

Surgical Stoma

hollow organ (lumen) → parenchymal

Stoma: surgical opening connecting lumen of a hollow organ (ostomy: surgery) to the abdominal wall. (A man-made fistula). or just connecting the two hollow organs. (ileocejunostomy)

This allows bypassing the distal parts.

→ Stoma inspection

→ Site

→ Direct or indirect (ostomy tube)

→ Temporary or permanent

perforation ⚠️ peritonitis

Bowel obstruction

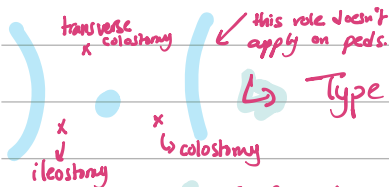
Post-op.

→ By checking the anal opening.

If sutured. APR: Abdomino perineal resection.

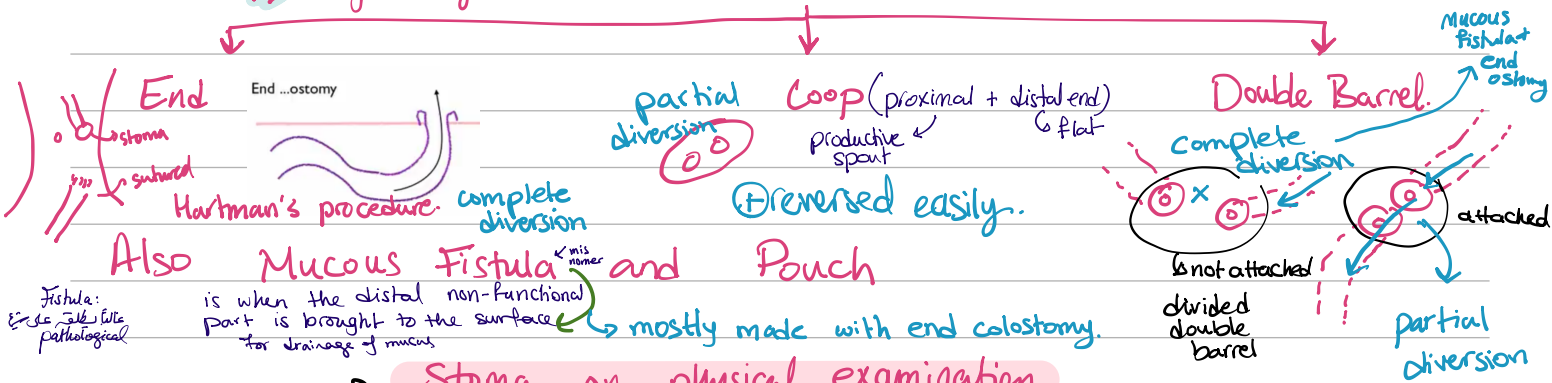
→ permanent ileostomy → Panprocto colectomy in the cases of FAP, IBD. OR Ileoanal anastomoses

→ Obstructive Colorectal tumours (non-resectable), Neurological, Fecal incontinence, congenital abnormalities (cloacal imperforate anus)



→ Type of the hollow organ: ileostomy, colostomy, jejunostomy or urostomy → cystostomy → ileal conduit.

→ Configuration of stoma



→ Stoma on physical examination

Check for

Ischemia

Bleeding

Prolapse

Retraction

⚠️ Black, necrotic → deep

⚠️ Beefy Red.

superficial → ↑ no. of stitches

Normally: Shiny pink flesh.

→ Dehydration + Electrolyte imbalance

→ Skin irritation. severe dermatitis

→ leakage (to the abdominal cavity).

Hernia

Stricture (stenosis)

→ Tight fascia or rectus sheath
→ Intraabdominal twist.

parastomal hernia of bowel loops

⚠️ Incarcerated strangulation.

Test by inspection: wiggle or tug catching

→ loose fascia

→ Indications for Stoma:

Surgical or PEG: Percutaneous Endoscopic Gastrostomy

① Feeding

Indirect Ostomy

↳ Gastrostomy tube (G-tube)

↳ Jejunostomy tube (J-tube)

② Defunctioning (Crohn's, UC, cancer, obstruction)

③ Fecal diversion (Allow to heal after anastomoses).
Allow for decompression.

→ Stoma bag (translucent / opaque)
Stoma base.

⚠ watch for contents, volume, color.

Ileostomy

Right iliac fossa (mostly)

Spout = Brooke Ileostomy.

↳ Urine / fluid cause skin irritation.

dark green fluid.



Higher risk of dehydration

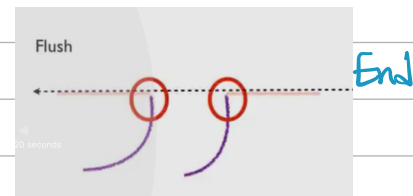
Colostomy

left iliac fossa (most commonly)

Flatter

↳ solid material doesn't cause that much of skin irritation.

Normal fecal material



→ Criteria for the site of stoma:

→ away from skin infection or irritation site.

→ accessible for the patient.

→ away from skin folds.

→ suitable for wearing keep/pjs with it

If there's high potential of stoma formation during surgery, patient should be priority informed, and the potential site should be determined.

Why stomas don't close? →

1. Purposeful Surgery

- The surgery intentionally redirects the bowel to the skin, and the opening (stoma) is supported by sutures and surrounding tissues. It is designed to stay open so that waste can continue to exit the body, preventing complications from blocked or damaged intestines.

2. Absence of Normal Healing Mechanisms

- Normally, wounds in the body heal by tissue regrowth and closure. However, in an ileostomy or colostomy, the stoma itself is lined with intestine tissue, which doesn't "heal" shut like skin or muscle would. The intestines are not meant to close or seal over by nature of their function and structure.

3. Continual Stool Passage

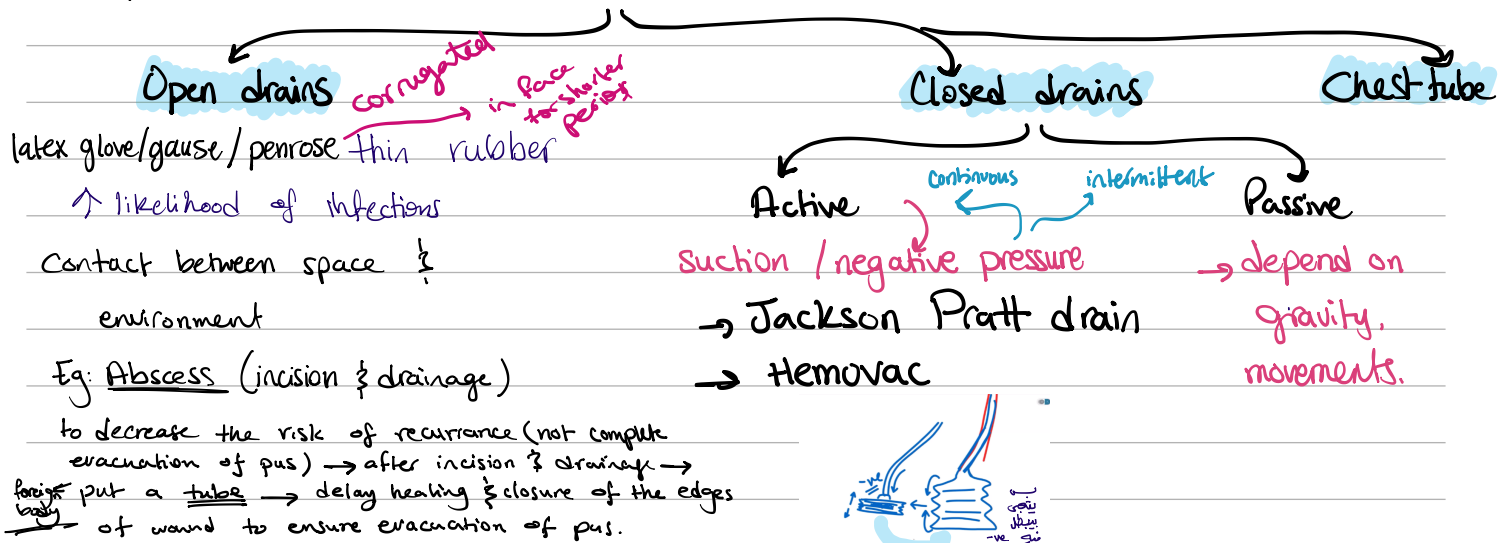
- Waste materials (stool) continue to pass through the stoma regularly, which would prevent natural healing even if it were otherwise possible. Constant stool flow also creates an environment that is not conducive to tissue healing or closure.

Surgical Drains

* Abdominal drain:

- Site.
- Indication
- progression / regression in volume.
- Contents (volume, color).
- Indication for drain removal.

* Drains :



→ Indications

Post operative

prevent fluid pressure that may hinder healing process

prevent hematoma or seroma formation.

Abscess or infection

management

removal of pus and manage peritonitis.

(prevent infections)

Post trauma

Prevention of blood collection (hematoma)

4. Drain Management and Removal

- Monitoring Drain Output:** Medical staff closely track the color, consistency, and volume of drainage to ensure it decreases over time and doesn't indicate complications (e.g., blood clots or bile).
- Drain Care:** The site where the drain enters the skin must be kept clean and dry to prevent infection. This is typically done with sterile dressings.
- Drain Removal:** Drains are typically removed once the output is low enough, indicating that the body is healing and no longer producing excess fluid. Removal is usually a quick process done by the healthcare team.

→ or when the indication is no longer there

→ for eg. we put a drain to make sure there's no leakage after cholecystectomy 2 days after the drain bag is empty → no indication removal

Chest tube

Thoracostomy Tube

Accumulation
inside
chest
cavity

greenish
yellowish
↓
infection

or clear
↓
pt's
flushing

Empyema

Hemothorax

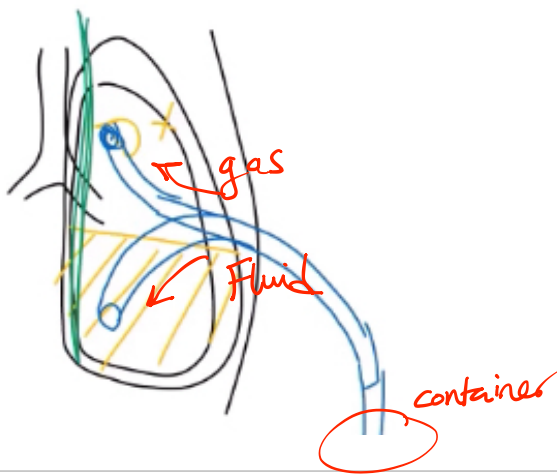
pneumothorax

pleural effusion (transudate (Exudate)).

Chylothorax (leak of thoracic duct : penetrating
or blunt trauma (iatrogenic))

Esophageal perforation → food particles, dirt.

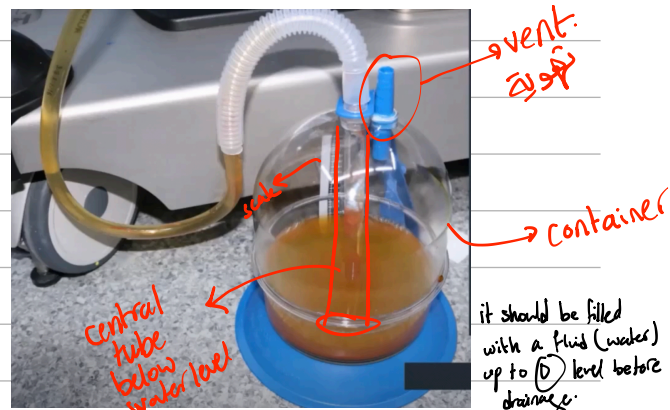
Great vessels or heart injury
lung parenchyma injury,



→ Pleural cavity has negative pressure $(-5 \rightarrow -10) \text{ cm H}_2\text{O}$

→ It should ensure one way valve not to cause iatrogenic pneumothorax.

→ Water seal is always a mandatory procedure to prevent iatrogenic pneumothorax.



→ Initial Assessment that the system is functioning

- Increasing in amount on scale
- change in color.
- Oscillation (upward & downward movement of contents w/resp.)

* Fluid Drainage :- (Closed if no directional change) (if direction changed open).

→ ① Passive drainage through gravity.

& ② Active drainage through chest physiotherapy

↳ deep breath → ↑ inflation → drain extra fluid from chest cavity

* But during expiration, chest cavity is now more negative (shrinkage)

but no backward suction occur, only fluids will

go up but they won't be back into chest due to the weight of fluids.

* IF the container was held above the level of patient especially during expiration that could lead to backward flow, especially through open vent (Here, there's no actual valve) → Directional
* Gas Drainage (closed)

→ Actively: Full inflation of lung. one way valve.

* But here the air won't come back as there is the water acting as a valve → under water Seal

↳ what happens through expiration is normal oscillation

① → Excessive Bubbling → ① Air leak
② Fistula (Bronchiolo pleural)
(Broncho pleural)
↓
pathological

insert in safety triangle

