Intestinal stoma & it's management

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Napoleon Bonaparte

- French military leader- during the French Revolution.
- Rumoured to have had a stoma.
- Seen to be holding his right hand over his abdomen, believed to be a way of concealing his goat bladder ostomy bag!
- French Emperor– 1804-1814.

Dwight Eisenhower

- The 5-star general & 34th President of the United States of America.
- Diagnosed with Crohn's disease mid-way through his 8-year presidency.
- He received an ileotransverse colostomy in June 1956.

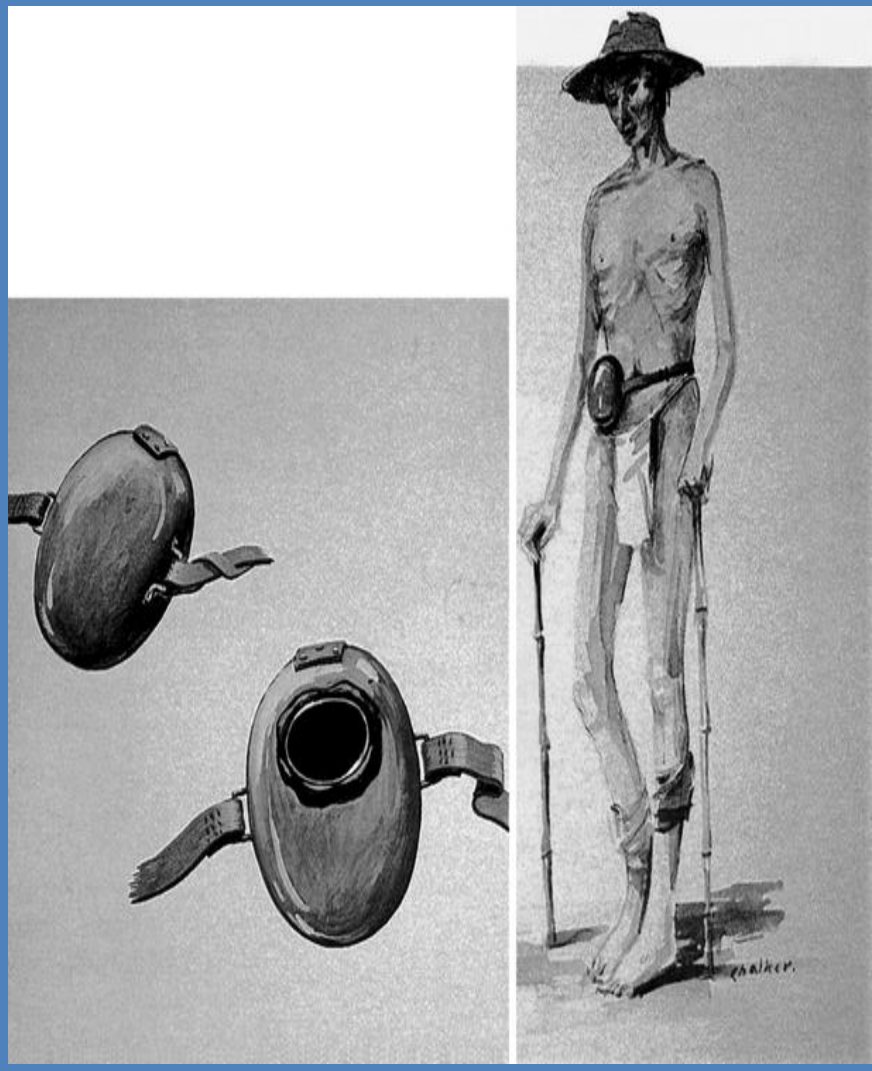
Elizabeth the Queen Mother

- Rumoured that The Queen Mother had a colostomy.
- Diagnosed with colon cancer in 1967 at the age of 66.
- She survived and died 35 years later in 2002, aged 101, from natural causes.

Love your stoma

History of intestinal stomas-

- In 1710- spontaneous stoma due to strangulated hernia.
- The 1st surgically constructed stoma by Littre in 1710--colostomy for imperforate anus (deceased child).
- The 1st successful colostomy on a live patient in 1793.
- The ileostomy was 1st advocated in ulcerative colitis in 1912.
- Everted ileostomy technique that protects the skin in 1952.



Preoperative considerations

Counselling-

- Its necessity.
- Its type.
- Its management.
- Appliances & stoma related product.
- Read materials, videos, websites.
- Contact pt with stoma.

Stoma marking-

- By enterostomal therapist.
- Surgeon (in emergency).

Stoma care management

Team approach-

- Stoma therapist nurses.
- Medical staffs.
- Patient.
- Carers.
- Family.

Practical support.

Psychological support.

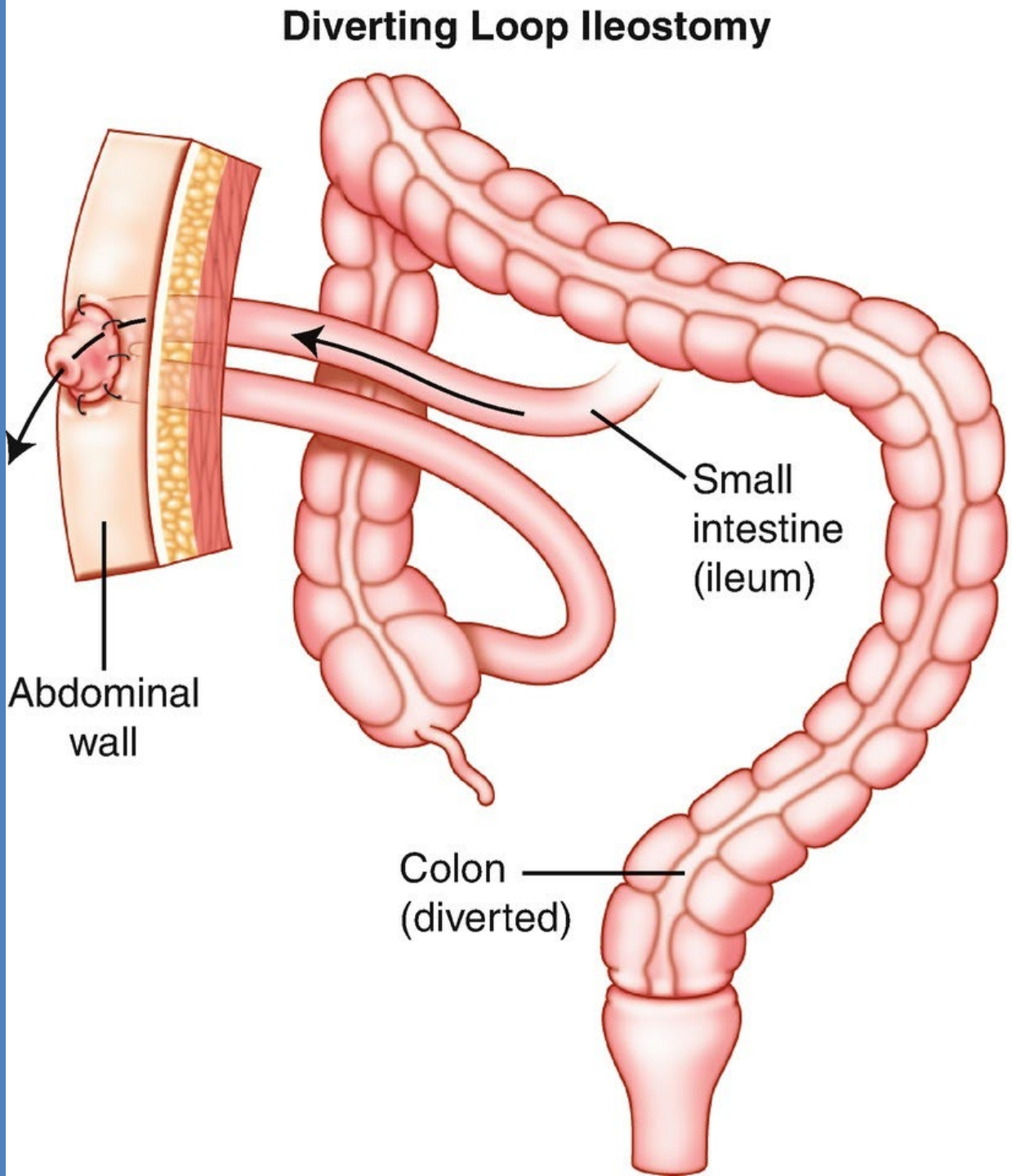
Preoperative preparation eg- siting.

Post operative support & education.

Aim-

- Make the patient an Expert in stoma management & adapts it to life.

- Covering stoma.
- Diverting stoma.
- Defunctioning stoma.



Indications of stoma

- Anastomosis below peritoneal reflection-
  - Low colorectal.
  - Coloanal.
  - Ileoanal.
- Severe malnutrition-
  - Albumin-< 2gm/dl.
  - Wt loss >15%.
- Significant immunosuppression-
  - Prednisolone->40mg/day
  - CT
  - RT
  - Anti TNF.
- Obstruction.
- Perforation.
- Comorbidities.
- Haemodynamic instability.
- Peroperative severe blood loss.
- Purulent peritonitis.
- Neoadjuvant therapy- 1 end should be free from irradiated bowel.

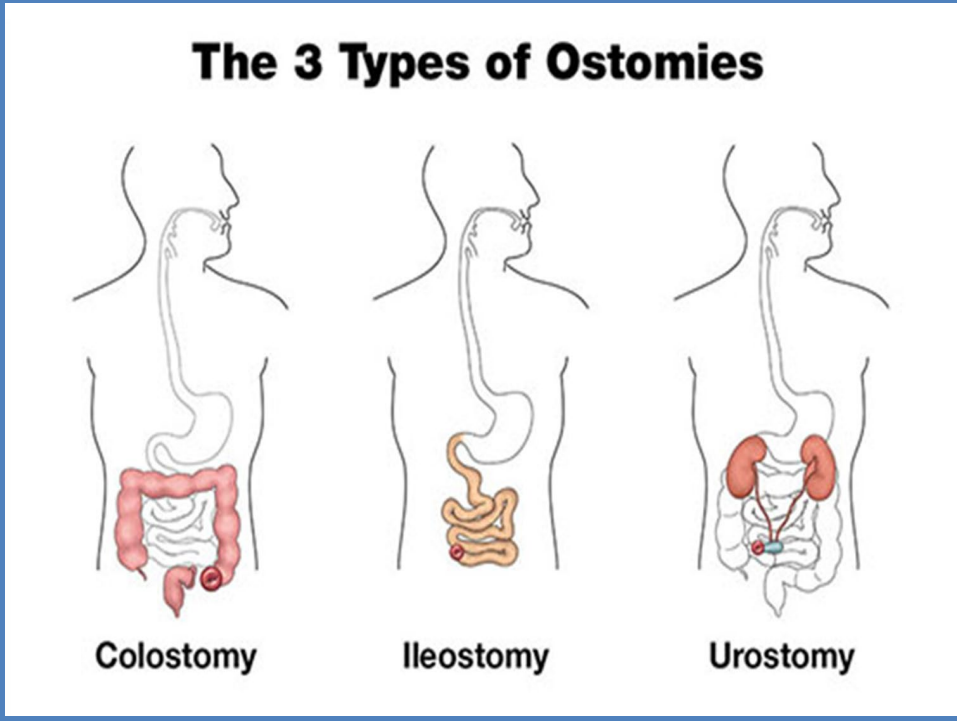
Types of stomas

Intestinal stomas-

- Gastrostomy.
- Jejunostomy.
- Ileostomy.
- Colostomy.

Urological-

- Nephrostomy.
- Urostomy.
- Cystostomy.



Intestinal stoma

Ileostomy-

- Loop.
- End.
- Continent- Koch’s pouch.
- Ghost ileostomy.
- Cannulla ileostomy.

Colostomy-

- Loop.
- End.

Loop ileostomy

Brooke's stoma-

- Eversion of full thickness mucosa & suturing to adjacent dermis.

Conventional stoma-

Serosa to skin-

- Serositis.
- Ileostomy dysfunction.

Proximal spouting.

- 2-3 cm from skin surface.
- Why?

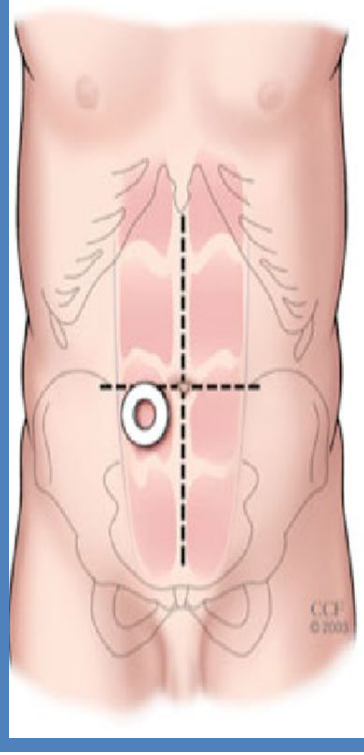
Distal flush.

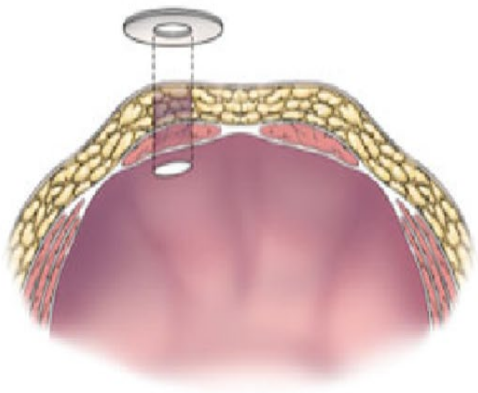
Trephine stoma-

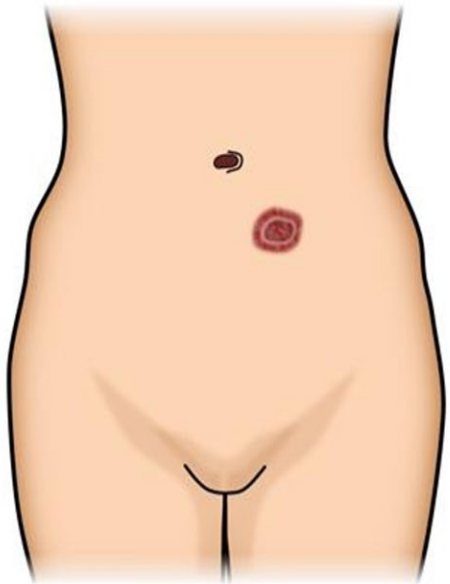
- Requiring a stoma but not a laparotomy.

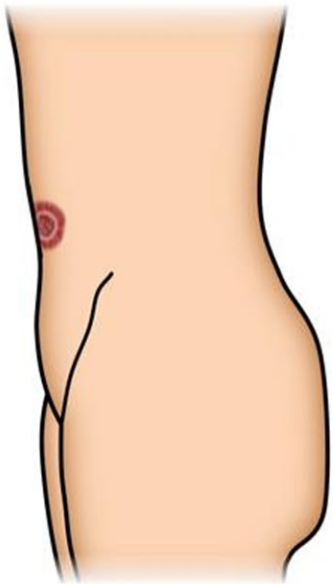
Indication-

- Obstruction not suitable for laparotomy.
- Carcinoma rectum with impending obs. before NACRT.







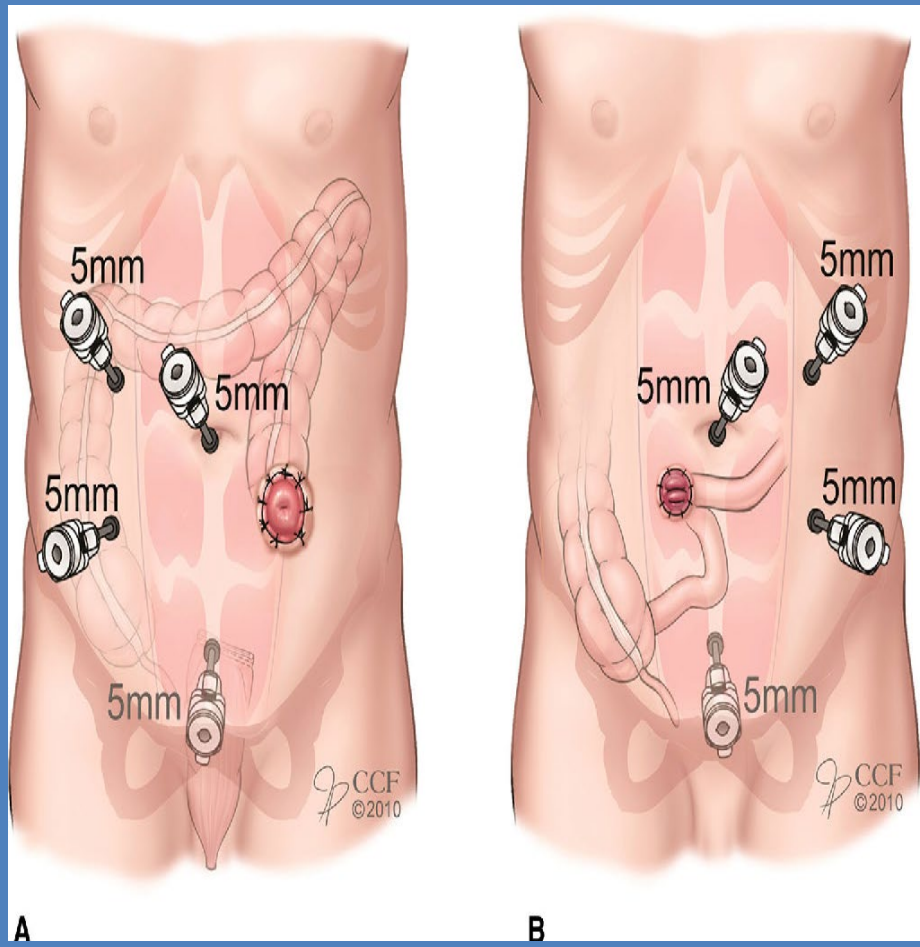


Trephine stoma

- Difficulties to orientate the bowel-
  - Identify the caecal pole and working back down the terminal ileum - trephine ileostomy.
  - For a trephine colostomy air insufflations through the anus.
  - Laparoscopy.

Laparoscopic stoma-

- A minimally invasive approach.
- A healthy segment approximately 12–15 cm from the IC valve is identified and delivered to the abdominal wall.
- A trephine stoma is created.
- The orientation of the bowel checked.
- Can also be used to form a colostomy, usually a loop sigmoid colostomy and occasionally a loop transverse colostomy.



Cannula ileostomy

Faecal diversion technique.

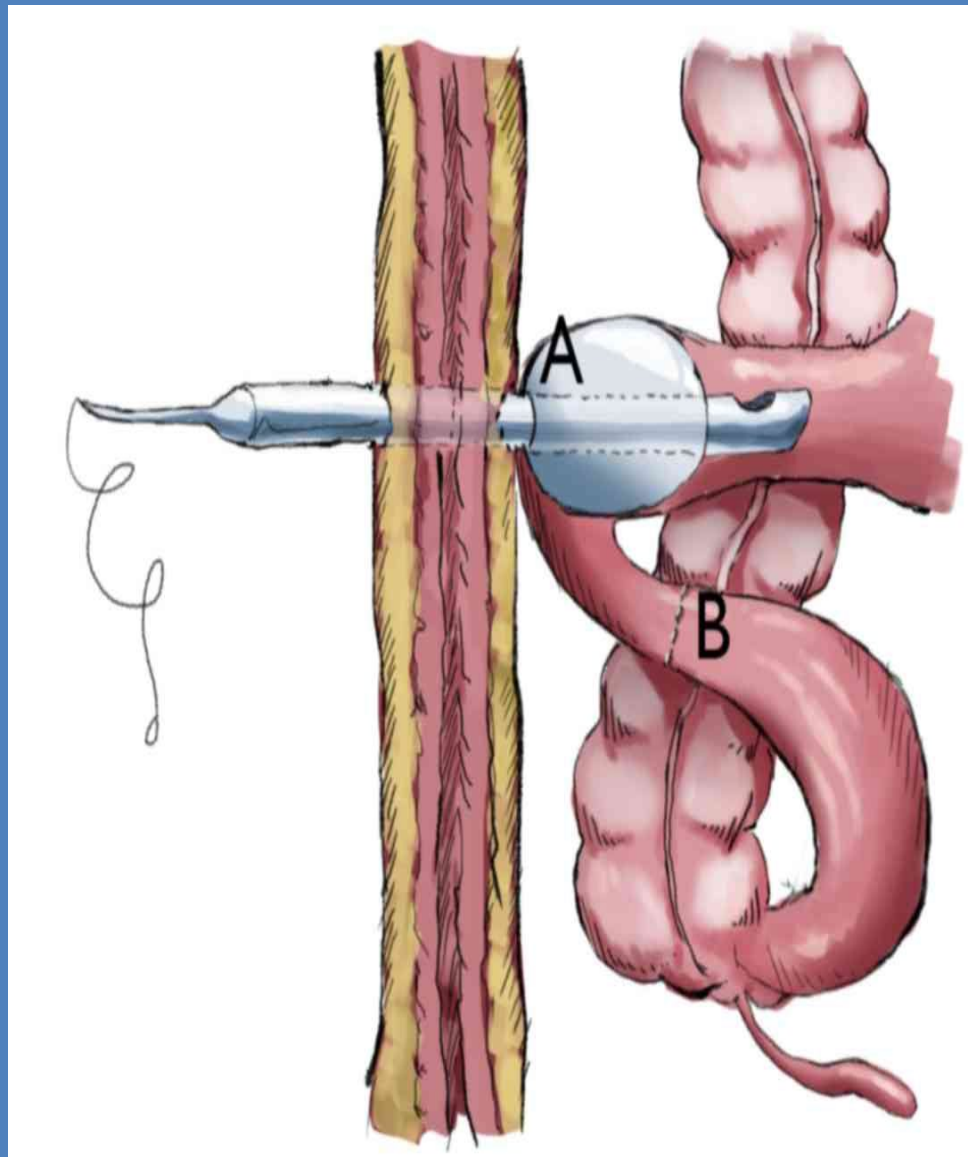
Spontaneously closed cannula ileostomy.

Indications-

- LAR.
- ULAR.
- Any anastomosis below peritoneal reflection.
- Anastomosis in a high risk patient.

Principle-

- Does not always prevent leakage.
- Reduces consequences of leakage.
- Reduce rate emergency reoperation.
- No reversal operation.

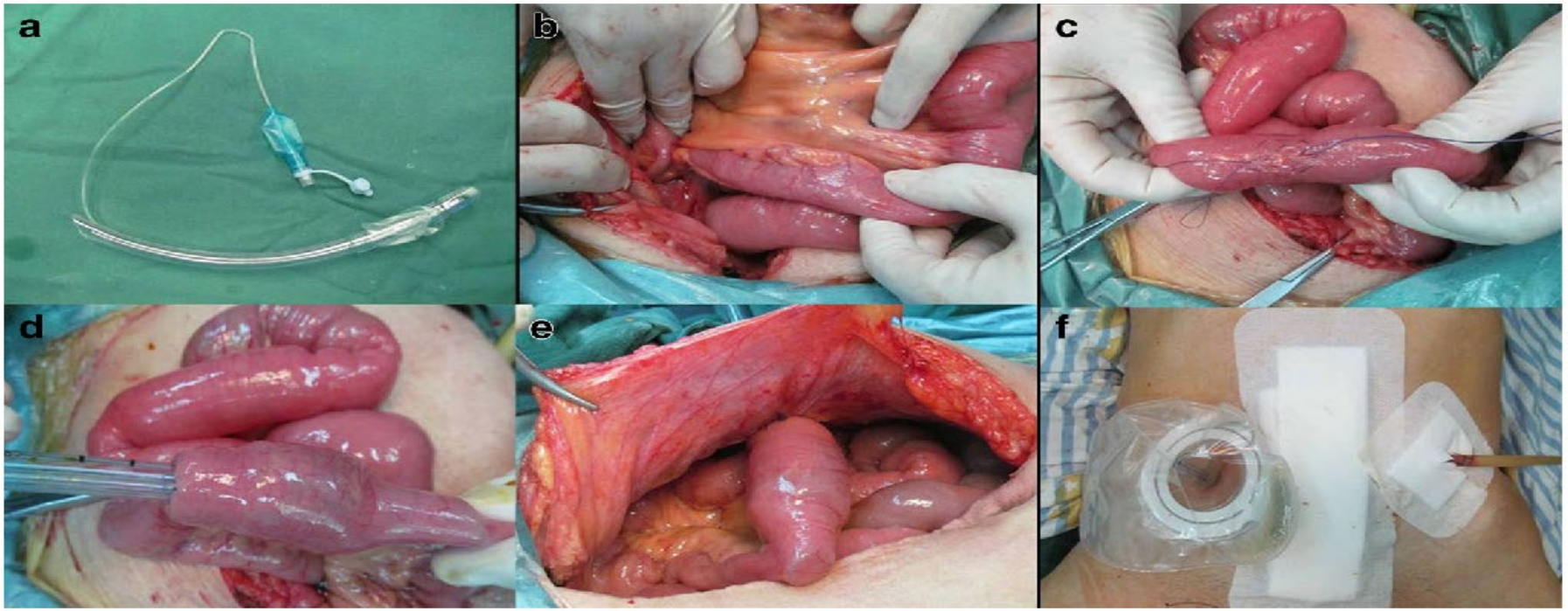


Cannula ileostomy

Procedure-

- Approximiately 15 cm from IC valve.
- Double row of concentric pursestring suture.
- A trachea cannula/ ET tube/ catheter.
- Pulled out through abdominal wall.
- Cannula covered with a stoma bag.

- Criteria for removal-
  - Anal defecation for at least 14 days.
  - Absence of dehiscence on DRE.



Advantages-

- Self retaining.
- No need of reversal.
- Less hospital stay.
- Low cost.
- Low rate of permanent stoma.

Limitations-

- Chance of E-C fistula.
- May need laparotomy & loop ileostomy.

Continent ileostomy

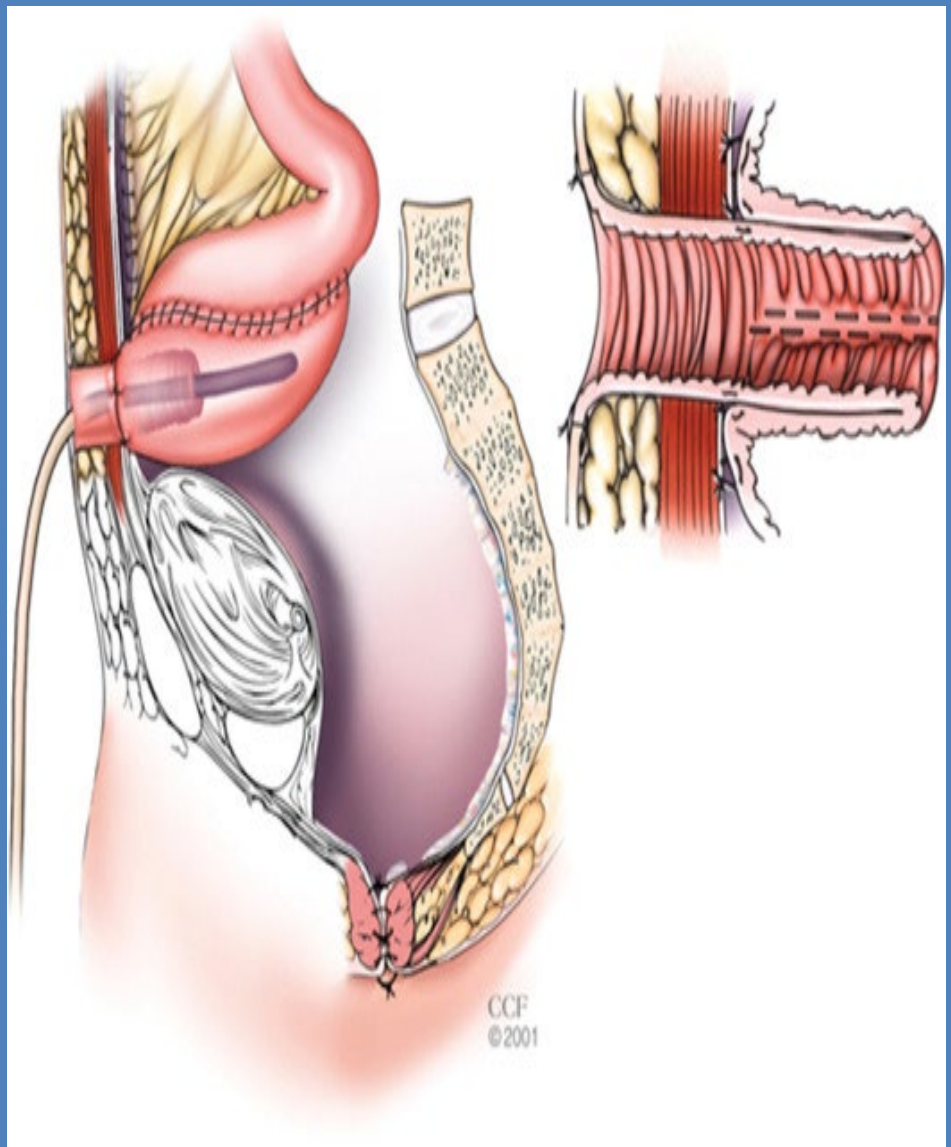
- Alternative to end ileostomy .
- Where pt have problem with appliances.

Indications-

- Panproctocolectomy for-
  - UC.
  - FAP.
  - Synchronous CRC.

Contraindications-

- CD.
- CRC with distant mets.

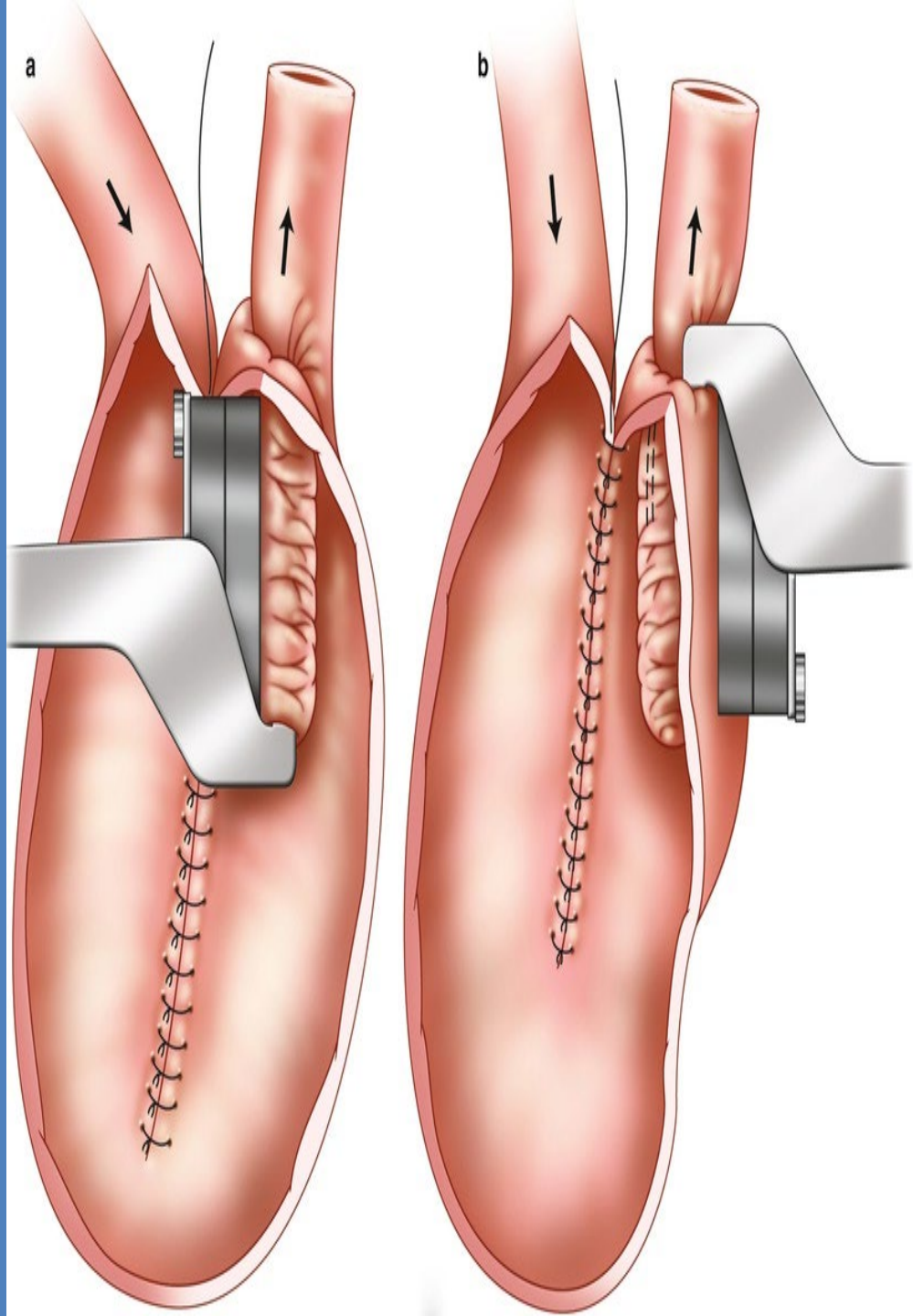


Procedures-

- Reservoir is created by distal 45-60 cm of ileum.
- 2 15 cm of ileum is sutured to form a pouch.
- Intusussception of terminal 15 cm into the pouch
- Pouch anchored to post. Rectus sheath.
- Ileum brought out through ant. Abdo.wall.
- Stoma flash with the skin.

Drainage-

- Gravity drainage 8-10 times a day.
- Intermittent occlusion to observe reservoir function.
- Drainage by intubation 3-4 times a day.



Configuration-

- T configuration.
- S configuration.

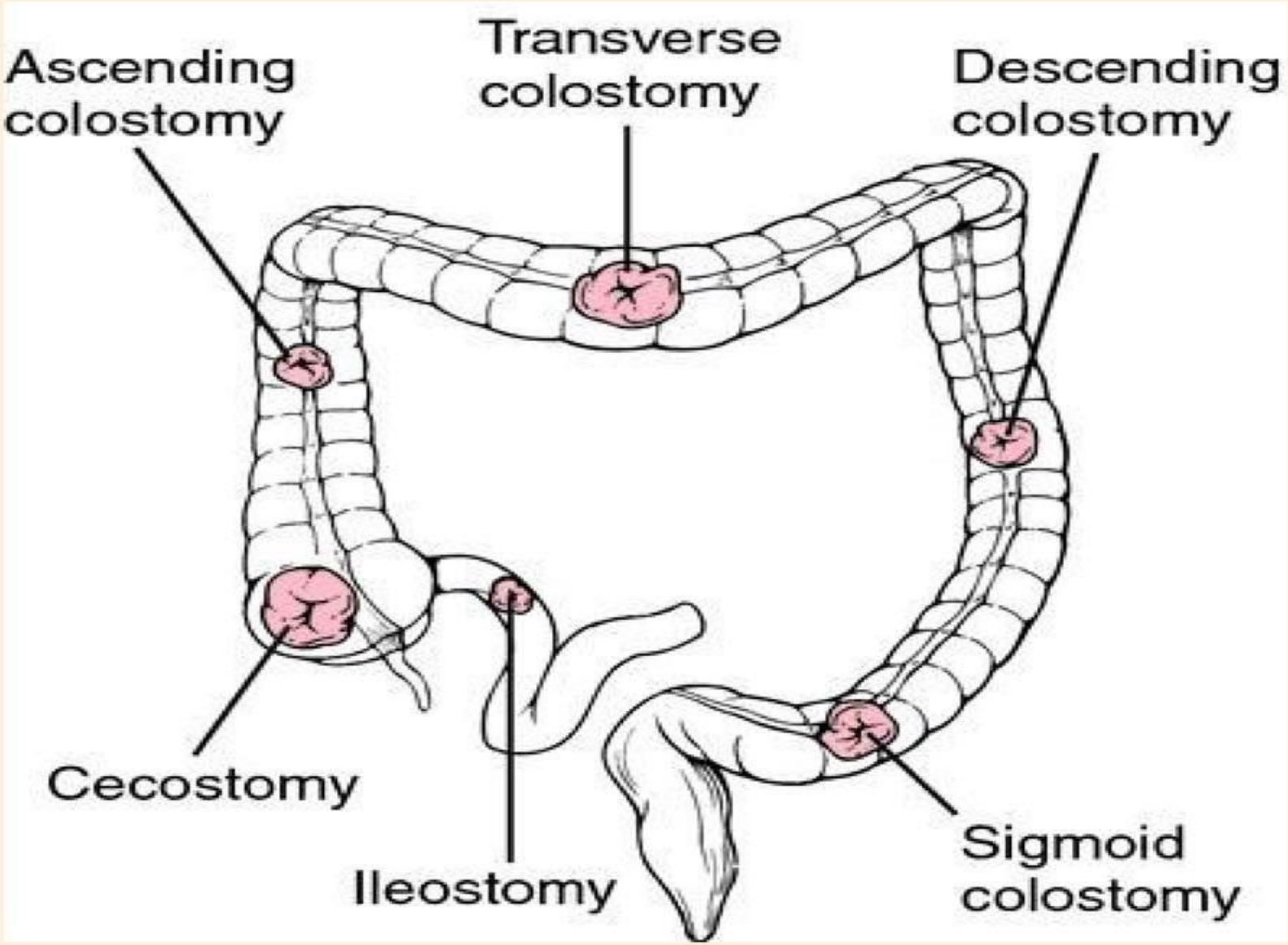
Prerequisites-

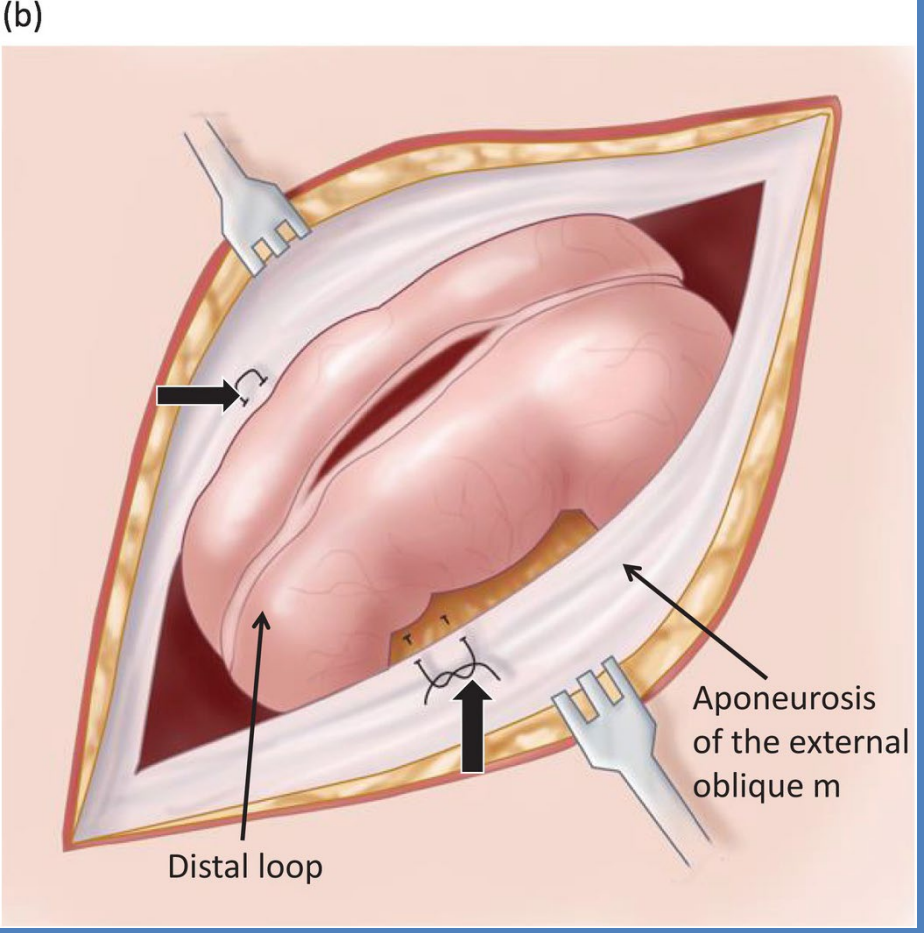
- Proper counselling.
- Highly motivated.
- Emotionally stable.

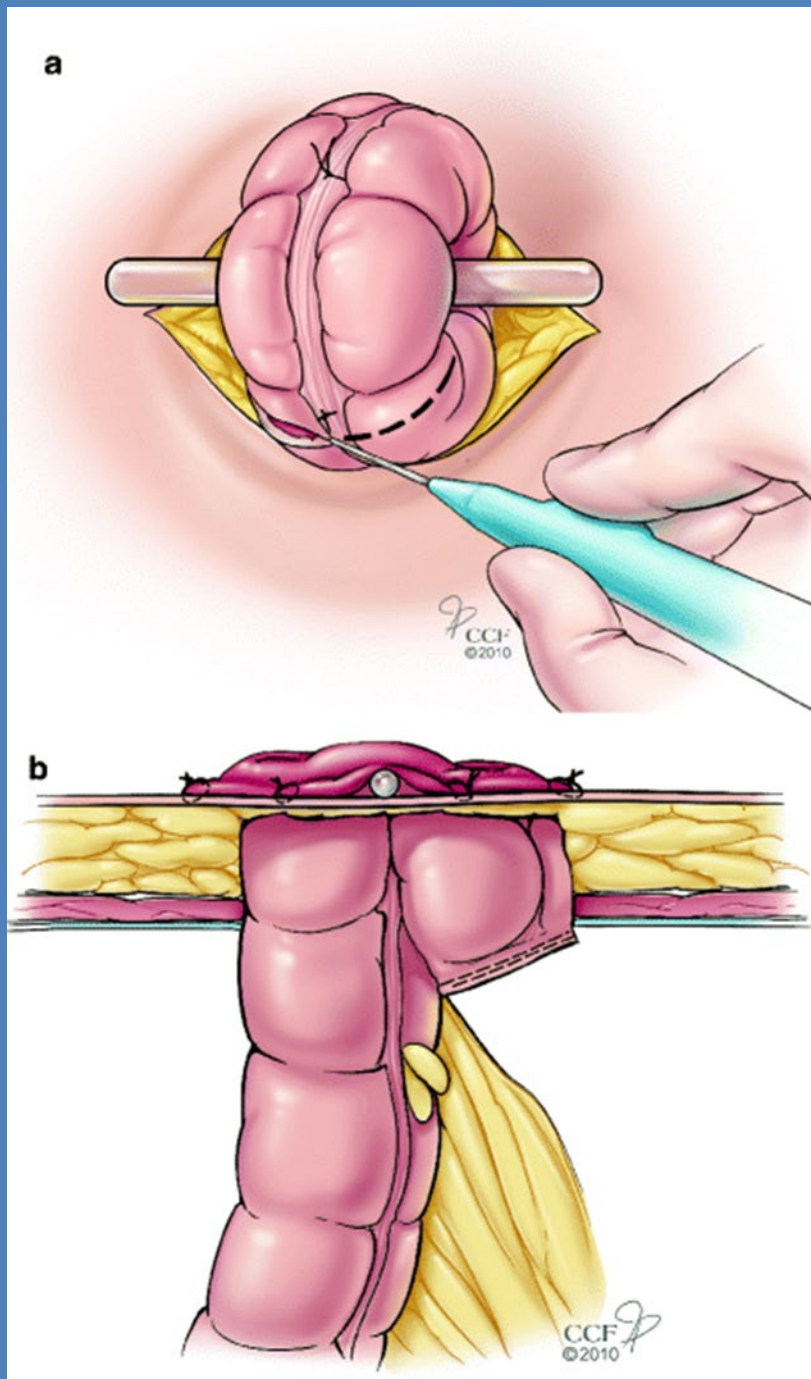
Complications-

- Nipple valve sippage.
- Pouchitis.
- Intestinal obstruction.
- Fistula.
- May need revision & ultimate end ileostomy.

Colostomy Types







Incision over gut-

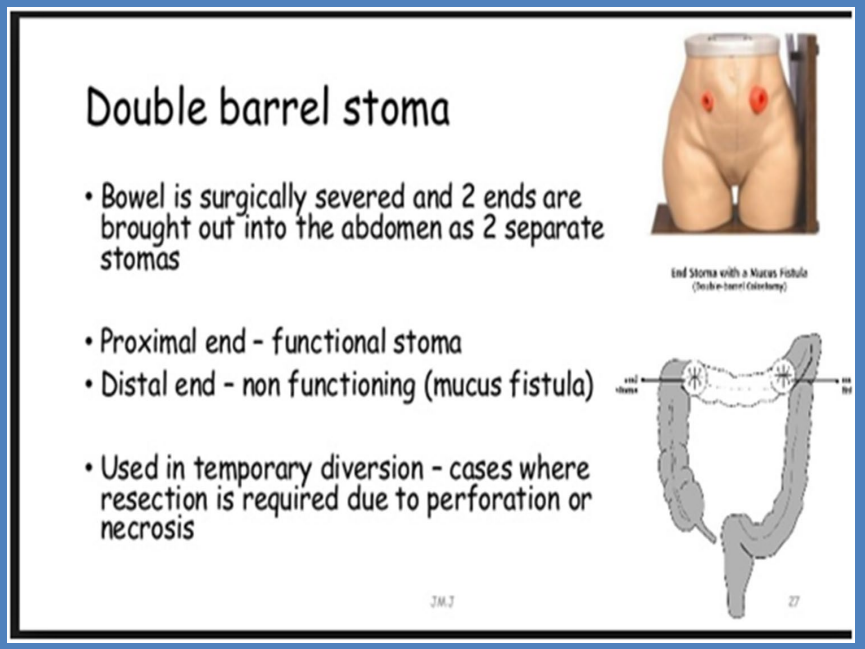
- Along the axis or across the axis?

Double barrel stoma

2 ends of the bowel is brought out as 2 separate stomas.

Indications-

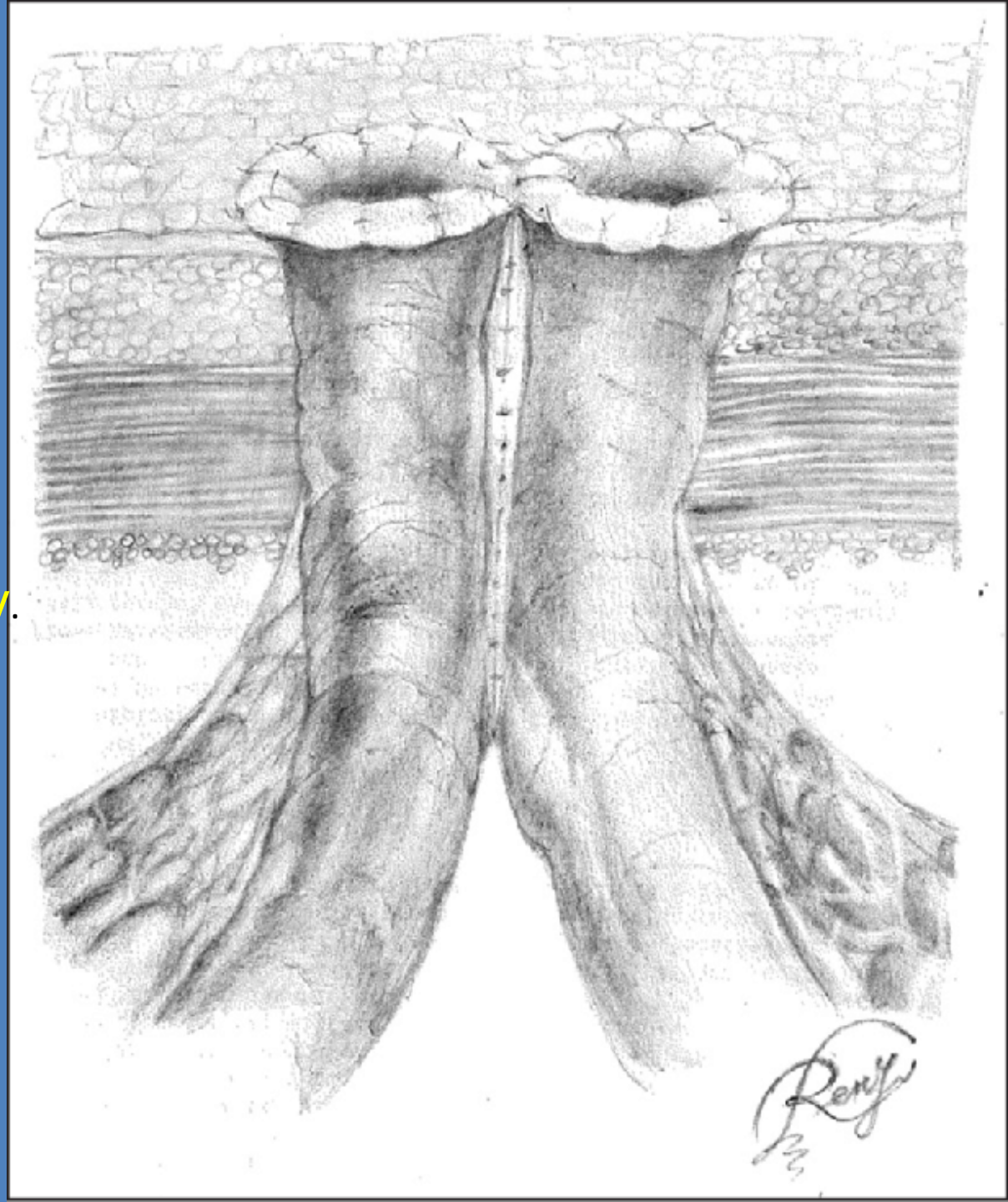
- Temporary diversion in-
  - » Perforation.
  - » Necrosis.



Paul mikilicz operation.

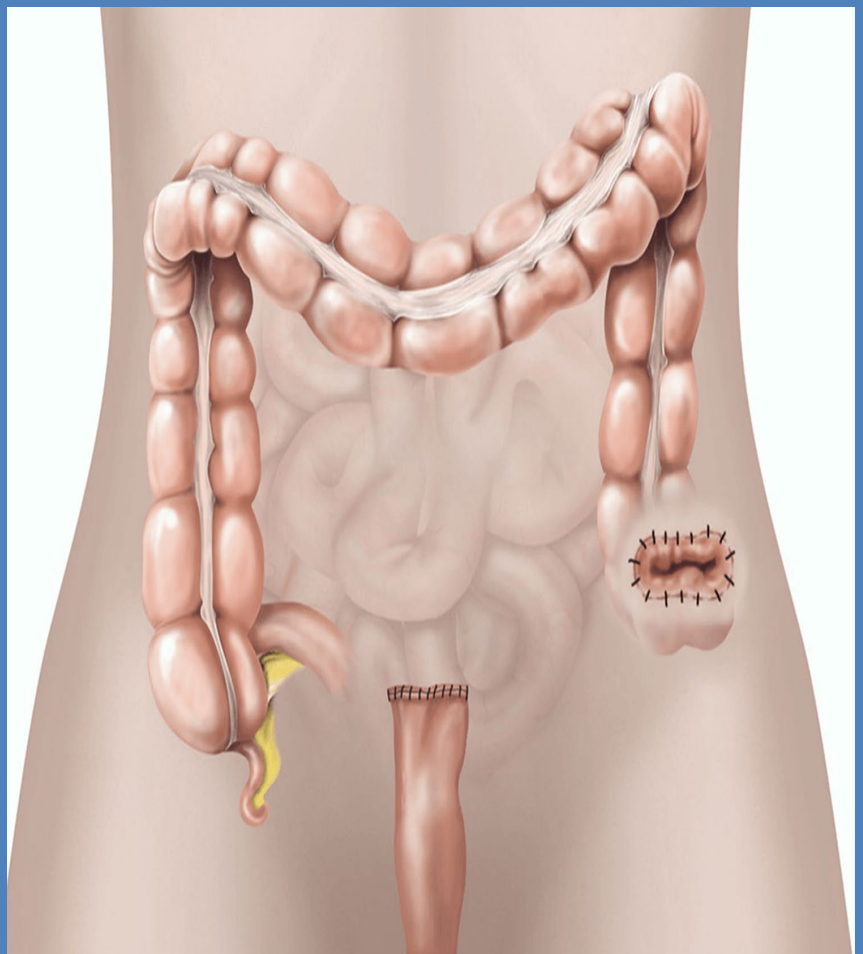
Double ended colostomy.

- Proximal stoma.
- Distal mucous fistula.

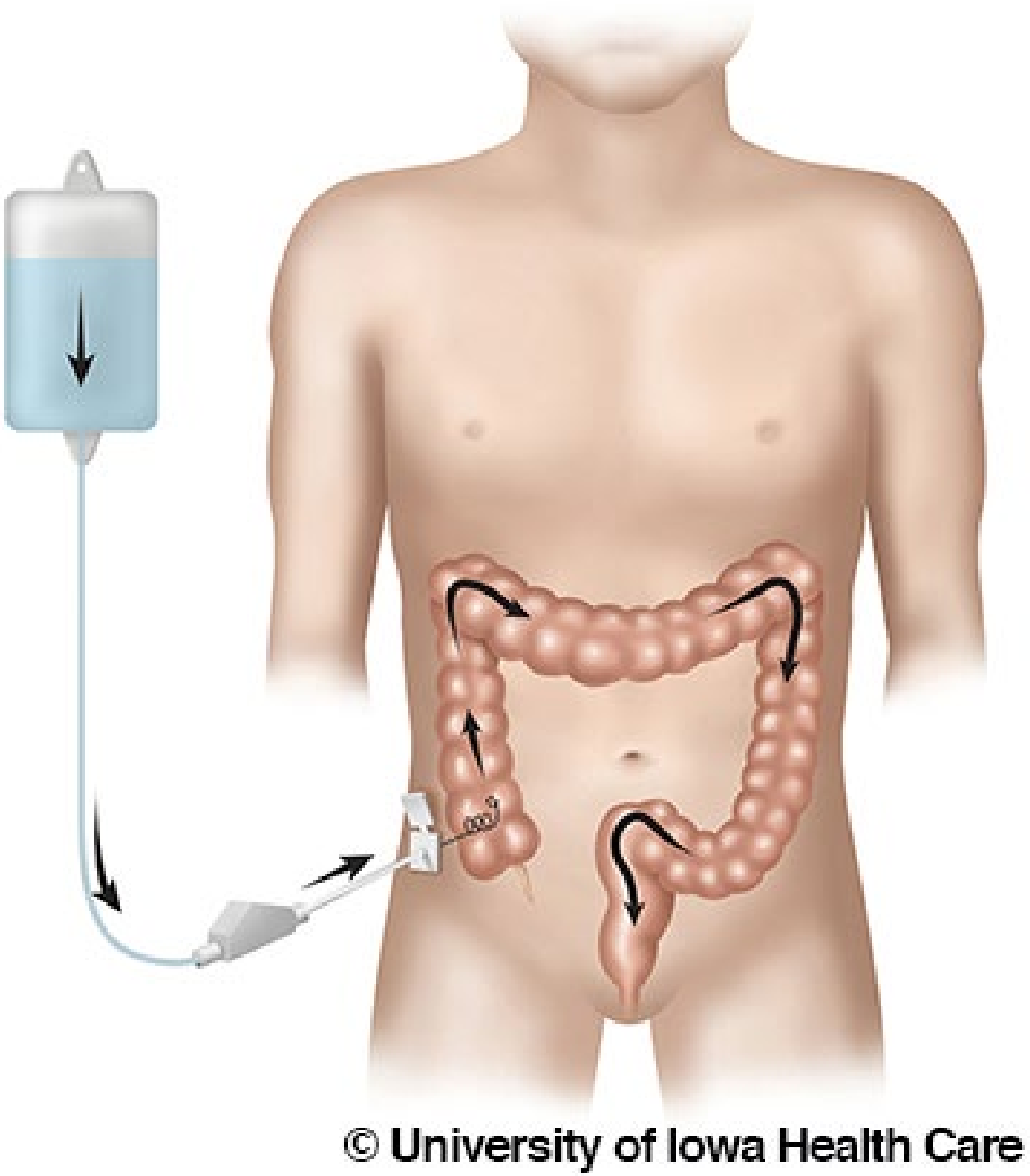


Hartmann's procedure

- Proximal spouting.
- Distal closure.

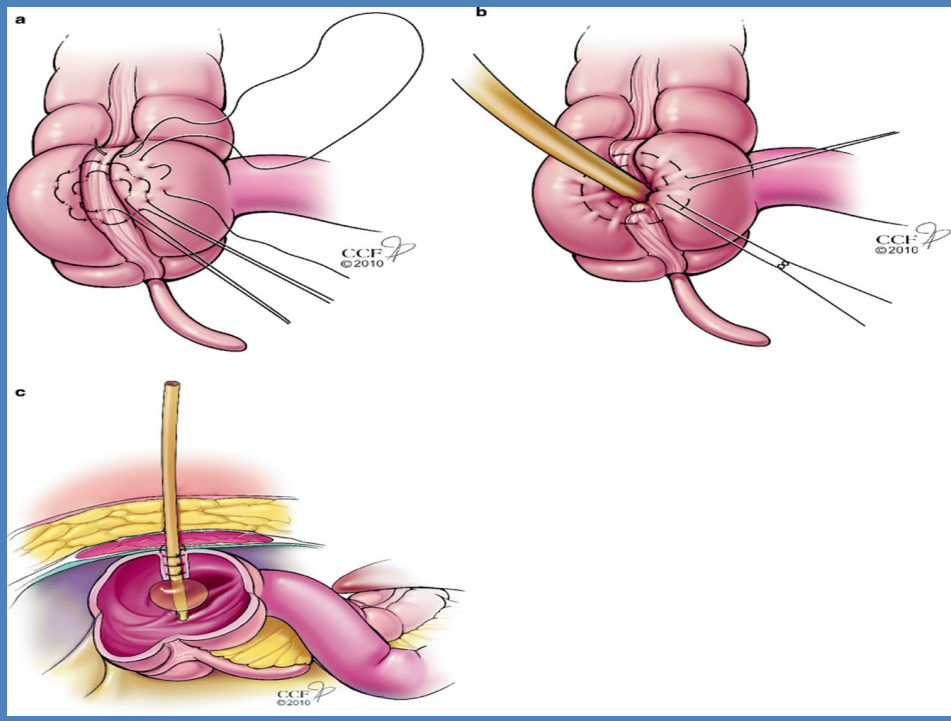


Antegrade continent stoma



Caecostomy

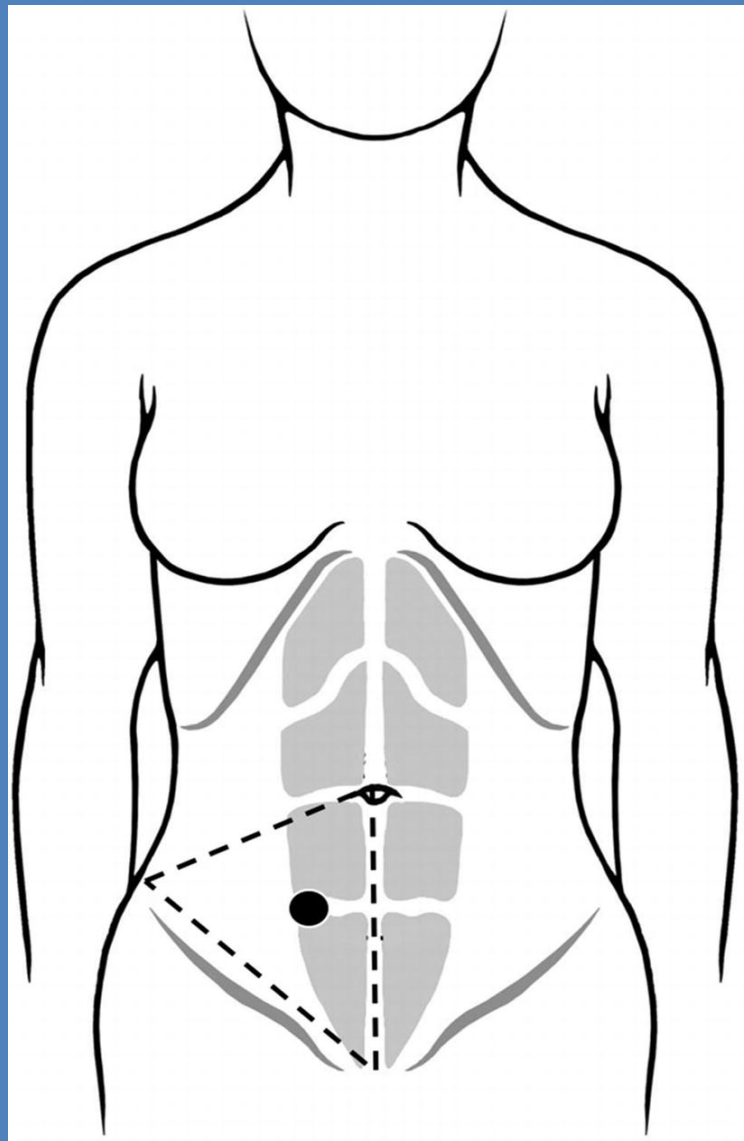
- In desperately ill patient with advanced large bowel obstruction.
- Temporary decompression of colon.
- Not as effective as loop colostomy.
- Inserting a wide bore tube into caecum.



	Ileostomy	colostomy
Site	Usually RIF	LIF
Configuration	Spouting (2-3 cm).	Flush.
Effluent	Liquid to semisolid with enzymes.	Semisolid to Formed faecal matter.
Odour	Yes.	Malodourous.
Frequency of discharge	More.	Less.
Fluid electrolyte imbalance	More.	Less.
Morphology	Pink, narrow calibre, circular mucosal fold.	Wider, pale, no complete circular mucosal fold.
Output	Low- 500ml/day. High- 1 L/day.	200-300 ml/day.

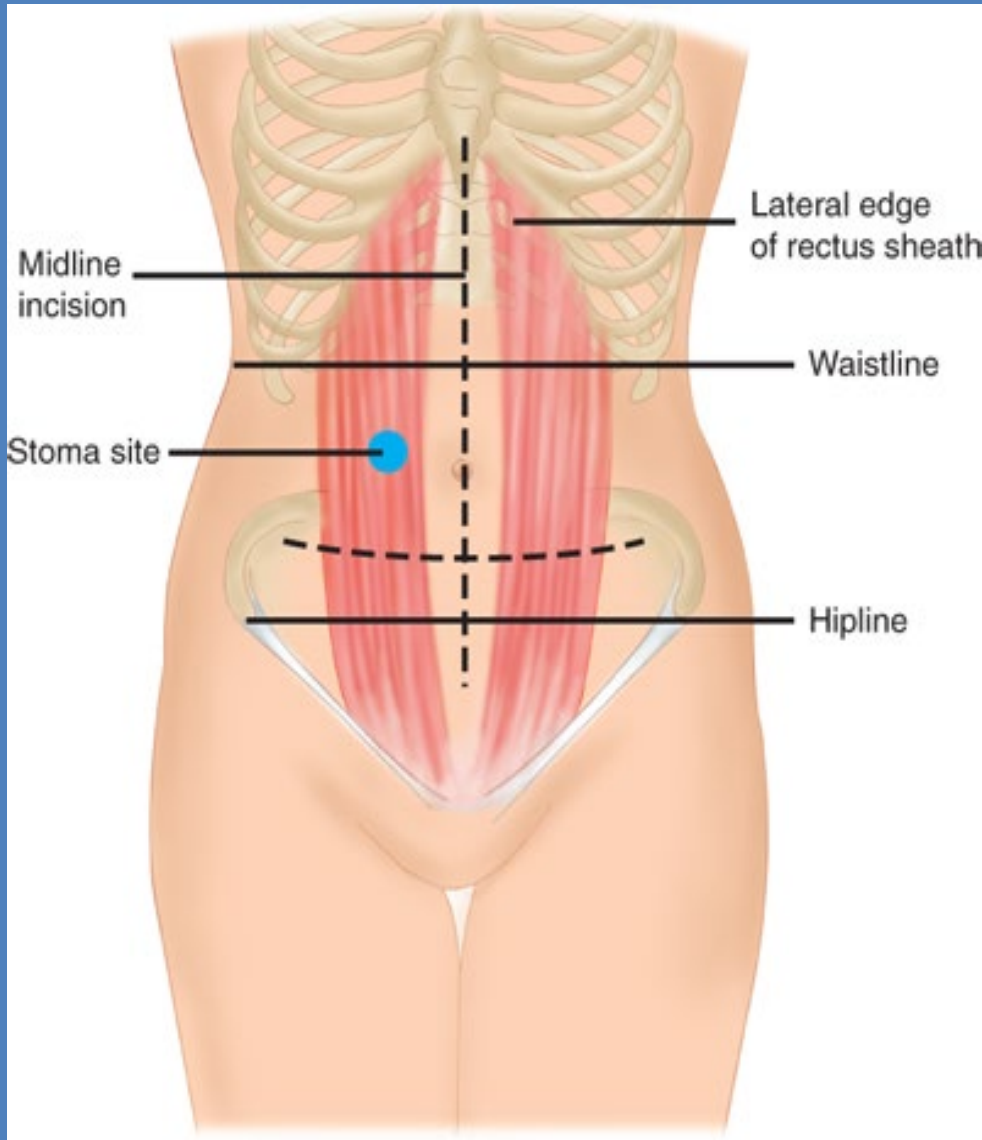
Importance of stoma marking

- Reduce postoperative complications.
- Improves stoma specific quality of life.
- Reduce stoma care cost.



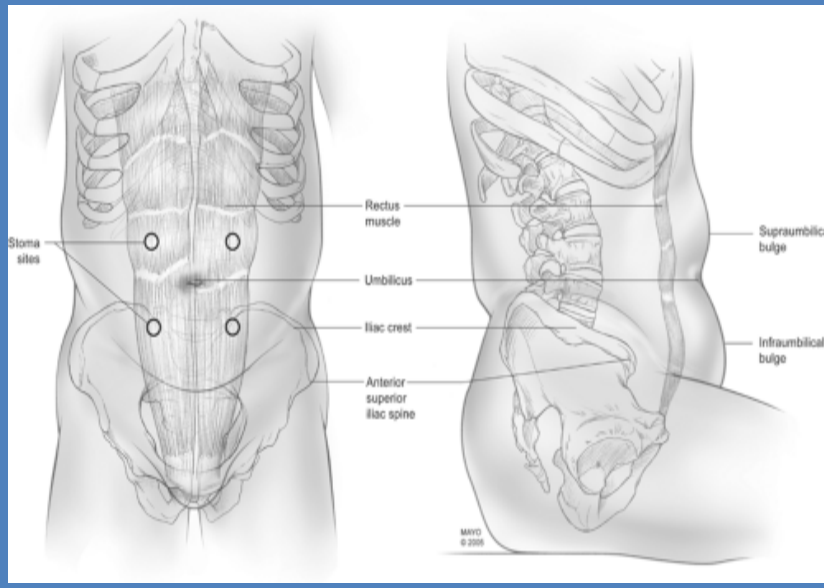
Specific considerations

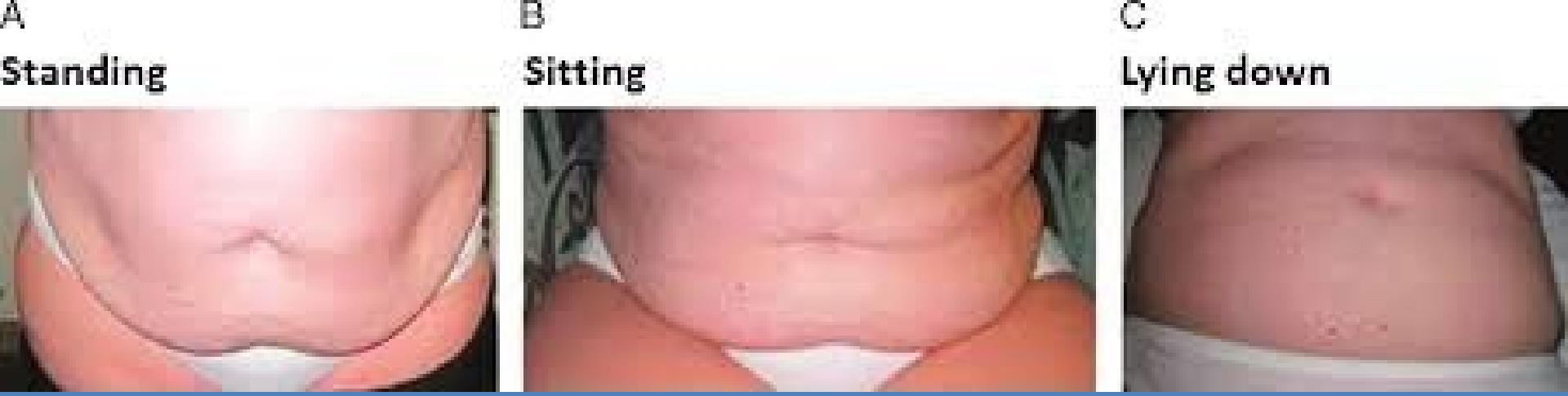
- Avoid scars, creases, bony prominences, suture lines, radiation site or skin disorders.
- At least 5 cm area of clear intact skin.
- Clear sight to stoma in sitting position.
- Avoid beltlines, pant heights, under pendulous breast, hernia.
- Obese- Supraumbilical.
- Through umbilicus- When no better options.



Stoma siting

- Multiple stoma site marking with ranking.
- Appliance should be worn for 24 hours prior opeartion.
- Stoma site should be marked-
  - Indelible/ water resistant marker.
  - Tattoo.
  - Epidermal scratch mark following anaesthesia.
- When 2 stoma eg - faecal & urinary diversion-
  - Each stoma at different levels & oppsite site.





- Patient postures , contracturs, bending should be assessed.
- Appliance should be worn for 24 hours prior opeartion.

Sitting posture-

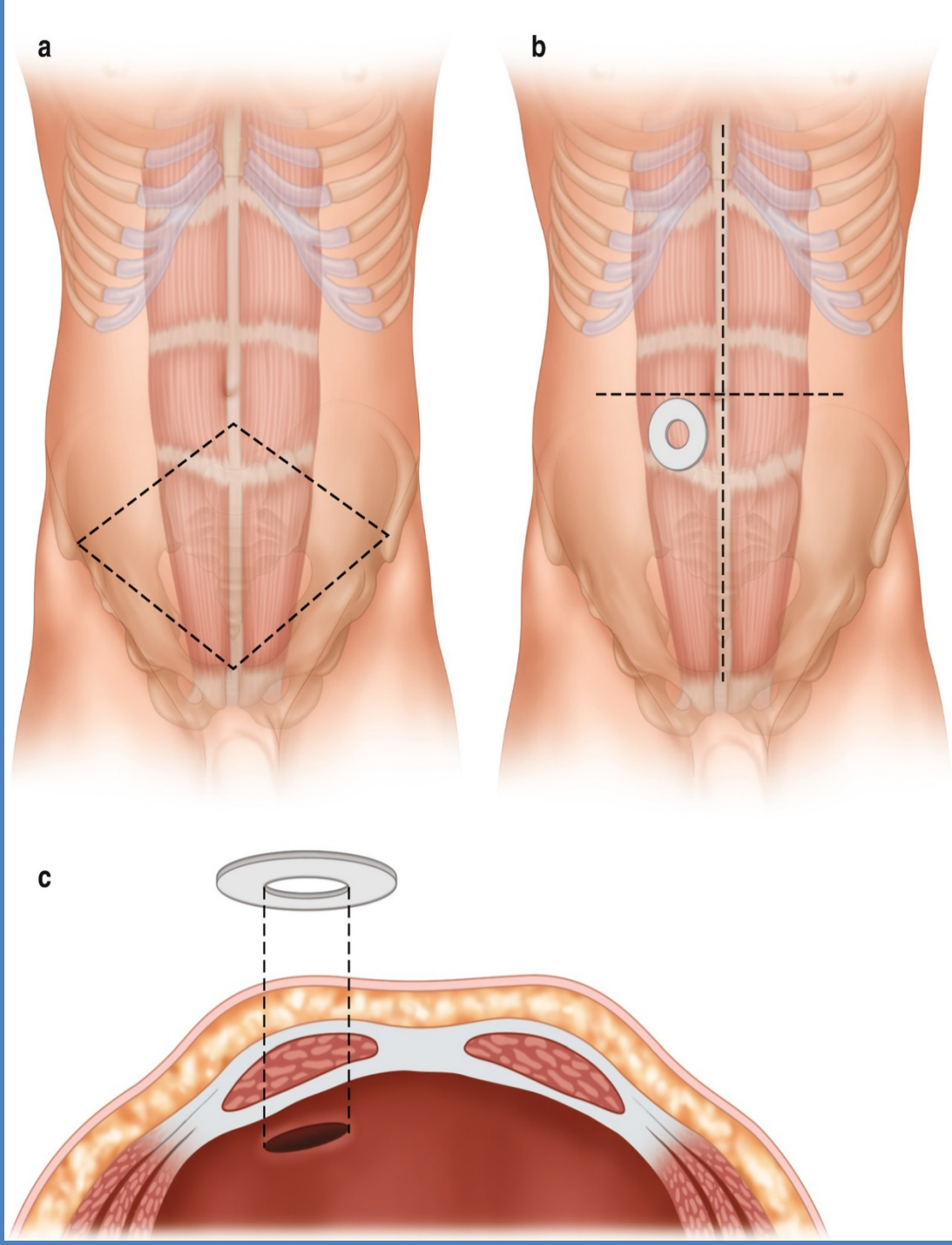
- Skin fold & creases are better appreciated.

Standing-

- Avoids pantsites.
- Beltlines.
- Pendulous breasts.
- Hernias.

Stoma triangle-

- Anterior superior iliac spine.
- Pubic tubercle.
- Umbilicus.

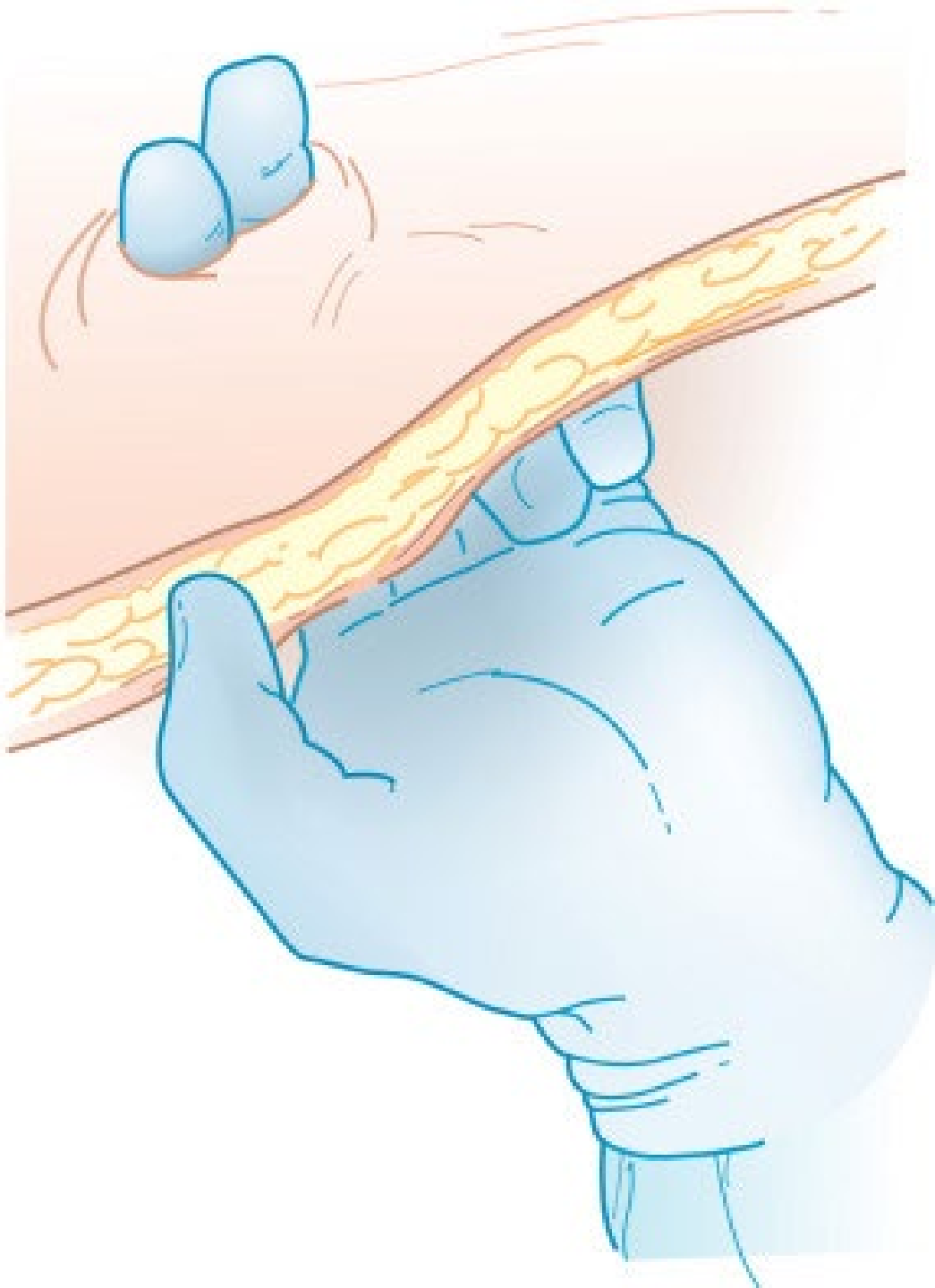


Aperture Size-

- 2 finger breadths.

Significance-

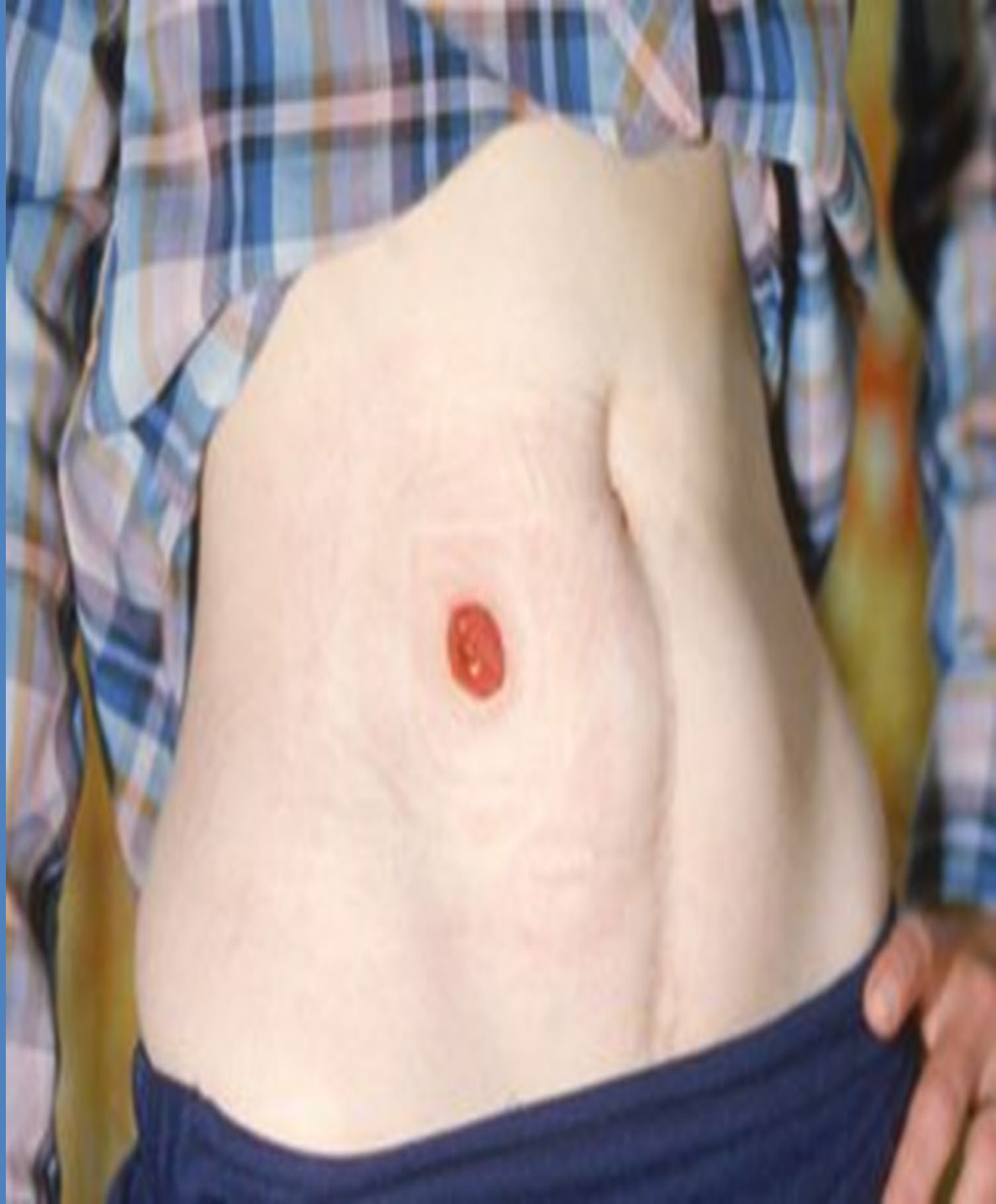
- Every additional 1 mm increase in aperture size- 10% increased risk of parastomal hernia.



- Which segment?
  - Well vascularized tension free segment.

Location?

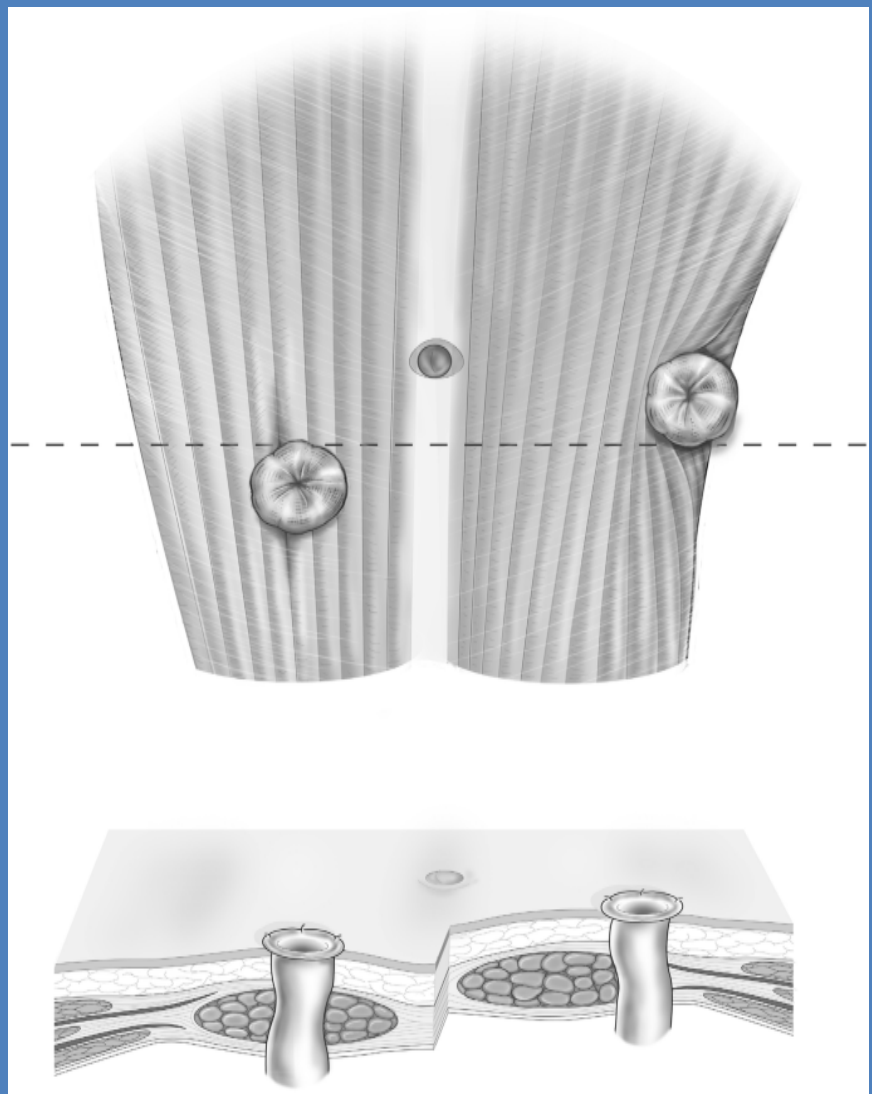
  - Through or side of the rectus?



Stoma through the rectus?

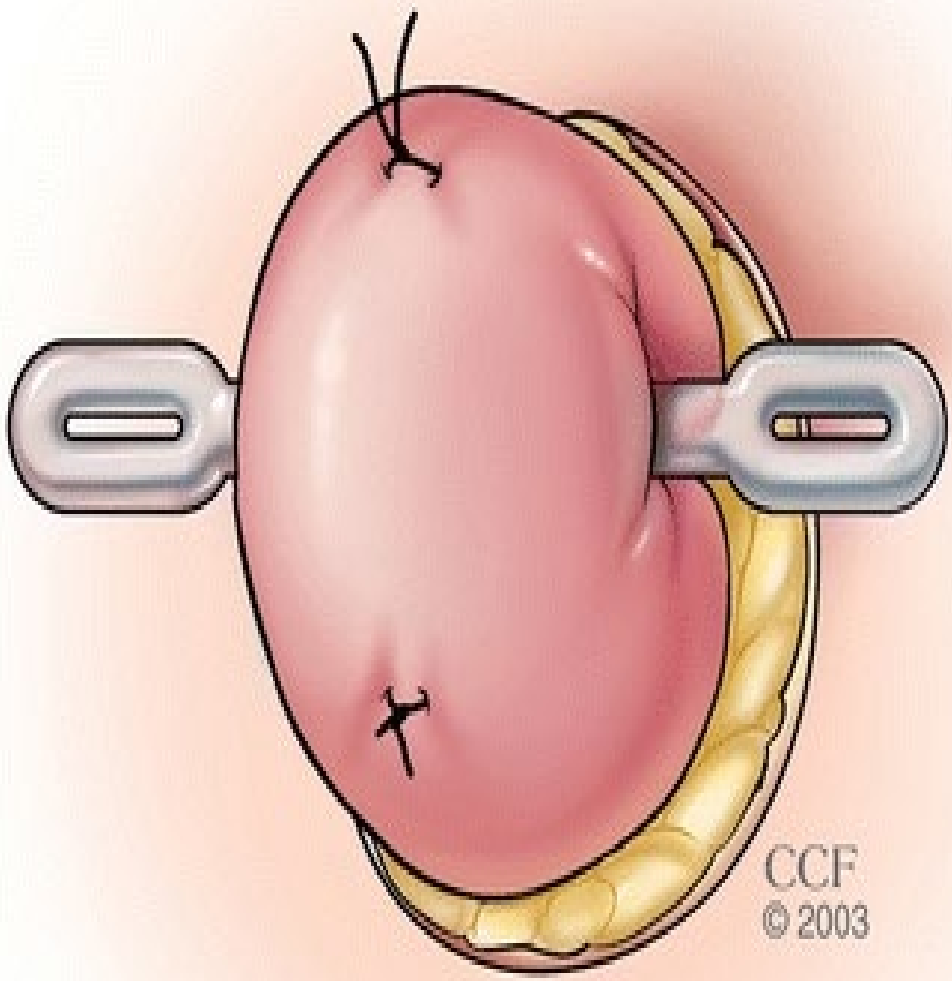
Through rectus-

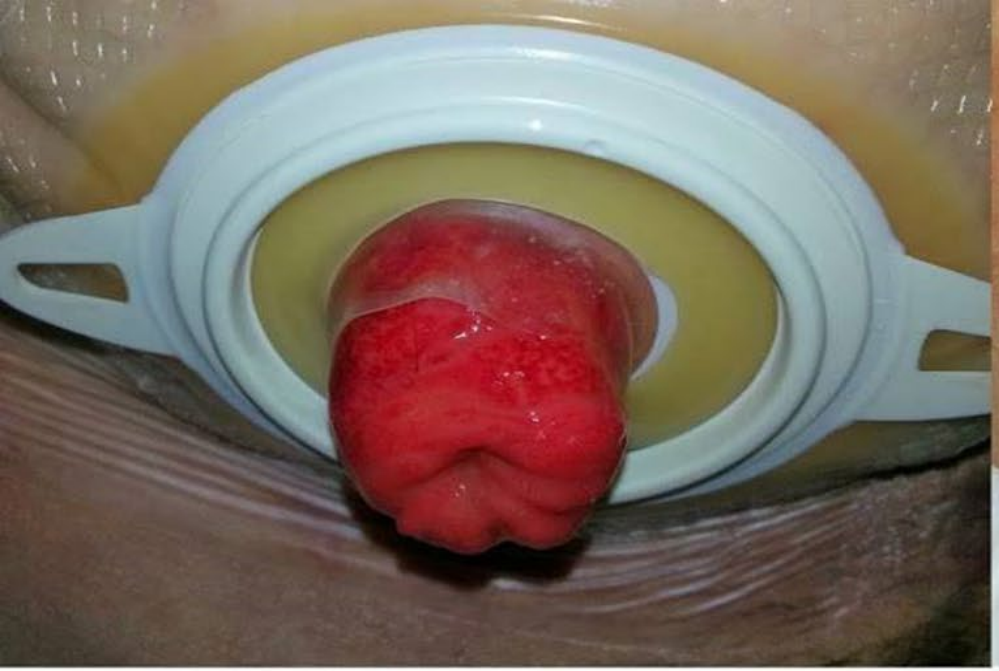
- Reduce parastomal hernia.
- Acts as a sphincter.



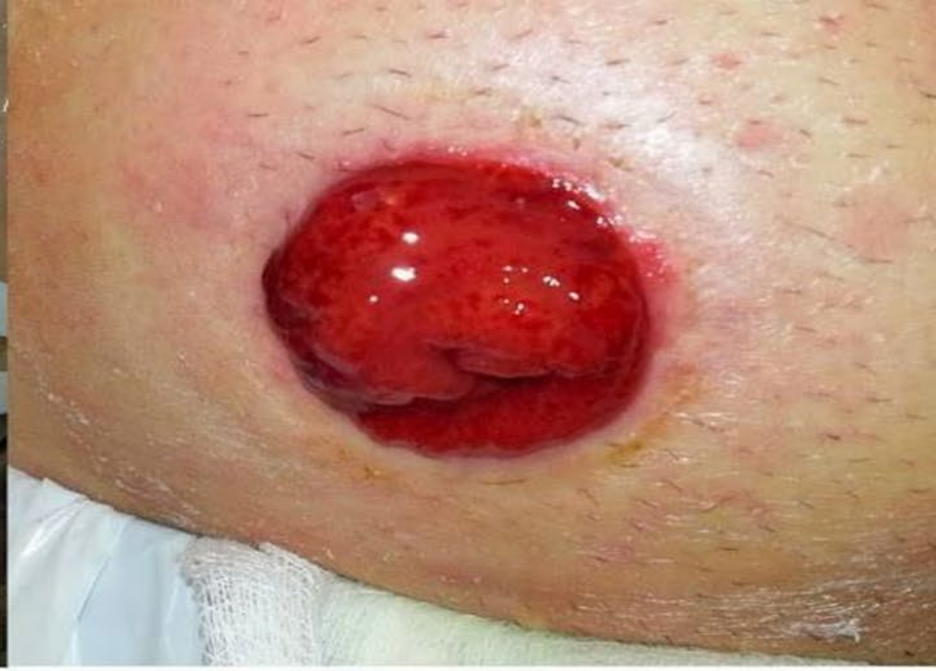
Plastic bar?

Hitch up technique?





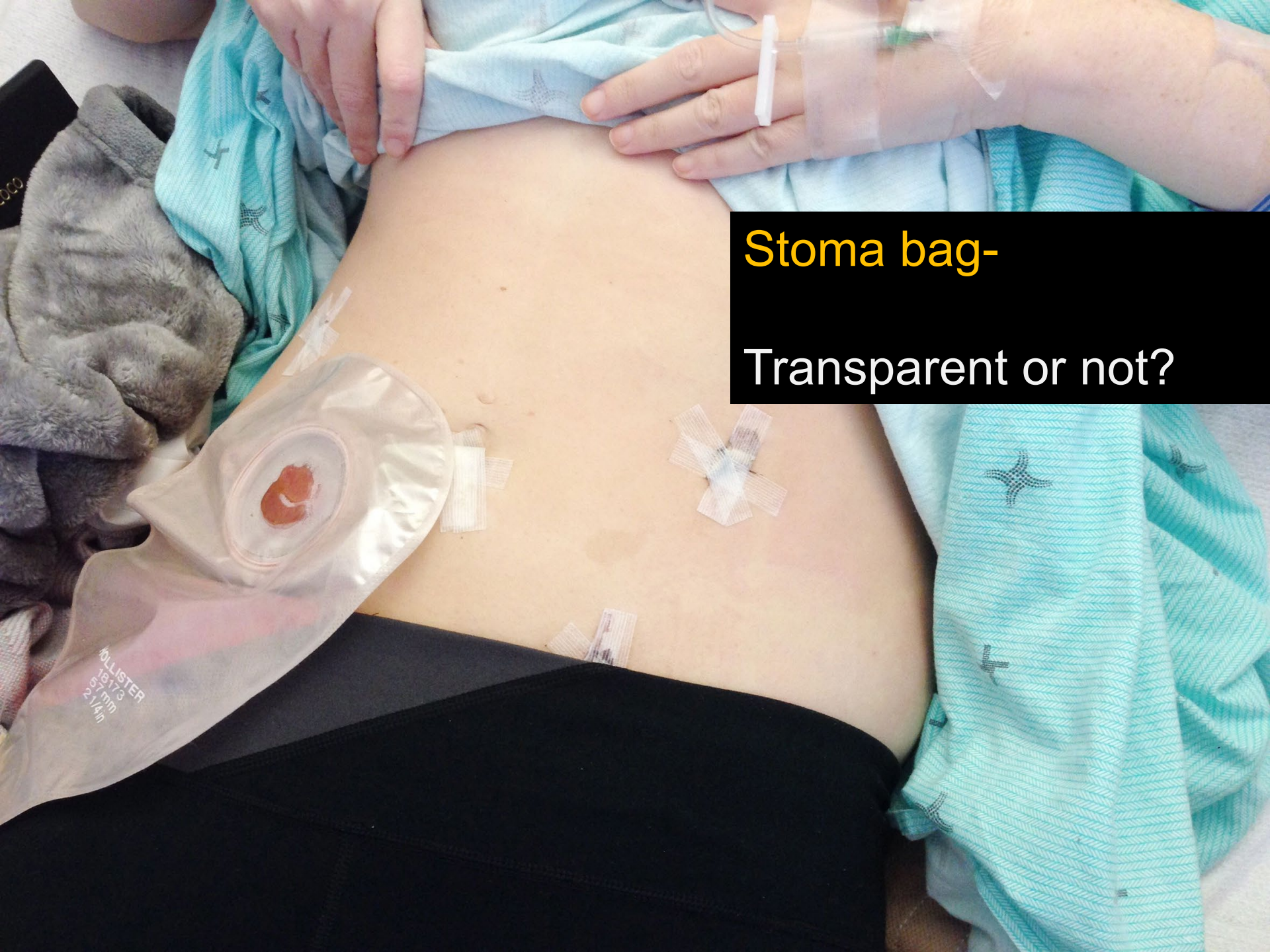
Happy stoma



Unhappy stoma
(recessed w/ bowel obstruction)

Characteristics of ideal stoma-

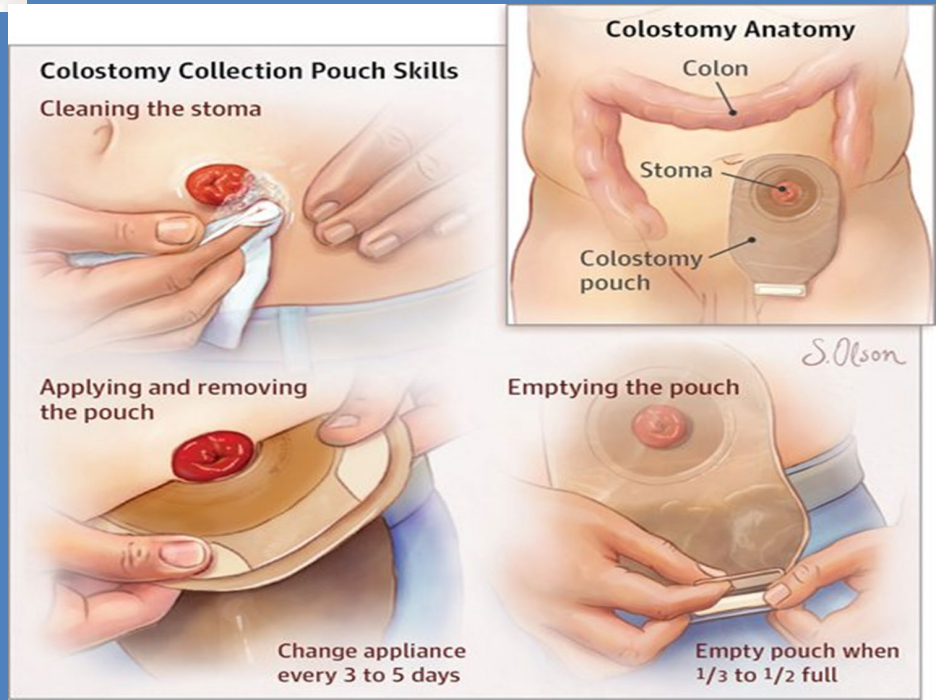
- Red.
- Round.
- Raised from skin surface.
- Lumen at the centre of the stoma.
- Smooth skin surface.


Stoma bag-
Transparent or not?

Management of stoma

When to change bag?

When to empty the bag?



Bag change

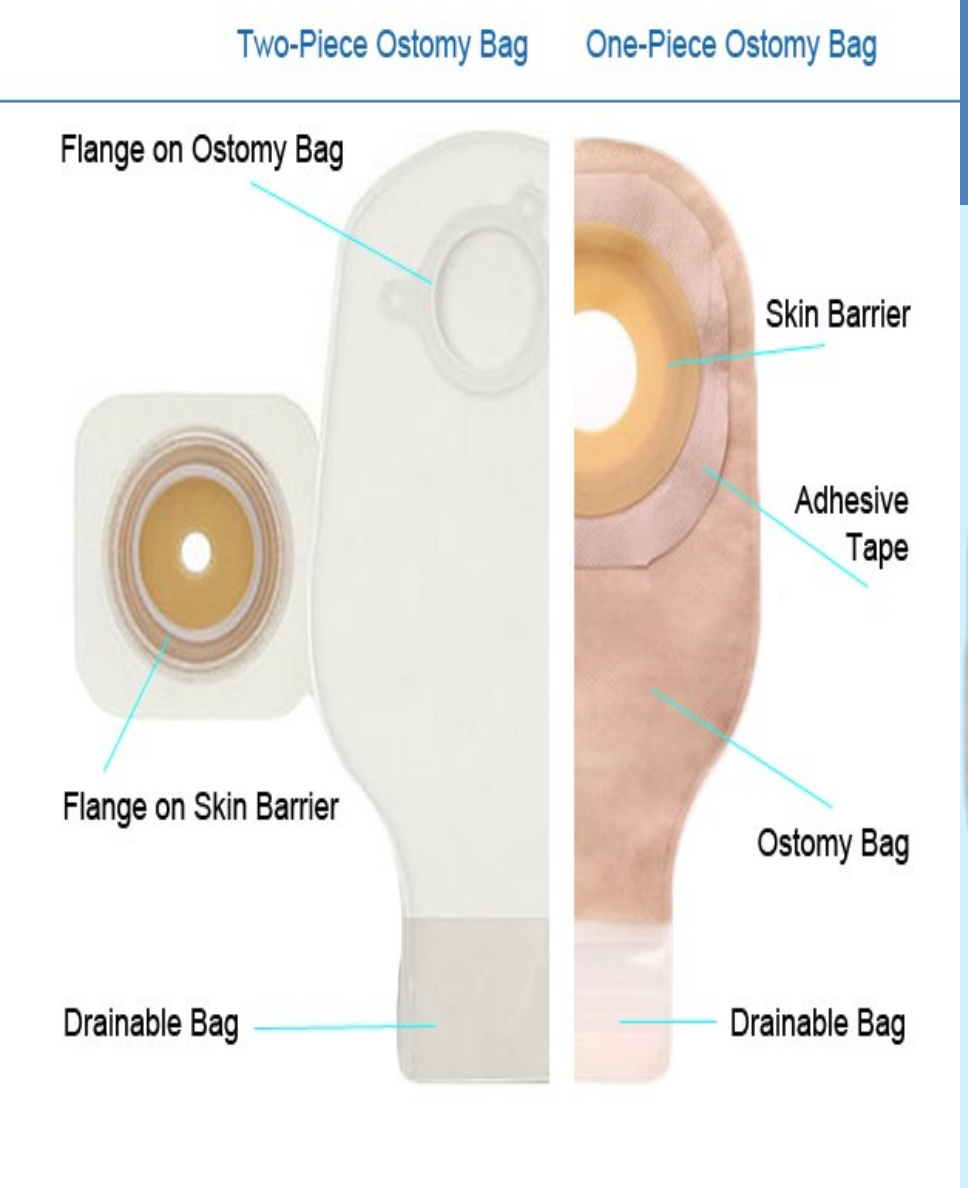
When 1/3rd to ½ of the bag is filled with air or stool.

Examples of Ostomy Pouches

Colostomy

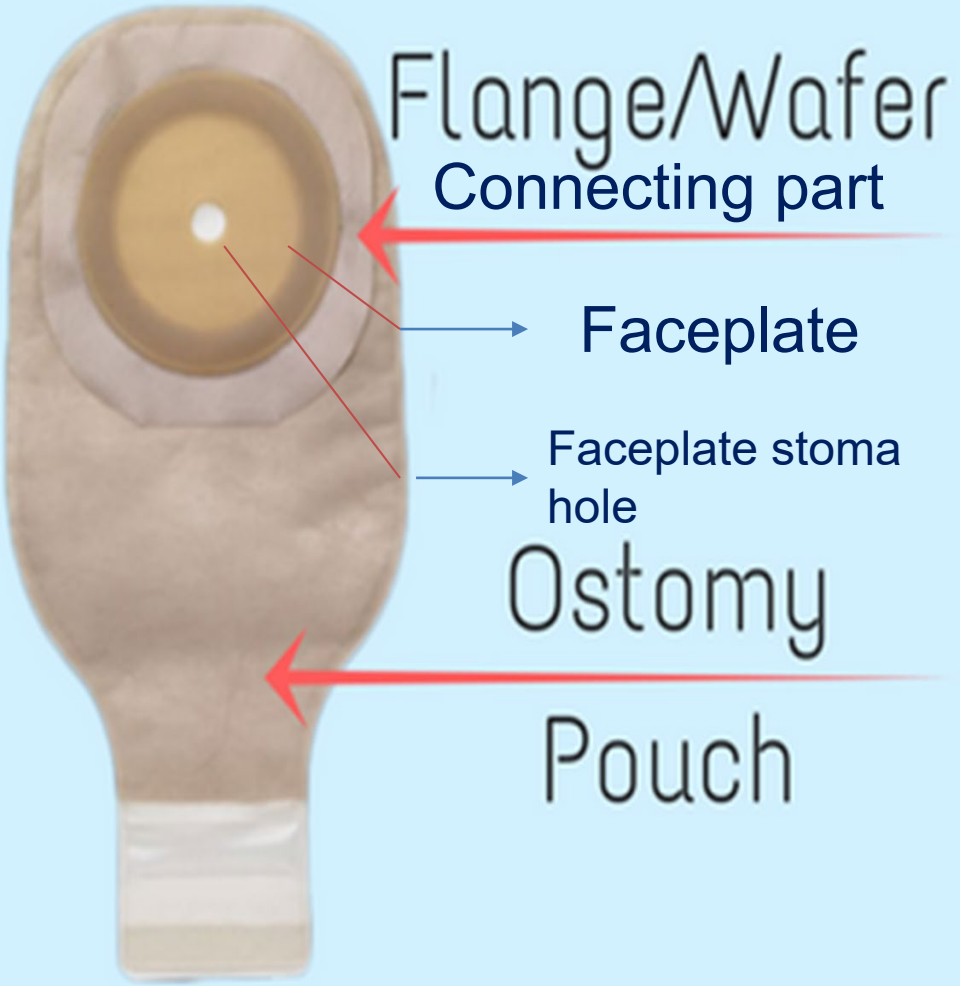
Ileostomy

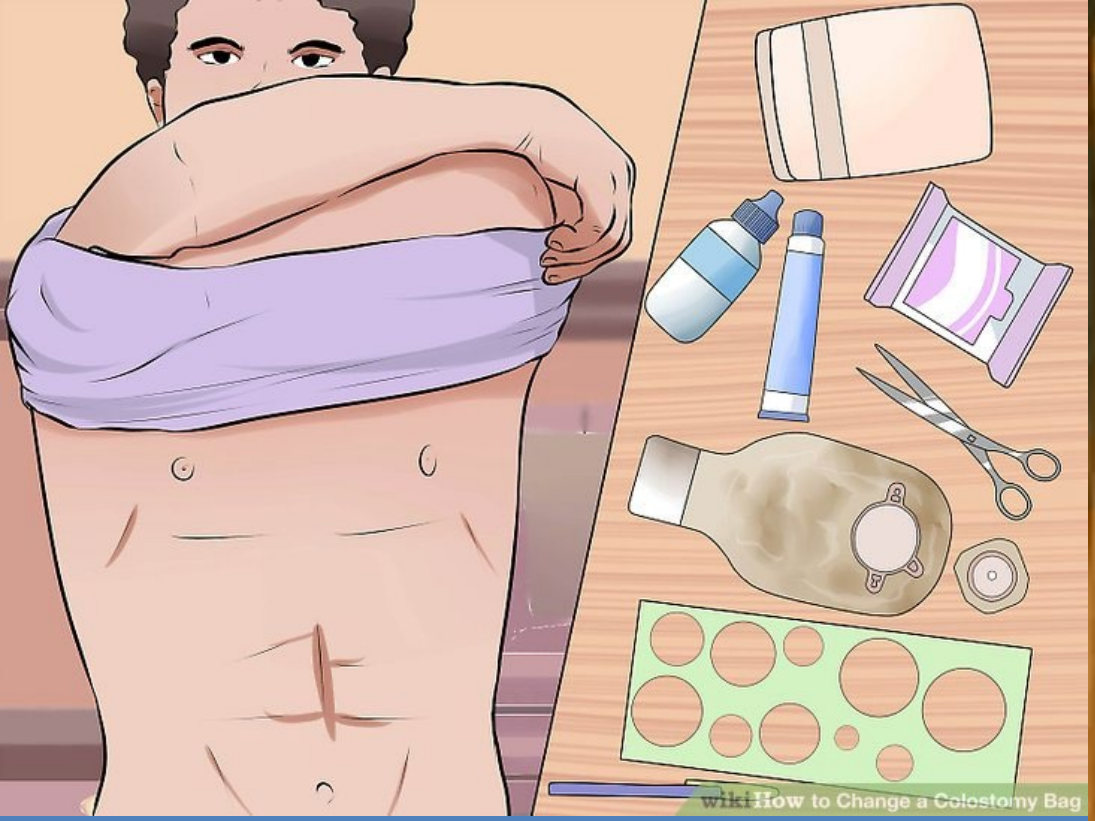
Urostomy

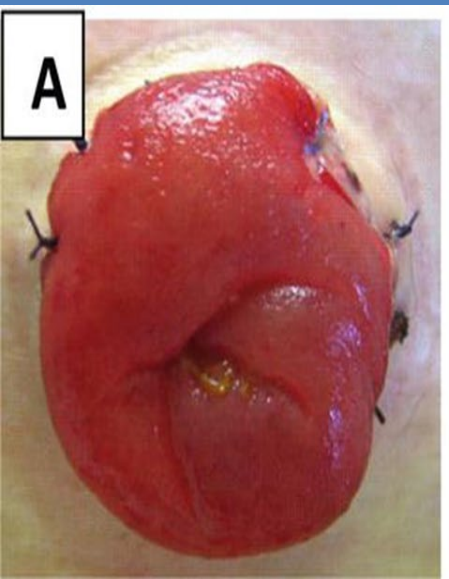


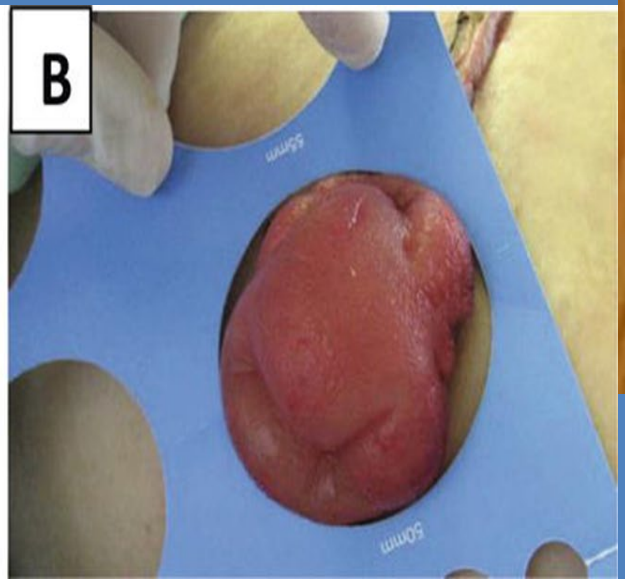
Types of ostomy bag

Parts of ostomy bag




wikiHow to Change a Colostomy Bag


A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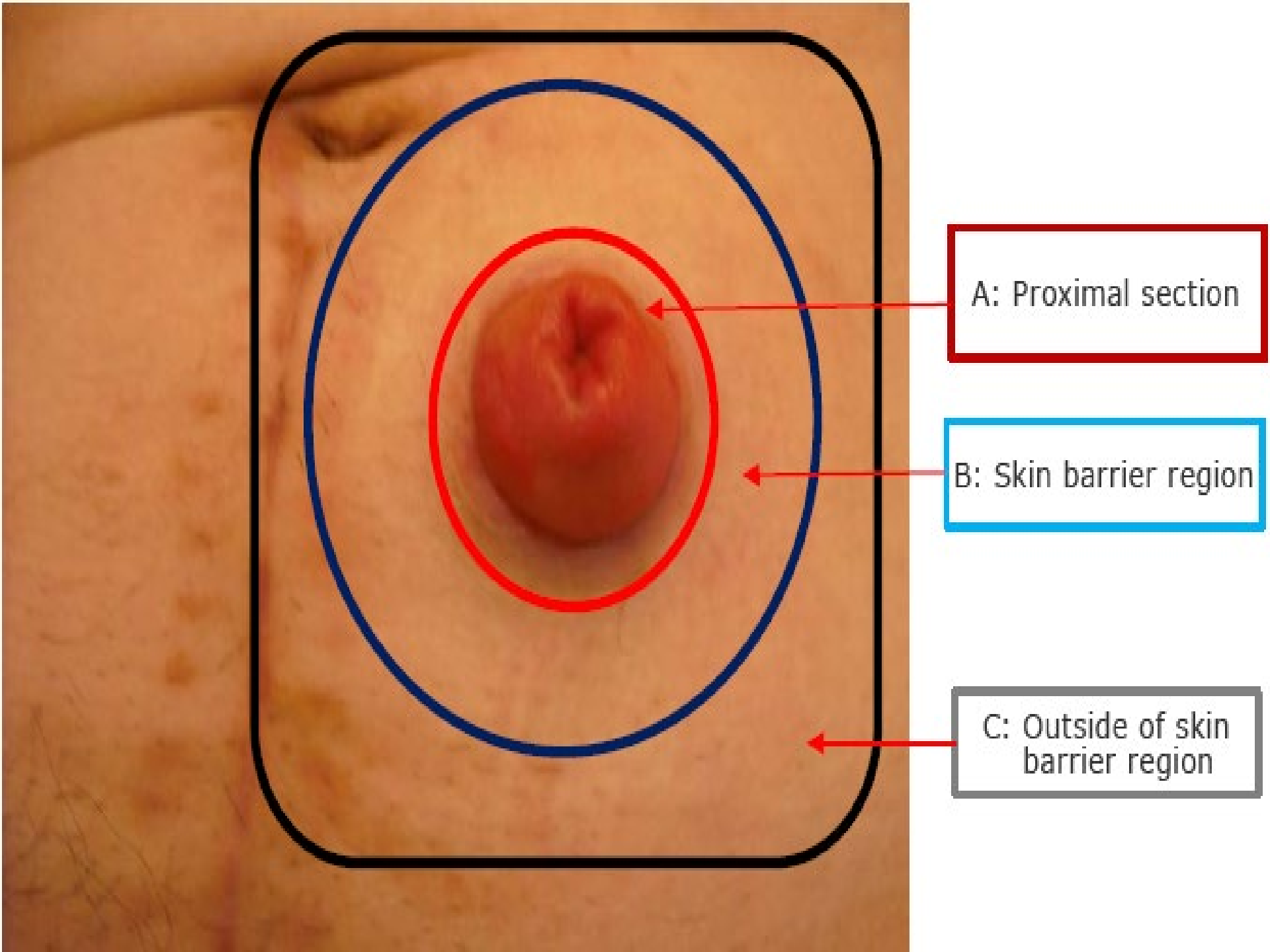

A: Proximal section
B: Skin barrier region
C: Outside of skin barrier region

Prerequisite for reversal

- History.
- General condition of the pt.
    - Nutrition
    - Anaemia.
- Local site-
- Investigations-
    - Distal loopogram.
    - Barium enema xray.
    - Colonoscopy.
    - Stomascopy.
    - Tumor marker.
    - Assessment for recurrence.

Timing of reversal-

- Usually 6 weeks minimum.
- Average 2-3 months.
- Early 10-14 days- under optimum condition.
- 4-6 weeks following adjuvant therapy.

- Hartmann's procedure-
  - 3-6 months.

- Stoma for anastomotic leakage-
  - 6 months.

- Hartmann's for obstructing CRC-
  - 2 yrs.

Complications

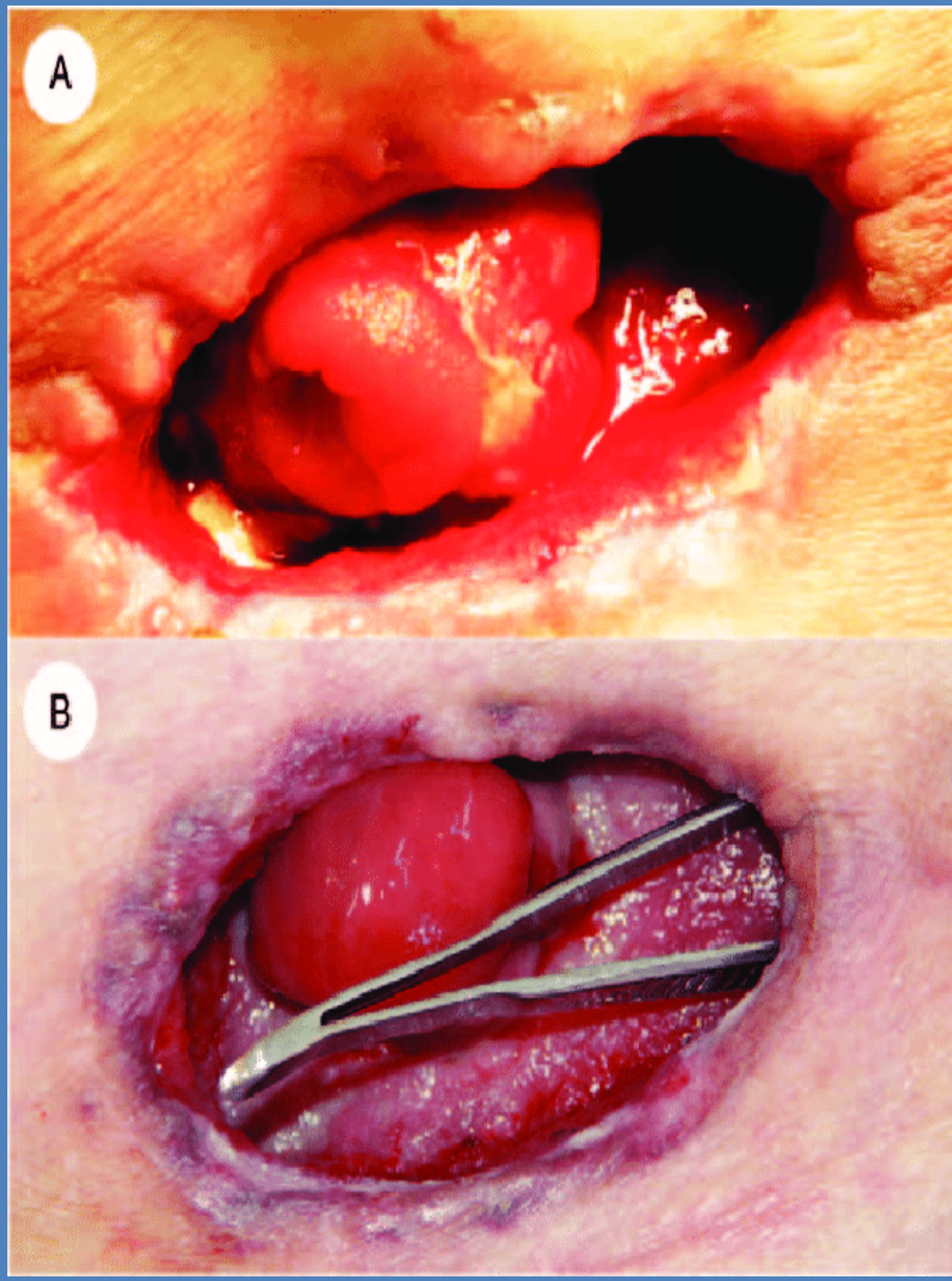
Early-

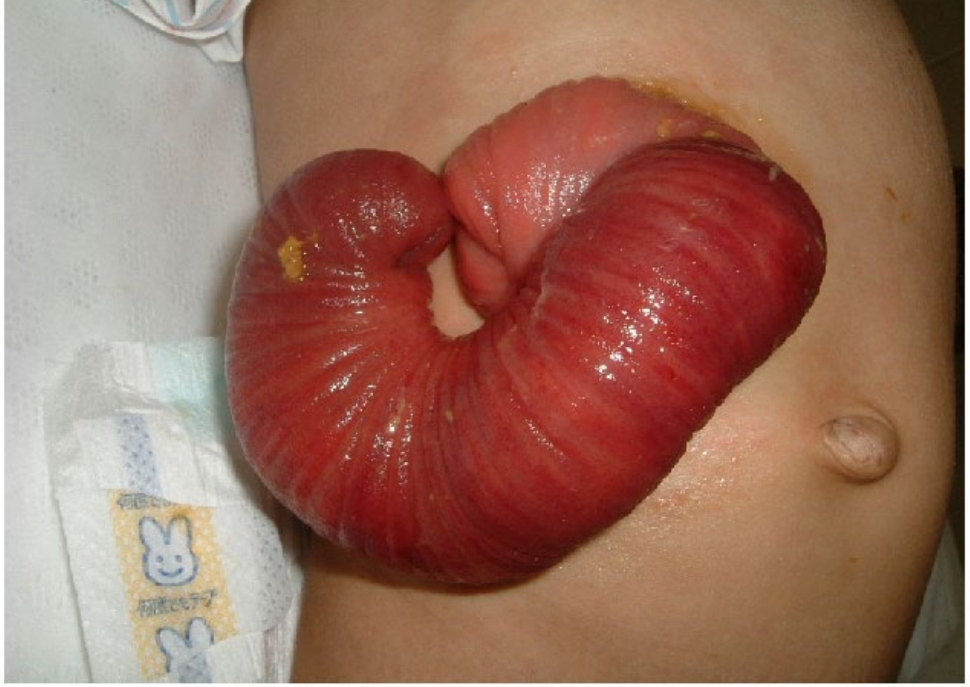
- Leakage.
- Stoma necrosis.
- Peristomal dermatitis.
- Fluid electrolyte imbalance.
- Intestinal obstruction.
- Mucocutaneous separation.
- High output stoma.
- Peristomal abscess.

Late-

- Retraction.
- Prolapse.
- Stenosis.
- Parastomal hernia.
- Intestinal obstruction.
- Fistula.
- Stomal varices.
- Ulcerations.
- Recurrance.
- Peristomal skin problems.
- Gall stone, urinary stone.

- Stoma resiting- resited from left to right side.
- Stoma revision-
- Stoma repositioning.
- Stoma refashioning- **redo**, **remake**, **make over**.





Incidence-

- Ileostomy-3%.
- Colostomy-2%.
- Urostomy-<1%.

Highest risk-

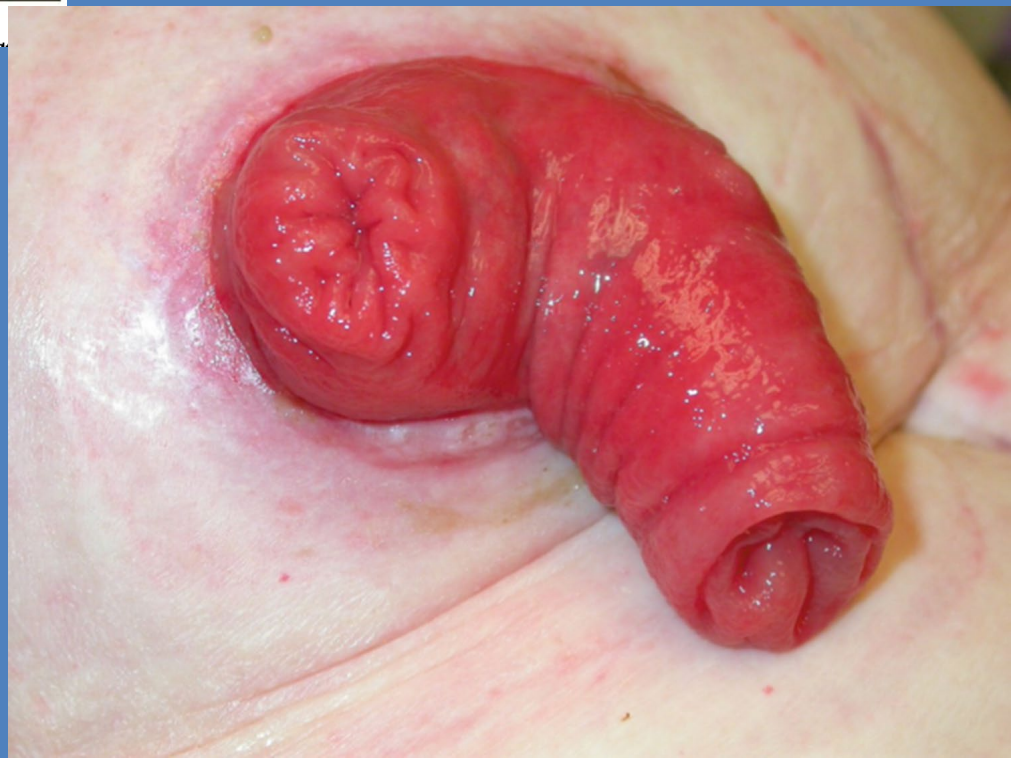
- Loop transverse colostomy.

Which segment commonly involved?

When to operate?

Treatment-

- Resection.
- Revision.
- Resiting.



Stomal stenosis

Cause-

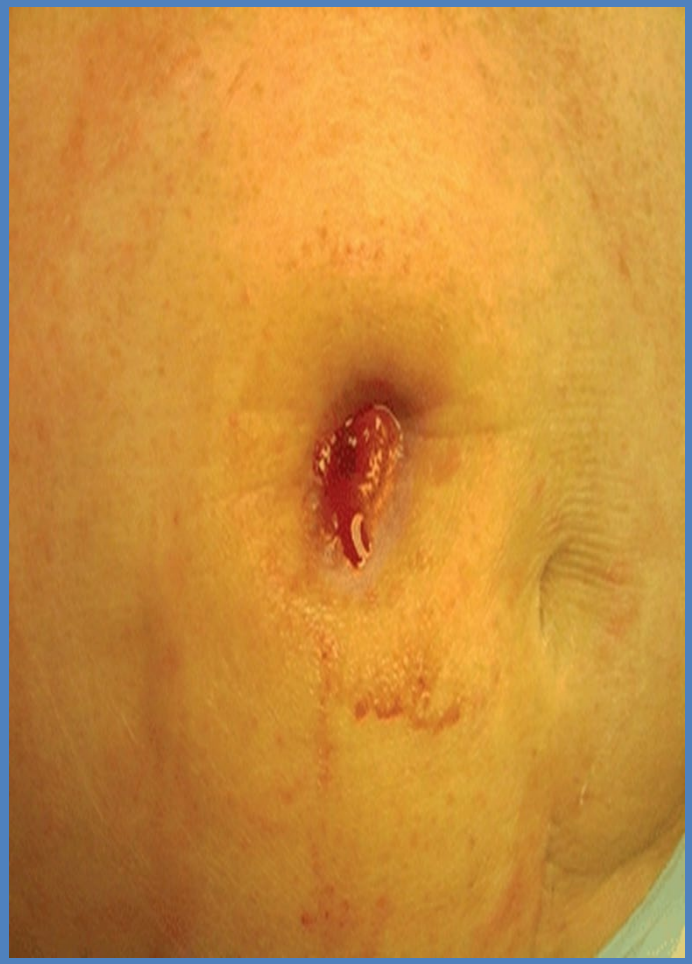
- Ischaemia.
- Infection.
- Too small opening at skin & fascial lebel.

Treatment-

- Initially gentle dilatation.
- Low fibre diet.

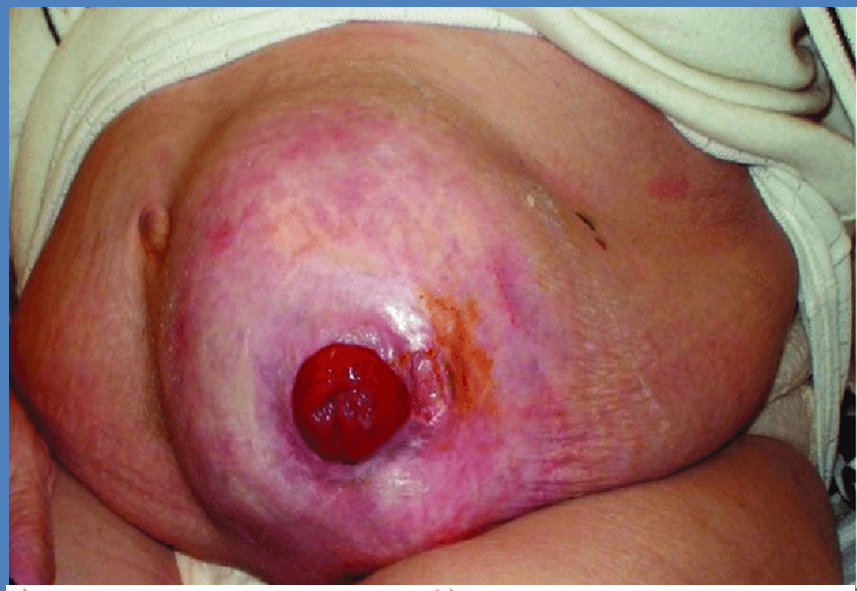
Stoma revision-

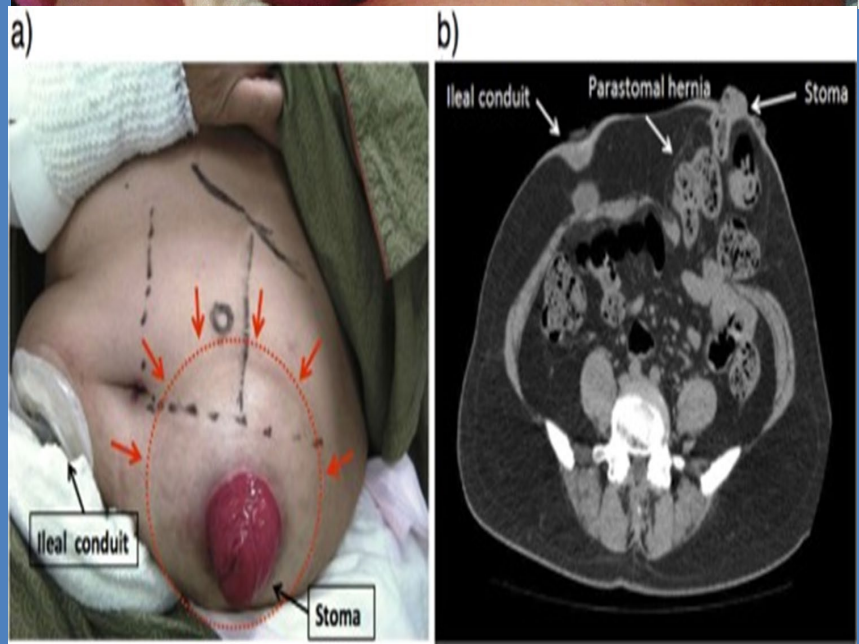
- Skin lebel- excise skin to increase trephine.
- Fascial lebel-incision extended upto fascia- refashioned.



Parastomal hernia

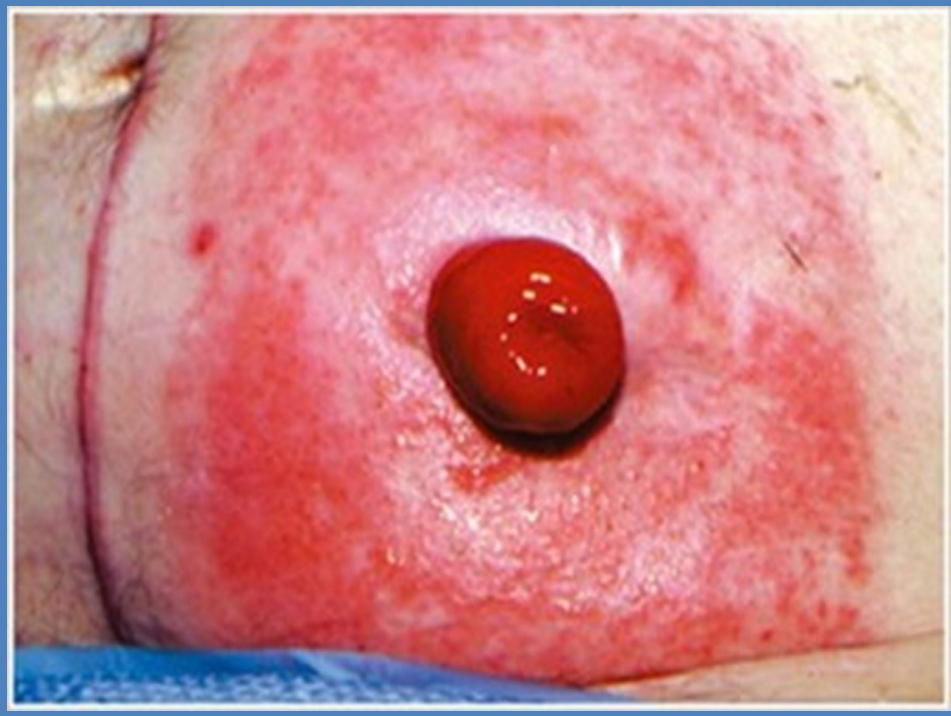
- Aperture size.
- Patients age.
- Type of stoma?
- Waist circumference->100cm- 75% more chance.





Skin excoriation

- Very common.
- 1/3rd colostomies.
- 2/3rd of ileostomies/ urostomy.



Causes-

- Poor fitting appliance.
- Flush stoma.
- Poor sited stoma.
- Hernia.
- Weight gain.
- Skin disease.

Management-

- Educate the people.
- Consider 2 piece appliance.
- Use stomahesive gum.
- Don’t use antiseptics.
- Change as soon as it leaks.
- A methyl cellulose skin wafer is helpful.

Stoma retraction

- Recession of stoma away from the skin surface.
- Causes-
    - Tension.
    - Insufficient fixation.
    - Postop weight gain.
    - Obesity.
    - Steroid use.poor wound healing.
- Causes leakage & skin problems.
- Most eventually need revision.

Stoma necrosis

- Incidence- 14%?

Cause-

- Inadequate mobilization.
- Tight fascial opening.
- Excessive mesenteric striping.
- Undue tension.
- Vascular compromise.

Risk factors-

- Emergency surgery.
- Obesity.
- CD.

Assessment-

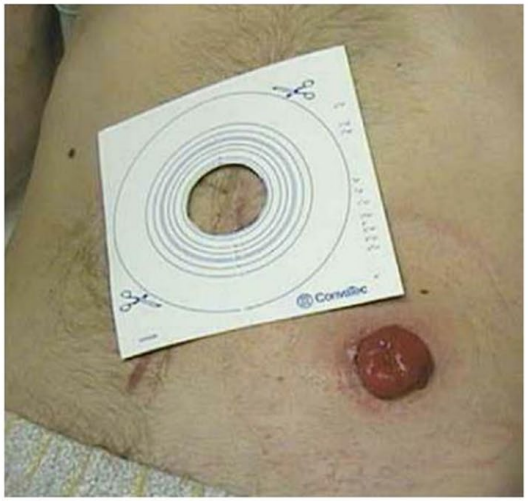
- Inserting a lubricated test tube using a torch.
- Stomascopy.
-

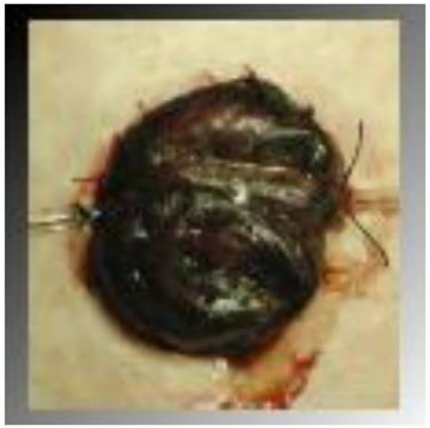
Management-

- Observation.
- Revision surgery.

- At which level?
  - At or below the fascial level?

Good stoma Bad stoma

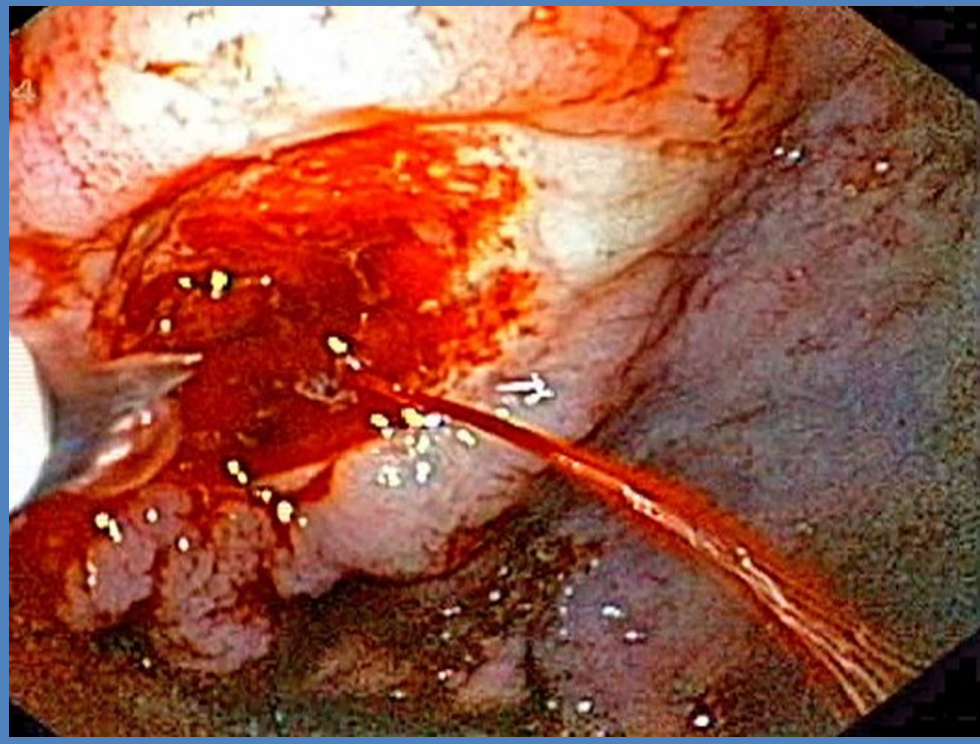




Bleeding

Causes-

- Overenthusuastic cleaning.
- Ill fitting of stoma bag.
- Bleeding from lumen.
- Portal HTN.
- Recurrance of malignancy.



Management-

- Don’t rub your stoma.
- Well fitting of bag.
- Applying pressure if from surface.
- Usually resolve without intervention.

Thank You

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