

Gastrotomy

Gastrotomy: is an incision through the stomach wall into the lumen.

Partial gastrectomy: is a resection of a portion of the stomach.

Gross Anatomy of the Stomach

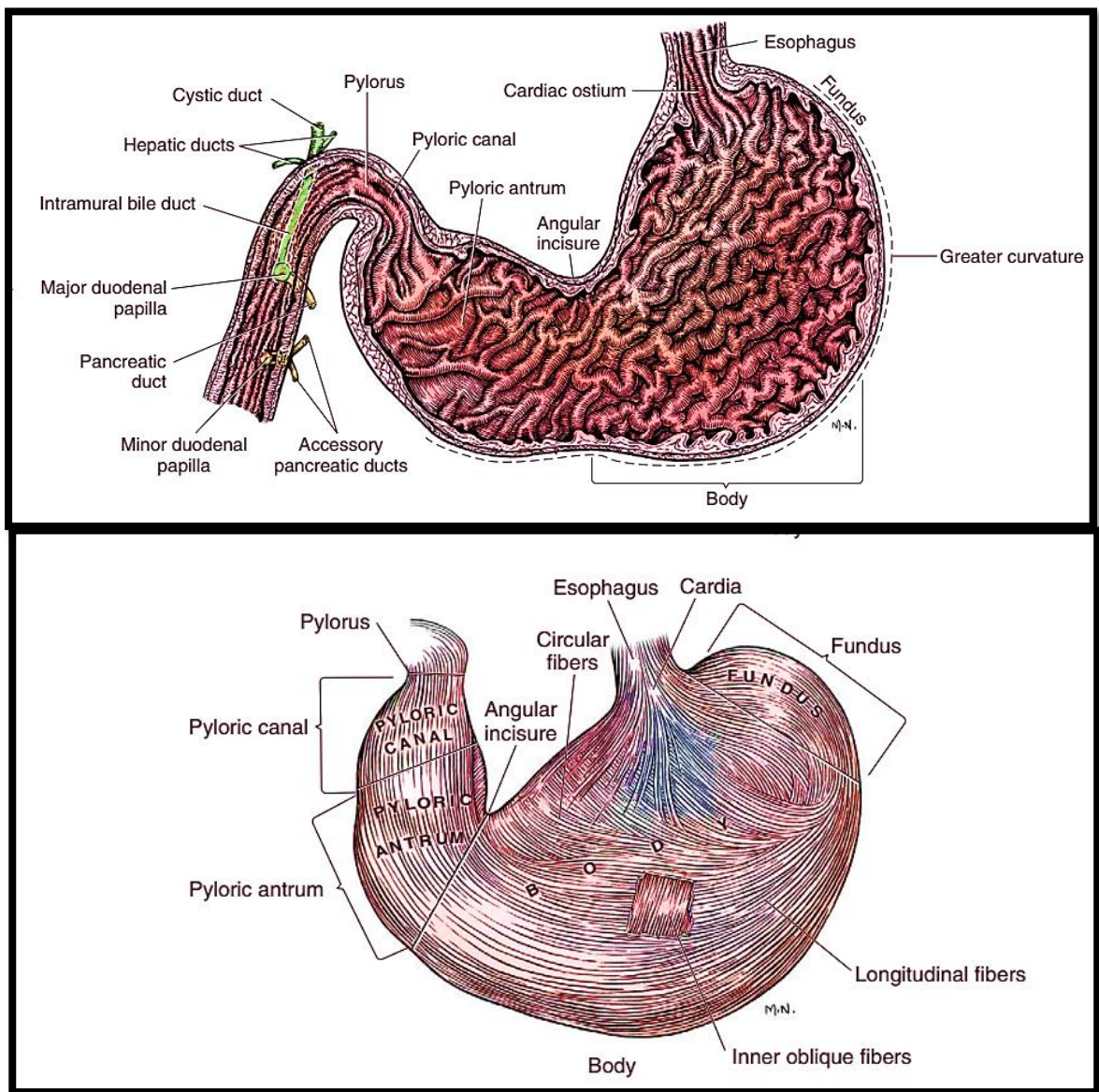
- The stomach is divided into the cardia, fundus, body, and pyloric portions.
- The point where the intraabdominal esophagus blends into the stomach on the left side is termed the *cardia*.
- The cardiac notch is formed between the cardia and the blind outpouching of the stomach, termed the *fundus*.
- The pyloric portion of the stomach is divided into the thinner walled pyloric antrum and the area known as the pyloric sphincter, which is defined by the double muscle layer that surrounds it.
- The greater curvature of the stomach is convex and connects the cardia and pylorus and incorporates the fundus.
- The lesser curvature also connects the cardia and pylorus but is much shorter than the greater curvature.

Vasculature, Lymphatics, and Innervation of the Stomach

- The arterial blood supply of the stomach originates from the celiac artery, a direct branch from the aorta.
- The celiac artery divides into its component parts, the splenic, hepatic, and left gastric arteries, each of these arteries provides blood flow to a portion of the stomach.
- The left gastric artery is a direct branch from the celiac artery that supplies the fundus of the stomach.
- The venous drainage of the stomach to the portal vein is through the gastrosplenic vein and gastroduodenal vein.
- Lymphatic drainage of the stomach is through the gastric and splenic lymph nodes to the hepatic lymph node.
- The stomach is innervated by parasympathetic fibers of the vagus nerves and sympathetic fibers of the celiac plexus.

indications

1. Hiatal Hernia
2. Gastroesophageal Intussusception.
3. Gastric Foreign Body.
4. Gastric Neoplasia.
5. Gastric Ulceration.
6. Gastric Perforation.
7. Gastric Wall Necrosis.
8. Gastric outflow obstruction.



Anatomy of stomach

Approach of Gastrotomy

1. ventral midline abdominal incision
2. caudal median sternotomy
3. paracostal approach

Ventral midline gastrotomy

1. Make a ventral midline abdominal incision from the xiphoid to the pubis.
2. Use Balfour retractors to retract the abdominal wall and provide adequate exposure of the gastrointestinal tract.
3. Inspect the entire abdominal contents before incising the stomach.
4. To reduce contamination, isolate the stomach from remaining abdominal contents with moistened laparotomy sponges.
5. Place stay sutures to assist in manipulation of the stomach and help prevent spillage of gastric contents.
6. Make the gastric incision in a hypovascular area of the ventral aspect of the stomach, between the greater and lesser curvatures.
7. Make sure the incision is not near the pylorus, or closure of the incision may cause excessive tissue to be enfolded into the gastric lumen, resulting in outflow obstruction.
8. Make a stab incision into the gastric lumen with a scalpel and enlarge the incision with Metzenbaum scissors.
9. Use suction to aspirate gastric contents and reduce spillage.
10. Close the stomach with 2-0 or 3-0 absorbable suture material (e.g., polydioxanone, polyglyconate) in a two-layer inverting seromuscular pattern. Include serosa, muscularis, and submucosa in the first layer, using a Cushing or simple continuous pattern, then follow it with a Lembert or Cushing pattern that incorporates the serosal and muscularis layers.
11. As an alternative suturing, close the mucosa in a simple continuous suture pattern as a separate layer to reduce postoperative bleeding.
12. Before closing the abdominal incision, substitute sterile instruments and gloves for those contaminated by gastric contents. Whenever you remove a gastric foreign body, be sure to check the entire intestinal tract for additional material that could cause an intestinal obstruction.

Note: risk of gastric content leakage is considerable and may result in significant postoperative morbidity and mortality.

Pyloromyotomy and Pyloroplasty

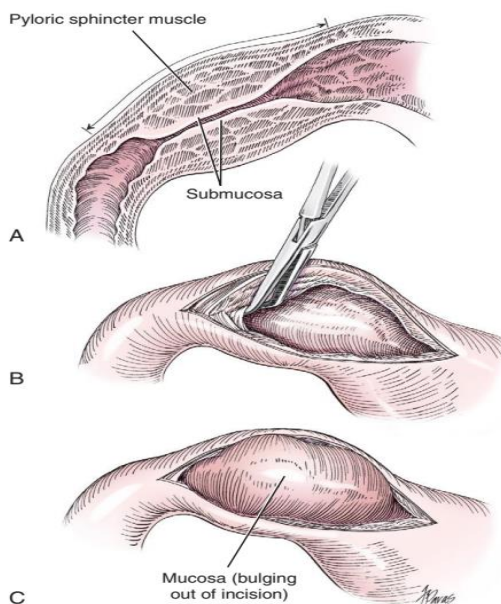
Pyloromyotomy and pyloroplasty increase the diameter of the pylorus and are used to correct gastric outflow obstruction (i.e., chronic antral mucosal hypertrophy or pyloric stenosis).

Pyloroplasty

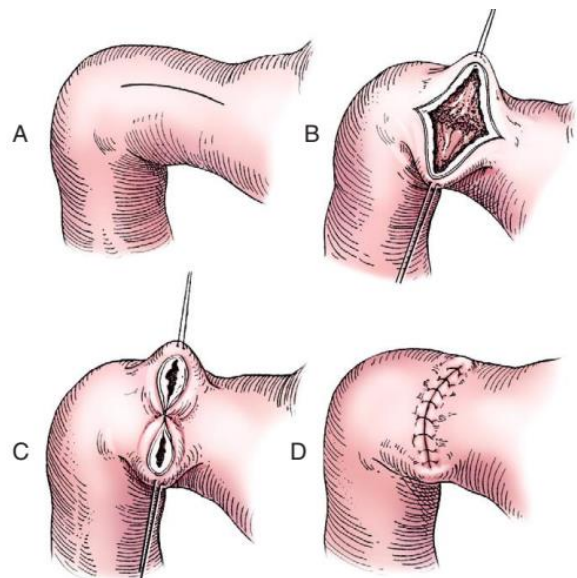
1. A full-thickness longitudinal incision, centered over the pylorus and extending 1 to 2 cm orad and aborad, is made.
2. The pyloric area is inspected visually, and tissue is taken for histopathologic examination
3. Stay sutures placed at the midpoint along each side of the incision are retracted. The incision is closed transversely using an appositional closure pattern.
4. Finished closure of the pyloroplasty.

Pyloromyotomy

1. Myotomy is considered for pyloric widening if pyloric musculature is thickened but mucosa and submucosa are normal.
2. A longitudinal incision is made through the muscular layer, and all muscular fibers are transected.
3. When properly performed, mucosa and submucosa bulge through the incision.



Pyloromyotomy



Pyloroplasty

Postoperative care

1. Electrolytes, especially potassium, should be monitored postoperatively.
2. Analgesics should be provided as needed. Intravenous fluids are continued until the patient is drinking adequate amounts to maintain hydration.
3. Food can be offered 12 hours postoperatively.
4. If vomiting continues, centrally acting antiemetics such as maropitant or ondansetron.
5. Secondary gastric ulcers may occur and require treatment H₂-receptor antagonists (e.g., cimetidine, ranitidine, or famotidine).

complications

1. Peritonitis.
2. Ileus.
3. Vomiting.
4. Ischemic gastritis.
5. Postoperative gastric leakage.
6. Wound dehiscence.