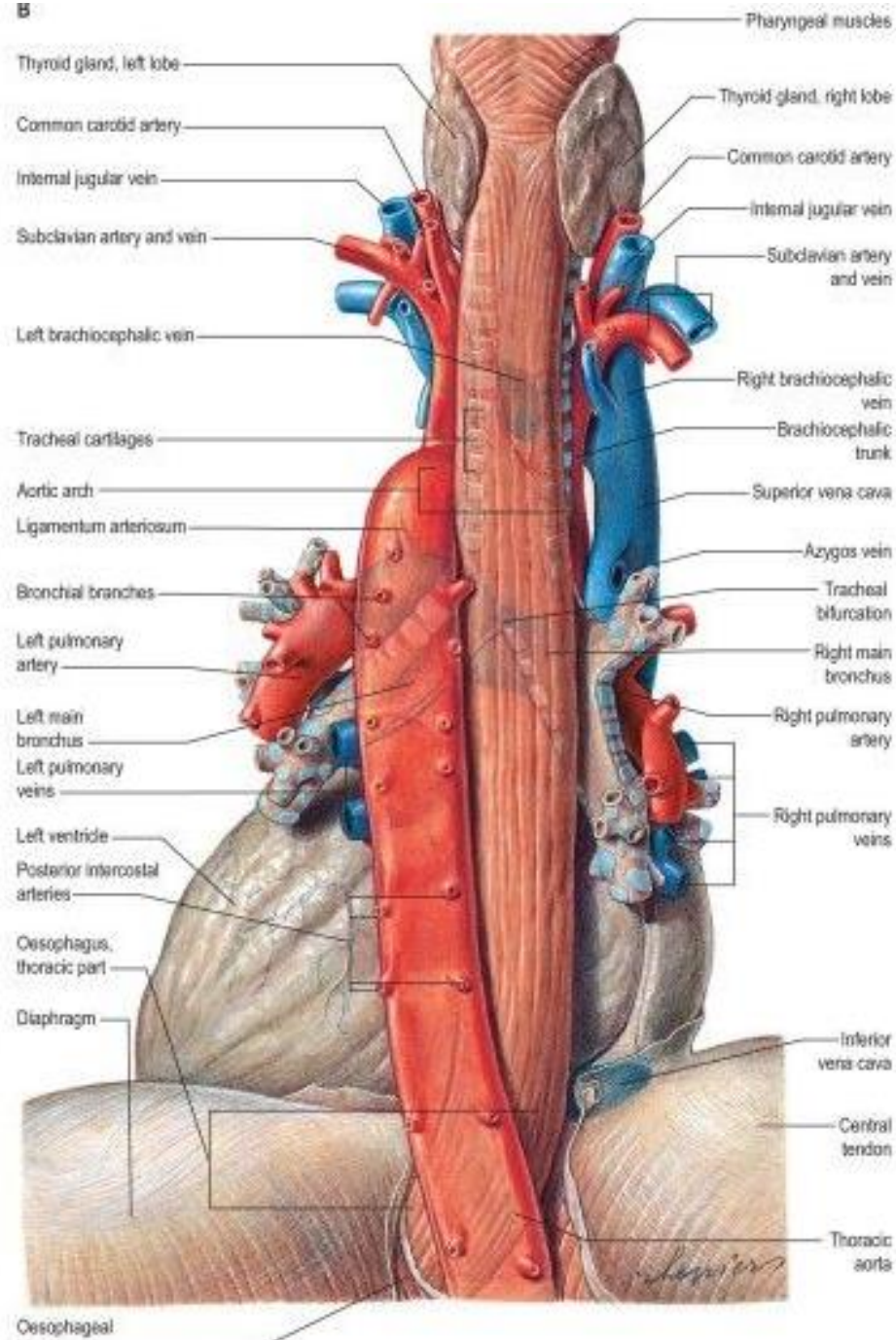
- ❖ Fibro-muscular tube
- ❖ lies posterior to the trachea
- ❖ It is usually flattened anteroposteriorly
- ❖ The oesophagus extends from the distal termination of the pharynx at the level of the C6 to the cardiac orifice of the stomach. It is 25 cm in length and can be divided, into cervical, thoracic and abdominal part.
- ❖ Narrowest part of the alimentary tract (except for the vermiform appendix)



## **AREAS OF CONSTRICTION-4**

1. 15 cm from the incisor teeth, (pharyngo-esophageal junction)- cricopharyngeal constriction
2. where it is crossed by the aortic arch (22.5 cm from the incisor teeth),
3. where it is crossed by the left principal bronchus (27.5 cm from the incisors)
4. as it passes through the diaphragm (40 cm from the incisors).

These measurements are important clinically with regard to the passage of instruments along the oesophagus.

**A****B**

# CERVICAL OESOPHAGUS

The cervical oesophagus is posterior to the trachea and attached to it by loose connective tissue. The recurrent laryngeal nerves ascend on each side in or near the tracheo-oesophageal groove.

## **Relations**

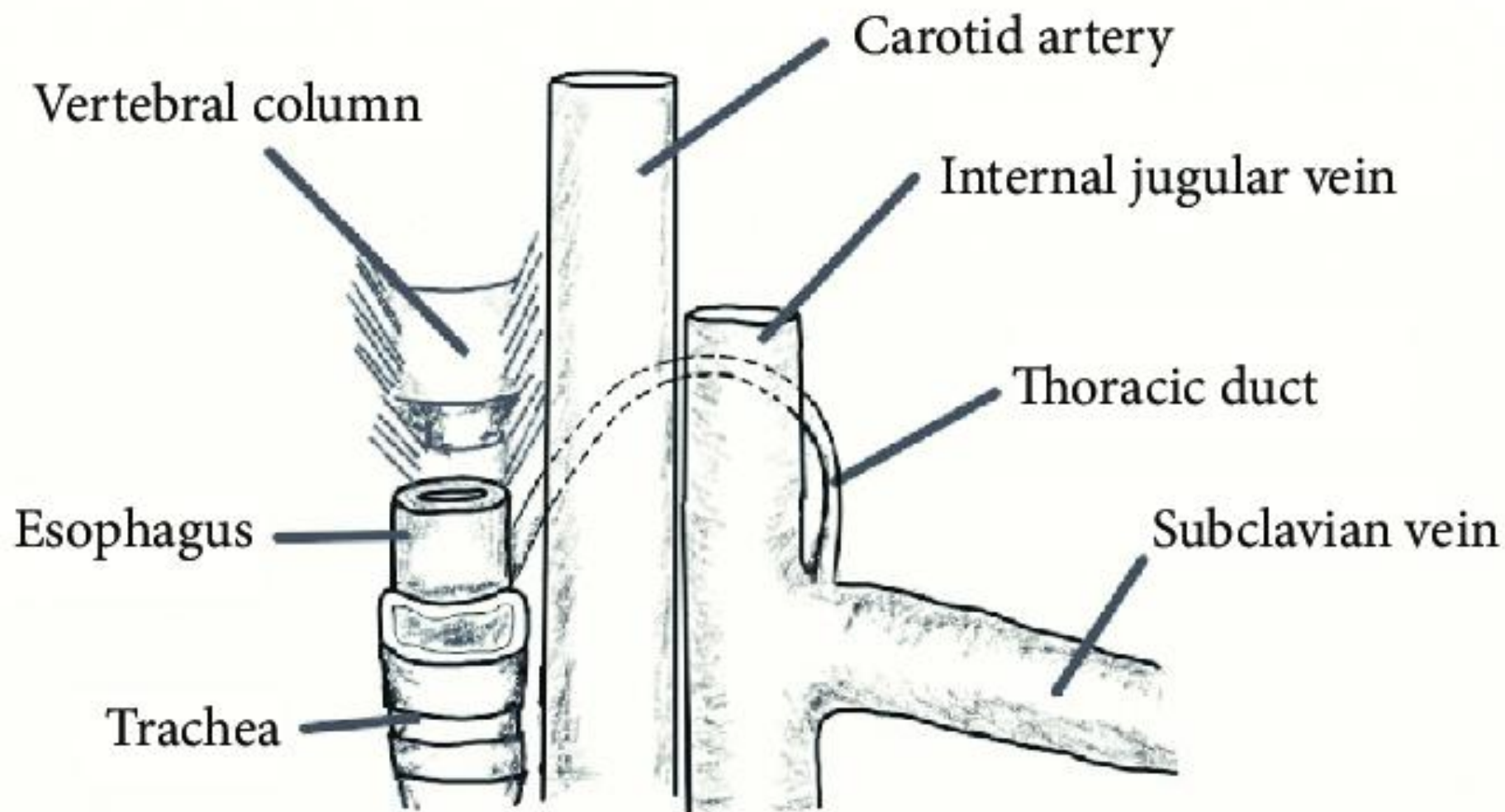
- ❖ Posterior- C6-C7
- ❖ Laterally- common carotid arteries, recurrent laryngeal nerve
- ❖ Anteriorly- trachea

# Thoracic esophagus

- The bulk of the oesophagus lies in the thorax, where it traverses the superior and then the posterior mediastinum, here it passes forward and to the left to reach the oesophageal hiatus of the diaphragm at the level of T10 .
- Relations
  - ❖ Anteriorly- trachea, the left main bronchus, the pericardium

- ❖ Posteriorly- T1 to T10, the thoracic duct, the azygos vein
- ❖ On the left side- left subclavian artery, the aortic arch, the left recurrent laryngeal nerve and the thoracic duct
- ❖ On the right side- termination of the azygos vein.





# Abdominal Oesophagus

The abdominal part of the oesophagus, about 1.25 cm in length, passes through the opening formed by the two crura of the diaphragm.

# HISTOLOGY

Inner to outer – 4 layers

1. Mucosa- The mucosa of the esophagus consists of NKSSE. Near the stomach, the mucosa of the esophagus also contains mucous glands.
2. Submucosa- contains areolar connective tissue, blood vessels, and mucous glands.
3. Muscularis- of the superior third of the esophagus is skeletal muscle, the intermediate third is skeletal and smooth muscle, and the inferior third is smooth muscle.

At each end of the esophagus, the muscularis becomes slightly more prominent and forms two sphincters—the upper esophageal sphincter, which consists of skeletal muscle, and the lower esophageal sphincter, which consists of smooth muscle.

The upper esophageal sphincter regulates the movement of food from the pharynx into the esophagus; the lower esophageal sphincter regulates the movement of food from the esophagus into the stomach.

4. Adventitia- The adventitia attaches the esophagus to surrounding structures.

# Blood supply

The oesophagus has a rich arterial supply;

- **Cervical part-** from the inferior thyroid artery,
- **Thoracic part-** from a series of branches passing directly from the adjacent thoracic aorta
- **Abdominal part-** from the oesophageal branch of the left gastric artery.

The veins from the cervical oesophagus drain into the inferior thyroid veins. The thoracic oesophagus drains into the azygos system, while the lower part of the organ empties into the

oesophageal tributaries of the left gastric vein,  
which itself drains directly into the portal vein.

## Lymphatic drainage

into the left gastric lymph nodes and para-aortic nodes

## Innervation

from the vagal trunk, the thoracic sympathetic trunks via the greater splanchnic nerves.

# Clinical aspect

**1. Achalasia-** is a failure of smooth muscle fibers to relax, which can cause the lower esophageal sphincter to remain closed.

Symptoms (Dysphagia, regurgitation of food, weight loss, pain)

**2. Perforation the oesophagus-** Foreign body, intubation, endoscopy, dilatation, Accident  
Sym- Dysphagia, Pain, Fever (mediastinitis, empyema thoracis, peritonitis)



### 3. Hiatal hernia-

❑ Symptoms of Paraoesophageal hiatal hernia-  
Often asymptomatic, Obstruction, Pain,  
Dysphagia, Ulcer diasesae.

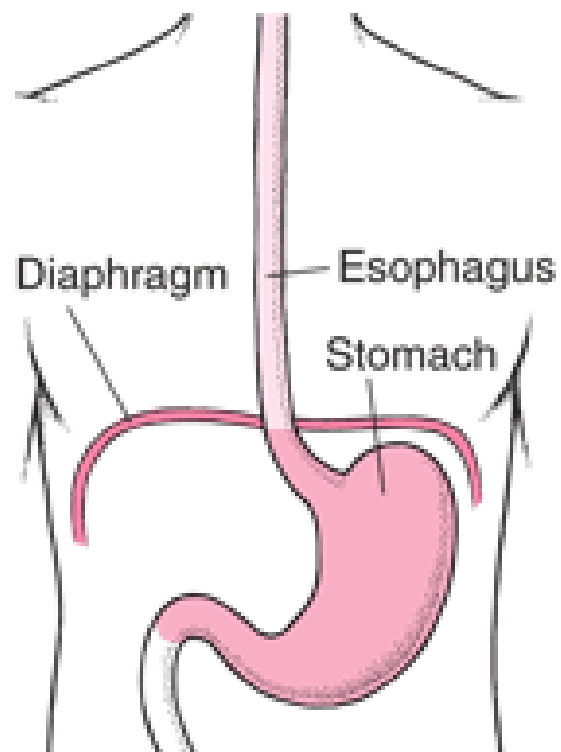
❑ Symptoms of Sliding hiatal hernia-

- **Chronic (80-85%)**

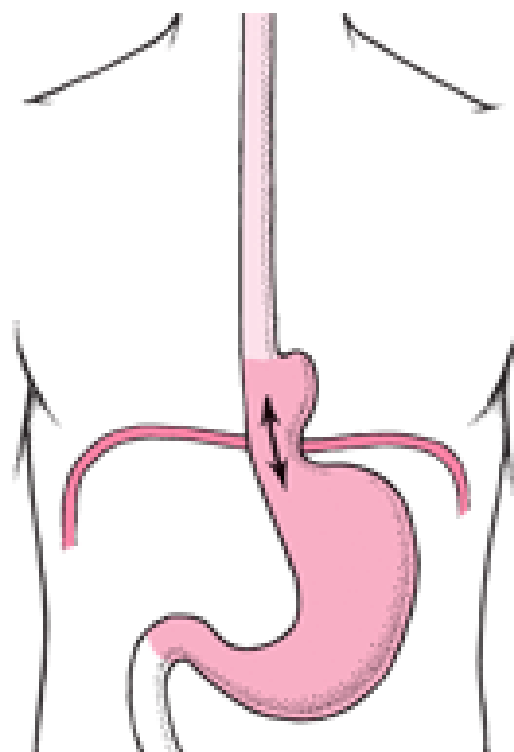
- Dysphagia
- Pain/Heartburn
- Anaemia

- **Acute (15-20%)**

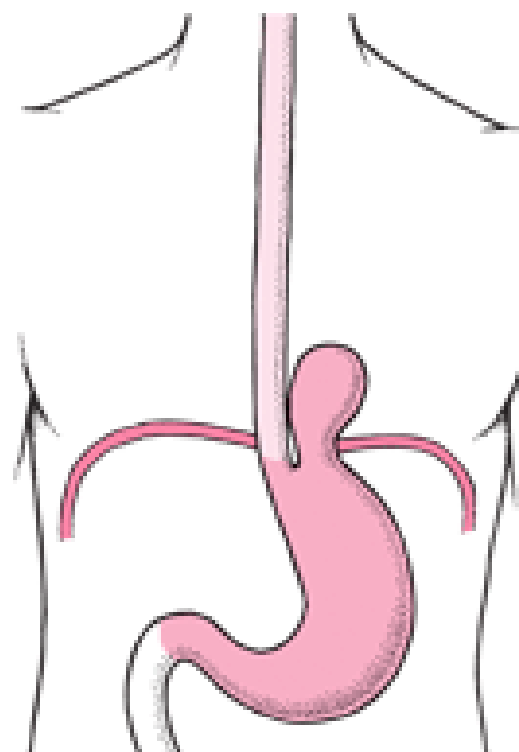
- Dysphagia
- Haematemesis
- Obstruction
- Perforation
- Peritonitis



**Normal Esophagus  
and Stomach**



**Sliding  
Hiatus Hernia**



**Paraesophageal  
Hiatus Hernia**

4.           **Esophageal                      varices-**            are extremely dilated sub-mucosal veins in the lower third of the esophagus. They are most often a consequence of portal hypertension, commonly due to cirrhosis; people with esophageal varices have a strong tendency to develop bleeding.

5. **Esophageal tumours**