**OESOPHAGUS (27cm long)**

**Nerves:** Sensation and motor via vagus nerves

**Lining:** Stratified squamous (non-keratinising) becoming columnar at stomach

Thick muscularis mucosae ++

Mucous glands in mucosa and submucosa

<table>
<thead>
<tr>
<th>1/3rds</th>
<th>MUSCLE</th>
<th>ARTERY</th>
<th>VEIN</th>
<th>LYMPH</th>
<th>LENGTH (27cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>Striated</td>
<td>Inferior thyroid</td>
<td>Inferior thyroid</td>
<td>Deep cervical</td>
<td>9cm</td>
</tr>
<tr>
<td>Middle</td>
<td>Striated/smo</td>
<td>Aortic branches</td>
<td>Azygos branches</td>
<td>Mediastinal</td>
<td>9cm</td>
</tr>
<tr>
<td>Lower</td>
<td>Smooth</td>
<td>Left gastric</td>
<td>Left gastric</td>
<td>Gastric</td>
<td>9cm</td>
</tr>
</tbody>
</table>

Syndrome
RELATIONS OF OESOPHAGUS

Slight compression from:

Cricoid cartilage
Aorta
Left bronchus
Left atrium
Diaphragmatic hiatus

Posterior: vertebrae, thoracic duct crosses to left at T5, hemiazygos/accessory hemiazygos cross to right at T8/9, descending aorta, first 2 intercostal arteries from aorta

Anterior: trachea to T4/5, recurrent laryngeal nerves, left bronchus, left atrium, diaphragm

Left: thoracic duct, aorta, left subclavian artery, lung

Right: lung, azygos vein (hence good side to approach the oesophagus surgically)

Endoscopic narrowings as above:
From mouth at 17cm, 28cm, 45cm

Note: 45cm is also the length of thoracic duct, vas, femur, spinal cord and transverse colon

PORTOSYSTEMIC ANASTOMOSIS IN LOWER OESOPHAGUS

Superior vena cava
Azygos veins
Portal vein
stomach

Normally blood drains equally to the portal and systemic systems

In portal hypertension the portal vein is dilated and the pressure is higher than in the systemic circulation. Venous blood will flow via the left gastric veins toward the azygos veins and dilate the venous anastomosis in the lower oesophagus giving varicosities that easily bleed
THE ROLE OF CRICOPHARYNGEUS IN THE MALLORY WEISS SYNDROME

Thyropharyngeus is normally open and closes over a bolus

Cricopharyngeus is a sphincter that is normally closed but opens for a bolus

Oesophagus

Inferior constrictor