

Surgery of the Pancreas

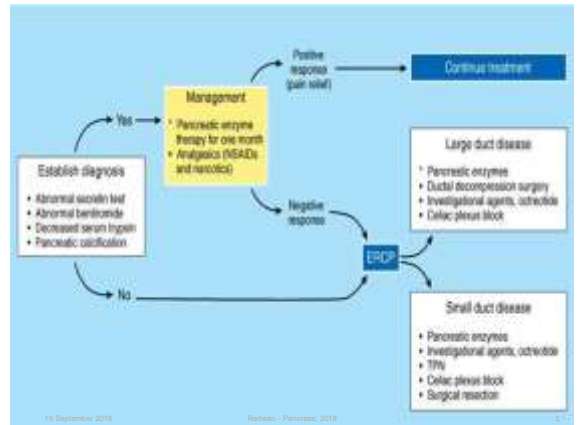
By
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Prof. of Surgery & Laparoendoscopy

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Chronic Pancreatitis

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Sonography in chronic pancreatitis. Transabdominal sonogram of patient with chronic pancreatitis demonstrates heterogeneity of the pancreatic parenchyma, dilated ductal system, and cyst formation.

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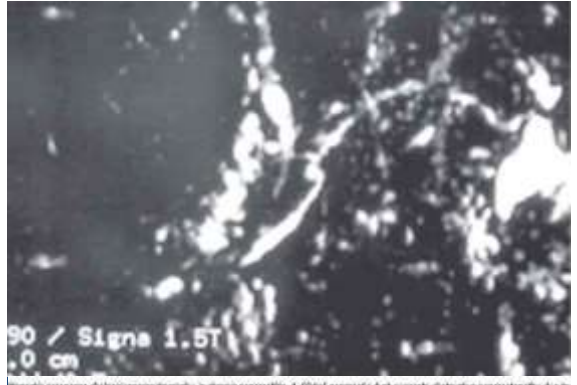
Gross appearance of chronic pancreatitis. Areas of fibrosis and scarring are seen adjacent to other areas within the gland in which the lobar architecture is grossly preserved. A dilated pancreatic duct indicates the presence of downstream obstruction in this specimen retrieved from a patient with chronic pancreatitis.

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Computed tomographic imaging of chronic pancreatitis. A dilated pancreatic duct is seen, with evidence of intraductal stones and pancreatic calcification.

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Magnetic resonance cholangiopancreatography in chronic pancreatitis. A dilated pancreatic duct suggests obstructive pancreatopathy due to proximal strictures.

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Pancreatic duct stenting. At endoscopic retrograde cholangiopancreatography, a stent is placed in the proximal pancreatic duct to relieve obstruction and reduce symptoms of pain. Pancreatic duct stents are left in place for only a limited time to avoid further inflammation.

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A. A 7-French endoprosthesis is placed in the pancreatic duct in a patient with relapsing pancreatitis and a hyperfunctional pancreatic duct sphincter. B. Abnormal pancreatogram after stent extraction. Note the stenoses (arrows). Pancreatographic abnormalities resolved by 3 months.

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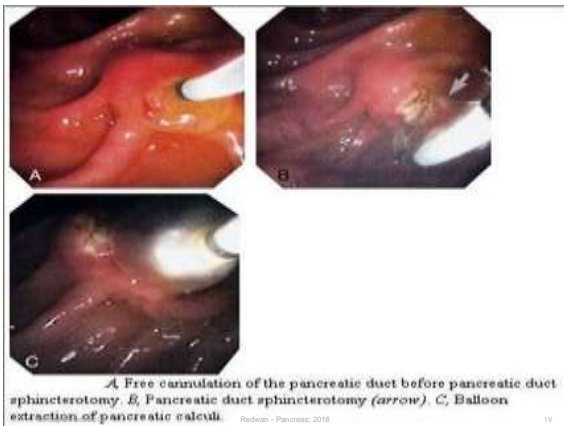
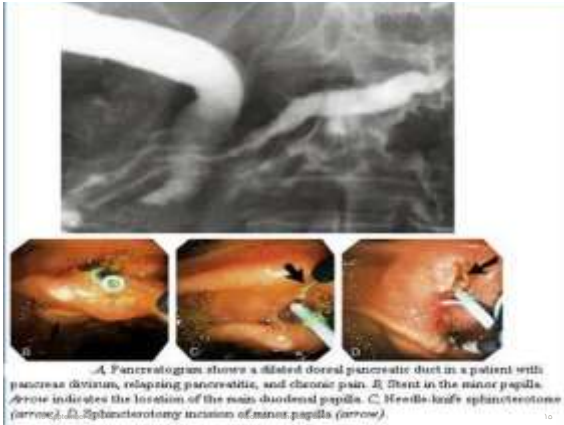
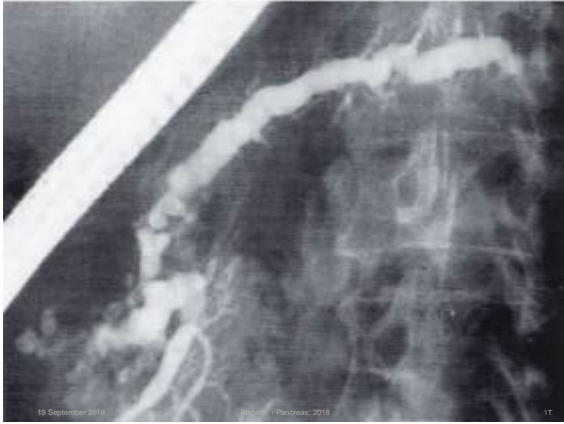
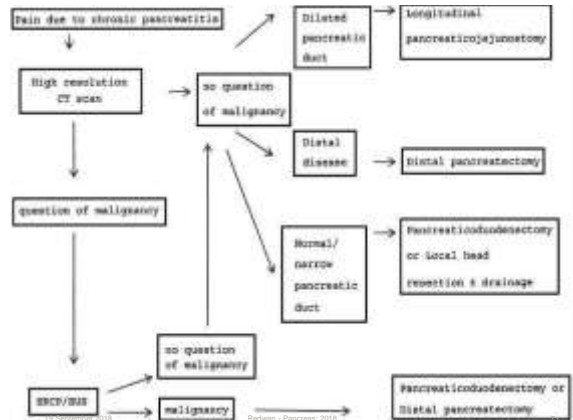


Table 38-2. Indications for Surgery in Chronic Pancreatitis

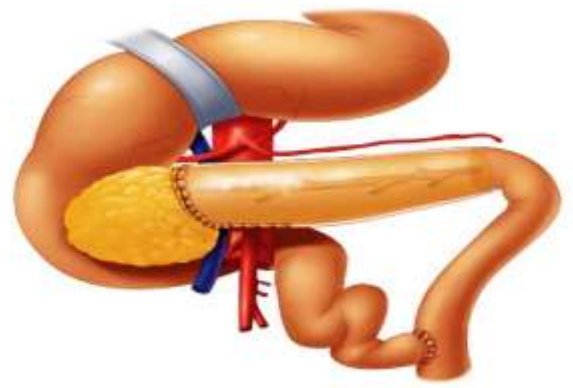
Intractable pain
Pancreatic ductal stenosis
Biliary obstruction (Wadsworth syndrome)
Duodenal obstruction
Left sided portal hypertension from splenic vein thrombosis
Colonic obstruction
Pseudocyst
Pancreatic ascites
Pancreatic fistula
Pancreatic carcinoma

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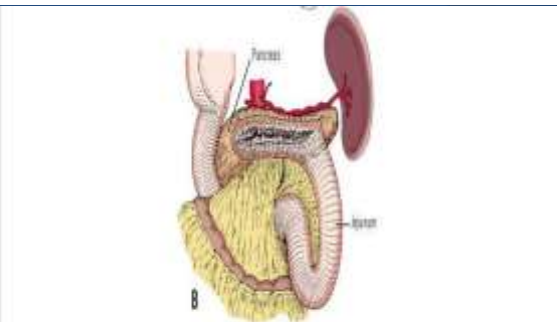
Duval's caudal pancreaticojejunostomy

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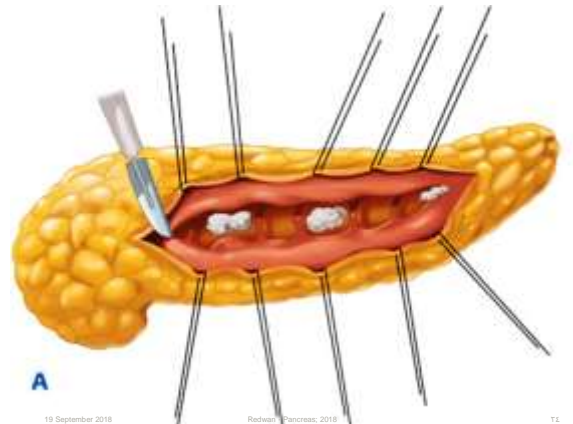
Puestow and Gillesby's longitudinal pancreaticojejunostomy. Originally described as an invaginating anastomosis that drained the entire body and tail, the anastomosis was created after amputating the tail of the gland and opening the duct along the long axis of the gland.

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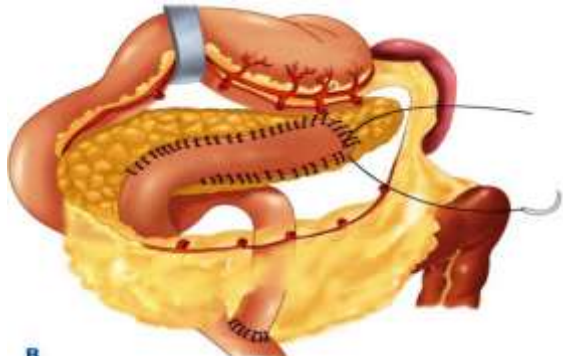


Puestow procedure. A, Pancreas and its duct, resected; entire pancreas is placed in a debranched loop of jejunum; spleen is removed; end-to-side jejunopancreaticostomy completed. B, Pancreas may be the distal to enter jejunum. (Modified from Skandalakis, E. Graf IV, Rowe JB: *Anatomical Complications in General Surgery*. New York: McGraw-Hill, 1982; with permission.)

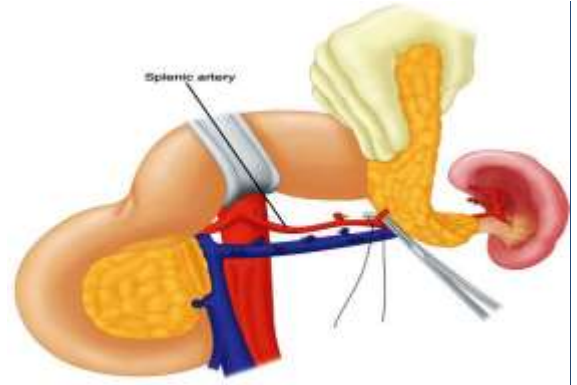
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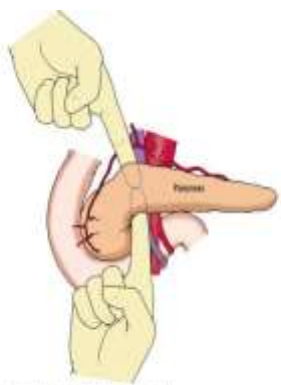
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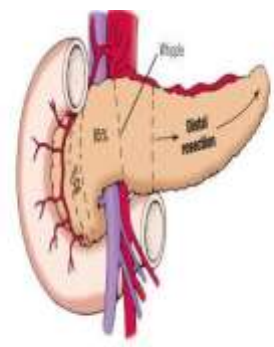
B
 Longitudinal incision in obstructing chronic pancreatitis. A longitudinal pancreatectomy typically divides segmental elements of the pancreatic duct and the presence of intraductal calculi in a patient with chronic calcific pancreatitis (A), following mobilization of a flexor loop of jejunum, a longitudinal pancreaticojejunostomy is performed to permit extensive drainage of the pancreatic duct system (B). This technique, described by Partshall and Malloff, is the typical method used for the Whipple procedure.¹¹⁷



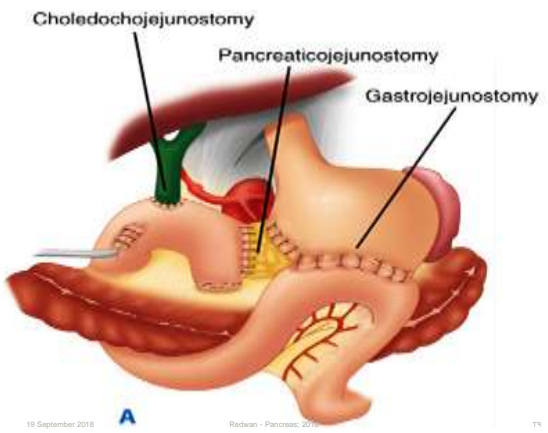
Distal (spleen-sparing) pancreatectomy. A distal pancreatectomy for chronic pancreatitis is usually performed with en bloc splenectomy. In the presence of minimal inflammation, a spleen-sparing version can be performed, as shown here.¹¹⁷



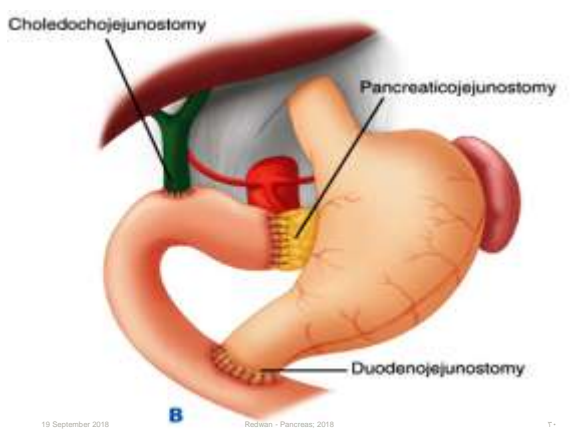
Fixation of pancreas. Sugiura's finger shows proper location of pancreas, which should stabilize itself from underlying blood vessels. (Modified from Skandalakis SC, Skandalakis GN, Skandalakis G. Anatomicophragmatics of abdominal surgery. Corning, NY: CV Mosby; 1978. 12:17-20, with permission.)¹¹⁸



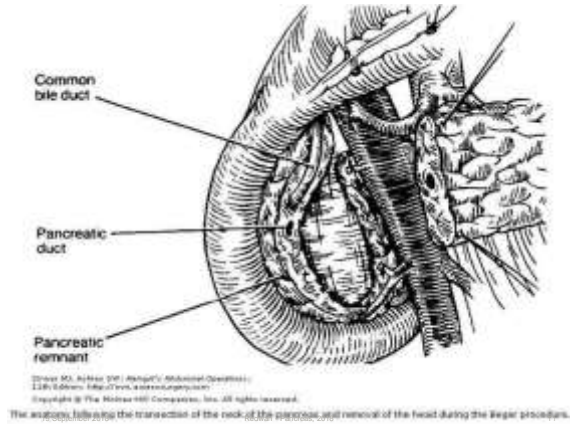
Partial pancreatectomy: 95 percent pancreatectomy; 85 percent pancreatectomy; Whipple procedure: distal pancreatectomy. (Modified from Skandalakis SC, Gray SA, Flynn JC Jr. Anatomical Complications in General Surgery. New York: McGraw-Hill; 1981; with permission.)¹¹⁹



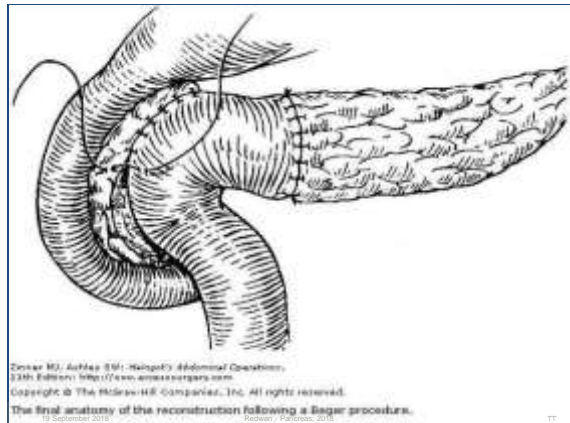
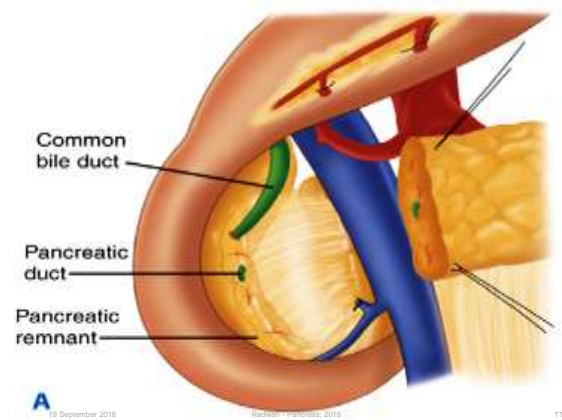
A
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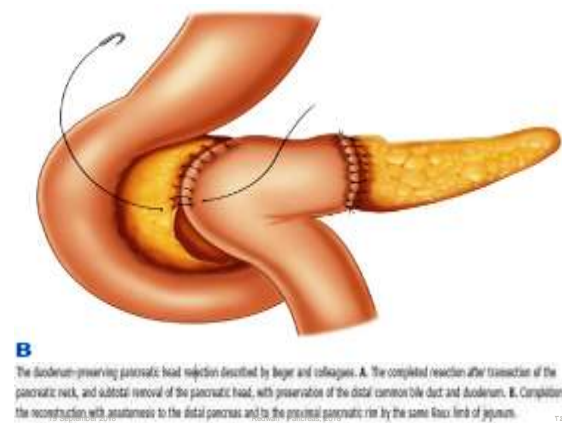
B
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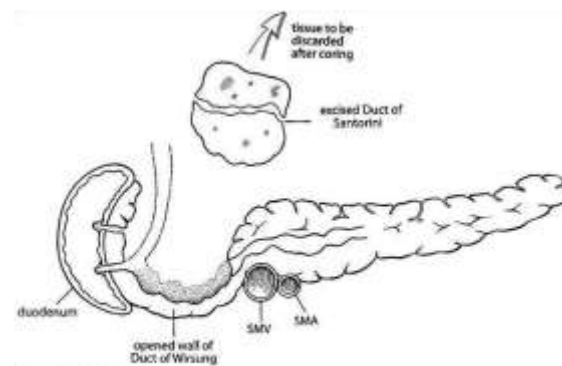
The anatomy following the transection of the neck of the pancreas and removal of the head during the Beger procedure.



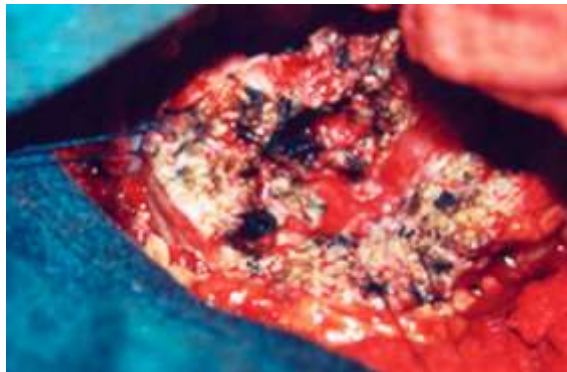
The final anatomy of the reconstruction following a Beger procedure.



Frey procedure. The local resection of the pancreatic head with longitudinal pancreaticojejunostomy (LPJ) provides complete decompression of the entire pancreatic ductal system. Reconstruction is performed with a side-to-side, Roux-en-Y pancreaticojejunostomy.



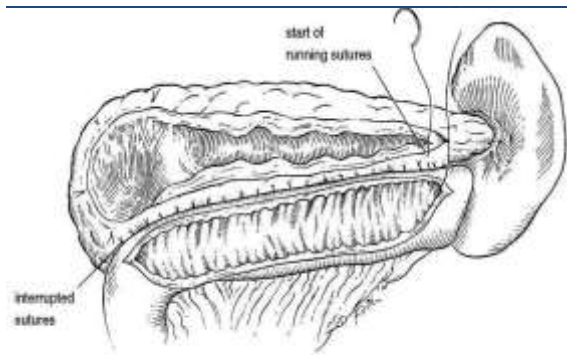
Open-system drainage of the pancreas following the resection of the pancreatic head during a Frey procedure.



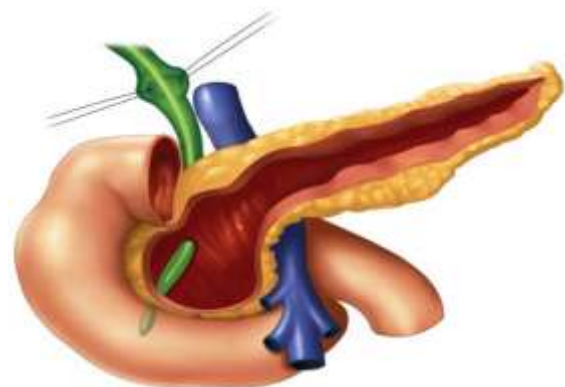
Operative view of excised head of the pancreas during the Frey procedure. The main pancreatic duct is opened widely down to the level of the ampulla, and the head of the pancreas is excised in a corical fashion so as to allow complete decompression of the chronically dilated and inflamed pancreatic ducts.
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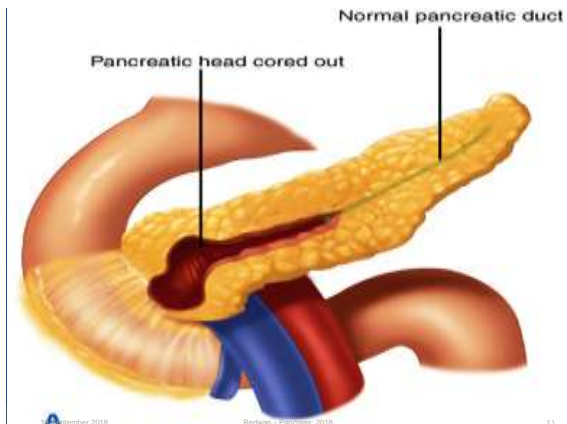
Complete excavation of the pancreatic head and distal pancreatic ductotomy. A true excavation and removal of the proximal distal system is combined with a distal pancreatic ductotomy. Reconstruction is performed with a single side-to-side Roux-en-Y pancreaticojejunostomy.
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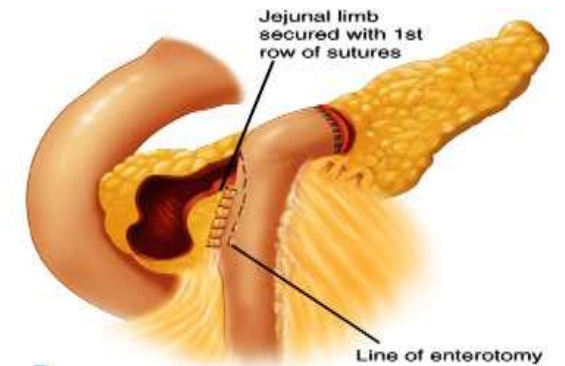
start of running sutures
interrupted sutures
Zinner M, Jorley D, Hageff's Anatomy Operations, 21th Edition, Elsevier, 2012, accessed surgery.com
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The pancreaticojejunostomy of the Frey procedure.
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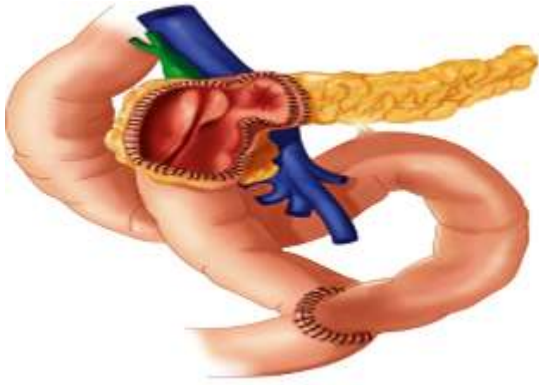
The Hamburg modification of the local resection of the pancreatic head with longitudinal pancreaticojejunostomy.
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Normal pancreatic duct
Pancreatic head cored out
A
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Jejunum limb secured with 1st row of sutures
Line of enterotomy
B
Excavation of pancreatic head without longitudinal pancreaticojejunostomy.
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The Beme modification of the local resection of the pancreatic head with longitudinal pancreaticojejunostomy.

