Endostapler dan linear stapler

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Types of surgical staplers

Linear stapler
Anastomosis:
Side-to-side gastrojejunostomy

- Skeletonization of the gastric greater curvature
- Elevation of a jejunal loop
- Gastrotomy
- Jejunotomy
- Introduction of a TLC55 or TLC75 linear cutter
- Firing of the device
Anastomosis: Side-to-side gastrojejunostomy

- Placement of three traction and guide sutures
- Closure of the common opening using a TL60 linear stapler
- Elimination of excess tissue
Anastomosis:
Side-to-side gastrojejunostomy

- Completed procedure
Anastomosis: Side-to-side gastrojejunostomy

- The section depicts an interior view of the anastomosis
Anastomosis: Side-to-side gastrojejunostomy

The figure shows a projection of the gastrojejunostomy stoma.
Anastomosis: End-to-end functional

- Closure of a temporary colostomy
- The closed colostomy is detached from the abdominal wall
Anastomosis: End-to-end functional

- A window is opened in the mesocolon
- Both segments are occluded using an intestinal clamp
- Two antimesenteric colotomies are made
Anastomosis: End-to-end functional

- Introduction of the jaws of a TLC55 or TLC75 linear cutter
- Placement of a seromuscular traction and guide suture
- Closure and firing of the device
Anastomosis: End-to-end functional

- Closure of the common opening using a TL60 linear stapler
- Colon section using the device as a cutting guide
- Specimen retrieval
Anastomosis: End-to-end functional

▶ Completed procedure
▶ The image shows a projection of the stoma of the functional end-to-end anastomosis
Anastomosis: End-to-side ileocolostomy

- Terminal ileectomy
- Right hemicolecctomy
- A purse-string suture is placed in the terminal ileum
Anastomosis:
End-to-side ileocolostomy

- The anvil of a CDH25 or CDH29 circular stapler is introduced in the ileal end
- Closure of the purse-string suture on the integral trocar
- Elimination of excess tissue
Anastomosis: End-to-side ileocolostomy

- Introduction of the device through the proximal colonic end
- Perforation of the antimesenteric border with the integral trocar
- A purse-string suture is not required
Anastomosis: End-to-side ileocolostomy

- The instrument is assembled
- Closure and firing of the instrument
- The integrity of the anastomosis is verified
Anastomosis: End-to-side ileocolostomy

- Placement of three traction and guide sutures
- Closure of the common opening using a TL60 linear stapler
- Elimination of excess tissue
Gastric Surgery
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Skeletonization of the lesser and greater curvatures
- Proximal transection using a TLC75 linear cutter
- If needed, the device can be reloaded for a second firing to complete the transection
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Duodenal transection using a TLC55 linear cutter
- The distal line of transection can be made first, as shown
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Alternative: Duodenal transection using a purse-string device and a Doyen intestinal clamp
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Preparation for a triangulation anastomosis
- A gastrostomy is made in the distal staple line, toward the greater curvature
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Placement of guide sutures
- Stabilization of the line to be sutured with a Babcock clamp
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Posterior wall anastomosis using a TL60 linear stapler
- Elimination of excess tissue
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Placement of an additional guide suture
Antrectomy with a Billroth I type gastroduodenal reconstruction

- The device is reloaded
- Closure of the anterosuperior edge of the anastomosis using the same TL60 linear stapler
- Elimination of excess tissue
Antrectomy with a Billroth I type gastroduodenal reconstruction

- The device is reloaded
- Closure of the anteroinferior edge of the anastomosis using the same TL60 linear stapler
- Elimination of excess tissue
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Completed procedure
- The inserts show the devices used
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Alternative: Gastroduodenal anastomosis using a CDH25 or CDH29 circular stapler
- Placement of the anvil in the duodenum
- Closure of the purse-string suture around the integral trocar and elimination of excess tissue
- Gastrostomy with a TLC55 linear cutter
- Perforation of the posterior gastric wall
- Joining of the instrument components
Antrectomy with a Billroth I type gastroduodenal reconstruction

- The device is closed
- The device is fired
- Verification of anastomotic integrity
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Placement of traction and guide sutures
- Closure of the gastrostomy with a TL60 linear stapler
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Completed procedure
- The inserts show the devices used
Antrectomy with a Billroth I type gastro-duodenal reconstruction

- Alternative technique using a circular stapler
- Duodenal transection
- Placement of the anvil in the duodenum
- Closure of the purse-string suture around the integral trocar and elimination of excess tissue
- A gastrostomy is made using electrocautery
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Introduction of the body of the CDH25 or CDH29 circular stapler through the gastrotomy
- Perforation of the posterior wall of the stomach
- Joining of the device components
- Firing of the device
- Check the integrity of the anastomosis
Antrectomy with a Billroth I type gastroduodenal reconstruction

- Gastric transection using one or two firings of a TLC75 linear cutter
- The specimen contains the gastrotomy
- Finished procedure
- The inserts show the devices used
Antrectomy with a Billroth II type gastrojejunal reconstruction

- The antrectomy has been made
- A jejunal loop is selected
- Antimesenteric jejunotomy
- Gastrotomy in the posterior gastric surface
- Gastrojejunal anastomosis with the firing of a TLC75 linear cutter
Antrectomy with a Billroth II type gastrojejunal reconstruction

- Placement of traction and guide sutures
- Closure of the common opening using a TL60 linear stapler
- Elimination of excess tissue
Antrectomy with a Billroth II type gastrojejunal reconstruction

- Completed procedure
- The inserts show the devices used
Antrectomy with a Billroth II type gastrojejunal reconstruction

- Alternative technique using a CDH25 or a CDH29 circular stapler
- A jejunal loop is passed retrocolic
- Jejunotomy and placement of the anvil
- Closure of a purse-string suture around the integral trocar and elimination of excess tissue
- A gastrotomy is made using electrocautery
Antrectomy with a Billroth II type gastrojejunal reconstruction

- Introduction of the body of the stapler through the gastrotomy
- Perforation of the posterior wall of the stomach
- Joining of the device components
- Firing of the device
- Check the integrity of the anastomosis
Antrectomy with a Billroth II type gastrojejunal reconstruction

- Placement of traction and guide sutures
- Closure of the common opening using a TL60 linear stapler
- Elimination of excess tissue
Total gastrectomy with a Roux-en-Y

- Skeletonization of the greater and lesser curvatures
- Duodenal transection with a TLC55 linear cutter
- Placement of a purse-string suture and esophageal transection
- Specimen retrieval
Total gastrectomy with a Roux-en-Y

- Jejunal transection distal to the ligament of Treitz
- The jejunal loop is passed retrocolic and a purse-string suture is placed on its proximal end
- Placement of the anvil of a CDH21 or a CDH25 circular stapler in the esophagus
- Closure of a purse-string suture around the integral trocar and elimination of excess tissue
Total gastrectomy with a Roux-en-Y

- Distal jejunotomy
- Retrograde introduction of the device through the jejunotomy
- Joining of the device components
- Firing of the device
- Check the integrity of the esophagojejunal anastomosis
Total gastrectomy with a Roux-en-Y

- Antimesenteric jejunotomy in the distal end of the proximal jejunal segment
- The jejuno-jejuno anastomosis is made with one firing of a TLC55 linear cutter
Total gastrectomy with a Roux-en-Y

- Placement of traction and guide sutures
- Closure of the common opening using a TL60 linear stapler
- Elimination of excess tissue
Total gastrectomy with a Roux-en-Y

- Alternative technique
- Placement of the anvil of a CDH25 circular stapler in the distal end of the proximal jejunal segment
- Placement of the anvil of a CDH21 circular stapler in the distal esophagus
- Closure of the purse-string sutures around the integral trocars and elimination of excess tissue
Total gastrectomy with a Roux-en-Y

- Anterograde introduction of the device through the proximal end of the distal jejunal segment
- Joining of the components and firing of the device
- Jejunotomy and retrograde introduction of a CDH21 circular stapler
- Joining of the components and firing of the device
- Verification of the integrity of the anastomoses
Total gastrectomy with a Roux-en-Y

- Closure of the jejunotomy with a TL60 linear stapler
- Elimination of excess tissue
- Completed procedure
- The inserts show the devices used
Colon/Rectum
Right hemicolectomy:
Side-to-side ileocolostomy

» Completed procedure
» The inserts show the devices used
Right hemicolecctomy: Side-to-side ileocolostomy

- Side-to-side ileocolostomy
- Mobilization of the right colon
- Mobilization of the hepatic flexure
- Ileal transection with a TLC75 linear cutter
- The instrument is reloaded
- Transection of the transverse colon using the same device
Right hemicolectomy: Side-to-side ileocolostomy

- Antimesenteric enterotomies
- Stabilization of the tissues with Babcock forceps
- Placement of a TLC75 linear cutter
Right hemicolecctomy: Side-to-side ileocolostomy

- Firing of the TLC75 device
Right hemicolectomy: Side-to-side ileocolostomy

- Distraction of the staple lines using three traction sutures
- Closure of the common opening with a TL30 or TL60 linear stapler
Right hemicolecctionomy: Side-to-side ileocolostomy

- Closure of the mesenteric defect
- Completed procedure
Low anterior resection with end-to-end anastomosis

- Completed procedure
- The inserts show the devices used
Low anterior resection with end-to-end anastomosis

- Colorectal mobilization
- Closed specimen extraction: Proximal and distal transections with a TLC55 linear cutter
- Placement of proximal and distal purse-string sutures
- Alternative: Use of a rigid or articulating linear stapler for the creation of the rectal stump
Low anterior resection with end-to-end anastomosis

- Removal of the proximal line of staples
- Placement of the anvil of a CDH29 or CDH33
- Closure of the purse-string suture over the integral trocar
- Elimination of excess tissue
Low anterior resection with end-to-end anastomosis

- Transanal introduction of the body of the instrument

- Alternative: If a distal line of staples is present, then the integral trocar is introduced passing through it, thus eliminating the need for a distal purse-string suture
Low anterior resection with end-to-end anastomosis

- Closure of the purse-string suture around the integral trocar
- Elimination of excess tissue
- The tissues must be taut over the anvil and body of the instrument
Low anterior resection with end-to-end anastomosis

- Completed procedure
Coloproctectomy with ileal “J” pouch and ileoproctostomy

- Completed procedure
- The inserts show the devices used
Coloproctectomy with ileal “J” pouch and ileoproctostomy

- Creation of a mesenteric window close to the ileocecal valve
- Ileal transection with a TLC75 linear cutter
Coloproctectomy with ileal “J” pouch and ileoproctostomy

- Elongation of the superior mesenteric vascular arcade, in order to reach the rectal stump
Coloproctectomy with ileal “J” pouch and ileoproctostomy

- Creation of the rectal stump
- Placement and firing of an ACCESS55 articulating linear stapler 2 cm superior to the line of the crypts
- Rectal transection using the instrument as a cutting guide
Coloproctectomy with ileal “J” pouch and ileoprostostomy

- Creation of the ileal pouch
- Distal enterotomy at the end of the “J” loop
- Introduction and firing of a TLC55 or TLC75 linear cutter
- The instrument is reloaded
- The instrument is introduced again, allowing the tissues to “bunch” over the shoulders of the device, and fired again
- A purse-string suture is placed on the enterotomy in preparation for the anastomosis
Coloproctectomy with ileal “J” pouch and ileoproctostomy

- Placement of the anvil of a CDH29 or CDH33 circular stapler in the enterotomy
- Closure of the purse-string suture and elimination of excess tissue
- Transanal introduction of the circular stapler body
- The integral trocar must perforate the rectal staple line
- The instrument is fired and the integrity of the staple line is verified
Coloproctectomy with ileal “J” pouch and ileoproctostomy

- Completed procedure