



Round : General surgery

Group no : B3

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Stoma and Fistula:

Stoma:

✨ stoma is a surgically created opening that allows feces or urine to exit the body when the normal route is not possible (part of intestine we use to create this outlet.).

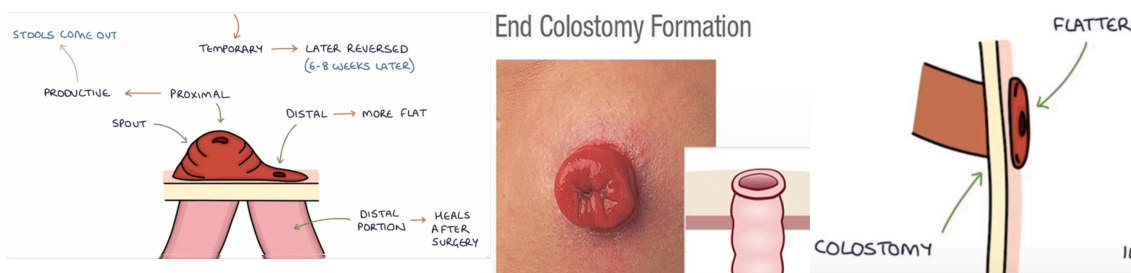
🌸 Ostomy: An opening, in the small intestine or large intestine, created as an outlet through the anterior abdominal wall (procedure itself)

Colostomy:

✨ Stoma of large intestine typically located in the left iliac fossa

✨ **End colostomy:** the end of the proximal colon is brought through the abdominal wall to drain stool, one opening, It's mainly permanent type (permanent after resection of abdomino-perineal resection (APR) because the entire rectum and anus have been removed these are usually located in the lower left abdomen)

✨ **Loop colostomy:** it's mostly **temporary**, **two** openings, mainly in sigmoid



🌸 **Hartmann's procedure:** 1-Resection of the diseased portion of the colon. Often the sigmoid colon or rectum, 2-Closure of the distal end, 3-The end near the rectum is surgically closed then creation of a colostomy. It is reversible 3-4 months later

Ileostomy:

✨ Stoma of the terminal part of small intestine

🌸 Typically located in right iliac fossa

✨ Drain more liquid stool (unlike colostomy)

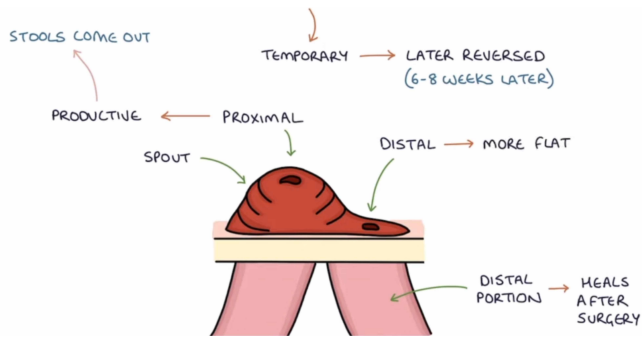
✨ Done when colon needs to be removed or rested after treatment or surgery

🌸 **End ileostomy:** permanent after panproctocolectomy (total colectomy with the removal of large bowel, rectal, anus)

🌸 **Ileoanal anastomosis (The J-pouch):** is an alternative to a permanent end ileostomy. If the anus is still functional, the J-pouch can replace the colon and rectum internally. It **reconnects the ileum and anus** so the patient can defecate normally.

Loop ileostomy: temporary diversion of stool usually to protect a distal anastomosis such as a colonic anastomosis in segmental colonic resections.

reversed around 6-8 weeks later



Brooke Ileostomy
(ileostomy folded over itself to provide clearance from skin).



✨ Urostomy: typically located in right iliac fossa

✨ gastrostomy: a surgical opening through the skin of the abdomen to stomach

Complications:

A. Early:

- Hemorrhage at stoma site
- Stoma ischemia
- High output

Obstruction secondary to adhesions

- Stoma retraction

B. Delayed:

- Obstruction
- Skin irritation around stoma site
- Stoma prolapse
- Stenosis
- Parastomal hernia
- Fistula
- Psychological problems

🌸 Skin Irritation (dermatitis): More often in patients with ileostomies rather than colostomies.
(most common complication of ileostomy)

🌸 Parastomal Hernia (Wide opening increases the risk of parastomal hernia) (should be just two fingers breadth in width) Seen in colostomy > ileostomy

🌸 Cancer is not complication of stoma

NOTES:

🌸 pre-op steps: Mark the surgical site while the patient is standing or sitting, but you should avoid marking the stoma on or below belt level, bony prominence, umbilicus, scars, skinfold, waistline of clothes

Ensure Mark is within the rectus abdominis muscle

Pros (إيجابيات): Smaller and easier to manage, Lower incidence of hernia formation and prolapse.

Permanent stoma Indications:

- Removal of the anus along with its associated musculature.
- distal rectal cancers
- Severe inflammatory bowel disease with involvement of the sphincter mechanisms
- Weak sphincter muscles and/or fecal incontinence

Temporary stoma Indications:

- Diffuse peritonitis from a perforated colon.
- High risk of anastomotic Leakage
- Not reverse before 6 week of creation
- Total mesorectal excisions, ileo-anal or colo-anal bowel anastomosis.

✨ Loop stoma (cons=سليبيات) Larger abdominal wall defect, and stoma opening more prone to develop parastomal hernias, prolapse and peristomal sepsis.

✨ double barrel stoma: two ends of the bowel are brought to the surface of the abdomen to form two separate stomas One opening (proximal end) drains out waste the other smaller end (distal end) drains out only mucus.

✨ loop-end stoma: two openings in the stoma.

The proximal end is the active opening that drains stool into a stoma bag, the distal end is

closed off. Performed in the **obese** patient where it is difficult to bring up an end stoma.

✨ Loop stomas are often reversed through a parastomal incision (easy)

✨ Hartman's stoma reversal requires abdominal cavity exploration (hard)

	Colostomy	Ileostomy	Type of ostomy	Ileostomy ²	Colostomy ³
Discharge	Formed Stool	Liquid Effluent (succus entericus). Continuous discharge. *Succus entericus (intestinal juice) the clear alkaline fluid secreted by the glands of the small intestine	Definition	Opening between the small intestine and abdominal wall, most commonly the distal small intestine	Opening between the colon and abdominal wall, most commonly descending or sigmoid colon
Stoma Opening	Flush with skin flap	Spouted (Protruding), nipple shape.	Typical location and size	Typically right abdomen and smaller size (small bowel is smaller)	Typically left abdomen and larger size
Skin Excitation	Less Common	More Common (Contains activated digestive enzymes)	Content quality	Loose, liquid stool	More often formed stool, though proximal colostomies may produce loose stool
Electrolyte Disturbances	Less Common	More Common	Typical indications	Temporary or permanent fecal diversions to bypass entire colon to manage pathologic conditions, such as congenital anomalies, bowel obstruction, IBD, traumatic disruption of intestinal tract, or GI malignancy	When it is necessary to bypass or remove the distal colon, rectum or anus , e.g. to facilitate healing of stage 4 pressure injuries, decompression in setting of obstructing lesion, and removal of the distal colon, rectum or anus because of cancer or severe infection
Parastomal Hernia formation	More Common	Less Common	Time to maturation	Approximately 6-8 weeks. During this time the stoma will become smaller	Approximately 6-8 weeks. During this time the stoma will become smaller
Frequency of Discharge	Intermittent Discharge	Almost Continuous	Image		

Fistula:

Fistula is a connection between two body parts that don't normally connect.

External Fistula(between internal organ and outside of the body) e.g. Intero continuous tuna and anal fistula

Internal fistula:e.g. 1-colovesical fistula (btw colon and bladder) The patient presents with pneumaturia, fecalurea 2-tracheoesophageal fistula e.g. Esophageal atresia with distal tracheoesophageal fistula(most common)



Management:

✨ None invasive treatment (fibrin glue,plug,catheters)

✨ Pharmacological treatment(antibiotics) note that post-op prophylactic antibiotics therapy for 7-10 days appear to be a key part of a preventing and a fistula after there a drainage of perianal abscess

Surgical treatment:

✨ trans-abdominal surgery(in cases of entero-enteric fistula)

✨ Fistulotomy: in perianal fistula

✨ Fistulectomy: in general it is not a preferred however this may be necessary if there is a high risk of recurrence

🌸 Laser surgery: in most cases it's considered to be the best and most effective surgical treatment for anal fistula

Stoma vs fistulas

	Stoma	Fistula
Definition	a surgically created opening in the abdomen to divert feces or urine to the outside of the body, to compensate for partial or complete loss of bowel function.	A fistula is an abnormal communication between two epithelial-lined surfaces
Classification	according to time ,origin or method of constriction	Anatomical
Indication and etiology	- Colostomy - Ileostomy	- Trauma (post op 80%) - Crohn's disease - Congenital - Heal spontaneously(50%) - Nutritional support - Skin protection - Sepsis control - Decrease of fistula output - Operative treatment
Management	Stoma reversal : Temporary stoma only After original surgery has healed (at least 2 months) OR 6 weeks	

Name the diagnostic modality:

40-year-old male with history of passing air with his urine
CT scan looking for colocystic fistula usually from diverticulitis

What is the correct diagnosis

21-year-old s/p GSW to abdomen with small bowel resections
develops tachycardia, fever, and green bilious wound drainage
Anastomotic leak and enterocutaneous fistula