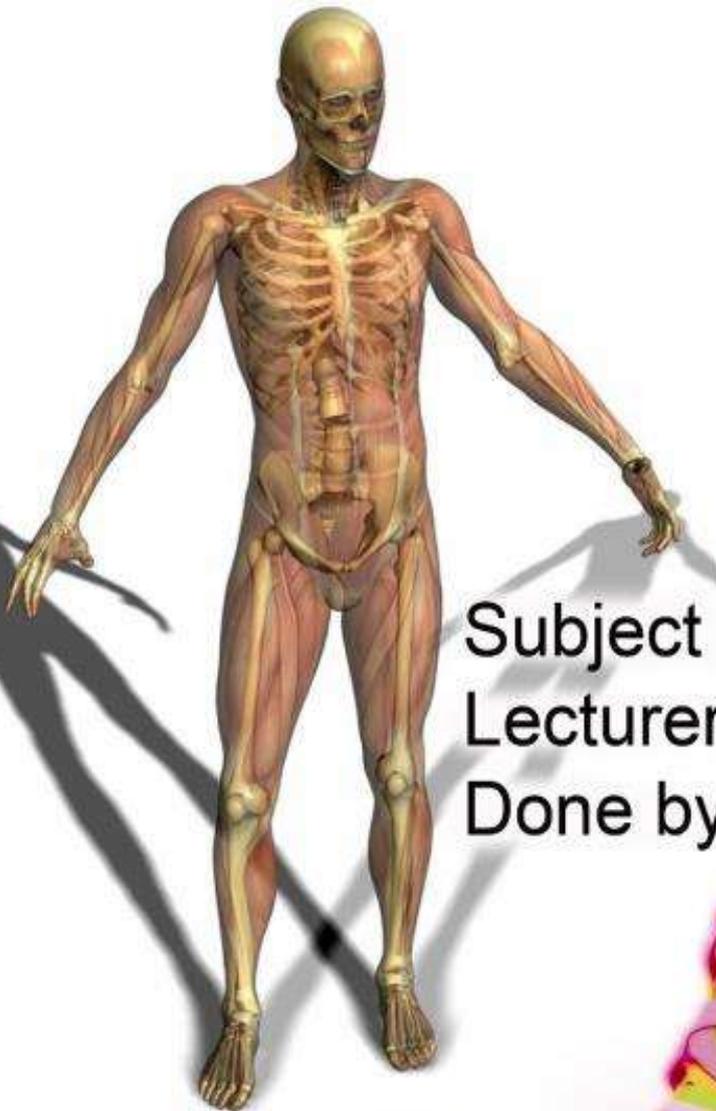




# ANATOMY

Sheet



Subject : *Introduction to Anatomy*

Lecturer : *Dr. Maher Hadidi*

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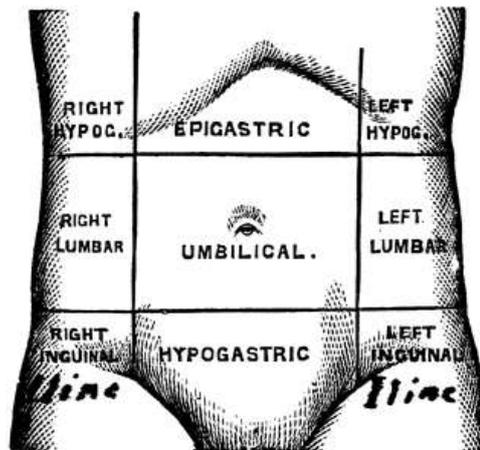
lecture # : 33

Date : April/23<sup>th</sup>/2013

## The Abdomen Lec#2

In this sheet we are going to talk about stomach, in order to do that we should localize the exact position for it.

So the anterior abdominal wall is divided into 9 regions of , to make it easier for us to define (localize) the position of the structures from outside. This is done by what we call the nine abdominal regions of references.



These regions are divided by 4 lines:

# 2 horizontal lines :

1. subcostal line : this line is crossing the lower border of the bilateral 10<sup>th</sup> rib (by "bi" I mean the left and the right side of the rib), which is located at the level of L3 vertebra .

2. Intertubercular line which is a horizontal line that connects the iliac tubercles in both sides together , at the level of L5.

\* By these two lines the abdomen is divided into upper third , middle third and lower third .

#2 vertical lines:

Both of these lines are called midclavicular lines , and each of them is extending from the midpoint of the clavicle to the mid point of the inguinal ligament. These lines divides the abdomen into central third ,left third and right third (longitudinal thirds).

● These 4 lines divides the abdomen to 9 abdominal regions of references :

The name of the region	Structures it contains
Epigastric region (Its located at the infrasternal angle)	Stomach , part of the liver
Left hypochondriac region ( Hypo → below \ Chondriac → cartilage ( costal cartilage )	Stomach and spleen (S&S)
Right hypochondriac	The right lobe of the liver and the gall bladder
Umbilical region Supplied by T10 Nerve	below it we can find small intestines .(so colic pain around the umbilicus is referred to small intestines )
Left /right lumbar regions	Left :left kidney , left ureter tube ,descending colon Right :right kidney, right ureter tube ,ascending colon
Suprapubic region (hypogastric region)	Urinary bladder (in females uterus is behind it )
Left iliac fossa	terminal part of descending colon and sigmoid colon
Right iliac fossa	Appendix ,caecum

Ps : transverse colon is located in both epigastric region and umbilical region.

 The brain of a Good Dr is on the tips of his fingers :D so when u r examining a patient u should be aware of the structures of the bellowing region.

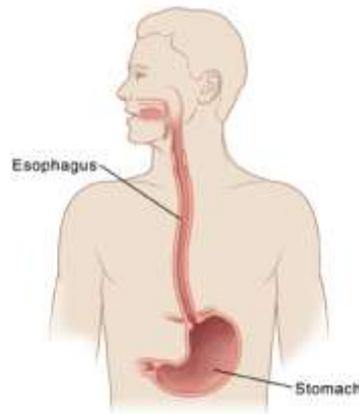
## The Digestive system

It consists of 2 parts:

1. GI tract (tube): extending from mouth to anus.
2. associated glands: salivary glands, liver, gall bladder, pancreas, and spleen .( secreting needed enzymes for digestion)

Esophagus : Passing within 3 regions ( cervical part, thoracic part and abdominal part )

The part within the abdomen is **abdominal esophagus**.



The esophagus:

- \* it is the shortest part of the esophagus
- \*it is about 1.5 cm (0.6 inch)
- \*it is a part of the foregut (from this we should know that the arterial supply is from branches of celiac artery {branched from abdominal Aorta } )
- \*Venous Drainage → Portal vein

\* Venous drainage : (have their own story :P )  
all parts of GI system that digest food (loaded with digestion products ) don't drain blood toward inferior vena cava , instead they drain to the portal veins that go to the liver for filtration

We have 2 large veins in the abdomen :

1.inferior vena cava which drains the muscles ,kidneys , ureters testes , ovaries ( and other non digestion organs \structure that don't have digestive products ).

2.GI tube has one vein which is **Portal vein** :  
Veins from the GI tract loaded of products of the digestion and these products should be filtered and the great filter is the LIVER so they don't go through vena cava, they go

Portal→Port

through portal vein, so the venous draining from the esophagus will go to portal vein.

## *Stomach*

\*It's the upper dilated part of the GI tube.

\*Located in the epigastric region, left hypochondriac region and the umbilical region.

\*shape and size: depend on position of person and habits of eating.

Ps: When we want to take a shot for the stomach of the patient, we take it while he is standing on his feet NOT lying on his back.



### *Features and parts:*

It loves no.2 <3

#### **Features:**

2ends (openings)

2 surfaces

2 curvatures

\*\* it has a 2 ends/ openings ... the first one is cardiac opening (entrance) ,and the second one is pyloric opening (Exit) . The stomach is relatively fixed at these two openings.

\*\* it has 2 surfaces anterior and posterior surfaces .

\*\* it has greater curvature and lesser one .

\*\* The lesser curvature has a notch called angular notch . This notch marks body of the stomach from the pylorus .(used in surgery )

### ***Parts of stomach: (muscular wall)***

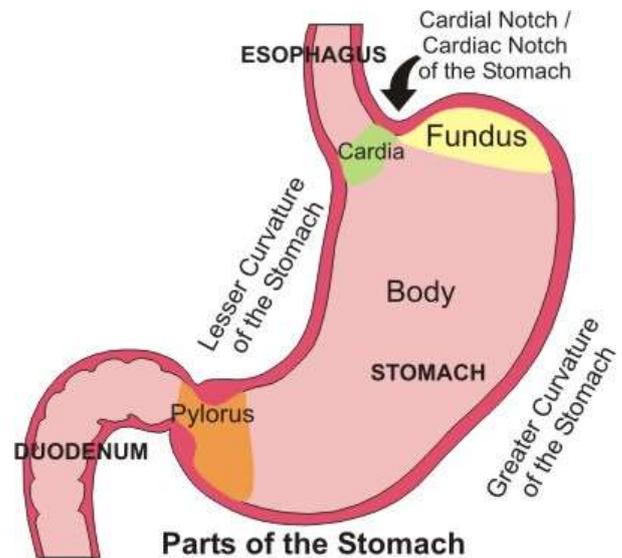
\* Most of the GI tube formed of ( Mucosa ,sub mucosa, Muscularosa & serosa )

\*Most of GI tube Muscularosa has 2 layers outer longitudinal and inner circular except the stomach it has 3 layers .. Y? To strengthen it ☺

Muscularosa of stomach :

1. Outer (longitudinal)
2. Middle circular (pyloric sphincter its)
3. Inner ( oblique )

These three layers strengthen' the body of the stomach when it's filled.



**Parts of the Stomach**

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\*\* Fundus: English word means dome like, it is the highest part of the stomach, almost always full with gases.. y?? Because of the fermentation. So when you eat too much the fundus will be full of gases , so it will compress the **left** side of the diaphragm and this action will compress the **left** lung ... so you find it hard to breath ☹

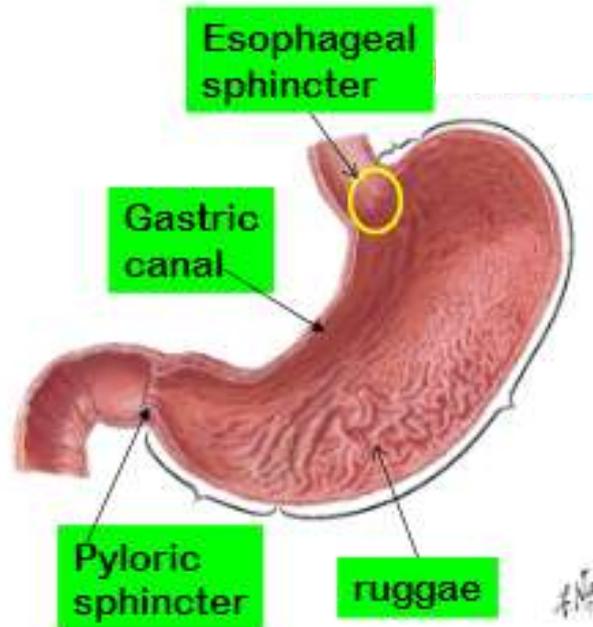
\*\*Body: it's the largest part, it is the site where the gastric juice (containing HCl acid) is mixed with food ( moulinex-like part :P ),and then the mixed products will go to the pyloric sphincter .

\*\* Pylorus → Pyloric sphincter: it's made from the circular layer, so it can do its job which is emptying the stomach. Some thinks that it works in a peristaltic way but the food is emptied by ejection to the angle of the duodenum which may cause duodenum ulcer (especially if the person drinks alcohol or eats chili food).

### **Mucosa of the stomach:**

Mucosa of stomach has a longitudinal folds each fold is called Rugae (elevation and depression), to increase surface area of stomach for absorption.

At the opposite of the lesser curvature, usually (or almost always) there is 2 permanent folds and between them a depression, this space called **Gastric canal** , its where the first part of food ,water ....etc. pass through .(so it's the common site of gastric ulcer and after a period of time it could be a site for cancer ☹ ☹ ☹)



Ps: stomach it's a completely intraperitoneal organ, connected to nearby organs by double layered peritoneum. Which help it to stay fixed in its place.

**Arterial supply :** it follows the foregut that's supplied by celiac a. then the stomach is supplied by branches of celiac a. at level of T12 .

**Veins :** (as we said before ) branches from the stomach will go to portal vein then go to the liver (the big filter ) then the waste products will be dumped to thoracic duct (close to liver ) that starts at the level of L1.  
(Superior and inferior mesenteric Veins unite to form the portal vein )

**Happiness cannot be traveled to, owned, earned, worn or consumed. Happiness is the spiritual experience of living every minute with love, grace, and gratitude.**

☺ BE HAPPY my friends ☺

Correction team's Notes :

\*Please Add this Information To Jboor's "5orafyan" sheet :P

The GI tube is divided into 3 parts :

Foregut → supplied by celiac Artery and Contains (Abdominal Esophagus, Stomach, Duodenum, Liver )

Midgut → supplied by superior Mesenteric Artery and Contains : ( terminal of Duodenum ,Small intestine, Appendix, Part of large intestine ,ascending colon ,transverse colon )

Hindgut → supplied by inferior mesenteric Artery and Contains ( Distal part of transverse colon , descending colon , sigmoid colon And Rectum )

\*Correction of the 31st sheet of Embryology :

1)Page 3 line 6 ---> mitotic division

2)Page 4 --> the Hypoblast cells (ENDODERM to be) and the Epiblast (ECTODERM to be)