



King Saud University
College of Medicine
GIT Block

Anatomy

Team

430

Esophagus And Stomach

Done By:

Ayan Saeed, Samar Emad

*The abdominal cavity is divided into;

9 compartments

*by:

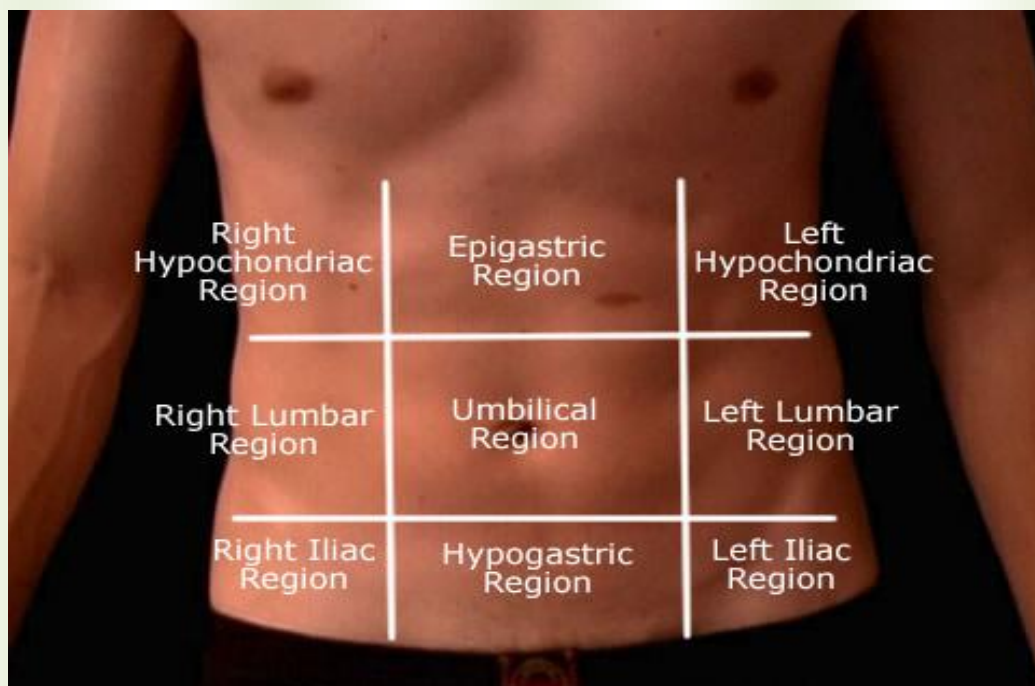
2 vertical and 2 horizontal planes

*Vertical planes:

2 Midclavicular lines.

*Horizontal planes:

Subcostal and Intertubercular lines.



**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 is formed of 3 parts:

- 1- Cervical.
- 2- Thoracic.
- 3- Abdominal.

-*Esophageal constrictions:-*

*The esophagus has 3 anatomic constrictions:-

- 1- at the junction with the pharynx(pharyngeoesophageal junction).
- 2- at the crossing with the aortic arch and the left main bronchus.
- 3- at the junction with the stomach.

*clinical importance:-

- 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 sites of the development of esophageal carcinoma

Relations

<u><i>* The part*</i></u>	<u><i>* Anterior relations*</i></u>	<u><i>* Posterior relations*</i></u>	<u><i>*lateral Relation*</i></u>	<u><i>*Notes*</i></u>
<u><i>*cervical part*</i></u>	Trachea and the recurrent laryngeal nerves.	Vertebral column.	Lobes of the thyroid gland	
<u><i>*Thoracic Part*</i></u>	<ul style="list-style-type: none"> -Left recurrent laryngeal nerve. -Left principal bronchus. -Pericardium. -Left atrium. 	<ul style="list-style-type: none"> -Bodies of the thoracic vertebrae. -Thoracic duct. -Azygos vein. -Right posterior intercostal 	<ul style="list-style-type: none"> -On the Right side: <ul style="list-style-type: none"> -Right mediastinal pleura. -Terminal part of the azygos vein. -On the Left side: <ul style="list-style-type: none"> -Left mediastinal pleura. 	<ul style="list-style-type: none"> -In the thorax, it passes downward and to the left through superior then to posterior mediastinum -At the level of the sternal angle, the aortic

		<p>arteries.</p> <p>-Descending thoracic aorta (at the lower end).</p>	<p>-Left subclavian artery.</p> <p>-Aortic arch.</p> <p>-Thoracic duct.</p>	<p>arch pushes the esophagus again to the midline</p>
<p><u>*Abdominal Part*</u></p>	<p>left lobe of the liver.</p>	<p>left crus of the diaphragm.</p>		<p>-the esophagus descends for 1.3 cm and joins the stomach. Fibers from the right crus of the diaphragm form a sling around the esophagus.</p> <p>-At the opening of the diaphragm, the esophagus is accompanied by:</p> <p>-The two vagi (The left vagus lies anterior to the esophagus and</p>

				<p>The right vagus lies posterior to it).-Branches of the left gastric vessels.</p> <p>Lymphatic vessels</p>
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	Upper third	Middle third	Lower third
<i>Arterial supply</i>	inferior thyroid artery	thoracic aorta.	left gastric artery.
<i>Venous drainage</i>	inferior thyroid veins.	azygos veins.	<p>-left gastric vein, which is a tributary of the portal vein</p> <p>-Esophageal varices will happen here_</p>
<i>Lymph Drainage</i>	deep cervical nodes.	superior and inferior mediastinal nodes.	celiac lymph nodes in the abdomen

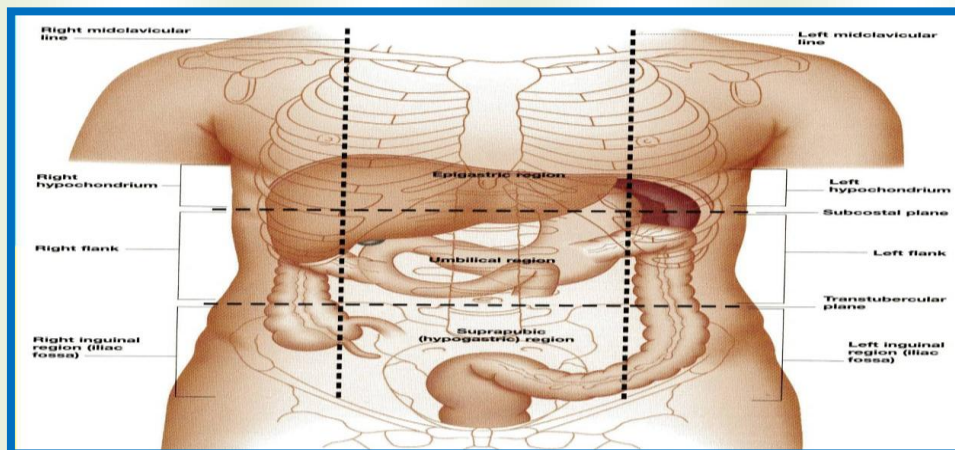
Note :- esophageal varices are extremely dilated sub-mucosal veins in the lower esophagus. They are most often a consequence of portal hypertension, commonly due to cirrhosis; patients with esophageal varices have a strong tendency to develop bleeding.

-Nerve supply of esophagus :-

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

Stomach

- *The stomach is a dilated part of the alimentary canal.
- *It is located in the upper part of the abdomen.
- *It extends from beneath the **left costal margin** into the **epigastric and umbilical regions**.
- *Most of the stomach is protected by the lower ribs. *It is roughly J-shaped



*Parts:

2 Orifices: Cardiac orifice- Pyloric orifice

2 Borders: Greater curvature- Lesser curvature

2 Surfaces: Anterior surface- Posterior surface

3 Parts: Fundus- Body- Pylorus.

The pylorus is formed of 3 parts Pyloric antrum- Pyloric canal- Pyloric sphincter.

<u>*cardiac orifice*</u>	<u>*fundus*</u>	<u>*Body*</u>	<u>* lesser curvature*</u>	<u>*greater curvature*</u>
<p>*It is the site of the gastro-esophageal sphincter.</p> <p>*It is a physiological rather than an anatomical, sphincter.</p> <p>*Consists of a circular layer of smooth muscle (under vagal and hormonal control).</p> <p>*Prevents (GER), regurgitation reflex .</p>	<p>*Dome-shaped.</p> <p>*Located to the left of the cardiac orifice.</p> <p>* Usually full of gas ,In X-Ray film it appears black.</p> <p>*The pyloric antrum extends from Incisura angularis to the pylorus.</p> <p>*The pylorus is a tubular part of the stomach, It lies in the transpyloric plane.</p> <p>*It has a thick</p>	<p>* Extends from: The level of the fundus To The level of Incisura Angularis (A constant notch on the lesser curvature).</p>	<p>*Forms the right border of the stomach.</p> <p>*Extends from the cardiac orifice to the pylorus.</p> <p>*Attached to the liver by the lesser omentum.</p>	<p>*Forms the left border of the stomach.</p> <p>*Extends from the cardiac orifice to the pylorus.</p> <p>*Its upper part is attached to the spleen by gastrosplenic ligament.</p> <p>*Its lower part is attached to the transverse colon by the greater</p>

muscular end
called **pyloric
sphincter**.

*The cavity of
the pylorus is the
pyloric canal.

omentum.

Relations

anteriorrelations

- *Anterior abdominal wall.
- *Left costal margin.
- *Left pleura & lung.
- *Diaphragm.
- *Left lobe of the liver.

posterior relations

***Stomach Bed:**

- 1- Peritoneum (Lesser sac).
- 2-Left crus of diaphragm.
- 3-Left suprarenal gland
- 4- Part of left kidney
- 5-Spleen
- 6-Splenic artery
- 7-Pancreas
- 8-Transverse

mesocolon

*They are separated from the stomach by Peritoneum (Lesser sac except the spleen)

Arterial Supply

*5 arteries As it is derived from the foregut all are branches of the celiac trunk.

celiac trunk

*Left Gastric Artery..

Runs along the lesser curvature
*Supplies the lower part of the esophagus.

*Hepatic Artery.

Gives;
1-Right Gastric Artery (Runs to the left along the lesser curvature).
2-gastroduodenal artery which gives

Right

*Splenic Artery..

Gives;
1- Short gastric arteries(Pass in the gastrosplenic ligament).
2-Left gastroepiploic artery;
Pass in the

gastrosplenic

Veins

- All of them drain into the portal circulation.
- The right and left gastric veins drain directly into the portal vein.
- The short gastric veins and the left gastroepiploic vein join the splenic vein.
- The right gastroepiploic vein drain in the superior mesenteric vein.

Lymphatic Drainage

- *The lymph vessels follow the arteries.
- They first drain to the:
 - Left and right gastric nodes
 - Left and right gastroepiploic nodes

-Short gastric nodes

*Ultimately, all the lymph from the stomach is collected at the **celiac nodes**.

*Nerve Supply

-**Sympathetic fibers** are vasoconstrictors, antiperistaltic and carry pain sensation. It is derived from the **celiac plexus**.

-**Parasympathetic fibers** from **both vagi** are for motility & secretory

-Anterior vagal trunk:

Formed from the **left vagus**;

Supply the **anterior surface** of the stomach

Gives off a hepatic branch and from it a branch to the pylorus.

-**Posterior** vagal trunk:

Formed from the **right vagus**

Supply the **posterior surface** of the stomach

Gives off a large branch to the celiac and the superior mesenteric plexuses.

*Surface Anatomy Of The Stomach;

-**Cardiac orifice** lies opposite the **left seventh costal cartilage** 2.5 cm. from the sternum ,(T10).

-**Pyloric orifice** lies on **transpyloric plane** 1 cm. to the right of the middle line, at the level of **L1**.

- Lesser curvature** a curved line, concave to the right joining these 2 points.
- The fundus** reaches to the **left fifth intercostal space** a little below the **apex of the heart**.
- **Greater curvature** is a curved line drawn from the cardiac orifice to the summit of the fundus, then downward and to the left, finally turning medial toward to the pyloric orifice, passing through the **intersection of the left lateral with the transpyloric line**.

★Good Luck★