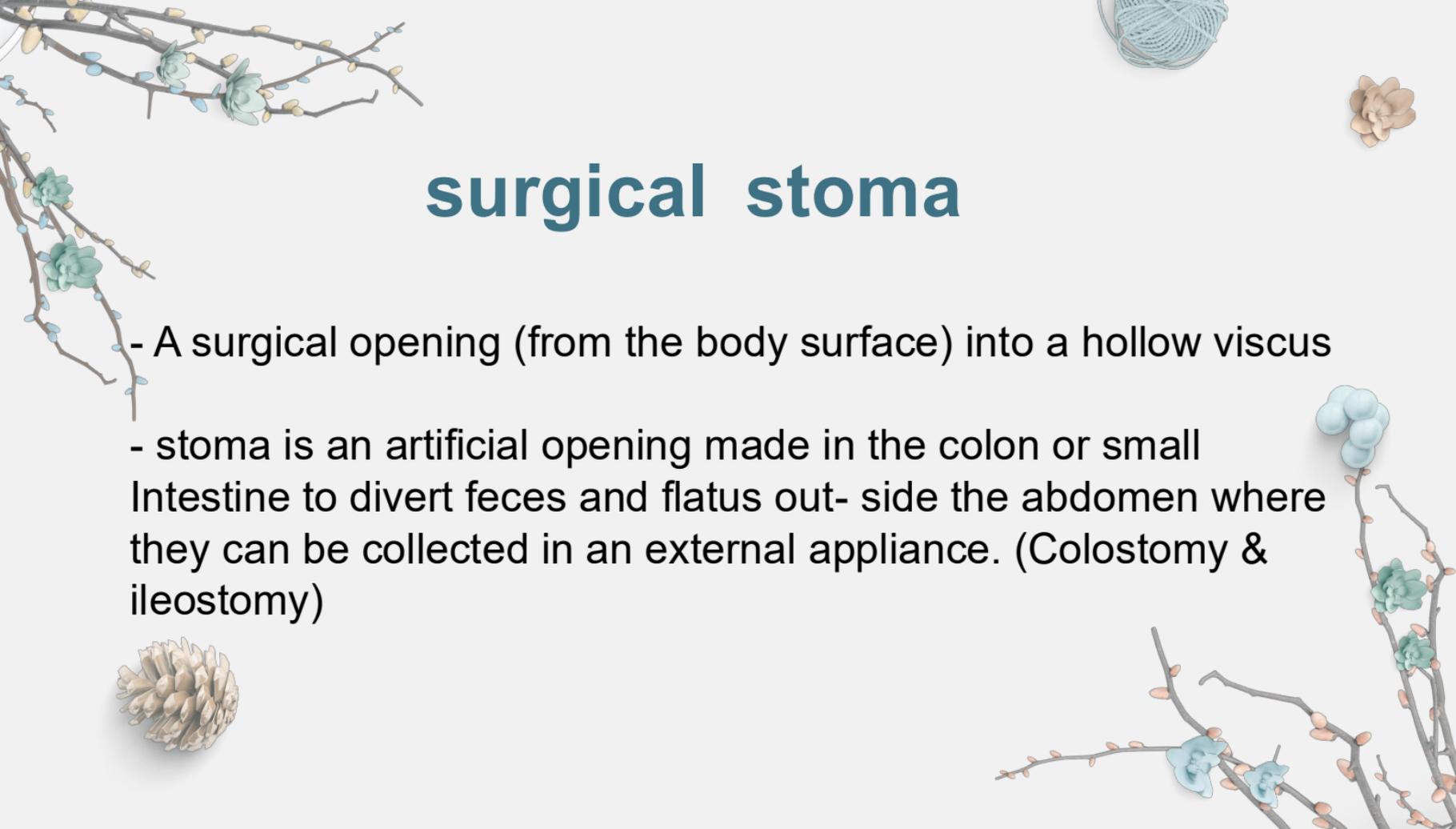
The slide features several decorative elements: a branch with blue buds and a light green flower in the top left; a ball of light blue thread in the top right; a brown flower in the top right; a light blue flower with a diagrammatic center in the middle right; a branch with orange buds and a light green flower in the bottom right; and a pine cone in the bottom left.

GI stoma

Supervised by :Dr.Mahmoud
Awaishah

Presented by :
Sewar Dmour
Ayat Maaitah
Sura Dmour



surgical stoma

- A surgical opening (from the body surface) into a hollow viscus
- stoma is an artificial opening made in the colon or small Intestine to divert feces and flatus out- side the abdomen where they can be collected in an external appliance. (Colostomy & ileostomy)



Types

- According to the **length of time to be used**:

- 1- Temporary stoma

- 2- Permanent

According to **the method of construction**:

- 1- End stoma: single

- 2- loop stoma: two openings connected to the same mucosa
(not skin)

- 3- Double barrel

According to the **origin**:

- 1- Colostomy

- 2- Ileostomy

- 3- Gastrostomy

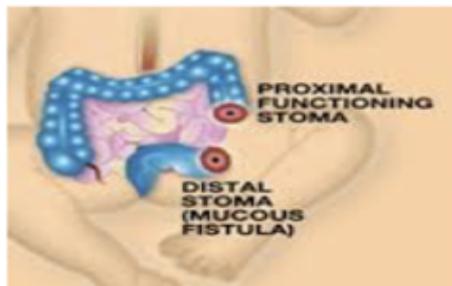
- 4- Jejuostomy

- 5- Esophagostomy

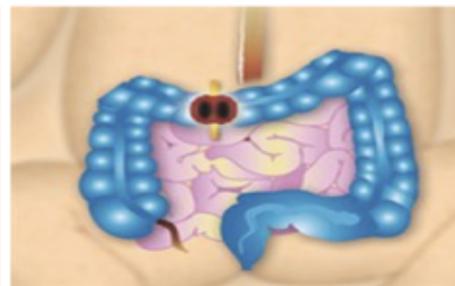




End Stoma



Double-barrel Stoma



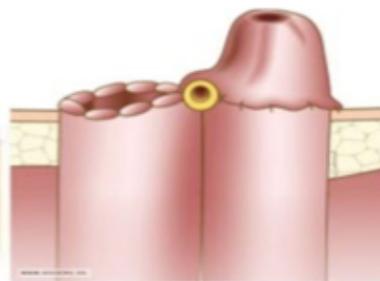
Loop Stoma



End stoma



Loop stoma



Double-barrel stoma





Indications for stoma:

- inflammatory bowel disease
 - ulcers
 - polyps
 - Cancers: - Colonicarcinoma -Rectalcarcinoma
 - Disorders of bowel function — Hirschsprung's disease
 - Accidental injury
 - Congenital deformities of anus and rectum
 - Operative:
 1. distal anastomosis
 2. distal repair
 3. Hartmann's operation
- 

Normal stoma :

- Above the skin level
- Red and moist
- Normal surrounding skin
- it has no nerve endings, so it is not painful to touch as no nerve endings, so it is **not painful** to touch.





Choosing a stoma site

- The **optimum site of stoma** will depend on the type of stoma, previous incisions, scars, the patient's build, and clothing habits
- The **optimum stoma site** must be accessible, visible, and comfortable to the patient.

A stoma site should have the following criteria:

- It should be at least 5 cm away from the planned incision line **to reduce the risk of prolapse, hernia, and stoma retraction** .
 - The stoma site should be **away from creases, scars, the umbilicus, and bony prominences** .
- 



Examination of patient presenting with intestinal stoma

• 1 – Inspection :

- site : RIF , LIF
- Number of opening
- Color : Red , black
- Output : volume + consistency
- Surrounding skin : clean and dry
- Spout : present or not
- Any evidence of complication : hernia, prolapse ,,

• 2 – palpation :

- Feel around the stoma site for any tenderness
- Ask patient to cough and feel for a cough impulse for any parastomal hernia

• 3 – Auscultation :

- Auscultate for bowel sound





Digital examination of stoma

- It includes the insertion of a gloved lubricated index finger into the **stoma lumen**.
 - At times, this may be all that is needed to **relieve an obstruction** due to adhesions or fibrosis.
 - The removed gloved finger is then inspected for feces, blood or mucus.
- 



Ostomies and preoperative stoma planning

- PRE-OPERATIVE NURSING CARE
- Psychological preparation: Assure the patient that 'Ostomy' can be cared for without it interfering with daily activities and social life
- Nutrition: A low residue diet is given for at least 1-2 days prior to the surgery.
- Care of the Bowel: "Sterilization" of the bowel prior to surgery to reduce bacterial flora can be achieved through administration of poorly absorbed antibiotics such as neomycin 1gm 4 hourly for 1-3 days;
- Laxatives and enema may be done





POST-OPERATIVE NURSING CARE

- Skin Care: Assess skin for sign of irritation or breakdown; apply skin barrier paste.
 - Control of Odor: control odor by a clean odor free, well-fitting appliance; regular change of bag, cleaning
 - Applying an ostomy appliance: The stoma must be measured so that the right size appliance can be chosen. The pouch attaches over the stoma and is fastened unto the faceplate.
 - Medications: Some medications or nutritional supplements may change the color, odor, or consistency of stool just like before surgery. Patient education and post-medication observation are therefore necessary.
- 



(1) Ileostomy

- Definition: is an spouted artificial opening (usually in RIF) made in the any part of the mid or distal small intestine to divert feces and flatus out- side the abdomen (fluid Output: continuous) where they can be collected in an external appliance.
 - The best site is usually through the lateral edge of the rectus sheath, above and medial to the bony prominence
 - Ileostomies are positioned spouted to the skin (no (no flush, 2-3 cm) because the enzymes present in small bowel contents are more alkali and, therefore more irritating to the skin.
- 



Types

- A. Loop ileostomy (Temporary):
 - o often used for non-functioning low rectal anastomosis or an ileal pouch
 - o A knuckle of ileum is pulled out through a skin trephine in the right iliac fossa.
 - o in these cases, the stoma will have two openings, although they'll be close together and you may not be able to see both.
 - o The advantages of a loop ileostomy over a loop colostomy are the ease with which the bowel can be brought to the surface and the absence of odour
- 



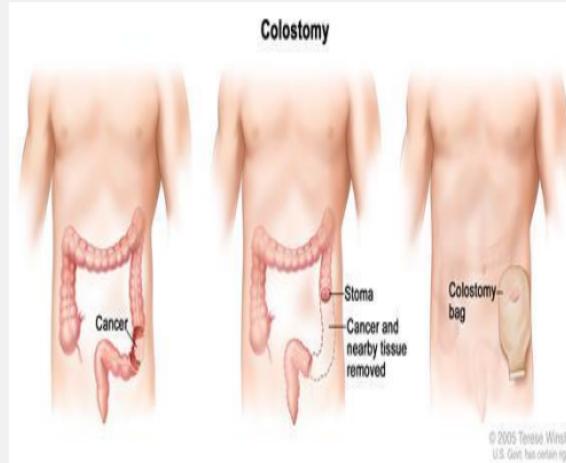
- B. End ileostomy (Can be permanent or temporary, but most likely permanent):
- sometimes required after total proctocolectomy or in patients with obstruction or After a subtotal colectomy without anastomosis when it may later be reversed
- The ileum is normally brought through the rectus abdominis muscle.

- While ileostomy output can amount to 4 or 5 liters: per day, losses of 1-2 liters are more common.
- consistent ileostomy output in excess of 1.5 liters Is usually associated with dehydration and sodium depletion in the absence of intravenous therapy.



(2) Colostomy

- Definition: is a planned opening made in the colon to divert feces and flatus outside the abdomen (**solid or semisolid Output: episodic, not continuous, Bad odor**) where they can be collected in an external appliance.





1 - According to anatomical location colostomies are :

- 1- end sigmoid colostomy : left iliac fossa
 - 2- end descending colostomy : left iliac fossa
 - 3 – transverse colostomy : above and right to umbilicus
 - 4 – caecostomy : right iliac fossa
- 



2 – according to duration :

Temporary colostomy:

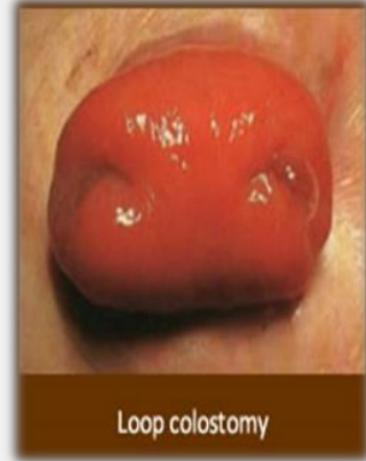
- May be required to give a portion of the bowel a chance to rest and heal. When healing has occurred, the colostomy can be reversed and normal bowel function restored.

Permanent colostomy:

- May be required when a disease affects the end part of the colon or rectum .
 - patients with distal rectal cancers who require an abdomino-perineal resection.
 - Severe “inflammatory bowel disease” with involvement of the sphincter mechanisms
 - Weak sphincter muscles and/or fecal incontinence that’s not responding to other treatments.
- 

1) Loop colostomy

- is made by: bringing a **mobilized loop** of colon to the surface, where it is held in place by a plastic bridge passed through a mesenteric window created just at the junction with the colon.
- Once the abdomen has been closed, the colostomy is opened, and the edges of the colonic incision are sutured to the adjacent skin margin.
- When firm adhesion of the colostomy to the abdominal wall has taken place, the bridge can be removed.
- Most commonly used as **temporary colostomy** done on **transverse colon** in emergencies
- Following healing of the distal lesion for which the temporary stoma was constructed, the colostomy can be closed.





- Advantages: Easy reversal

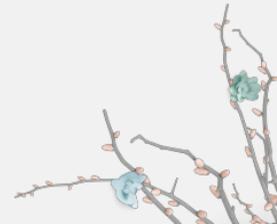
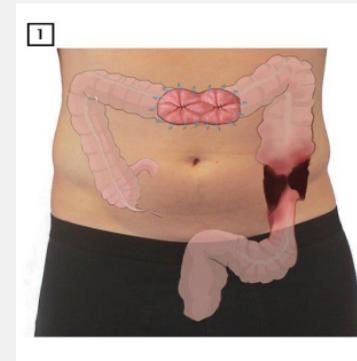
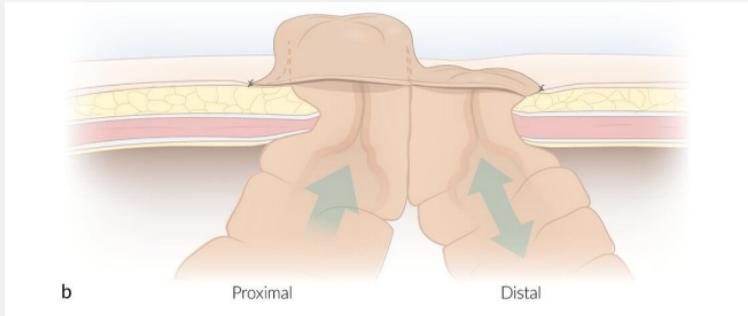
- Disadvantages:

1. Larger abdominal wall defect, and stoma opening

2. More prone to develop parastomal hernias, prolapse and peristomal sepsis.

It is now less commonly employed, as it is difficult to manage and potentially disrupts the marginal arterial supply to the anastomosis.

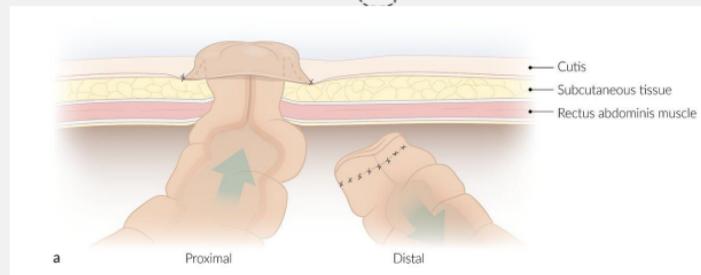
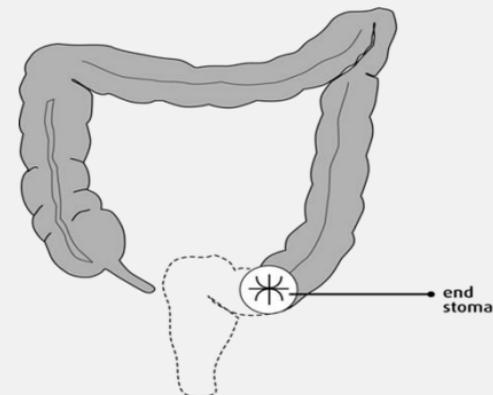
(A loop ileostomy is now more commonly used)



2. End colostomy

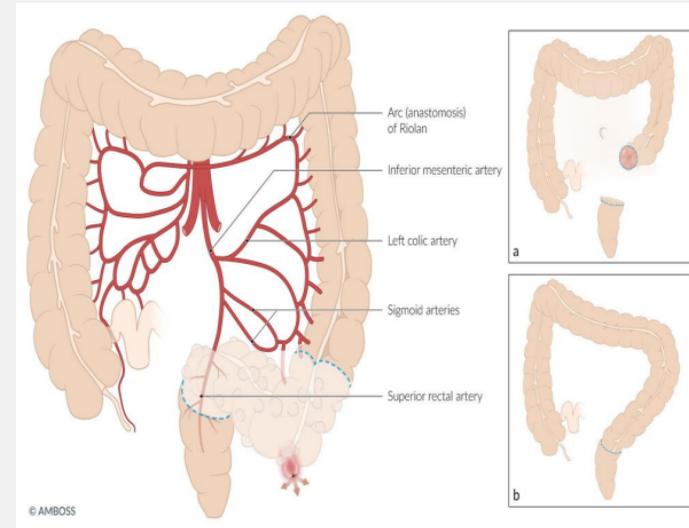
- This is formed after an **abdominoperineal excision** of the rectum or as **part of a Hartmann's procedure**
- The proximal end of transected colon brought to the skin for stool drainage.
- **Single opening (permanent usually)**
- The site usually in the left iliac fossa.
- Smaller and easier to manage.
- Lower incidence of parastomal hernia formation and prolapse.

End Stoma



Hartmann's operation

- The surgical resection of the rectosigmoid colon followed by creation of an end colostomy with closure of the rectal stump. Usually an emergent temporary procedure to treat bowel perforation, infection (e.g., diverticulitis), or obstruction if primary anastomosis is deemed unsafe.
- Then surgical re-anastomosis with restoration on intestinal continuity (~6 months following initial operation)
- Can be permanent when carried out as a palliative measure for colon cancer



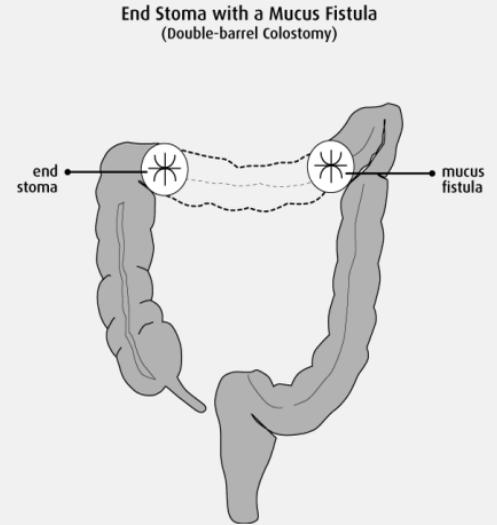
3) double-barreled colostomy

- Has two ends are brought out into the abdomen as 2 separate stoma:

1 - (proximal end) functional stoma: which is still connected to the gastrointestinal tract and will therefore drain stool.

2 -(distal end) : non- functioning (mucus fistula); connected to the rectum

- Used in temporary diversion – when resection of section of colon has occurred but the patient is too ill to undergo a safe reanastomosis





Stoma bags and appliances:

- stoma output is collected in disposable adhesive bags.
 - Ileostomy appliances tend to be drainable bags, which are left in place for 48 hours,
 - while colostomy appliances are simply changed two or three times each day.
 - A wide range of such bags is currently available. Many now incorporate an adhesive backing, which can be left in place for several days.
- 



	<i>Ileostomy</i>	<i>Colostomy</i>
Site	RIF	LIF
shape	Spouted	Flush
Effluent	Fluid - small bowel	Solid , semi-solid contents - large bowel
output	Continuous (higher)	Episodic (lower)
Appliances	Drainable - every 48 h	Disposable - changed 2-3 times a day
Electrolytes disturbance	More common	Less common
skin irritation	More common	Less common
Bad odor	Less	More





Complications

- I. **Intraoperative**— occurring immediately in the operative room.
 - II. **Early**— occur 1–30 days after surgery.
 - III. **Late**— occur after more than 1 month of surgery.
- 

Peristomal dermatitis

- It is the most common stoma complication. It is characterized by skin irritation around the stoma.

causes

1. Chemical / irritant

irritation of the skin by feces, contact or products used in ostomy care which may be corrosive

2. allergic

contact allergy due to the nature of the chemical component of the pouch in contact with the skin

3. mechanical

trauma by pouch withdrawal-induced trauma or by compression of the fixation belt

4. infectious

bacterial or fungal skin infection caused by humidity and effluent from gut making the peristomal skin more vulnerable to microorganisms' proliferation.

Diabetic, immunocompromised, and long-term use of antibiotics increase the risk of infectious dermatitis in patients with intestinal stomas

- The most common symptoms are **itching**, **burning sensation**, and **pain**.



management

Irritant dermatitis:

- Clean with mild soap/water
- Protect with barrier creams/powders
- Adjust appliance fit

Allergic dermatitis:

- Identify and remove allergen
- Use hypoallergenic products

Fungal infection (Candida):

- Apply topical antifungal cream or powder
- Keep area dry

- The use of **azoles** is the best first-line treatment.

- If antifungal treatment does not clear the problem, it is likely to be bacterial, and an **antibacterial powder** is indicated such as sucralfate powder.

Para/peristomal contact allergic dermatitis

Para/peristomal contact allergic dermatitis is an inflammatory and typically demarcated skin reaction due to hypersensitivity or allergy resulting from contact with a product.



Para/peristomal Irritant dermatitis

Para/peristomal Irritant dermatitis is inflammation, erosion or ulceration due to sustained contact with stomal effluent.



Para/peristomal medical adhesive related skin injury (MARSi)

Para/peristomal medical adhesive related skin injury (MARSi) is persistent erythema, vesicle, bulla, erosion, ulceration or tear that occurs as a result of application or removal of adhesive products. The term refers to conditions that are related to application and/or removal of medical adhesive products such as tension blisters and skin stripping.



(2) Necrosis/Ischemia

- Necrosis may occur when the **blood flow** to or from the stoma **is impaired or interrupted**, resulting in severe tissue ischemia with **impairment of stoma** viability or **tissue death**.
- Initially the mucosa turns pale evolving to a **purple**, **brown**, and **black** color. The consistency becomes soft or hard and dry with loss of the characteristic brightness of a normal mucosa.

causes

- tension or stripping .
- Sutures too narrowly spaced, or constricting sutures.
- embolization.
- Abdominal structure anomalies

management

- In cases of **superficial or partial** mucosal necrosis **observation** is the best approach.
- In cases of **deep mucosal necrosis**, a **surgical intervention** is indicated.



Partial necrosis



Extensive necrosis

Retraction

- A retraction of the stoma occurs when the stoma lays flat to the skin or below the skin surface level.
- can be **partial** or **complete**.
- can occur **early** or **late**.

causes

Exteriorization of intestinal loop under **tension**, **insufficient stomal length**, **poor fixation of the loop to the abdominal wall**, or **lack of stoma support**.

- Secondary to **abdominal structure anomalies**.
- The **premature removal** of the loop device to support the intestine outside the abdominal wall.
- **later scar formation**

consequences

- Patients with retracted stomas present with **effluent undermining the pouching system**, **persistent leakage**, **shortened pouch wear time**, and resultant **peristomal irritant dermatitis**.



management

- **Conservative treatment** with **convex devices** attached to the belt and **protective skin pastes**.
- **Surgical intervention (stoma revision)**.

Prolapse

Is the **telescoping** of the bowel out through the stoma.

Prolapse can be **partial** or **complete**, and either the **distal** or the **proximal** segment of the loop ostomy may prolapse.

Can be classified as **sliding** or **fixed**

causes

- Weak abdominal wall
- Creation of excessively large opening in the abdominal wall.
- Positioning the stoma out of the rectus abdominal muscle.
- Postoperative increase of the abdominal pressure.
- Bowel edema.
- Inadequate fixation.

clinical manifestation

Makes the stoma **longer and more susceptible to abrasion or infection.**

Makes the patient's ability to **conceal the stoma beneath clothing difficult.**

Makes the stoma **more susceptible to bleeding** and **more prone to trauma.**

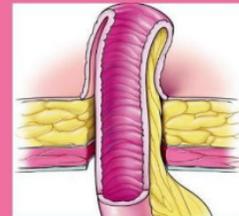
A prolapsed stoma could also become **obstructed.**

management

- **Conservative management.**
- **Surgical correction** of prolapse



WHAT IS A STOMA PROLAPSE?



A stoma prolapse occurs when the stoma (the part of the intestine sewn to the abdominal wall) protrudes / telescopes further out of the body than is normal. The extent of the prolapse can range from 1-2 inches to 5+ inches.

Parastomal hernia (PSH)

A protrusion of the bowel or loops of intestine through the fascial opening into the subcutaneous tissue around the stoma.

may be partial or circumferential.

The hernia change in position.

Occurs months to years after surgery because of surgical technical error or following gradual enlargement of the fascial defect.

risk factors

- Intra-abdominal pressure.
- Advanced age.
- Obesity.
- Chronic cough.
- Long-term use of corticosteroids.

clinical manifestation

- Most patients are asymptomatic.
- Symptoms include mild peristomal discomfort, stoma appliance issues with leaks and skin irritation , obstruction, and strangulation.

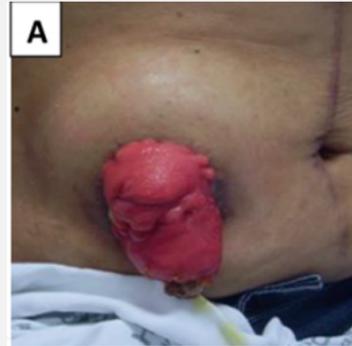
management

CT scan with oral contrast confirms the diagnosis.

Asymptomatic patients can be treated conservatively.

If signs of obstruction, incarceration, perforation, or recurrent pouching difficulties are present, the patient should be referred to a surgeon.

Surgery repair of parastomal hernia can be done by fascial repair, prosthetic mesh, or stoma relocation.



stenosis

Is a **stricture** or **retraction** of the stomal opening.

The symptoms include **abdominal excess of gases**, frequent **cramps** and **diarrhea**, as well as **thin feces**.

causes

- **Inadequate excision** of the skin during construction of a stoma or poor stoma site.
- Stomal **ischemia**, **necrosis**, or **retraction**.
- Recurrent disease.
- Recurrent episodes of **skin irritation**.
- **Weight gain**.
- **Radiotherapy**.

management

The best option for the treatment of this complication is **surgery**.





Gastrostomy

- **Definition:** An opening in the stomach made surgically, usually connecting the stomach to the outside of the abdomen so that a feeding tube or gut decompression tube can be passed into the stomach.

Indications:

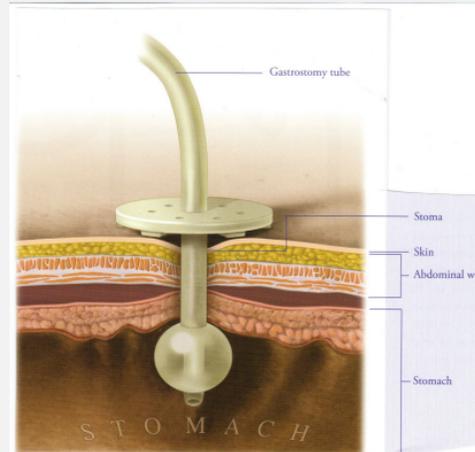
- Neurological swallowing disorders e.g cerebral palsy, multiple sclerosis etc
 - Esophageal stricture or atresia
 - Esophageal cancer
 - Gastric outlet or small bowel obstruction
 - Major neck surgeries
 - Any condition which requires prolonged tube feeding for > 4weeks.
- 

Types

- Open gastrostomy
- Percutaneous endoscopic gastrostomy (PEG)
- - The principle of a sutureless approximation of the stomach to the anterior abdominal wall has allowed the pull technique
- Reduced morbidity and mortality compared to open.

Complications

- 1) Infection
- 2) Trauma to other structures eg colon
- 3) Hemorrhage
- 4) Leakage
- 5) Blockage
- 6) Aspiration pneumonia
- 7) Displacement of tube





Jejunostomy

- **Definition:** jejunostomy tube (J-tube) is a soft, plastic tube placed through the skin of the abdomen
- into the midsection of the small intestine. The tube delivers food and medicine until the person is
- healthy enough to eat by mouth.

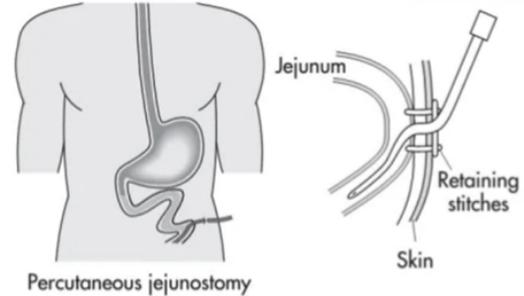
Indication:

- Gastric outlet obstruction
 - Gastric enteral feeding is contraindicated
 - Central nervous system disorders
 - Chronically ill
- 

Complications

- Minor bleeding from the site
- Local infection
- Granulation tissue formation
- Tube dislocation
- Obstruction or migration of the tube
- Intra-abdominal abscess
- Enterocutaneous fistulas
- leakage from the catheter
- Perforation of the small intestine
- Electrolyte disorders
- Vitamin, mineral and trace element deficiencies

Percutaneous jejunostomy



The percutaneous jejunostomy tube is inserted into the jejunum via the abdominal wall, endoscopically (percutaneous endoscopic jejunostomy, PEJ), radiologically or surgically. They are held in place either externally with stitches or internally with a flange or Dacron cuff.



(5) Esophagostomy

Definition: This procedure can be performed as a temporizing procedure for an esophageal

- perforation when a primary repair cannot be performed.
- Cannot use in excessive vomiting (contraindication)

Indications:

- Esophageal perforation in patients too ill to tolerate thoracotomy
 - detection of esophageal perforation or suture line breakdown at a time too late to permit
 - primary repair.
 - benign or malignant obstruction of the esophagus associated with persistent pneumonitis.
- 

Complications:

- Vomiting
- Scratching at the tube and bandage
- Patient removal of the tube
- Inflammation
- Infection at the wound site and
- Mechanical issues

