



King Saud University  
College of Medicine  
GIT Block

# *Anatomy*

## *Team*

*430*

*Done By:*

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*\*Esophagus And Stomach\**

\*The abdominal cavity is divided into;

9 compartments

\*by:

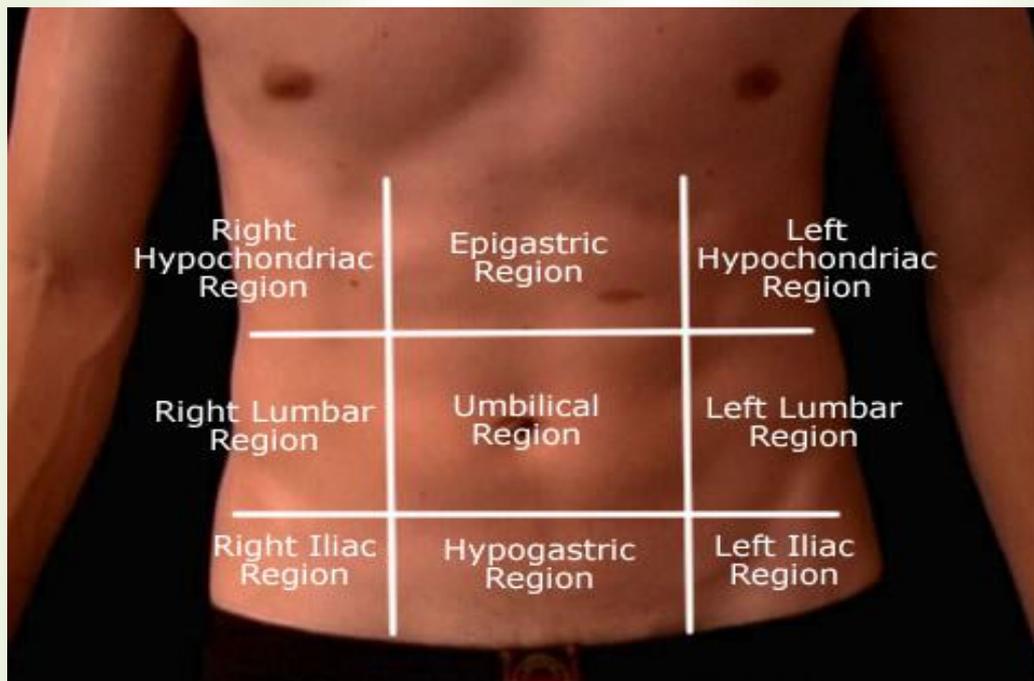
2 vertical and 2 horizontal planes

\*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 6<sup>th</sup> cervical vertebra.
- It pierces the diaphragm at the level of the 10<sup>th</sup> 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>	-Left recurrent laryngeal nerve. -Left principal bronchus. -Pericardium. -Left atrium.	-Bodies of the thoracic vertebrae. -Thoracic duct. -Azygos vein. -Right posterior intercostal	-On the Right side: -Right mediastinal pleura. -Terminal part of the azygos vein. -On the Left side: -Left mediastinal pleura.	-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><b>arch</b> pushes the esophagus again to the <b>midline</b></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.	-left gastric vein, which is a tributary of the portal vein  -Esophageal varices will happen here_
<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**.

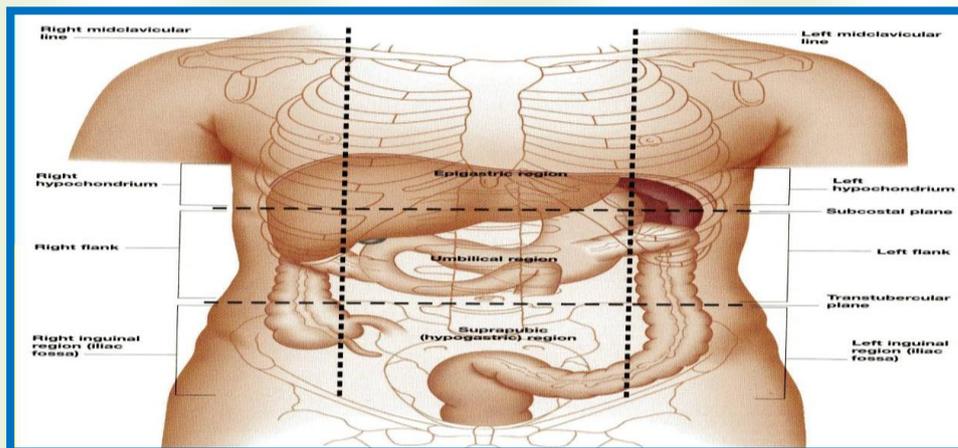
## \*Stomach\*

\*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 <b>gastro-esophageal sphincter</b>.</p> <p>*It is a physiological rather than an anatomical, sphincter.</p> <p>*Consists of a <b>circular layer</b> of smooth muscle (under vagal and hormonal control).</p> <p>*Prevents <b>(GER), regurgitation reflex</b> .</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 <b>Incisura Angularis</b> ( 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 <b>lesser omentum</b>.</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 <b>gastrosplenic ligament</b>.</p> <p>*Its lower part is attached to the transverse colon by the <b>greater</b></p>

muscular end  
called pyloric  
sphincter.  
\*The cavity of  
the pylorus is the  
pyloric canal.

omentum.

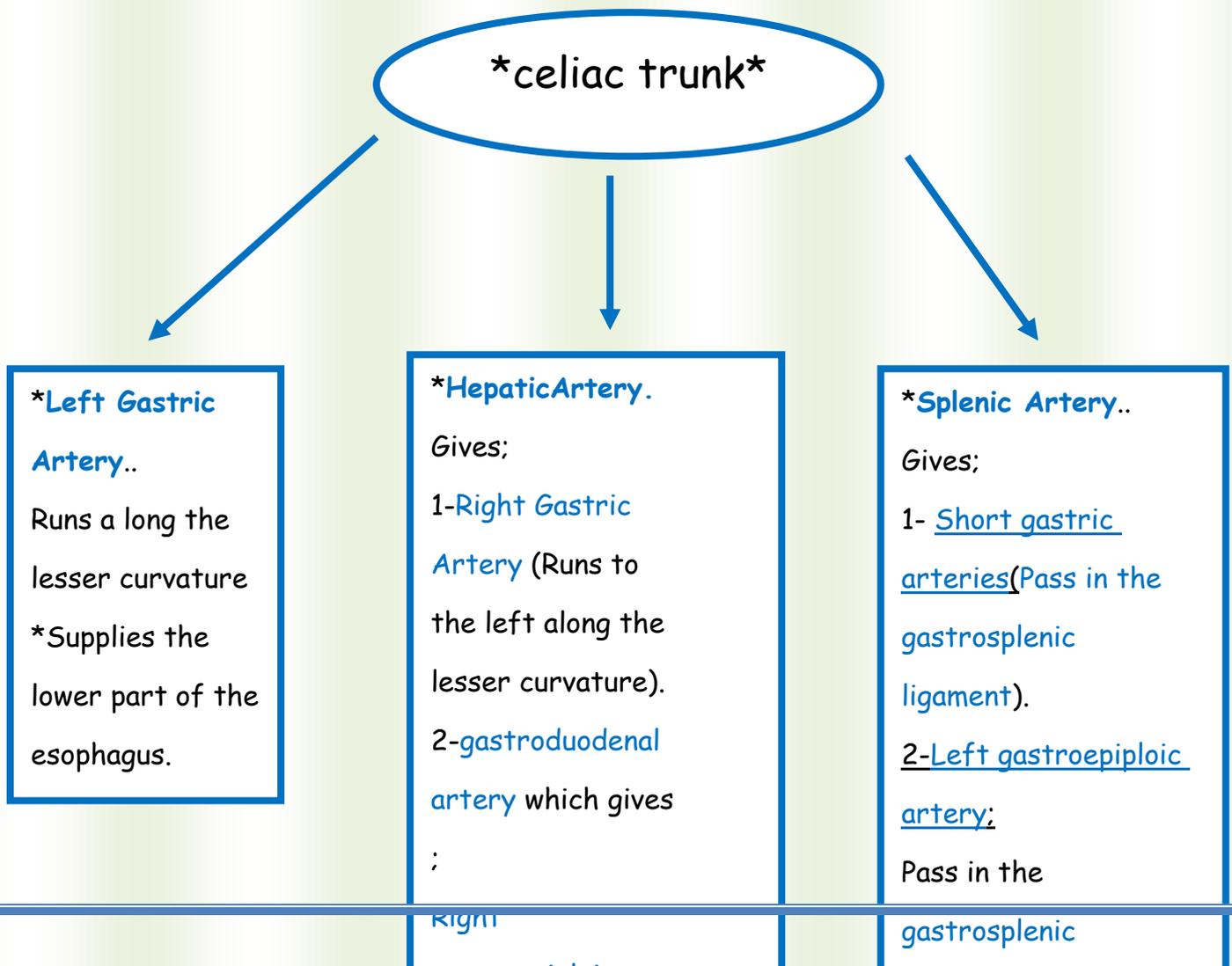
### \*Relations\*

<u>*anteriorrelations*</u>	<u>*posterior relations*</u>
<p>*Anterior abdominal wall.</p> <ul style="list-style-type: none"> <li>*Left costal margin.</li> <li>*Left pleura &amp; lung.</li> <li>*Diaphragm.</li> <li>*Left lobe of the liver.</li> </ul>	<p><u>*Stomach Bed:</u></p> <ol style="list-style-type: none"> <li>1- Peritoneum (Lesser sac).</li> <li>2-Left crus of diaphragm.</li> <li>3-Left suprarenal gland</li> <li>4- Part of left kidney</li> <li>5-Spleen</li> <li>6-Splenic artery</li> <li>7-Pancreas</li> <li>8-Transverse</li> </ol>

	<p>mesocolon</p> <p>*They are separated from the stomach by Peritoneum (Lesser sac except the spleen)</p>
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\*Arterial Supply\*

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



### \*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\**