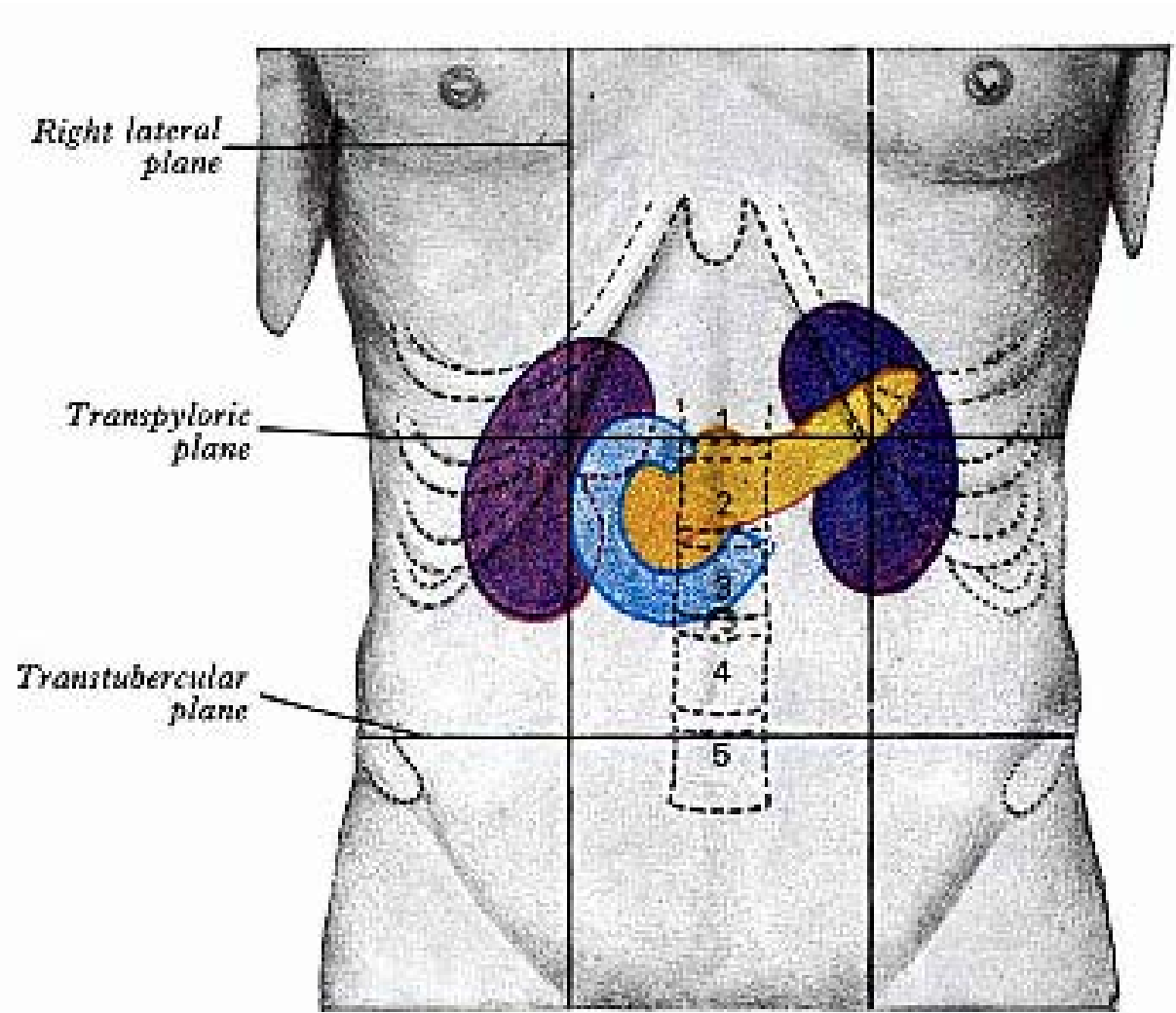
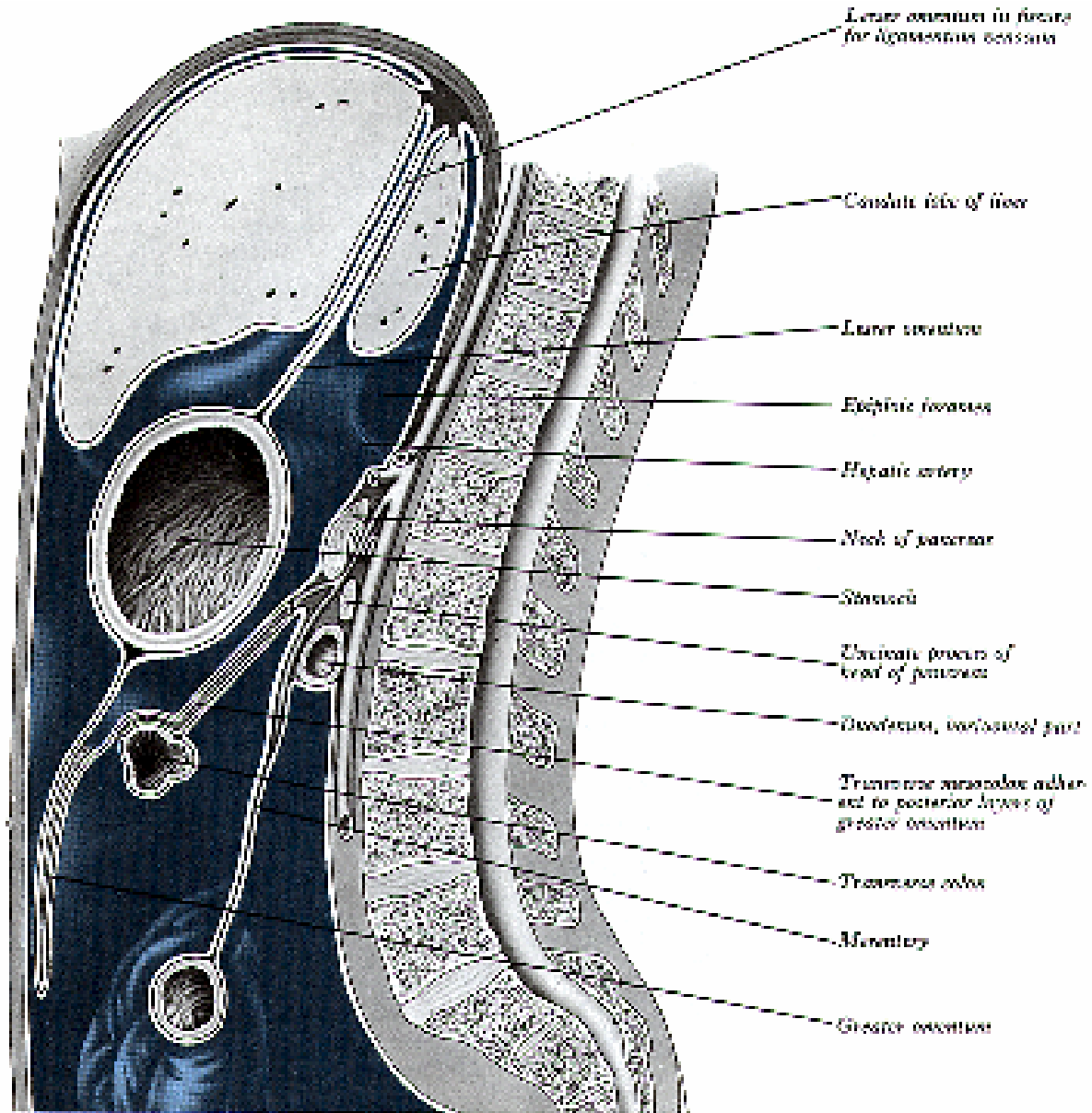
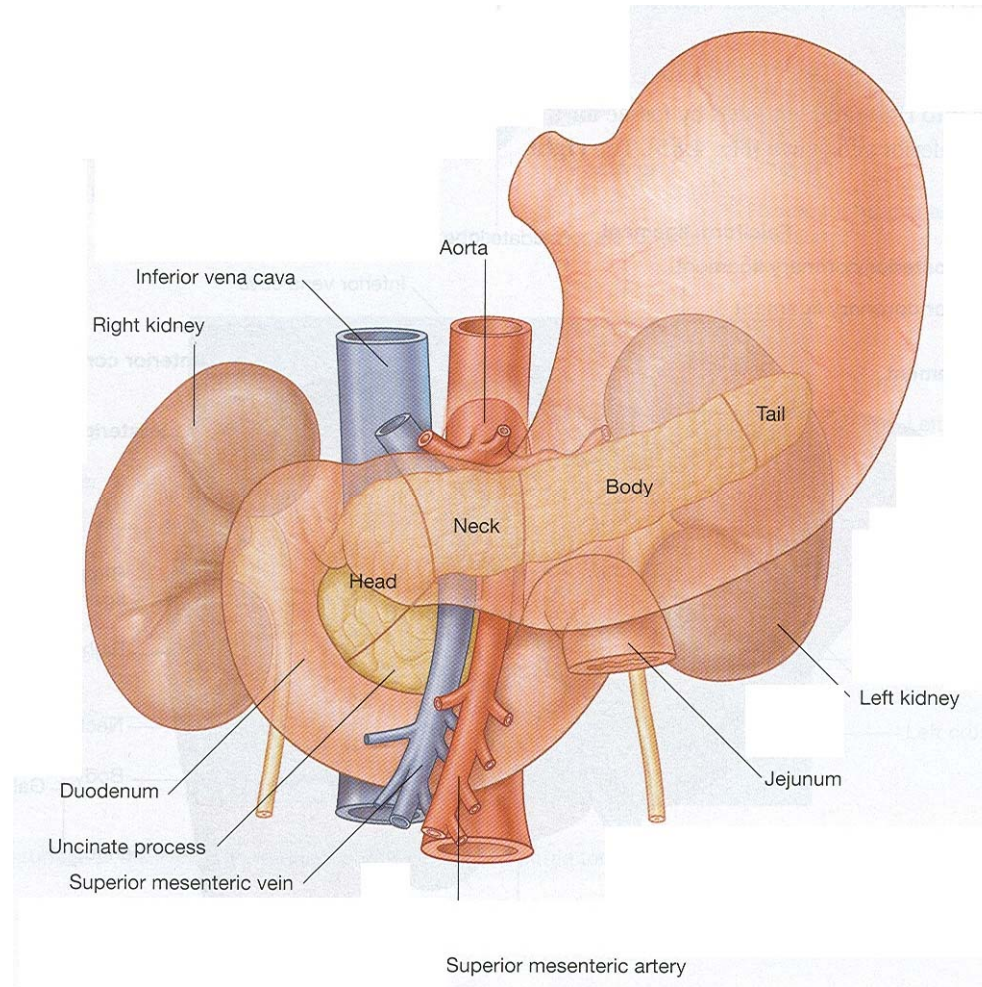


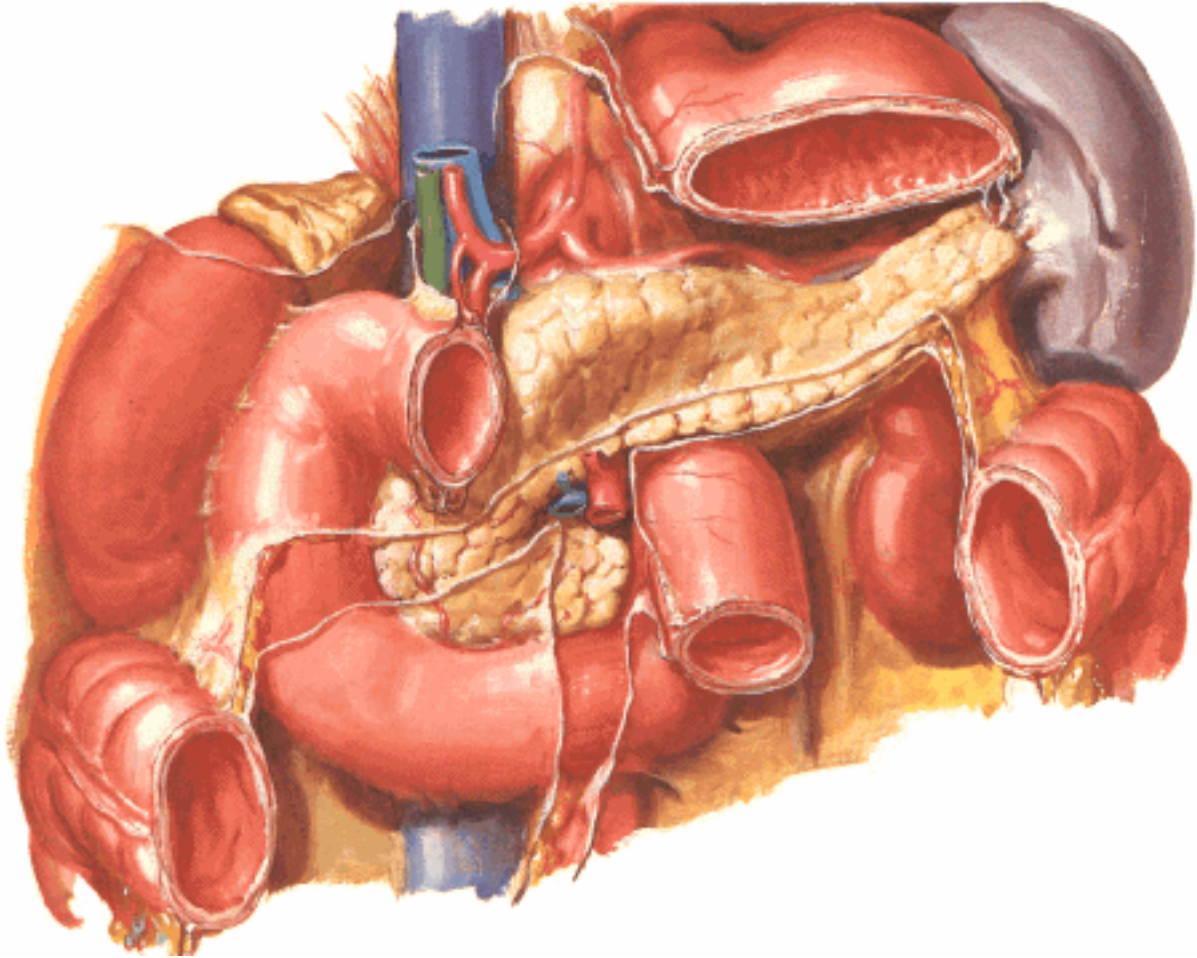
GLAND

- Endocrine & Exocrine
 - Controls upper gastro-intestinal motility and function
 - Take part in glucose homeostasis
- Firm, lobulated smooth surface
- 12-15 cm long
- Lies with in curve of Ist, IInd and IIIrd part of duodenum
- Extends transversely and upwards to the hilum of spleen
- At the level of L1 & L2 vertebrae









PARTS

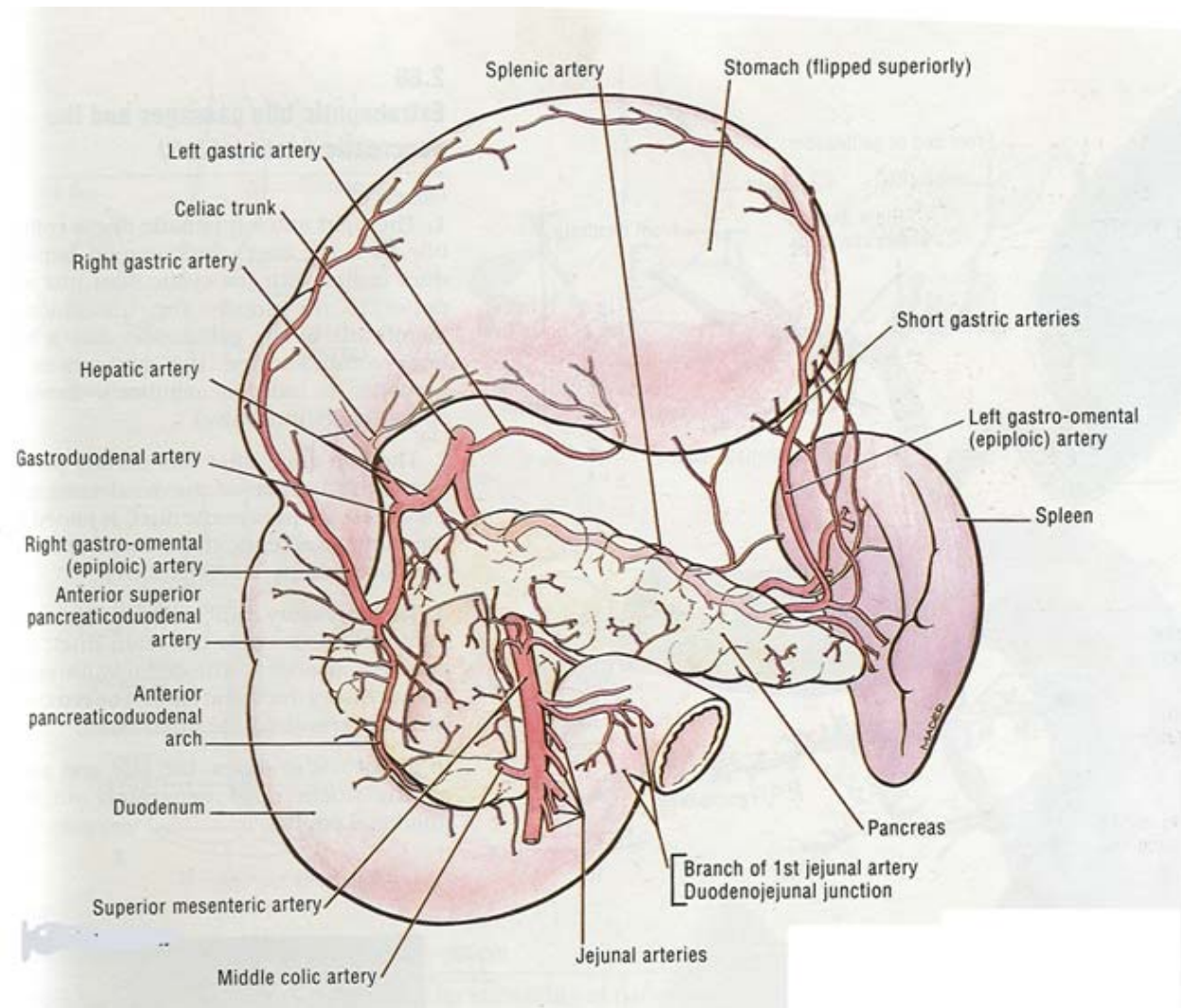
- Head
- Neck
- Body
- Tail
- Accessory lobe – unciniate process

Head

Right of the midline, thickest and broadest part

Lies with in curves of duodenum

Continuous as neck



HEAD

- **Anterior surface** – covered with peritoneum and related to transverse mesocolon
- **Posterior surface** - Inferior vena cava
Right Renal vein
Right crus of diaphragm
- **Superior border** - related to 1st part of duodenum
Superior pancreaticoduodenal artery
- **Inferior border** - 3rd part of duodenum
Inferior pancreaticoduodenal artery
- **Right (Lateral) border** - 2nd part of duodenum
Anastomosis between superior and inferior
Pancreaticoduodenal Artery

NECK

- Only 2 cm wide
- **Anterior surface** covered with peritoneum and related to pylorus
- Gastroduodenal A.
- **Posterior surface** – Formation of portal vein

BODY

Wedge Shaped with 3 borders and 3 surfaces

•**Anterosuperior:** Covered by peritoneum; Separated from stomach by lesser sac

•**Posterior:** Devoid of peritoneum

Related to-Aorta &Origin of superior mesenteric A

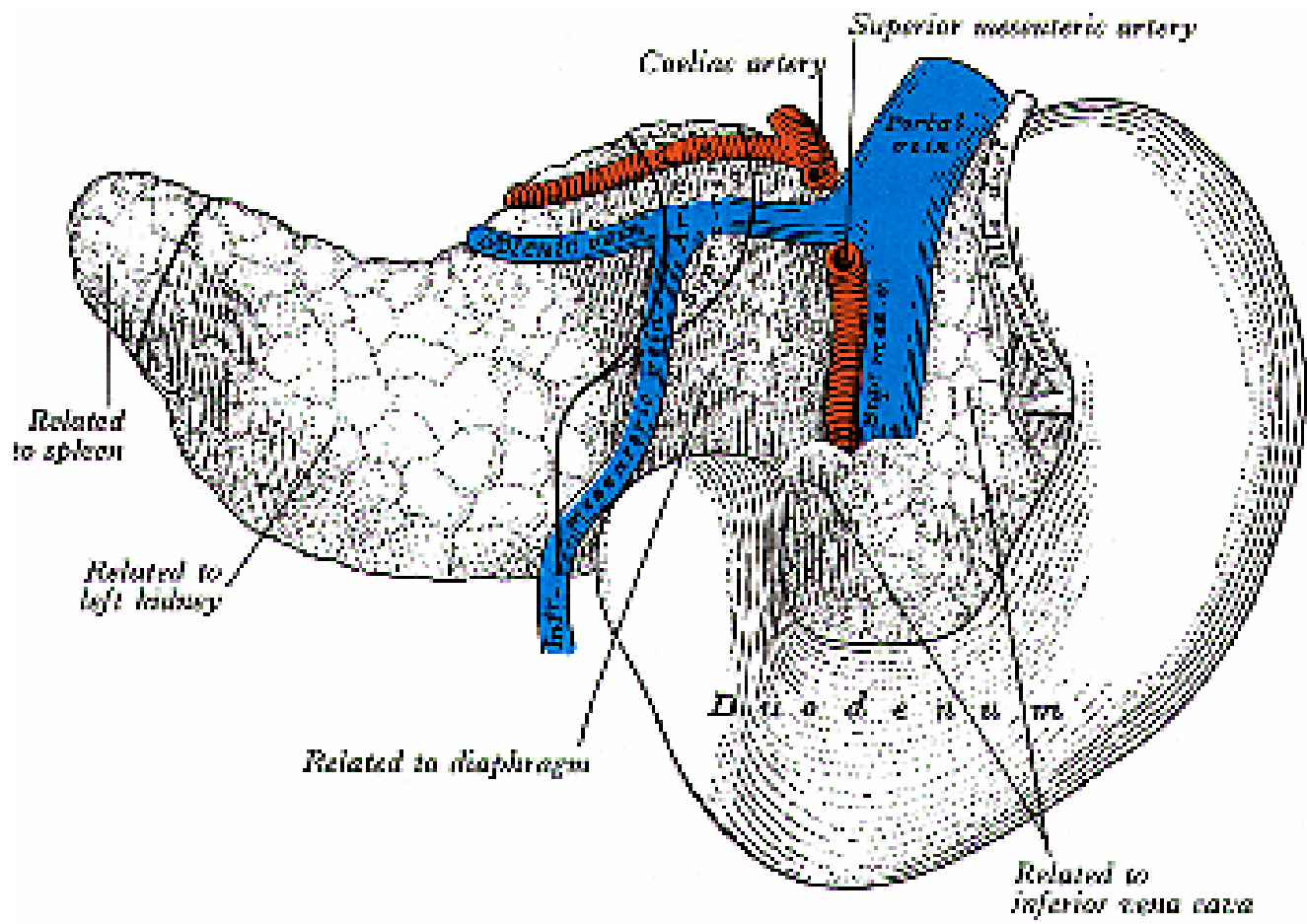
Left crus of diaphragm

Left suprarenal gland

Left kidney & renal vessels

Splenic vein

Anteroinferior :Covered by peritoneum, continuous with posterior inferior layer of transverse mesocolon
Inferior to it are : Fourth part of duodenum, duodenojejunal flexure, coils of jejunum.



BORDERS

- Superior**

- Omental tuberosity
- Coeliac trunk

Hepatic artery to the right

Splenic artery to the left

- Anterior**

- Divergence of two layers of transverse mesocolon

- Inferior**

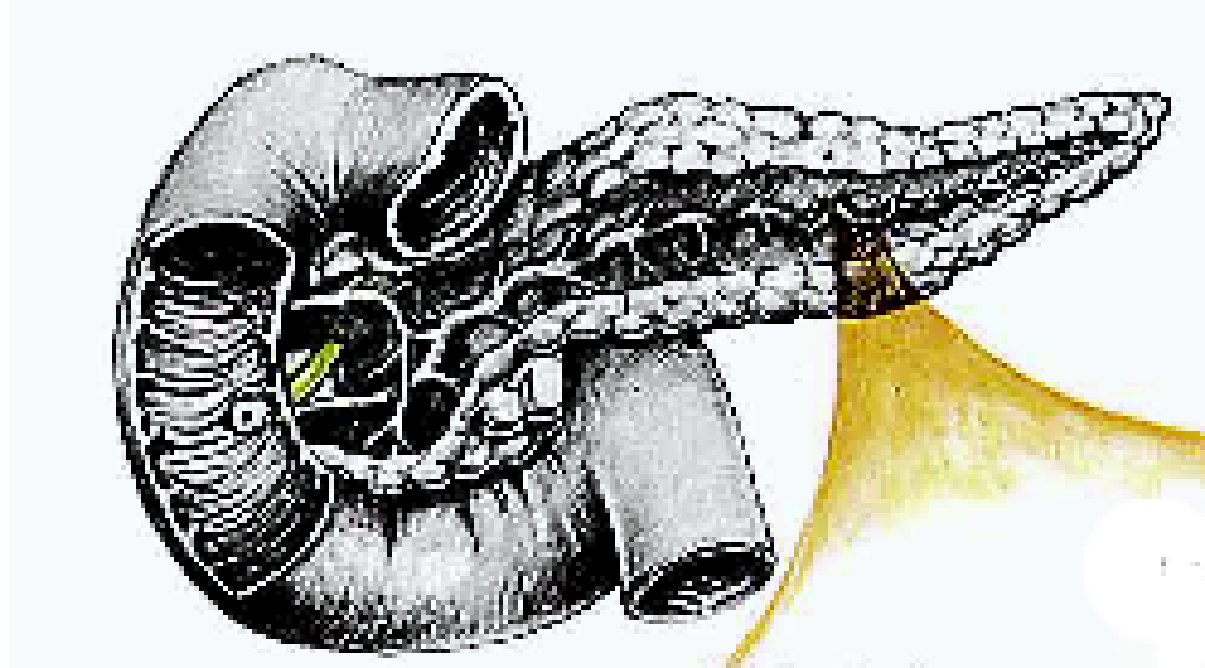
- Superior mesenteric vessels

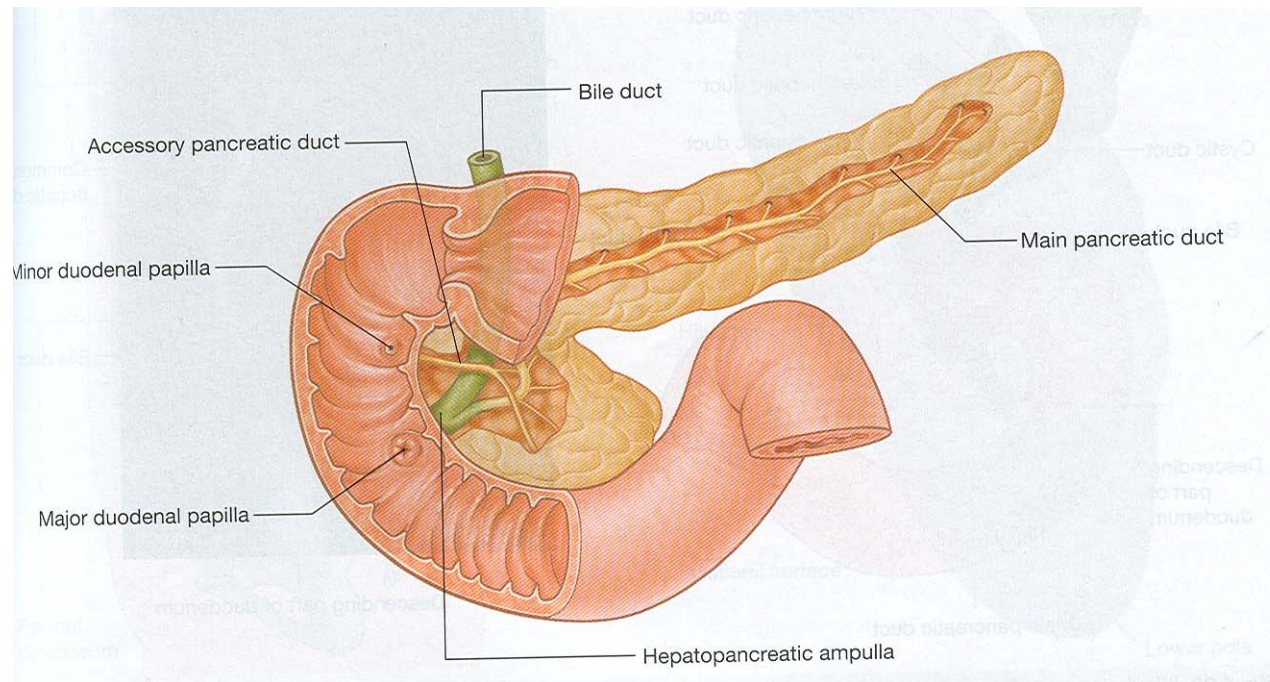
TAIL:

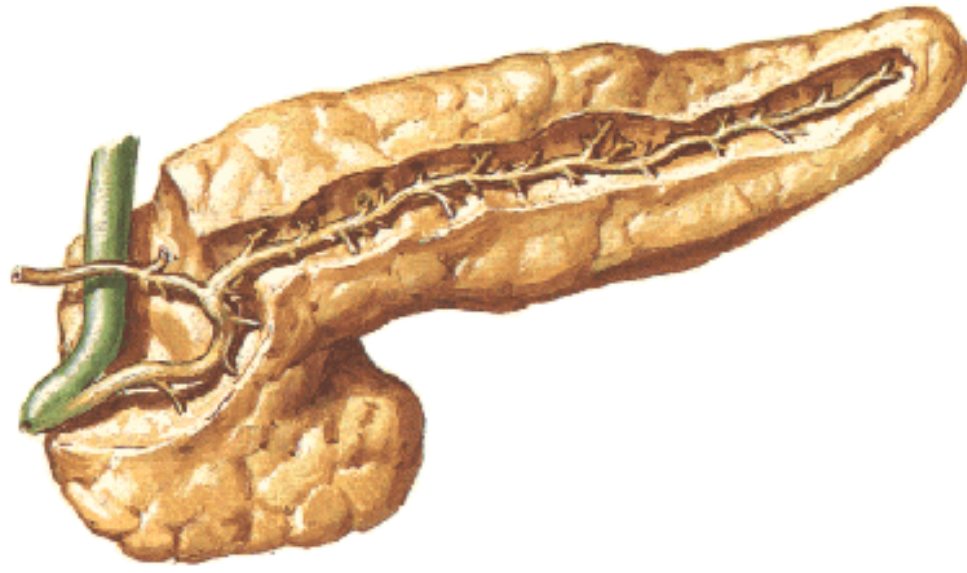
- Lies between layers of lienorenal ligament
- 1.5 – 3.5 cm long
- Extends as far as splenic hilum
- Related to splenic vessels

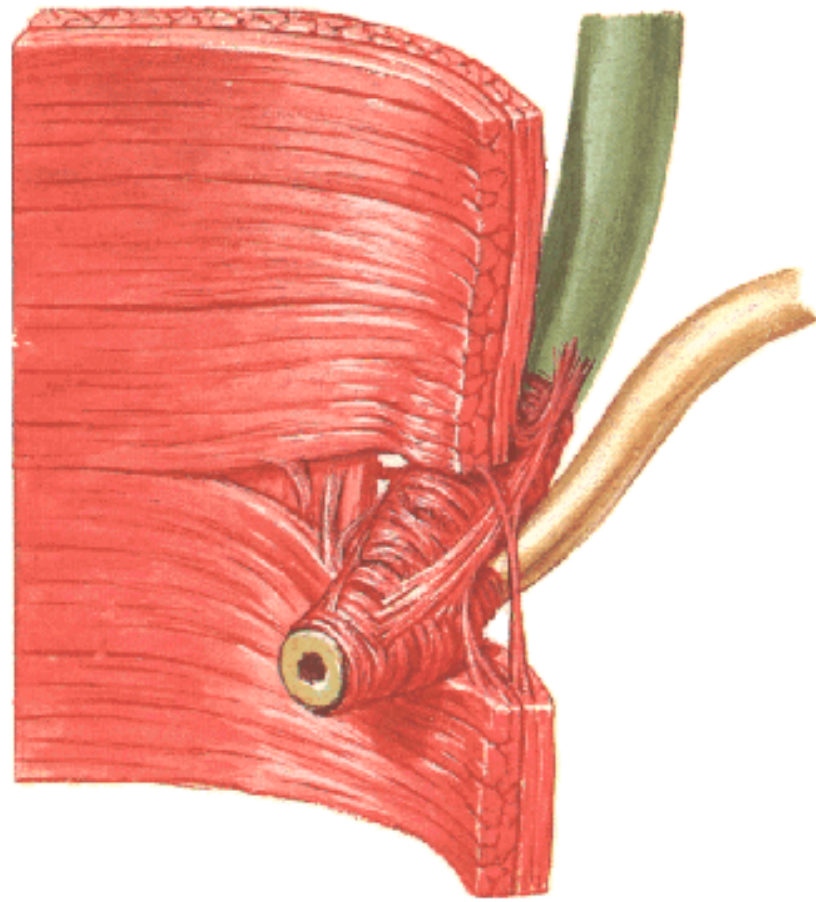
UNCINATE PROCESS

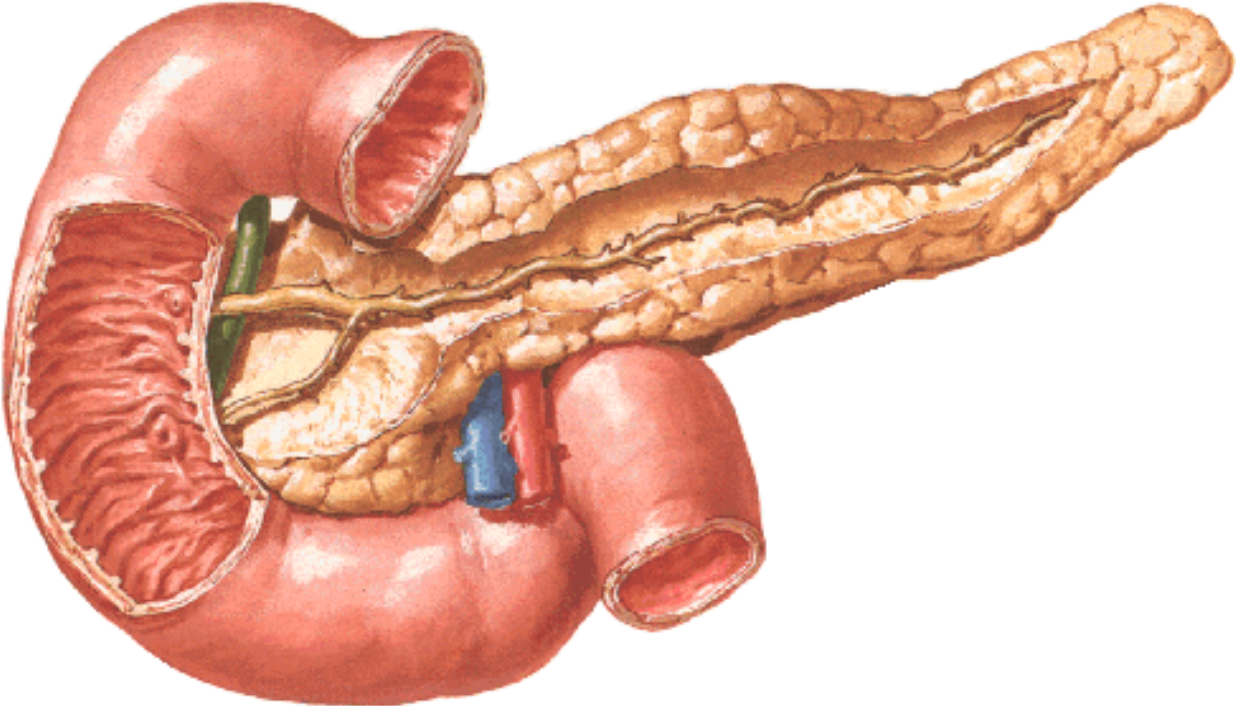
- Embryologically separate part
- Extends from inferior lateral end
- Anterior to it are superior mesenteric vessels
- Posterior to it is aorta
- Inferiorly in contact with 3rd part of duodenum











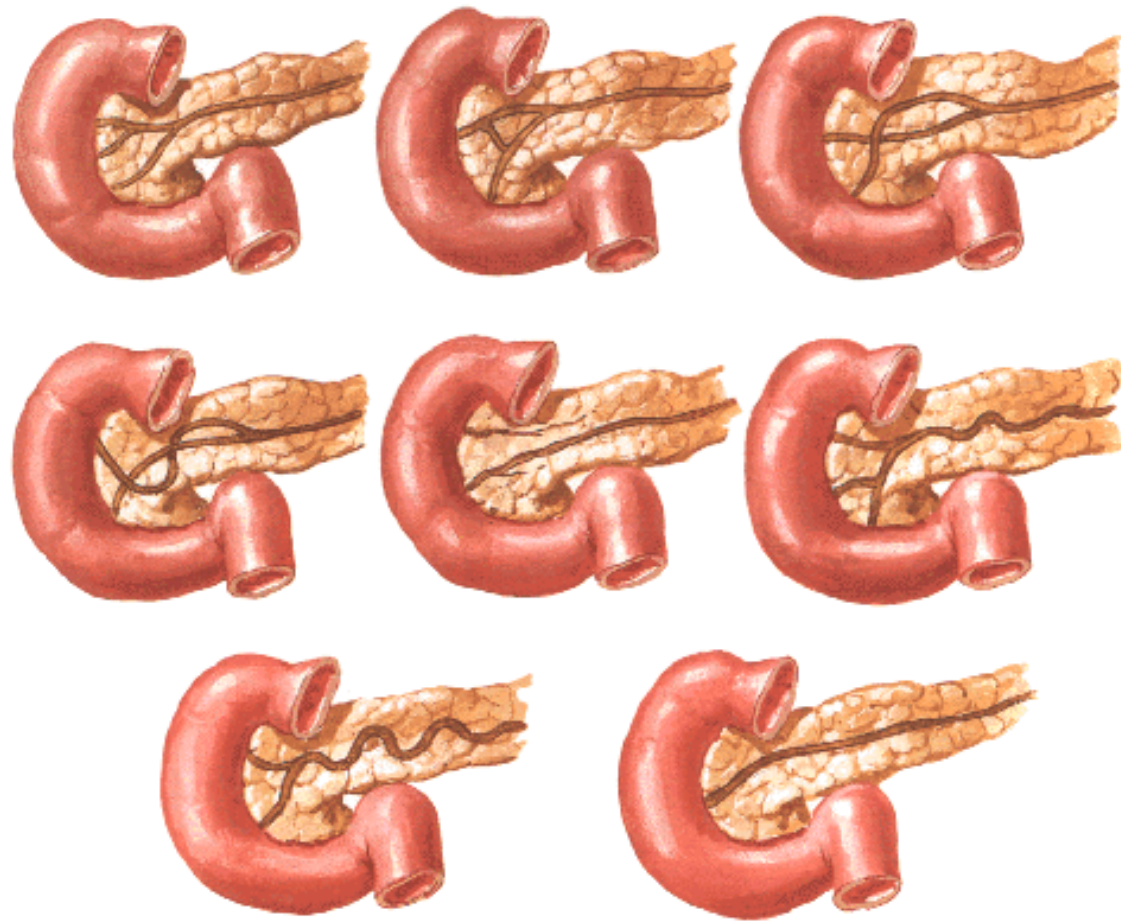
MAIN PANCREATIC DUCTS

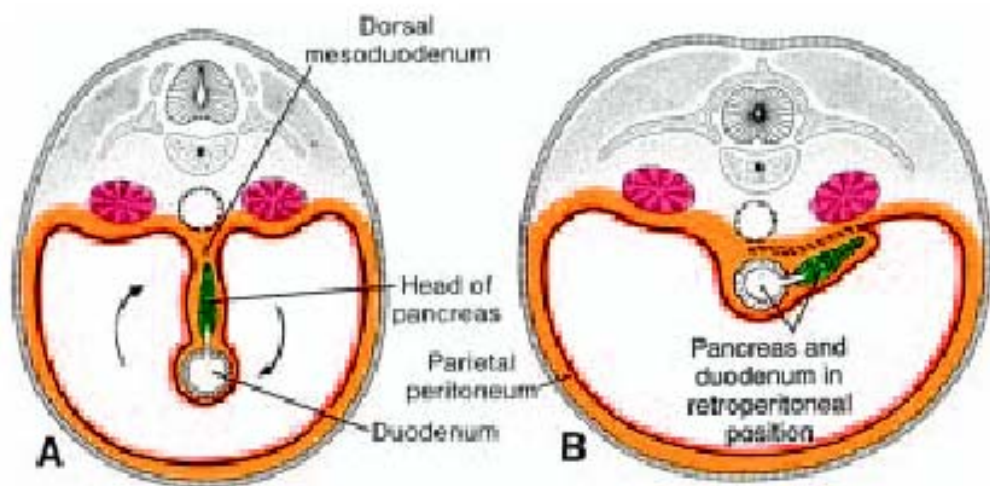
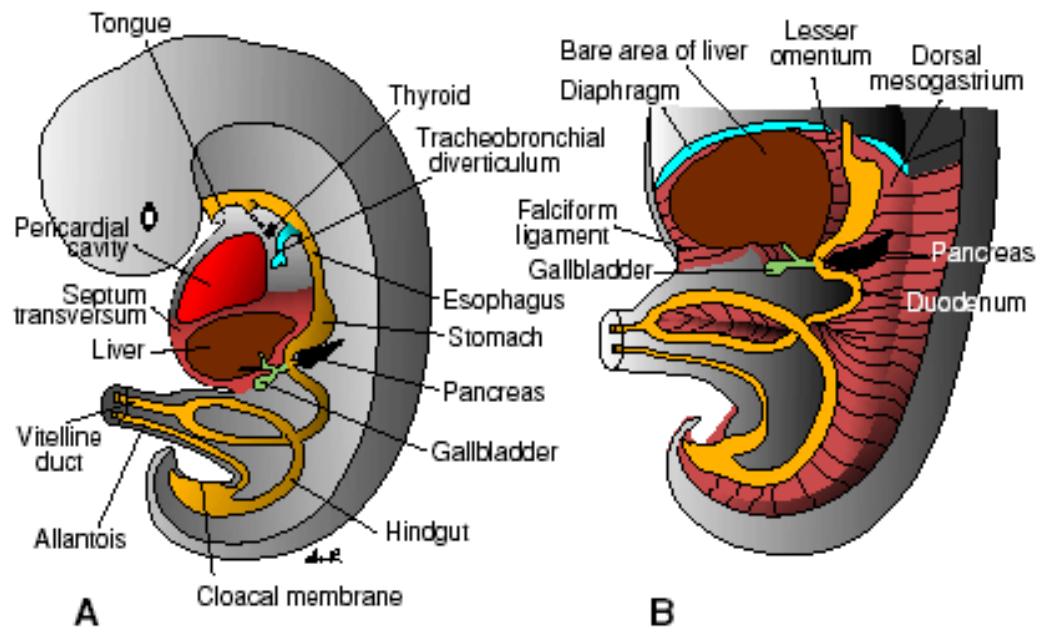
- From left to right; More Posteriorly
 - Formed by junction of lobular ducts
 - “Herringbone pattern”
 - On Reaching neck it turns inferiorly and posteriorly towards the bile duct
 - Two ducts enter the wall of duodenum (2nd part) and unite in a short dilated hepatopancreatic ampulla
 - Open at major duodenal papilla
 - Smooth muscle sphincters to control the flow of bile and pancreatic juice
- Sphincter of the pancreatic duct, bile duct and hepatopancreatic ampulla (sphincter of Oddi)

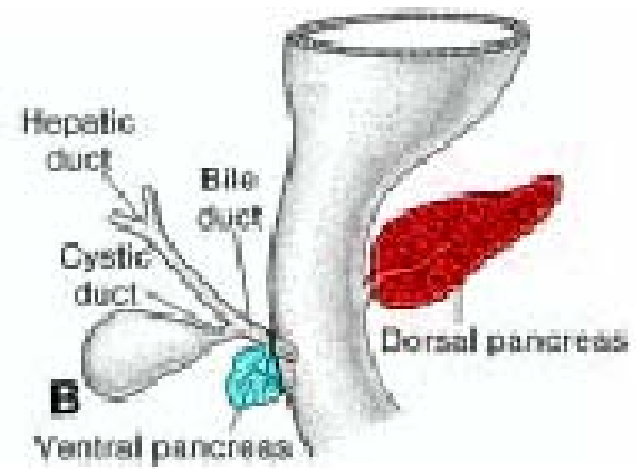
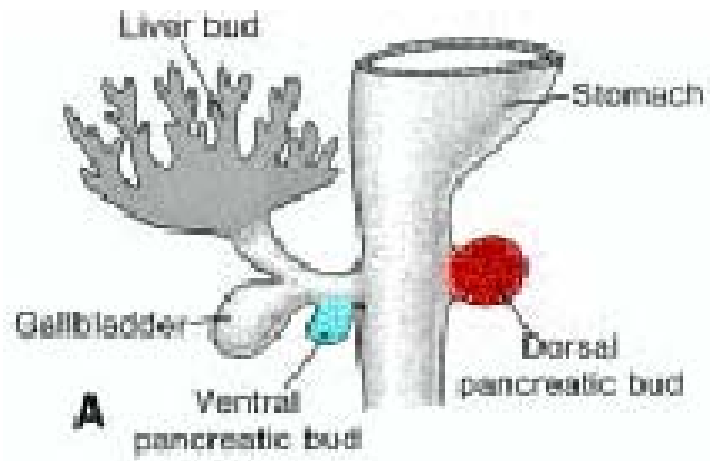
Accessory pancreatic duct

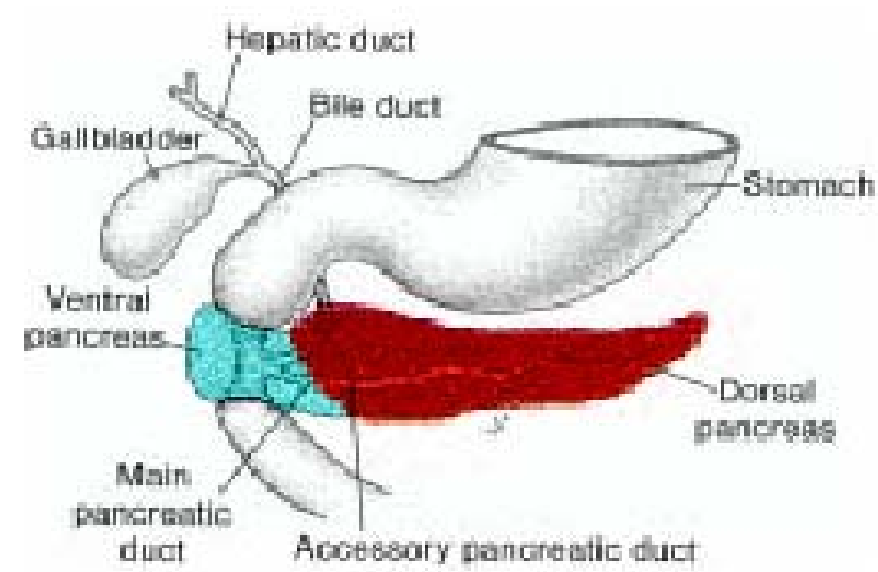
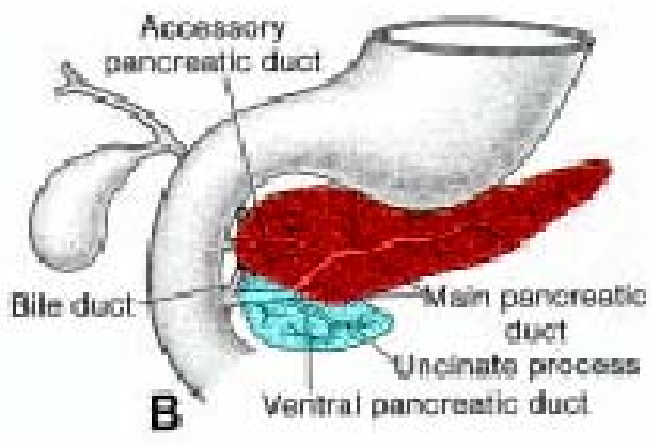
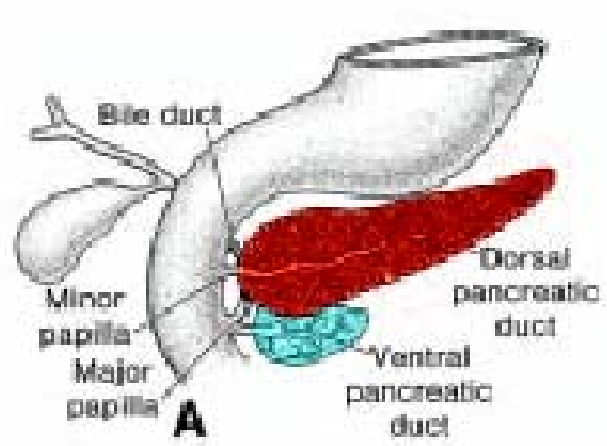
- Drains lower part of head and uncinata process.
- Ascends anterior to the main duct and communicates with it
- Opens on to minor duodenal papilla – 2 cm. Anterosuperior to major papilla

Variations in Pancreatic Ducts [Continued]







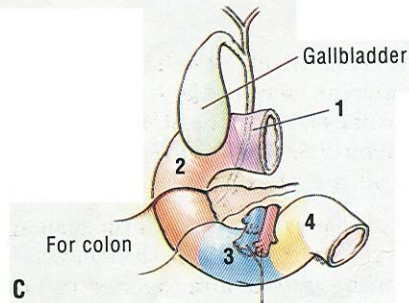
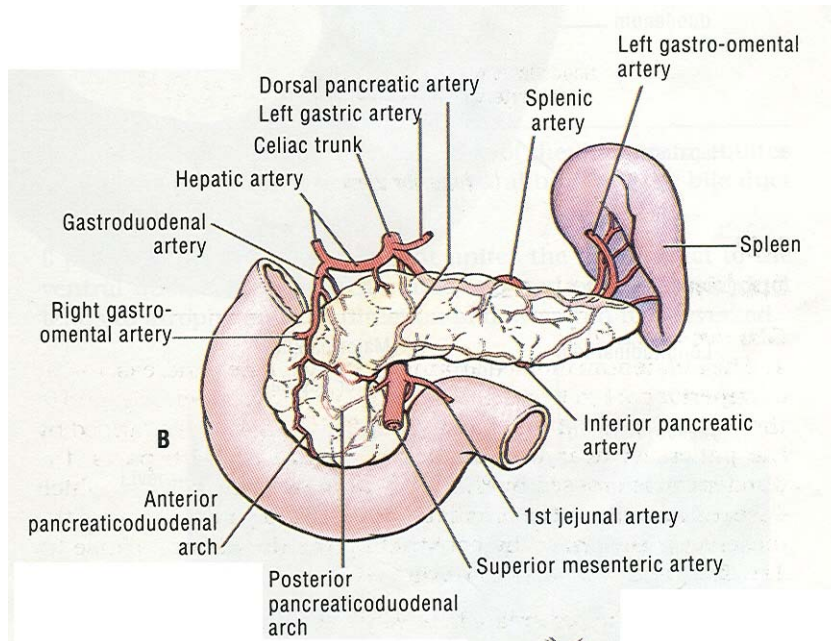


ARTERIAL SUPPLY

1. Coeliac trunk → Common hepatic A → Gastroduodenal A →

Superior pancreatico duodenal Artery

- Usually double
- First branch descends in the anterior groove between 2nd part of duodenum and head of pancreas
- Supplies branches to head of pancreas
- Anastomoses with anterior division of inferior pancreaticoduodenal artery.
- 2nd branch runs posterior to head of the pancreas; anastomoses with post division of inferior pancreaticoduodenal artery
- Supplies branches to head of pancreas



2. Superior Mesenteric artery

Inferior pancreaticoduodenal artery

- Arises near superior border of 3rd part of duodenum
- Divides into anterior and posterior branches
- Both branches anastomose with superior pancreaticoduodenal artery.
- Supply head, uncinate process and 2nd and 3rd parts of duodenum
- Coeliac trunk → Splenic artery

Pancreatic branches

Arise both anteriorly and posteriorly along superior border to supply neck, body and tail

Arteria pancreatica magna

- Smaller branches from superior mesenteric artery

VENOUS DRAINAGE

- Superior and inferior pancreaticoduodenal veins
- Veins from body/tail drain into splenic vein
- In to portal vein

Lymphatic drainage

- Pancreaticosplenic lymph nodes
- Pancreaticoduodenal lymph nodes
- Preaortic and Coeliac lymph nodes

Innervation

- Sympathetic : 6-10 thoracic spinal segments – coeliac ganglia
- Parasympathetic: Post vagus nerve – coeliac plexus

APPLIED ANATOMY

- Pancreatitis
- Carcinoma of the head of pancreas produces obstructive jaundice
- Pancreatectomies
- Rupture of the pancreas
- Referred pain
 - To epigastrium
 - To posterior paravertebral region
- Accessory pancreatic tissue
- Tail of pancreas is sometimes severed during splenectomy

