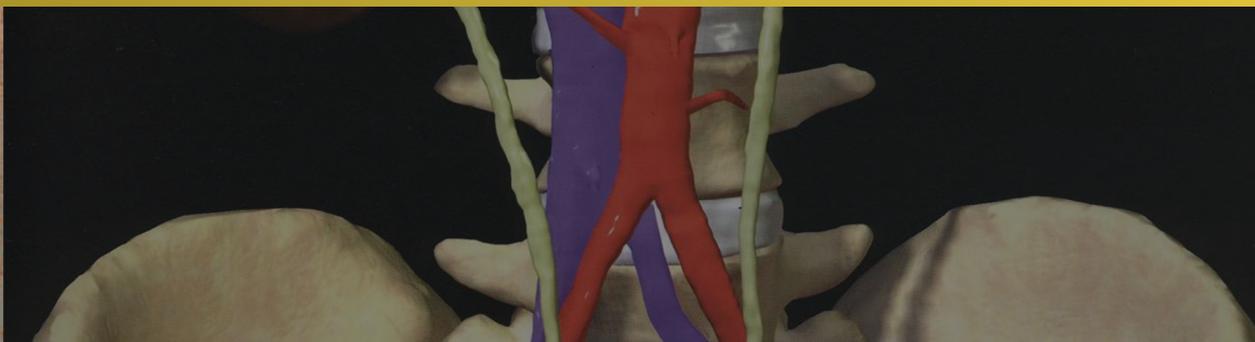




# PANCREAS

**Dr Jamila Elmedany & Dr Saeed Vohra**



# OBJECTIVES

- By the end of this lecture the student should be able to:
- Describe the anatomical view of the pancreas regarding ; location, parts relations, ducts
- Arterial supply & Venous drainage
- Describe the nerve supply and lymph drainage

# PANCREAS

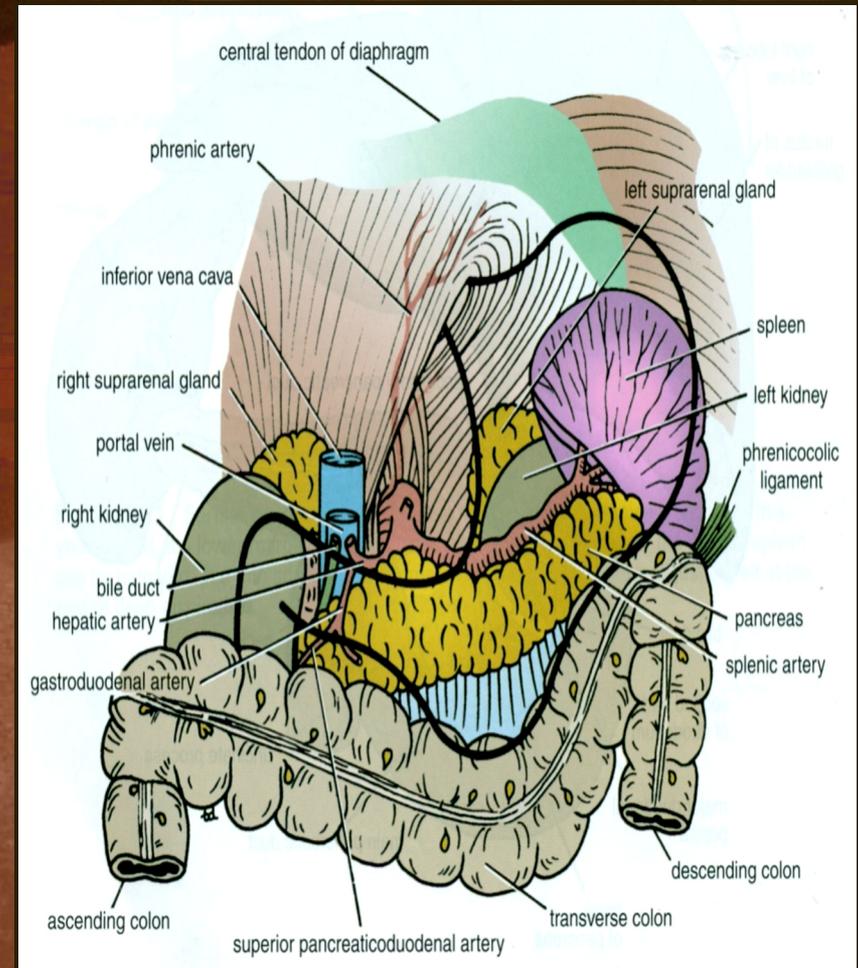
It is an elongated soft pinkish structure

(60-100) gram in weight & (6-10) inch in length

It is **Lobulated?**

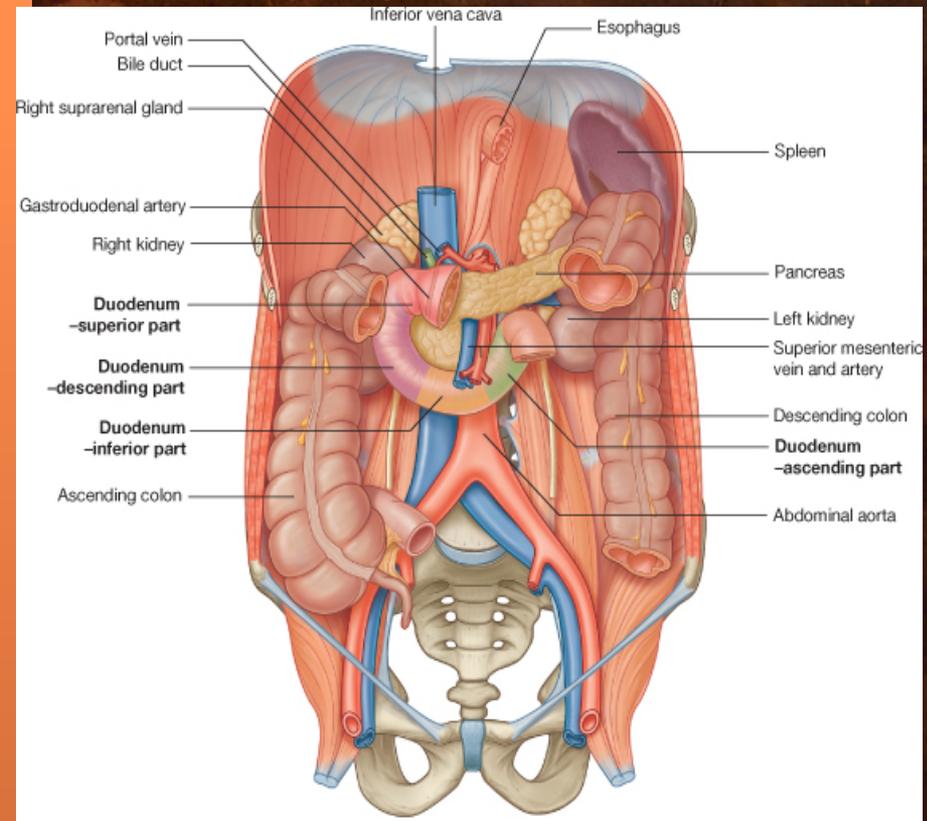
**Because it is surrounded by a fibrous tissue capsule from which septa pass into the gland and divide it into lobes.**

**The lobes are divided into lobules.**



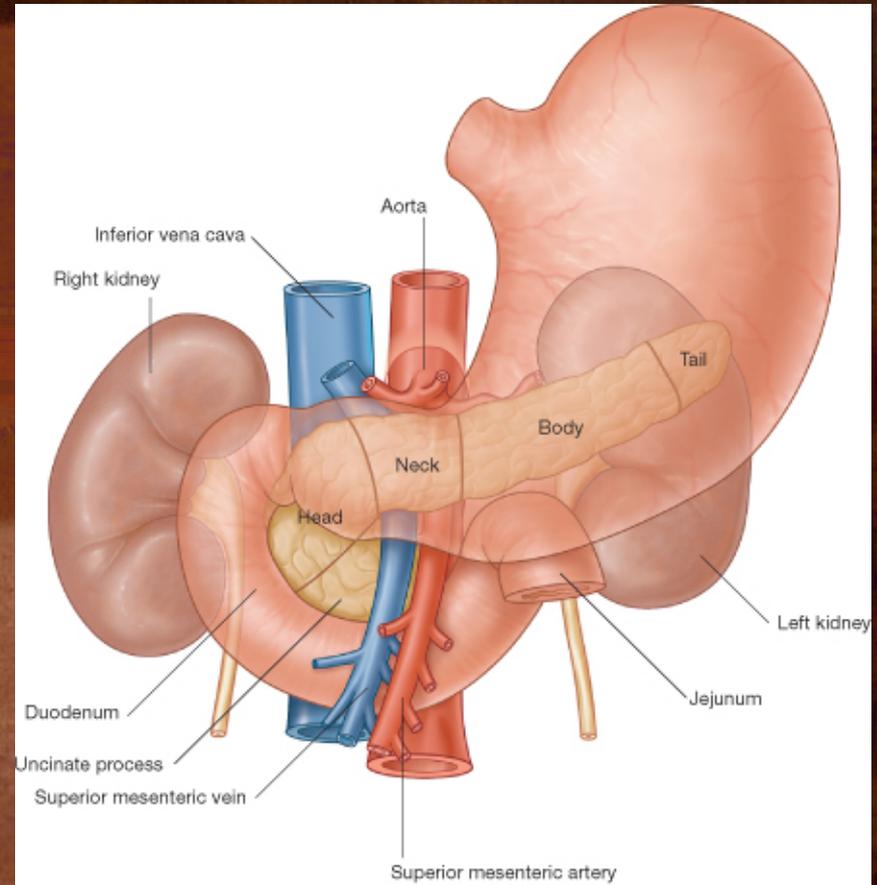
# LOCATION

- It is a **Retro-Peritoneal** structure.
- It lies on the posterior abdominal wall in the: **Epigastrium & Left upper quadrant of the abdomen.**
- It extends in a transverse oblique direction at the **transpyloric plane (1<sup>st</sup> lumbar vertebral)** from the concavity of the duodenum on the right to the spleen on the left.



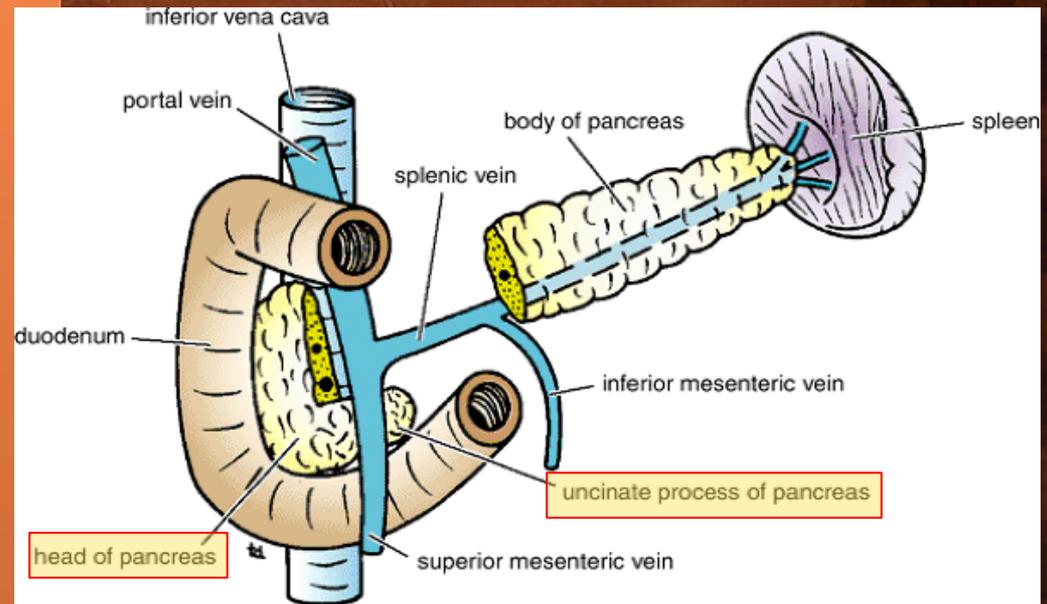
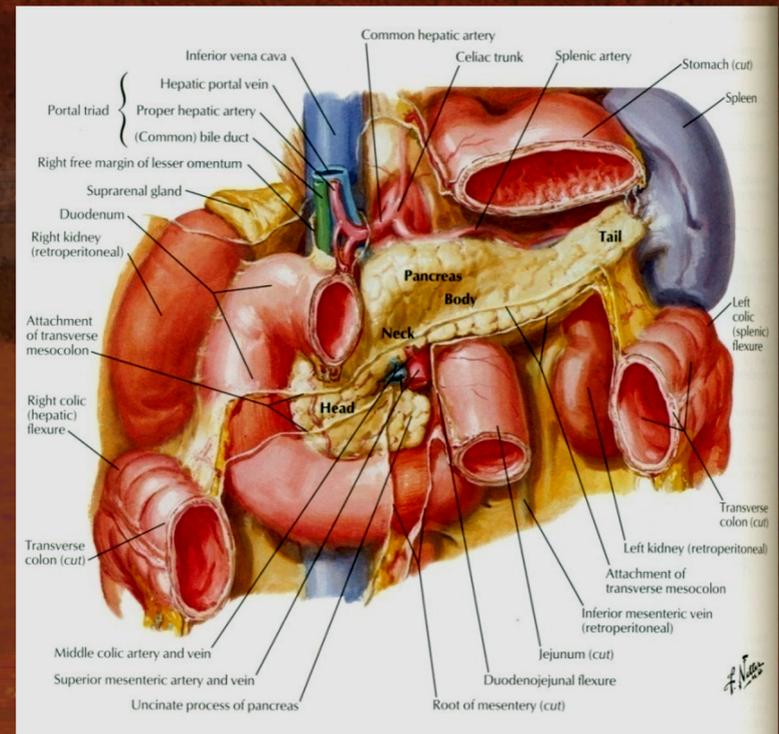
# PARTS

- It is divided into:
- **Head, Neck, Body and Tail.**
- **Because of its oblique direction the tail is higher than the head (at T12).**



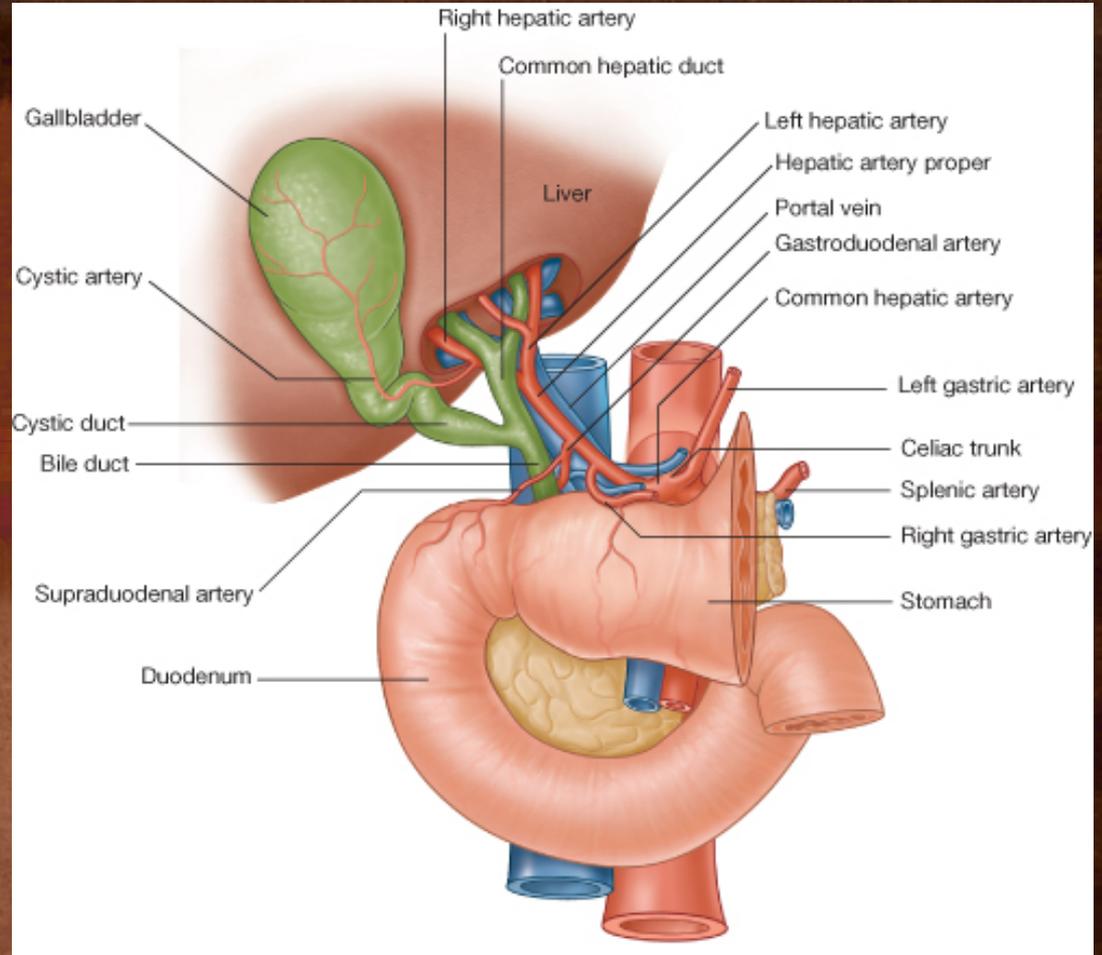
# Head of Pancreas

- It is disc shaped
- Lies within the concavity of the duodenum
- Related to the 2<sup>nd</sup> and 3<sup>rd</sup> portions of the duodenum.
- On the left , it emerges into the neck.
- On the right, it includes **Uncinate Process** ( an extension of the lower part of the head behind the superior mesenteric vessels)



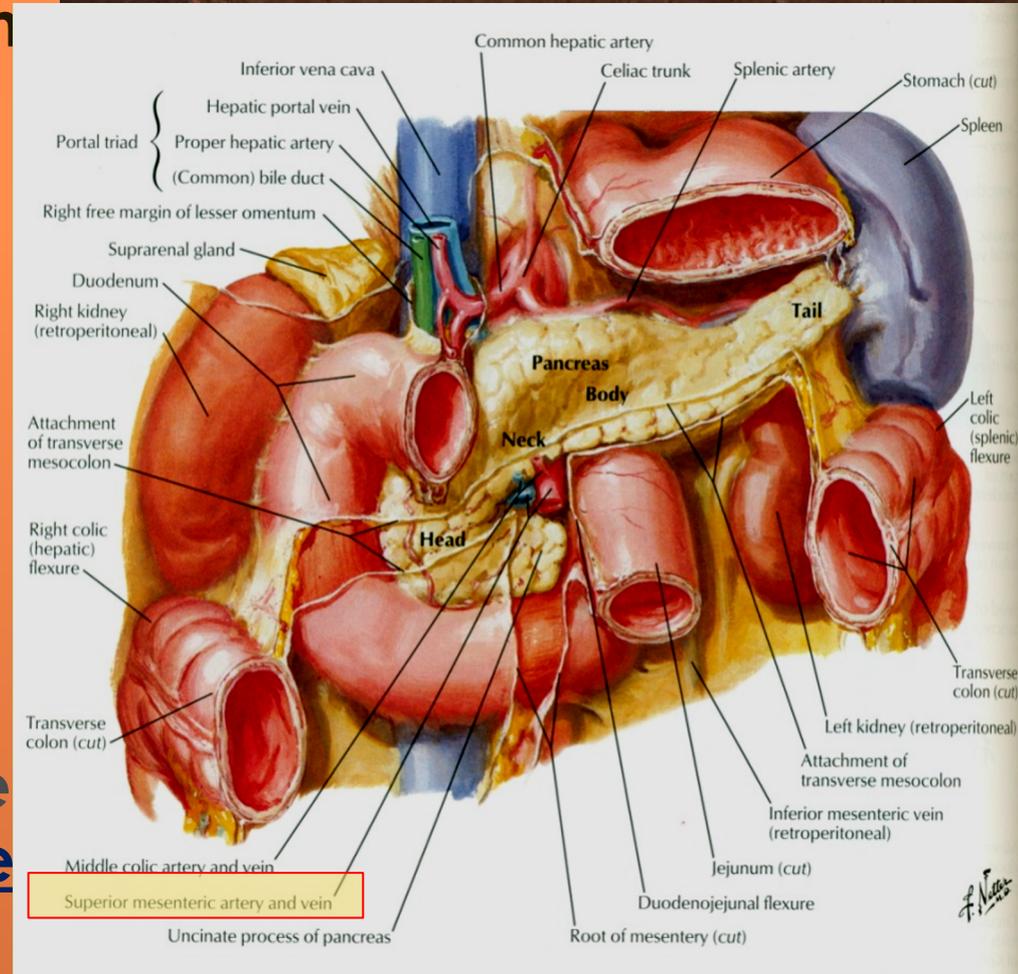
Structures  
Posterior to the  
Head:

(1) **Bile Duct** runs downwards and may be embedded in it.  
(2) **IVC** runs upwards.



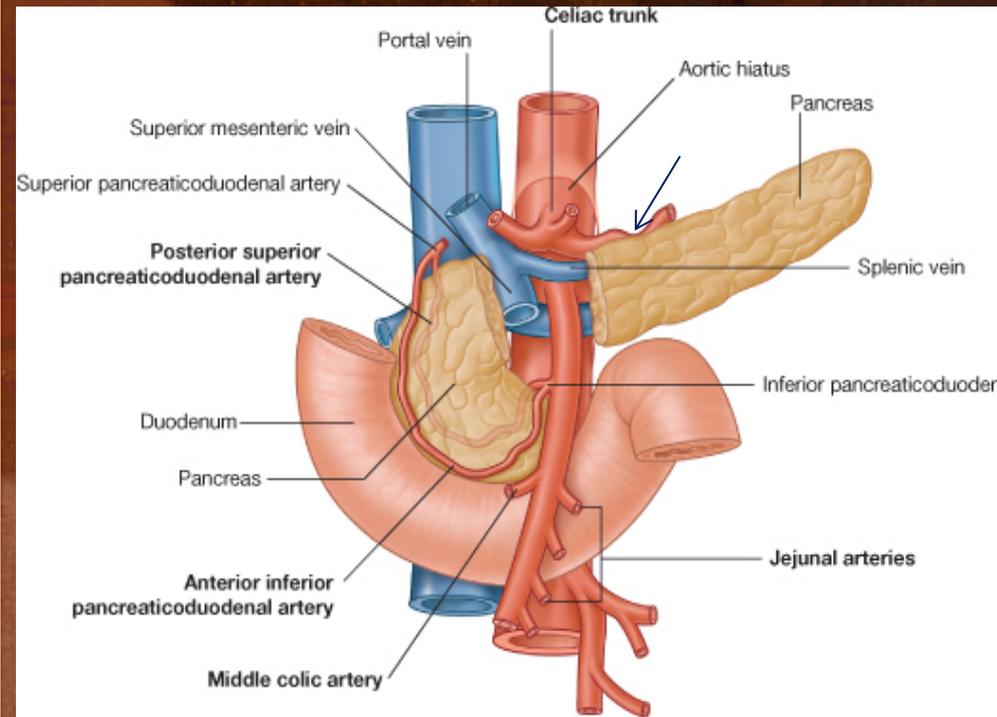
# Neck of Pancreas

- It is the constricted portion connecting the head & body of pancreas
- It lies in front of:
- **Aorta**
- **Origin of Superior Mesenteric artery**
- **the confluence of the Portal Vein**
- Its antero-superior surface supports the pylorus of the stomach
- The **superior mesenteric vessels** emerge from its inferior border



# Body of Pancreas

- It runs upward and to the left.
- It is triangular in cross section.
- The Splenic Vein is embedded in its post. Surface
- The Splenic Artery runs to the left along the upper border of the pancreas.

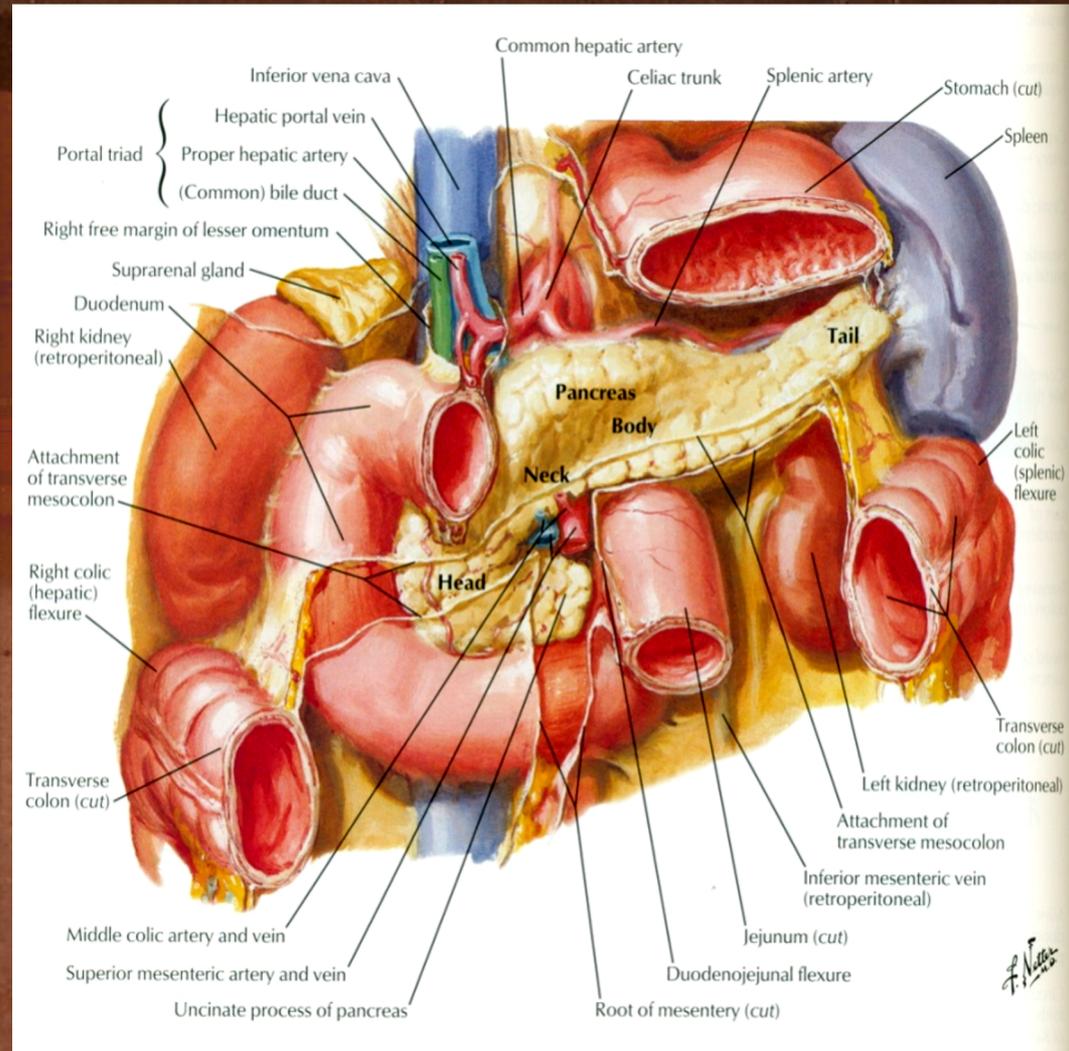


# Tail of Pancreas

A narrow, short segment  
Ends within the splenic  
hilum

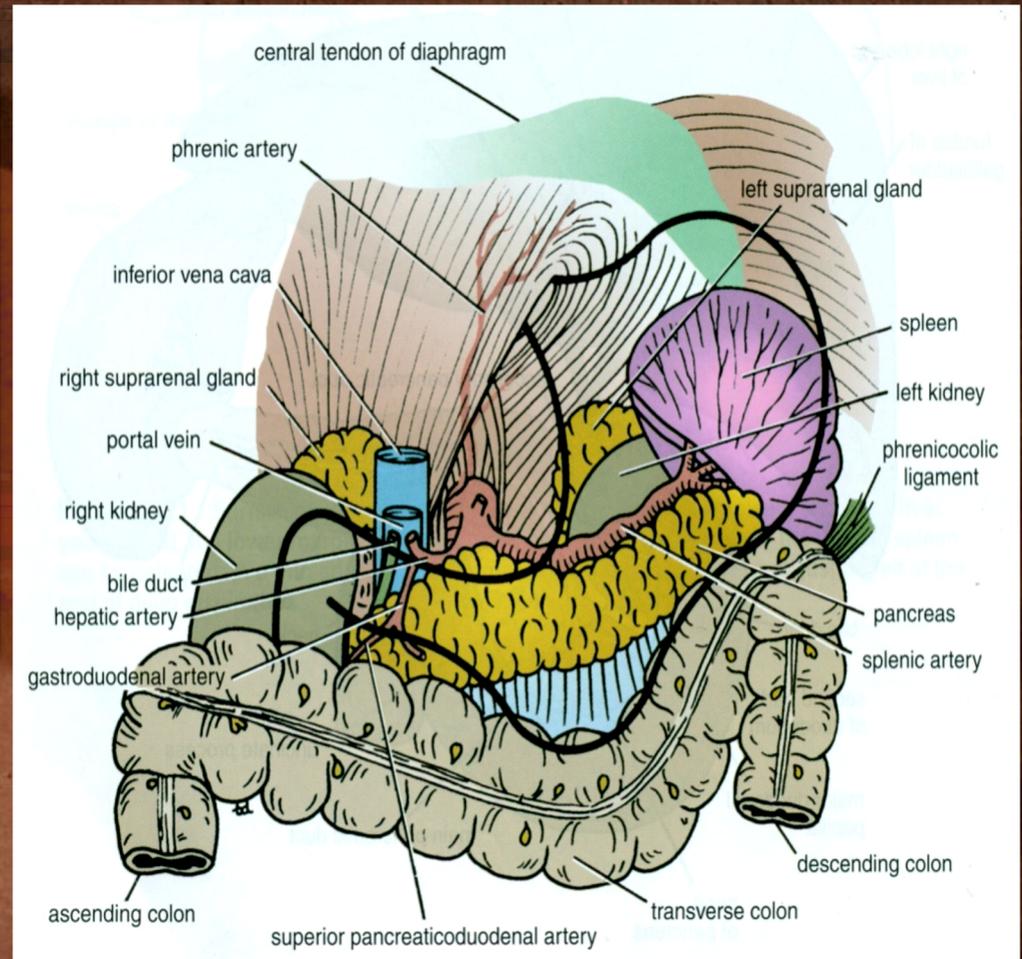
Lies in the Splenicorenal  
ligament

Anteriorly, related to:  
splenic flexure of colon  
May be injured during  
Splenectomy



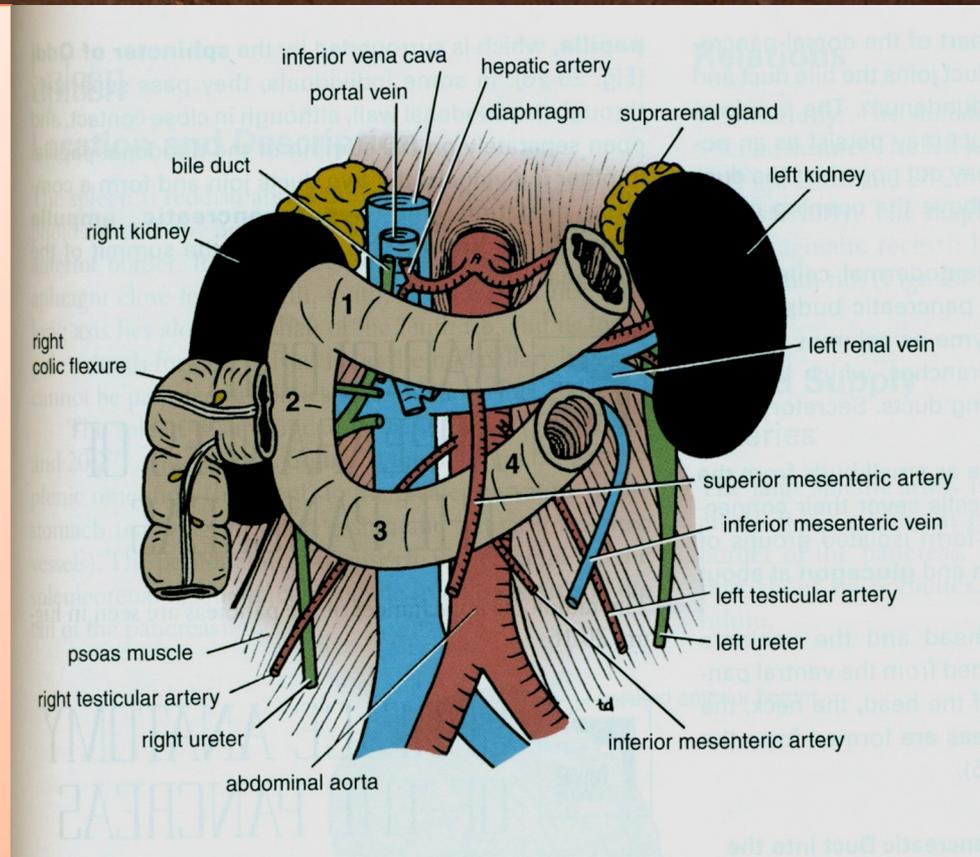
# RELATIONS OF PANCREAS

- Anterior to (body & tail):
- **Stomach** separated from by lesser sac
- **Transverse colon & transverse mesocolon**



- **Posterior to (body & tail) :**

- **Left Psoas muscle**
- **Left Adrenal gland**
- **Left Renal vessels**
- **Upper 1/3<sup>rd</sup> of Left kidney**
- **Hilum of the spleen.**



# ARTERIAL SUPPLY

- Celiac trunk, Superior mesenteric & Splenic arteries

Celiac T → CHA → R gastric

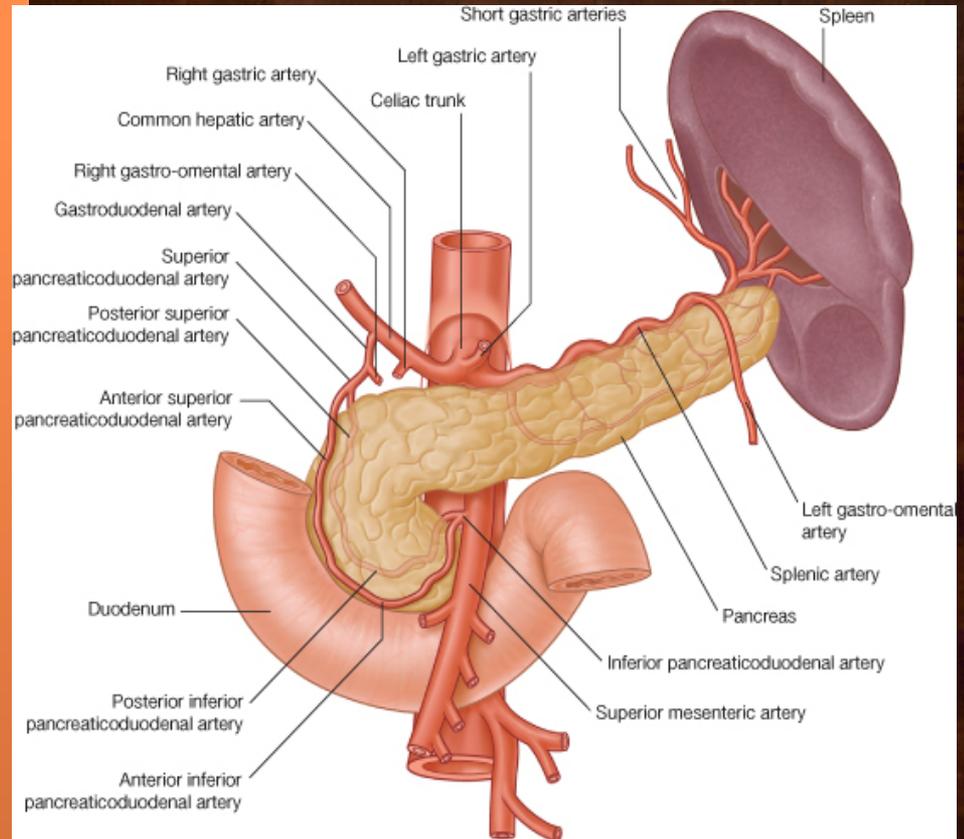
Hepatic ← • Gastrooduodenal

• Superior pancreaticoduodenal

SMA → Inferior pancreaticoduodenal

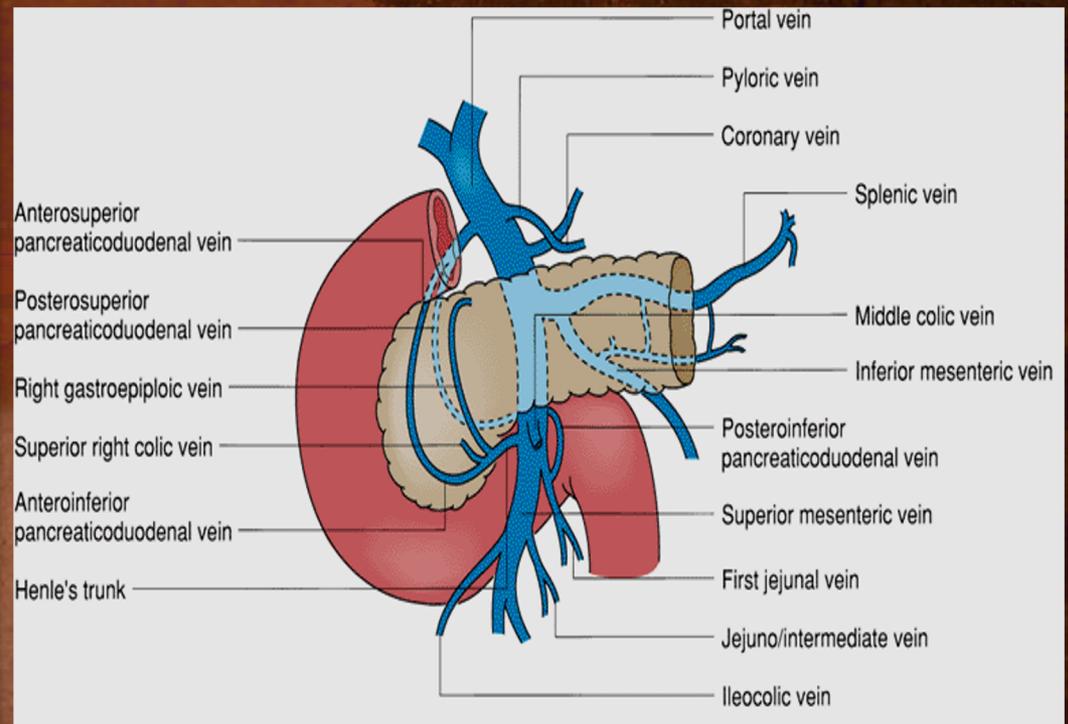
TO HEAD

Splenic A supplies the Body and Tail of pancreas by about 10 branches



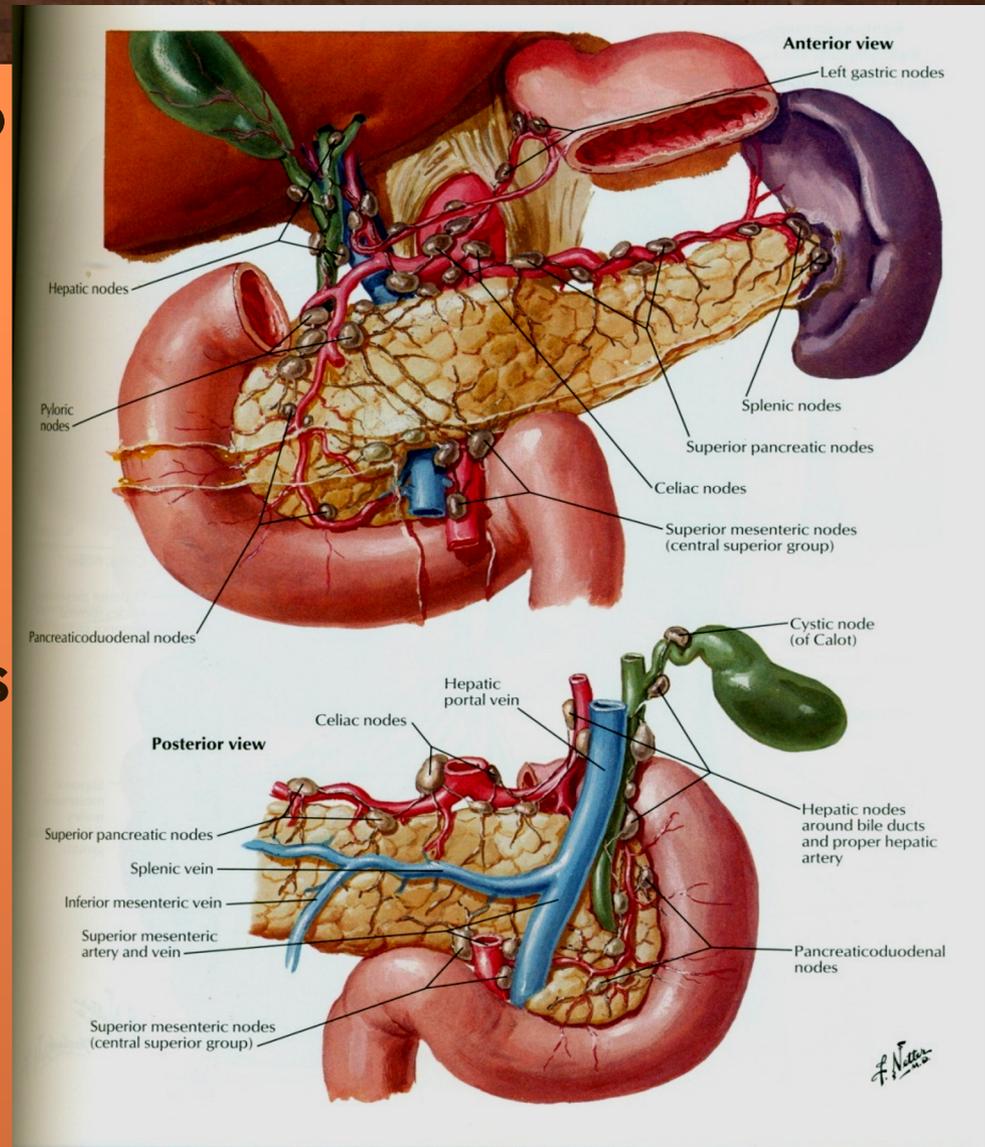
# VENOUS DRAINAGE

- Anterior and posterior arcades drain head and the body
- Splenic vein drains the body and tail
- Ultimately, ends into Portal Vein



# LYMPHATIC DRAINAGE

- Rich network drains into nodes along the upper border of the pancreas
- Ultimately the efferent vessels drain into the Celiac nodes.
- Lymph vessels from the region of the Head pass to
- Superior Mesenteric nodes

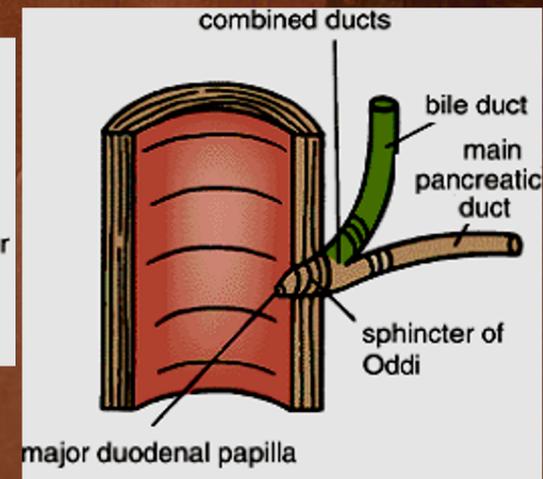
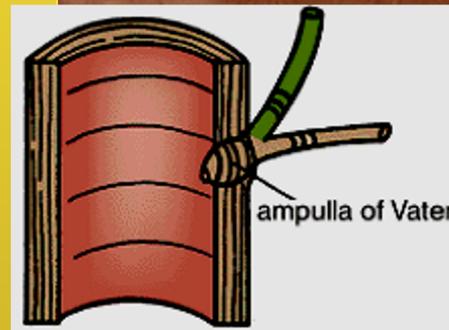
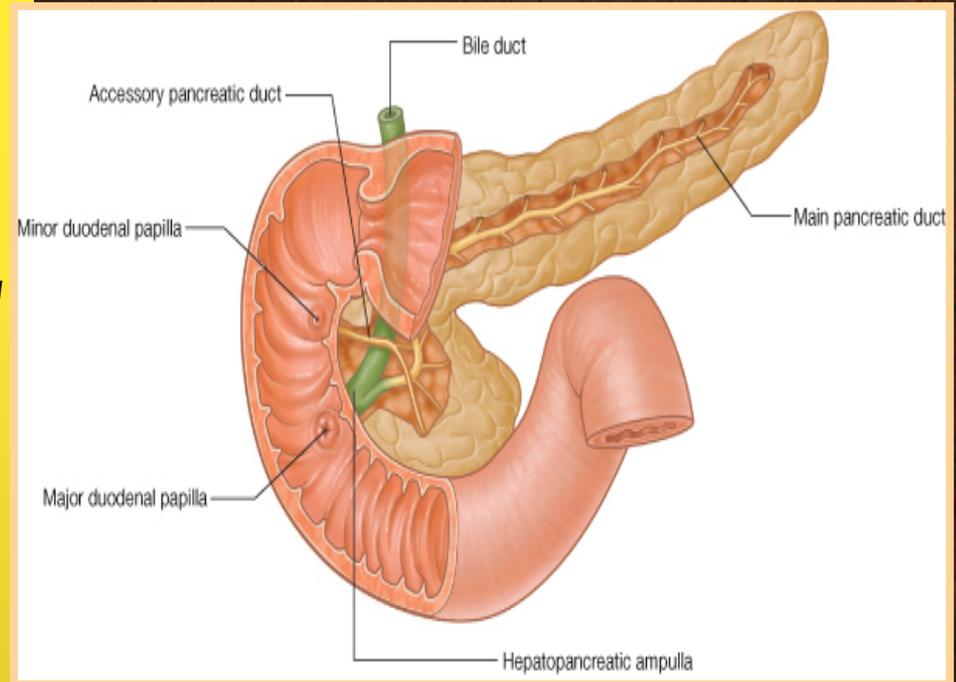


# NERVE SUPPLY

- Sympathetic from the **splanchnic nerves** , they have a predominantly inhibitory effect
- Parasympathetic from the **Vagus**,
- they stimulate both exocrine and endocrine secretions

# Pancreatic DUCTS

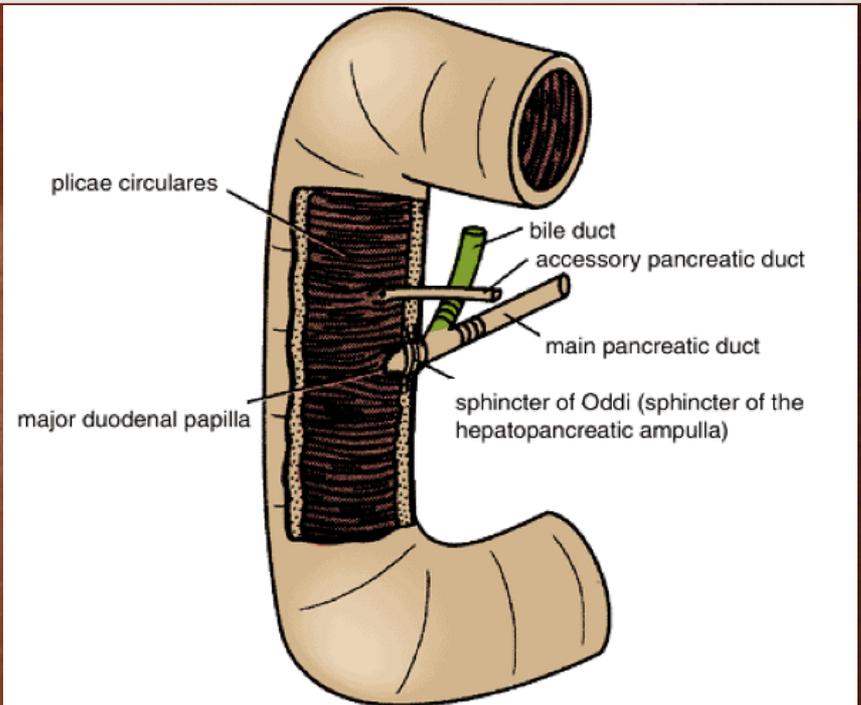
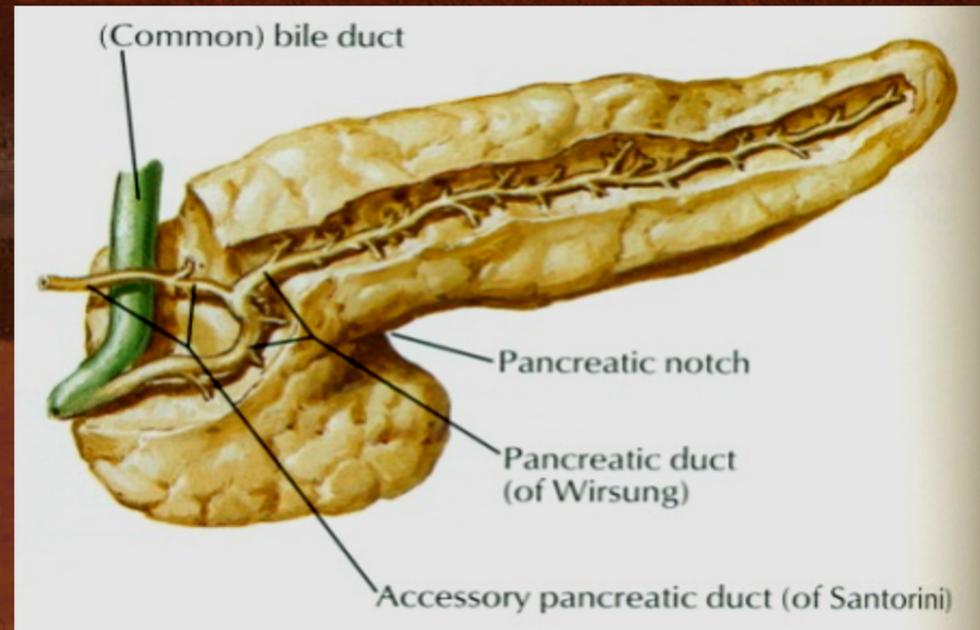
- Main P duct :
- Joins common bile duct & they open into a small hepatopancreatic ampulla in the duodenal wall (*Ampulla of Vater*).
- The ampulla opens into the lumen of the duodenum through (*Major Duodenal Papilla*).



- Accessory P duct  
(of Santorini)

Drains superior portion of the head

- It empties separately into 2<sup>nd</sup> portion of duodenum at (minor duodenal papilla)



# FUNCTIONS

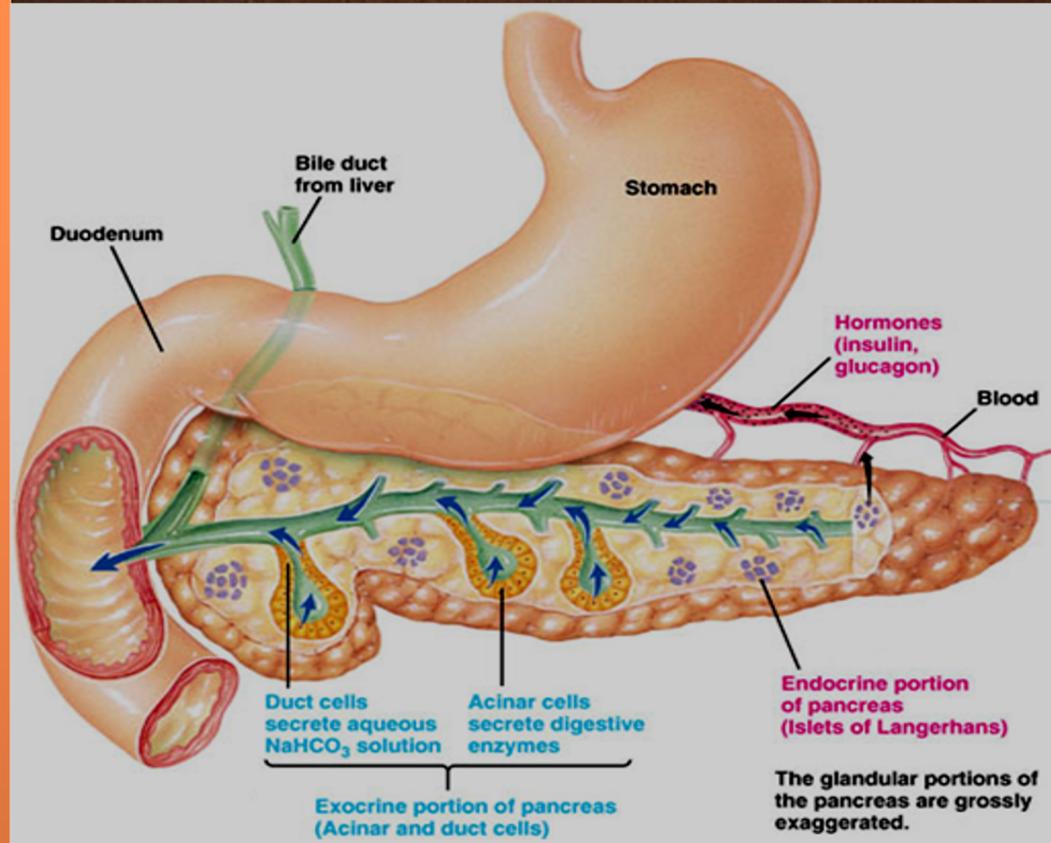
## Exocrine and Endocrine gland

### The Exocrine portion:

Small ducts arise from the lobules and enter the main pancreatic duct (which begins in the tail), and passes through the body and head where it meets the bile duct.

### The Endocrine portion:

**(Islets of Langerhans)** produce insulin & glucagon.



**THANK YOU**