

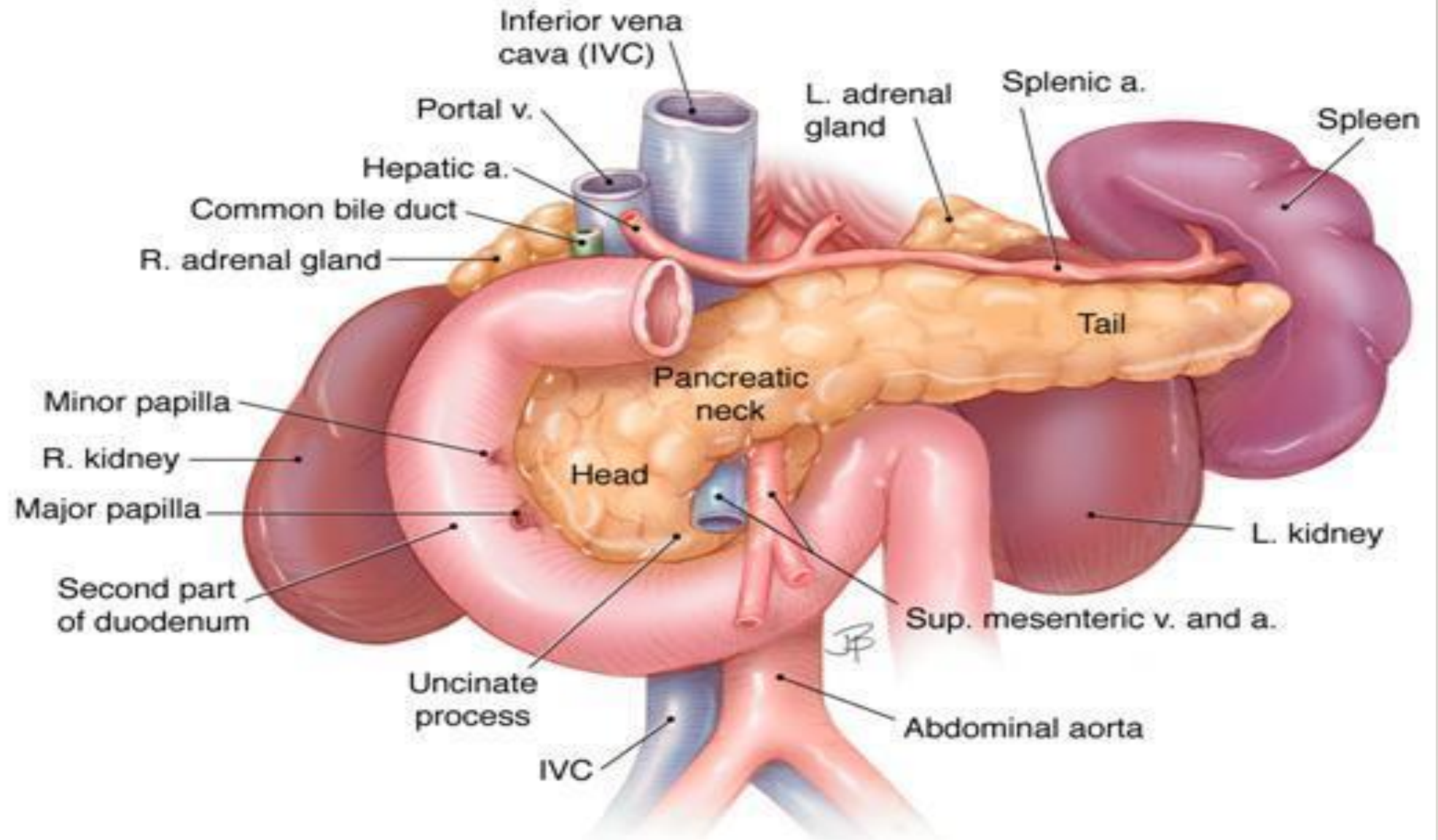
# PANCERATIC INJURY

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# PANCREATIC ANATOMY

- The pancreas is a compound exocrine and endocrine gland located in the retroperitoneum at the level of the second lumbar vertebrae
- The pancreas is divided into five parts, including the head, uncinate process, neck, body, and tail
- The head of the pancreas lies to the right of the superior mesenteric artery
- The uncinate process lies anterior to the inferior vena cava and aorta.
- The body and tail lie to the left of the mesenteric vessels



# MANAGEMENT

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- Optimal management of pancreatic trauma is determined by where the parenchymal damage is located and whether the intrapancreatic common bile duct and main pancreatic duct remain intact
- Contusion
- duct disruption



**Table 1**  
**Scoring Pancreatic Injury**

Grade	Injury	Description
I	Hematoma	Minor contusion without duct injury
	Laceration	Superficial laceration without duct injury
II	Hematoma	Major contusion without duct injury
	Laceration	Major laceration without duct injury or tissue loss
III	Laceration	Distal transection or parenchymal injury with duct injury
IV	Laceration	Proximal transection or parenchymal injury involving the ampulla or bile duct
V	Disruption	Massive disruption of the pancreatic head

Source.—References 3 and 48.

Note.—Major variables are site (proximal vs distal), type of injury (hematoma, laceration, or transection), and state of the main pancreatic duct. The AAST system differentiates between hematomas, contusions, lacerations with and without ductal involvement, and complete organ disruption and considers the site of the injuries.

# PANCREATIC CONTUSIONS

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- Patients with pancreatic contusions (defined as injuries that leave the ductal system intact) can be treated nonoperatively or with closed suction drainage if undergoing laparotomy for other indications.
- Patients with proximal pancreatic injuries, defined as those that lie to the right of the superior mesenteric vessels, are also managed with closed suction drainage.





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- distal pancreatic injuries are managed based upon ductal integrity
  - pancreatic duct disruption can be identified :
    - direct exploration
    - operative pancreatography
    - ERCP
    - MRCP

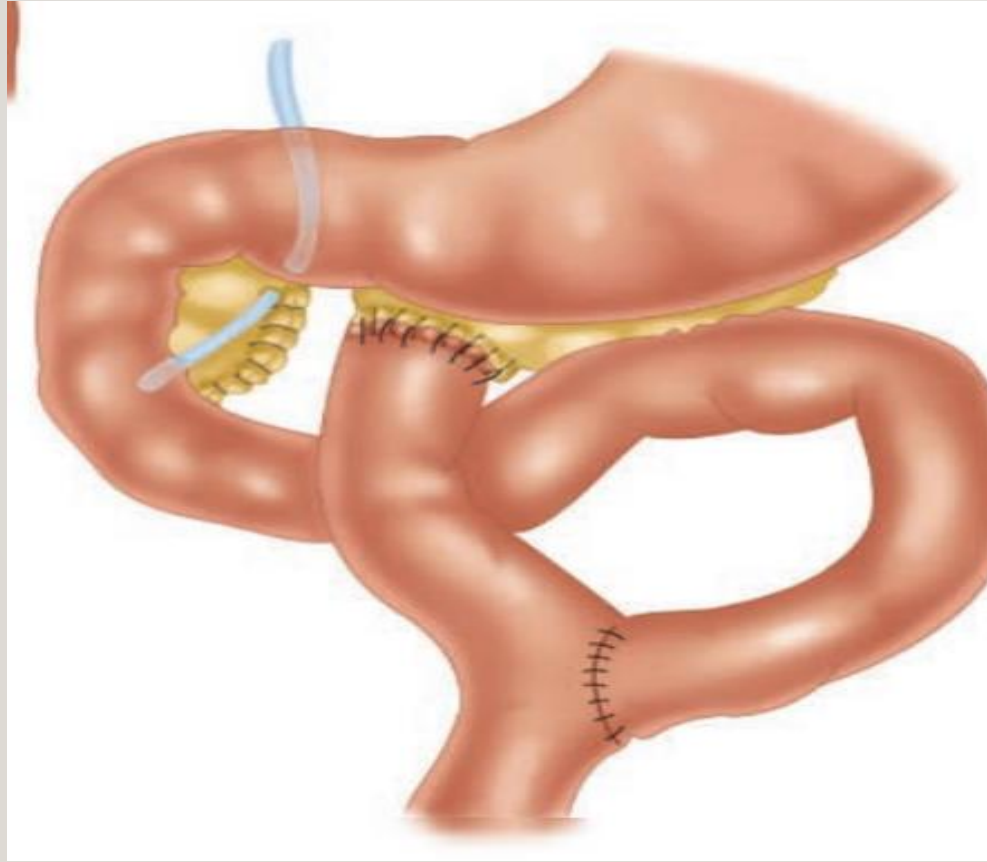




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- In contrast to diagnosis of pancreatic duct injuries, identification of intrapancreatic common bile duct disruption is relatively simple.
  - squeeze gallbladder
  - Cholangiography via the cystic duct
  - Definitive treatment of this injury entails division of the common bile duct , ligation of the distal and reconstruction with a Roux-en-Y choledochojejunostomy

# ROUX-EN-Y PANCREATICOJEJUNOSTOMY

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- For injuries to the head of the pancreas that involve the main pancreatic duct but not the intrapancreatic bile duct, there are few options
  - Distal pancreatectomy alone is rarely indicated due to the extended resection of normal gland and the resultant risk of pancreatic insufficiency.
  - the complexity may make the pancreaticoduodenectomy more appropriate in patients with multiple injuries and is usually done in a damage control scenario



- patients sustain destructive injuries to the head of the pancreas or combined pancreaticoduodenal injuries that require pancreaticoduodenectomy.
- transection of intrapancreatic bile duct and the main pancreatic duct in the head of the pancreas, ,or avulsion of the papilla of Vater from the duodenum

- In contrast to proximal injuries, pancreatic resection continues to be advocated for major ductal disruption in the more distal pancreas.
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- In stable patients, spleen-preserving distal pancreatectomy should be performed
- Roux-en-Y pancreaticojejunostomy or pancreaticogastrostomy are alternative
- distal pancreatectomy with splenectomy is the preferred approach, If the patient is physiologically compromised

# COMPLICATION

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- Delayed hemorrhage occur with pancreatic necrosis or abdominal infection managed by angioembolization.
- Pancreatic fistula
- Pancreatic fistula develops in over 20% of patients with combined injuries
- Pancreatic pseudocysts
- Intra-abdominal abscesses





THANK YOU