

www.Ferdauscolorectalcare.info

Colorectal cancer

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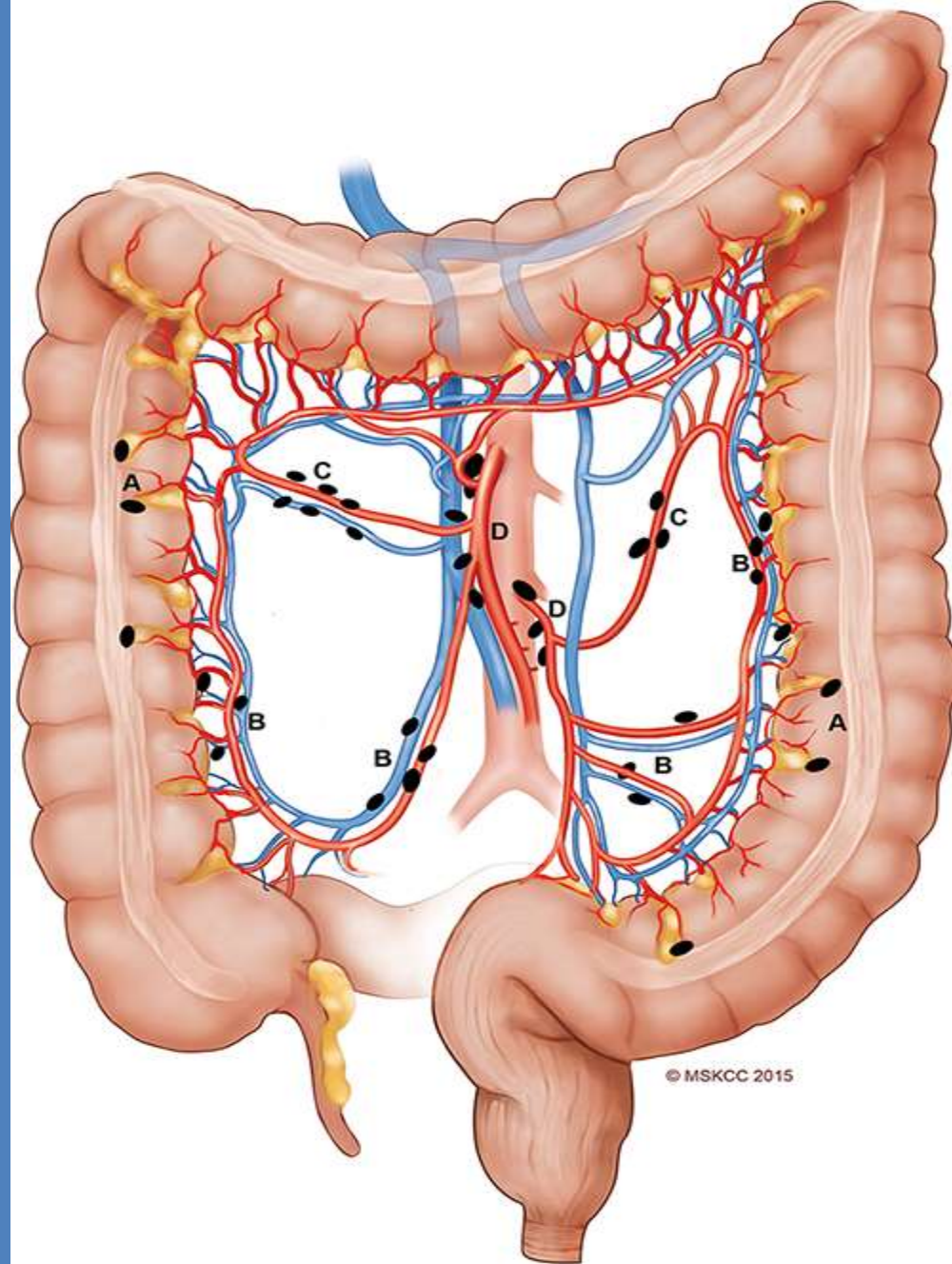
Mymensingh Medical College.

Lymphatic Drainage

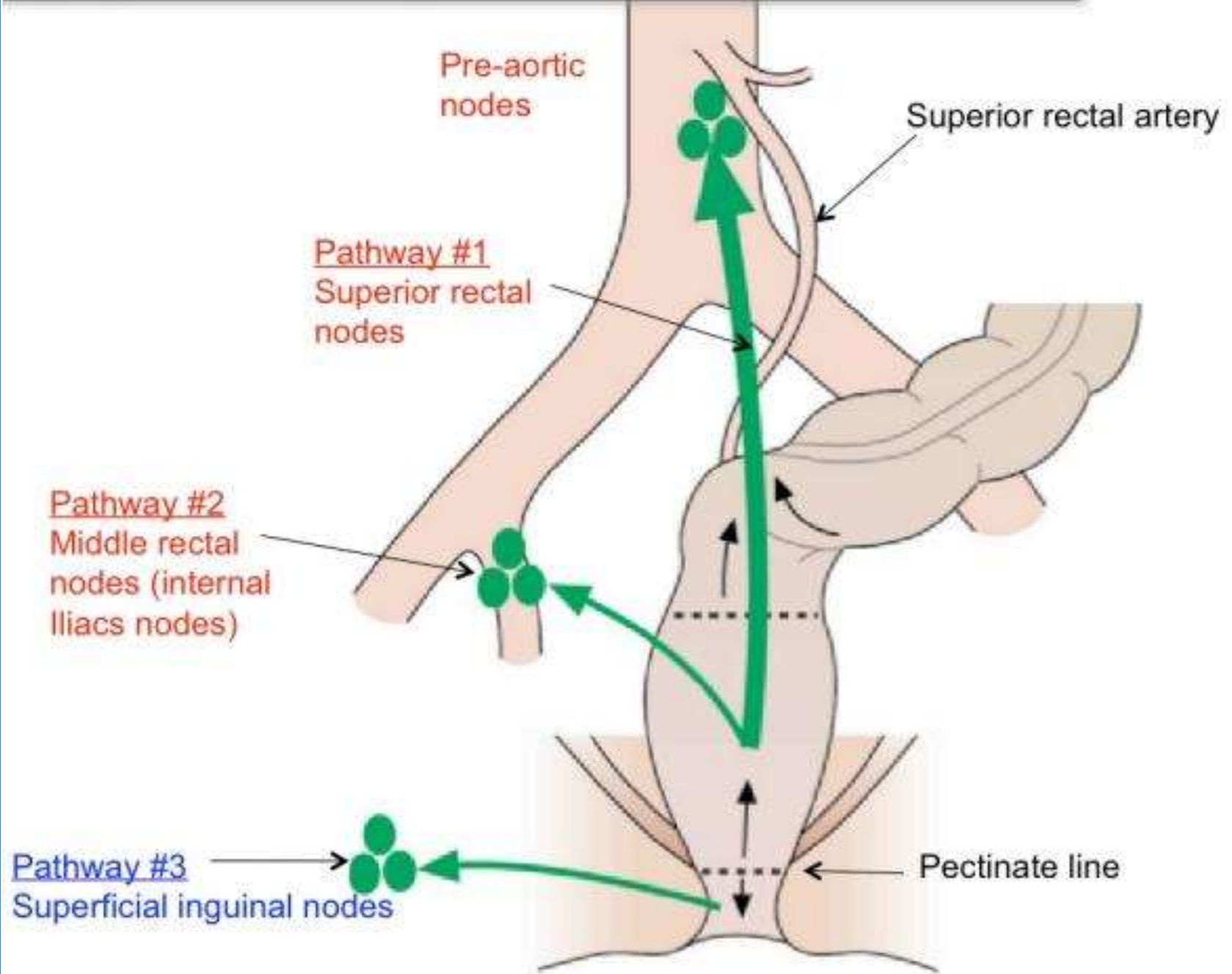
- Submucous
- Subserous
- Extramural lymph channels follow their vascular supply.

Colorectal lymph nodes are classically divided into 4 groups:

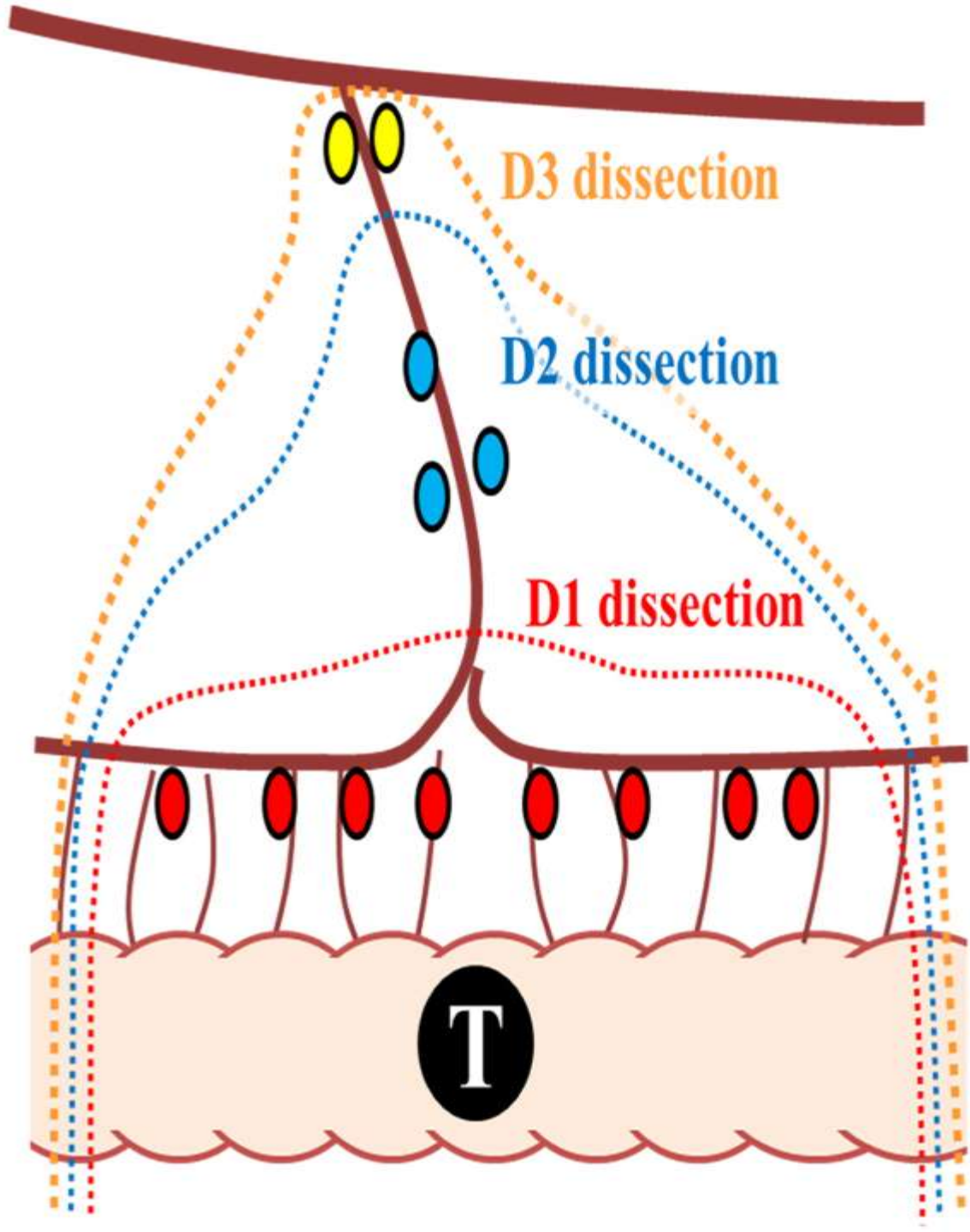
- Epiploic
- Paracolic
- Intermediate
- Principal.



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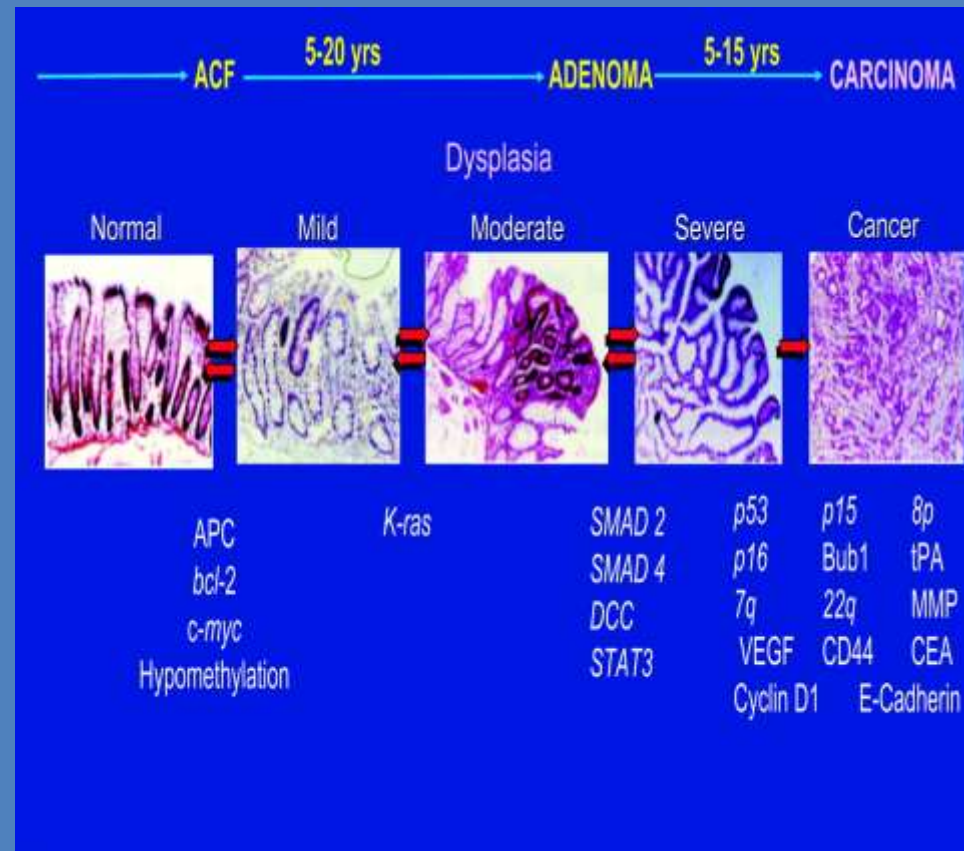


- Main lymph nodes
- Intermediate lymph nodes
- Pericolic lymph nodes



Adenoma carcinoma sequence

- **Slow process.**
 - 2–3 years for an adenoma <5 mm to grow to 1 cm.
 - Another 2–5 years— for 1 cm to cancer.
 - Mean age of adenoma to carcinoma is 7 years.

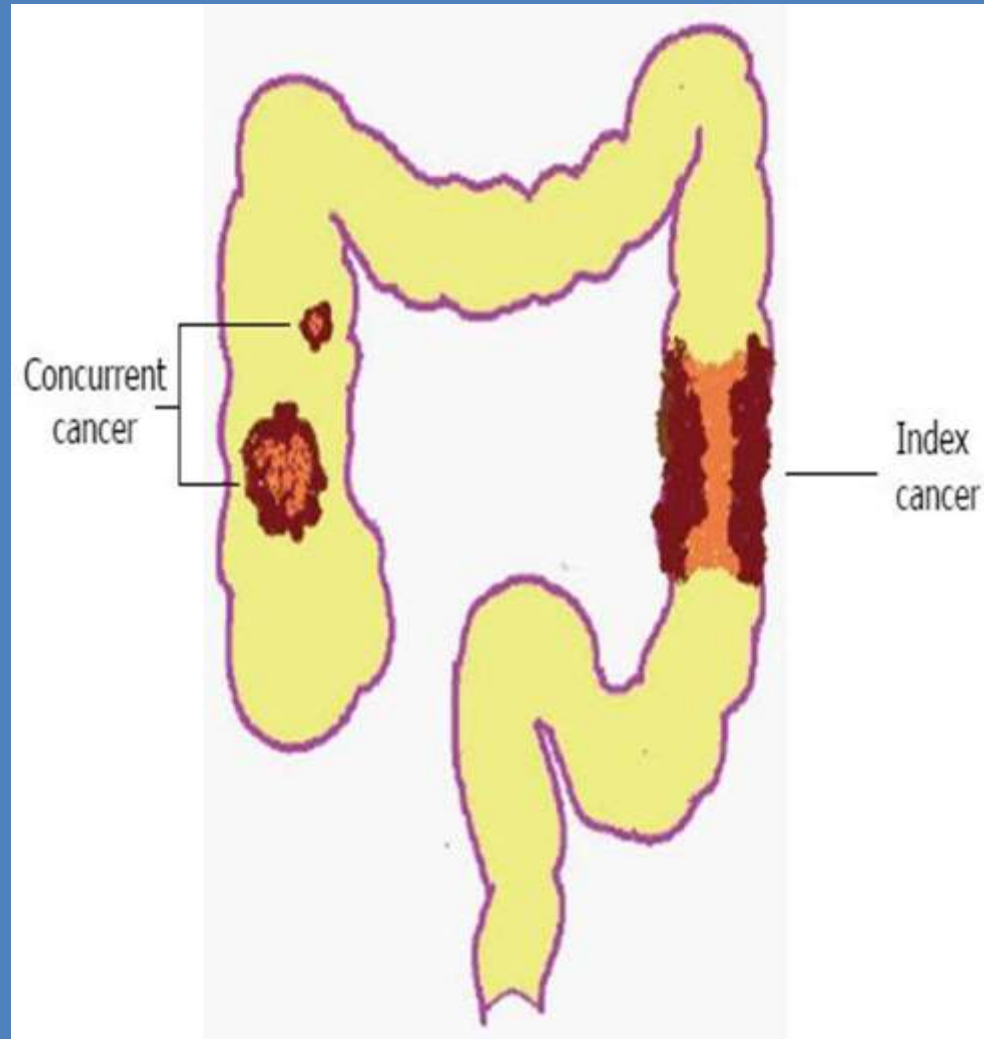


ACF--Aberrant crypt foci

	Right side	Left side
Age at diagnosis	Older	Younger.
Sex	Women more.	Male more.
Alteration of bowel habit	Yes.	Yes.
Obstruction	Less	More.
Anaemia	More common.	Less.
Tumor size	Larger	Smaller.
Condition at diagnosis	More advanced.	Less advanced.
Prognosis	Poor	Good.

Synchronous lesion

- Presence of 2 or more cancer at the time of diagnosis of index case.
- Incidence -2-8%.
- Treatment-
 - 2 resection anastomosis.
 - Subtotal colectomy.
 - ?



Metachronous colon cancer-

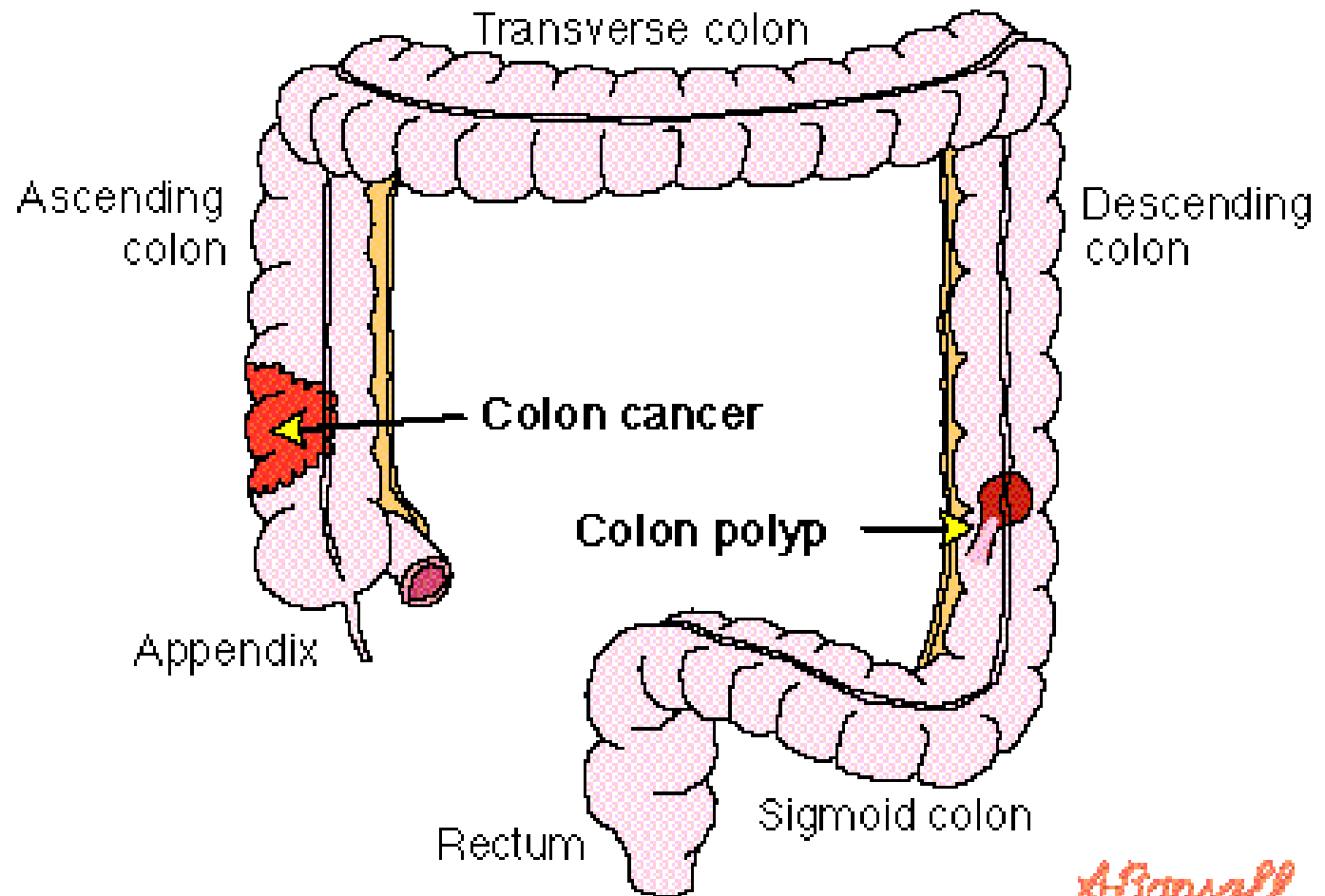
- 2nd ary CRC occurring >6 months after the index cancer.
- 4%.

Missed synchronous CRC-

- Diagnosed within 6 months following Sx for index case.



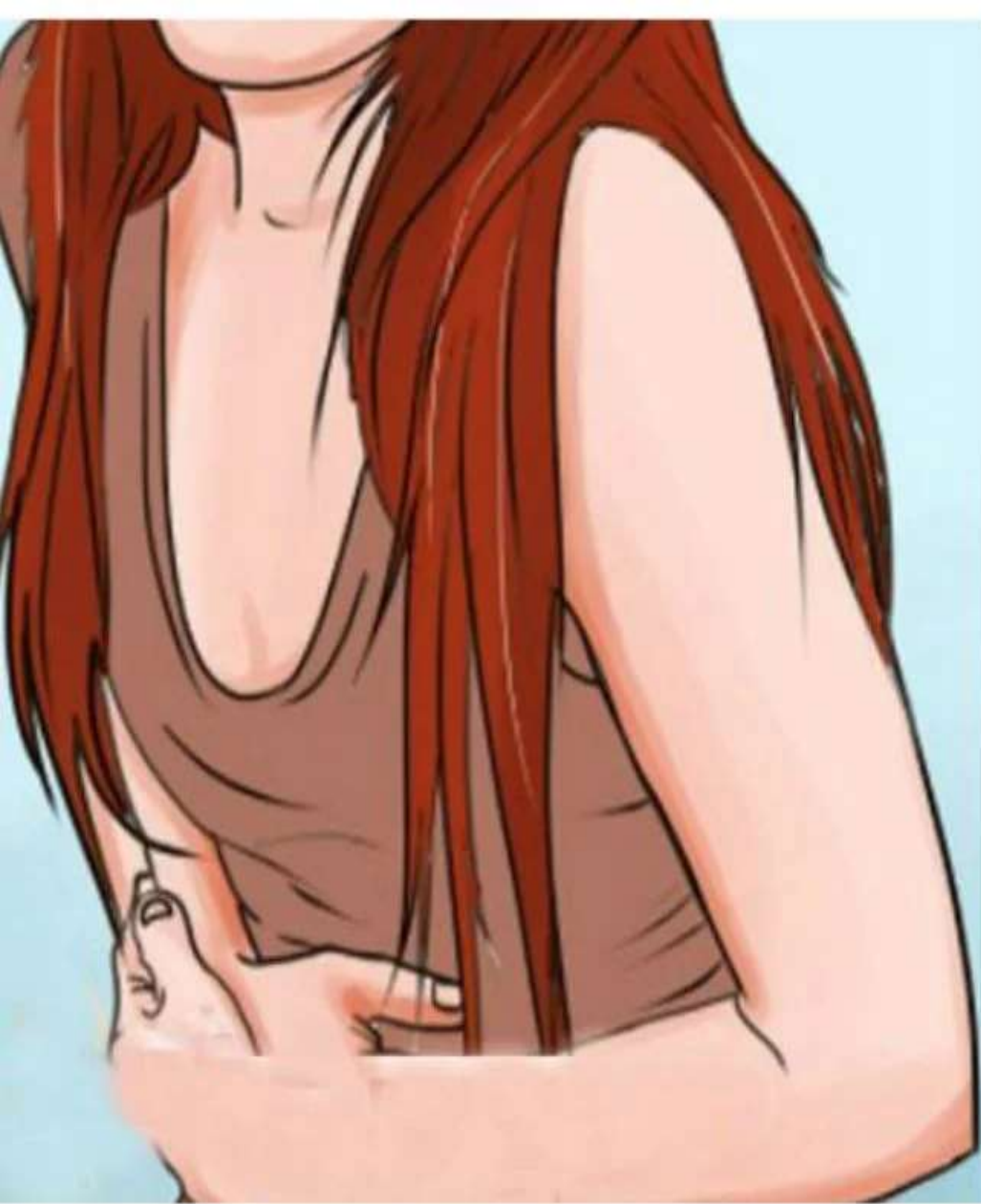
Carcinoma associated polyp



10-20%

Colon Cancer and Polyp

A. Boncill



Carcinoma with impending obstruction



(1)



(2)



(3)



(4)

Figure 65.38 The four common macroscopic varieties of carcinoma of the colon. (1) Annular; (2) tubular; (3) ulcer; (4) cauliflower.

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Alteration of bowel habit

- Frequency.
- Composition.
- Consistency.
- Timing.

Tenesmus

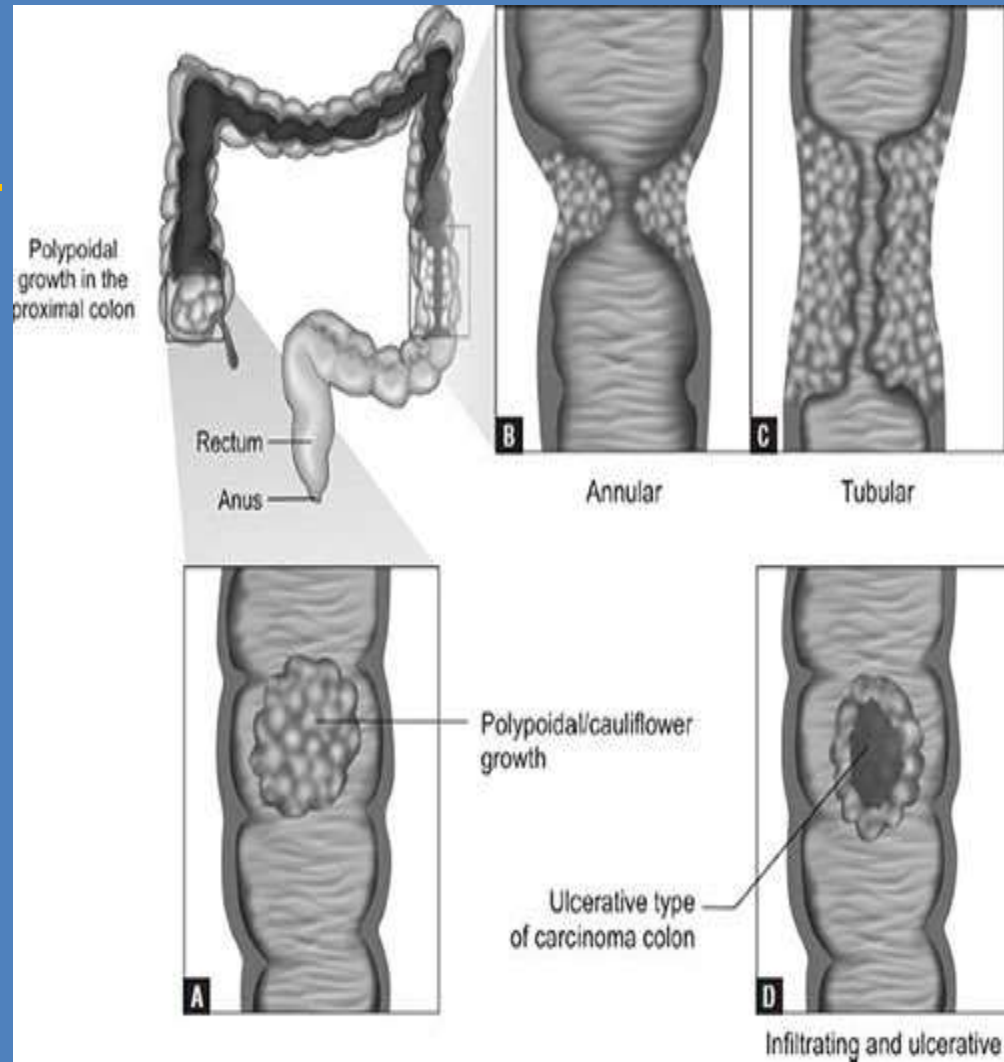
Painful fruitless effort of defecation.

Spurious diarrhoea

- Tries to empty the rectum several times a day.
- Passage of flatus & little bloodstained mucus (bloody slime).
- No stool at all.

Obstruction more on left side

- Annular or tubular variety.
- Formed faecal matter.
- Narrow calibre.
- Thick wall.
- Less distensibility.



WHAT IS STAGING?

Extent of spread of disease.

Duke's staging

- A- Within the wall.

- 15%.
- Prognosis excellent.

- B- Pararectal tissue.

- 35%.
- Prognosis reasonable.

- C- LN involvement.

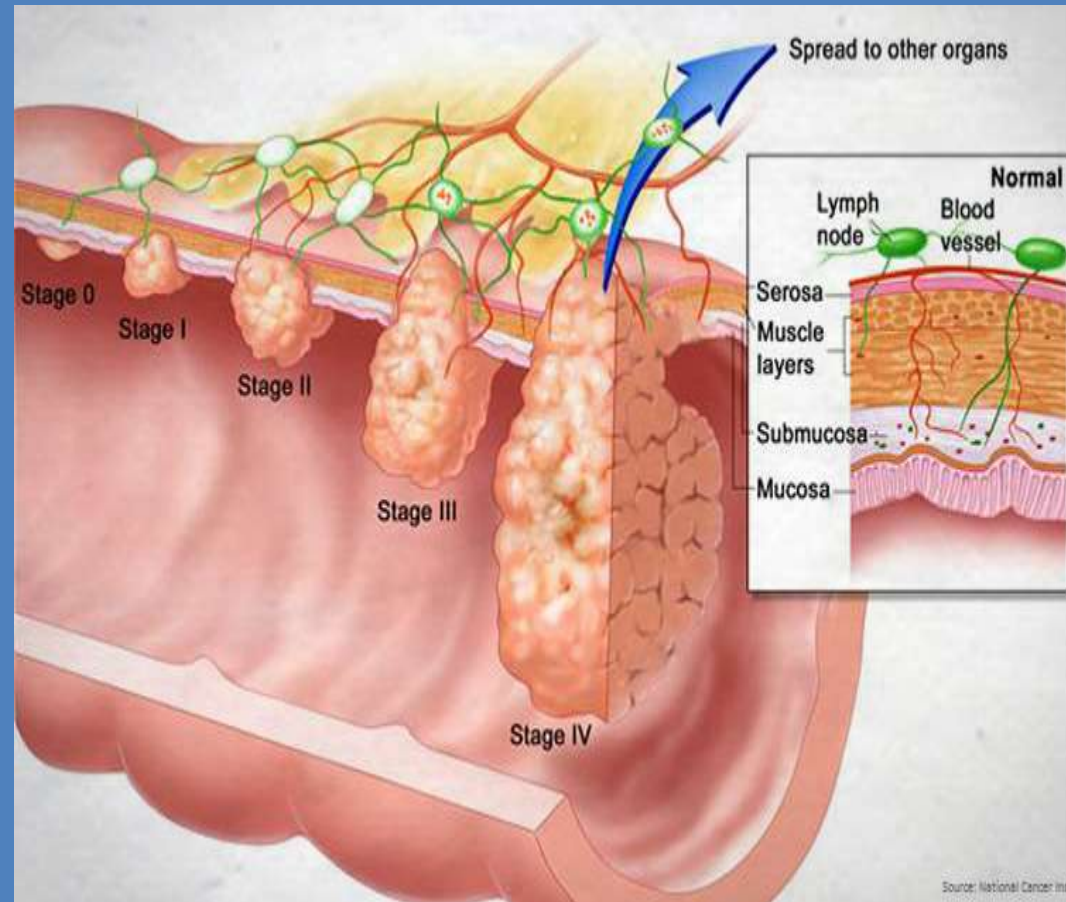
- Regional lymph nodes.
- 50%.
 - ✓ C1-Para rectal LN.
 - ✓ C2-Nodes accompanying the supplying blood vessels up to the point of division.
 - ✓ Prognosis bad.

Modified Duke's staging-

- D- distant spread.

TNM staging

- T_1 - Mucosa & submucosa.
- T_2 - Muscle layer.
- T_3 - Pararectal tissue.
- T_4 - Surrounding tissue.
- N_1 - Upto 3 LN.
- N_2 - > 4 LN.
- M_0 - No metastasis.
- M_1 - Metastasis present.



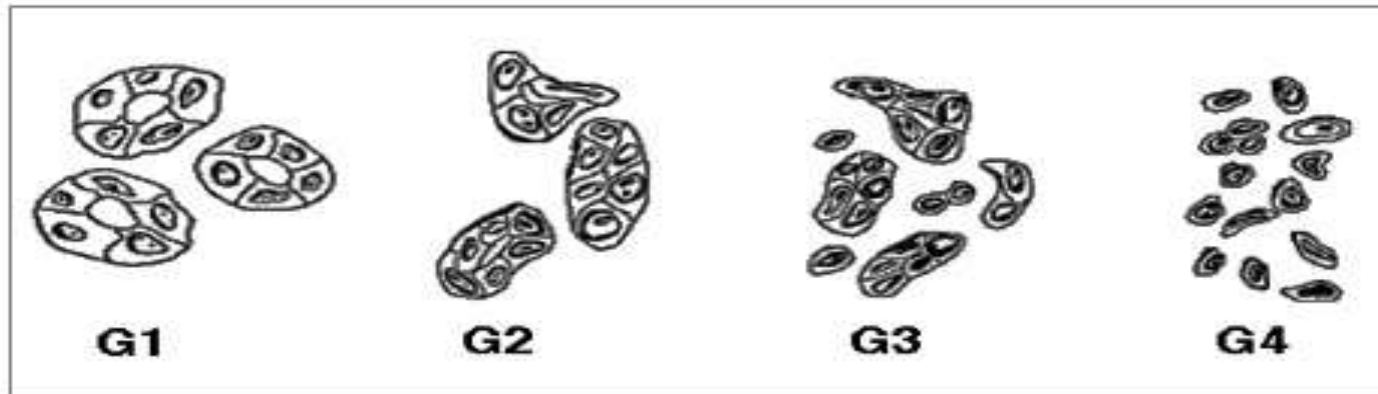
Degree of differentiation.



Stage & Grade of Cancer:

Staging: Progression or spread in the body.

Grading: Cell differentiation & Rate of growth – Microscopy.



Well differentiated (low grade)

Adenocarcinoma Grade

Undiff. (high grade)

(a)

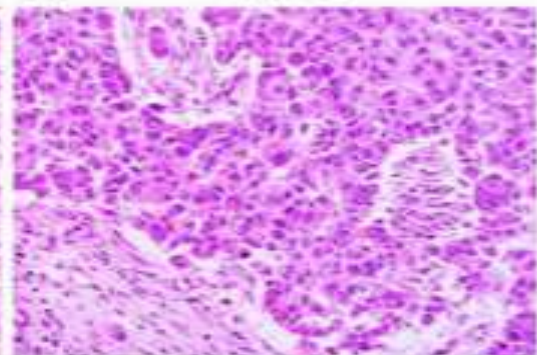
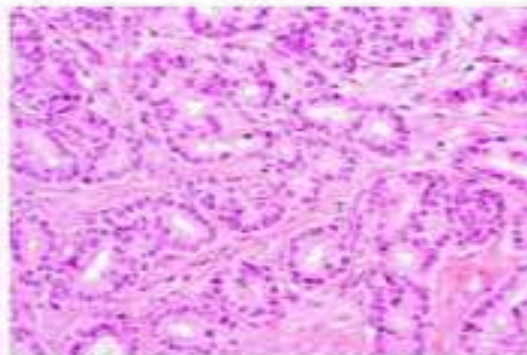
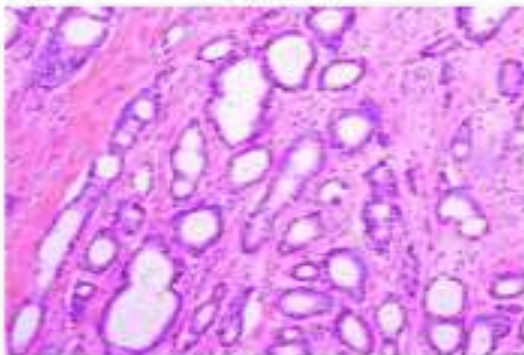
Grade 1

(b)

Grade 2

(c)

Grade 3



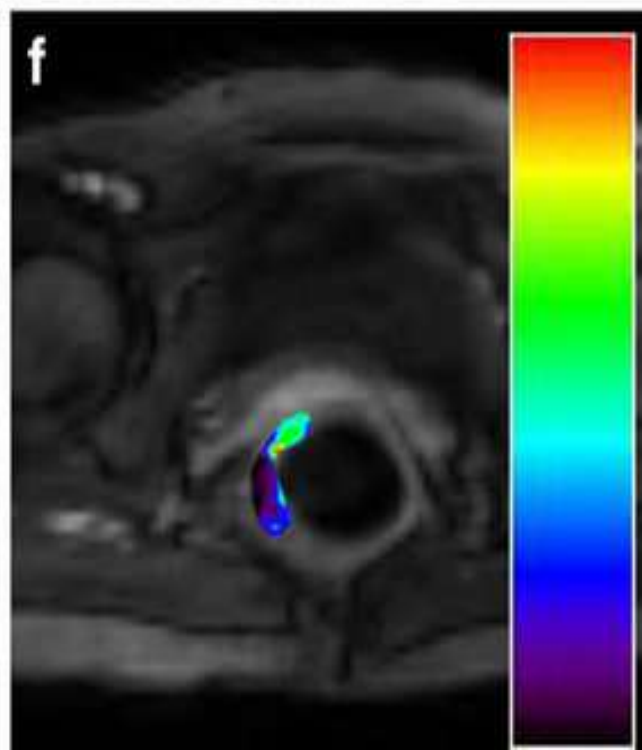
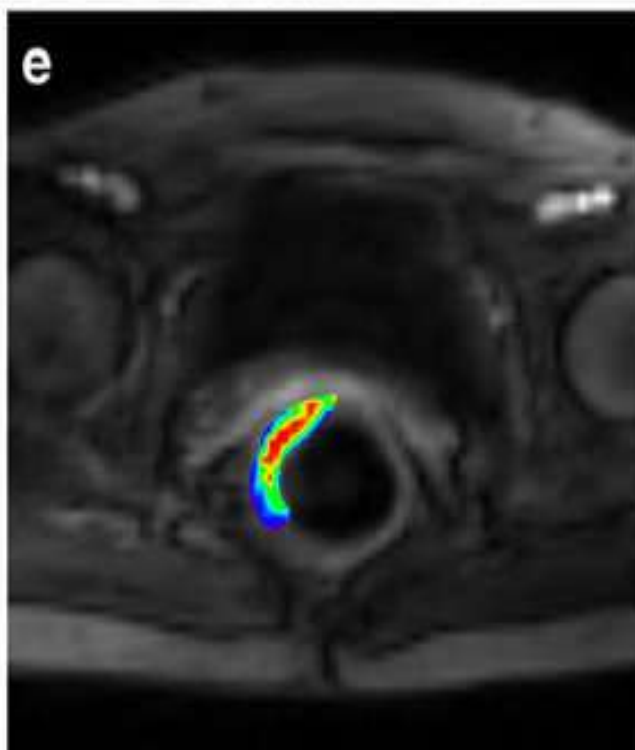
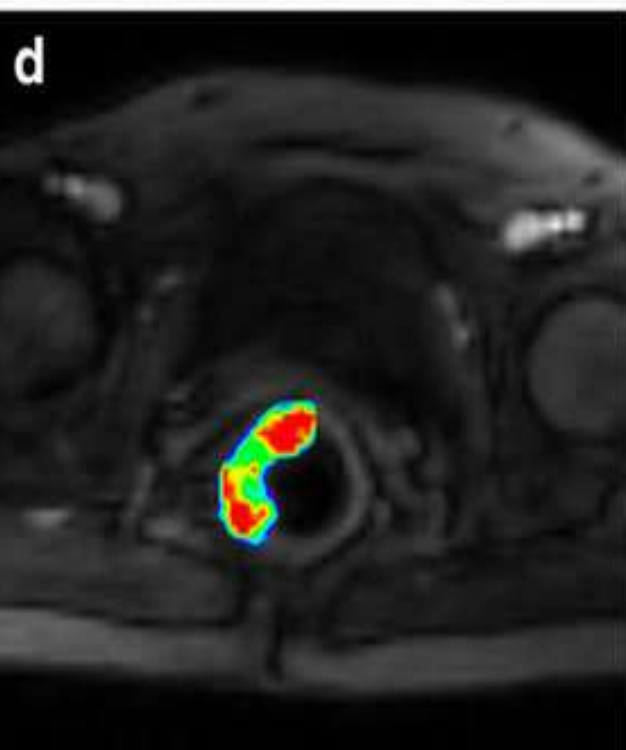
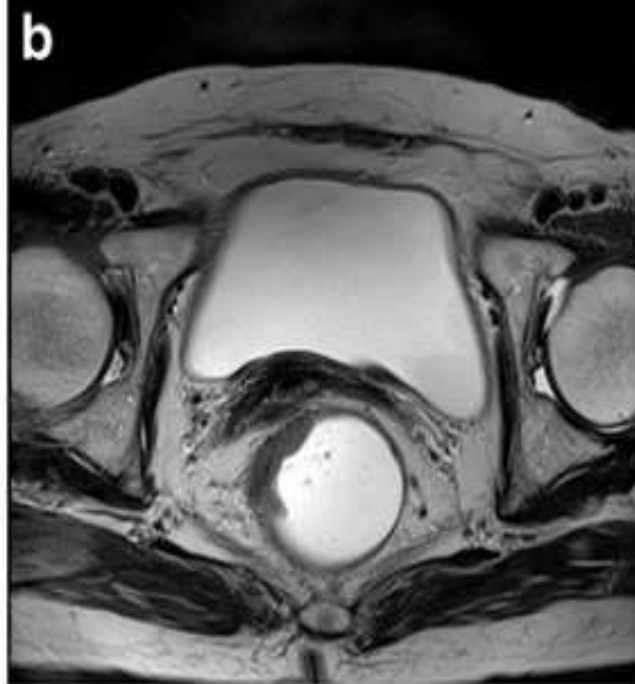
Down staging –

Reduction of the stage of the tumor.

- T
- N
- M.

• Down sizing-

- Reducing the size of the tumor.



Investigations

- Colonoscopy & biopsy.
- Barium enema X-ray of large Gut.
- CT scan of abdomen & chest.
- Serum CEA & CA 19-9.
- Serum albumin.
- LFT.
- MRI of Pelvis.
- Endoanal USG.
- Fitness investigations.





Fig. 5 Double-contrast barium enema reveals an an

Mechanical cleansing.
Chemical cleansing.



STARZ

Mechanical bowel preparation

Mechanical ways to reduce the bulk of stool.

- PEG.
- Sodium picosulfate (Picolax).
- Hercules preparation.
- Enemas.
 - Enema simplex.
 - Compound enema.
 - Fleet enema.

- 3 days preparation.
- 2 days preparation.
- 1 day preparation.
- No bowel preparation.

- 4 bottle PEG solution in 4 litre of fluid.
- 250 ml 15 min interval.
- Starting from 10 am.
- Ends at 2 pm.
- Liquid diet upto 8 pm.
- Then start saline.
- Enema if required.

What we do?

No bowel preparation for-

- Anorectal procedures.
- Right sided colonic resection.
- APR.
- Emergency procedures.

Bowel preparation for-

- Left sided colonic resections.
- AR.
- LAR.
- ULAR.
- Colonoscopy.

Principle of cancer surgery

- Removal of tumor.
- Adequate tumor free resection margin.
- Lymphovascular clearance.

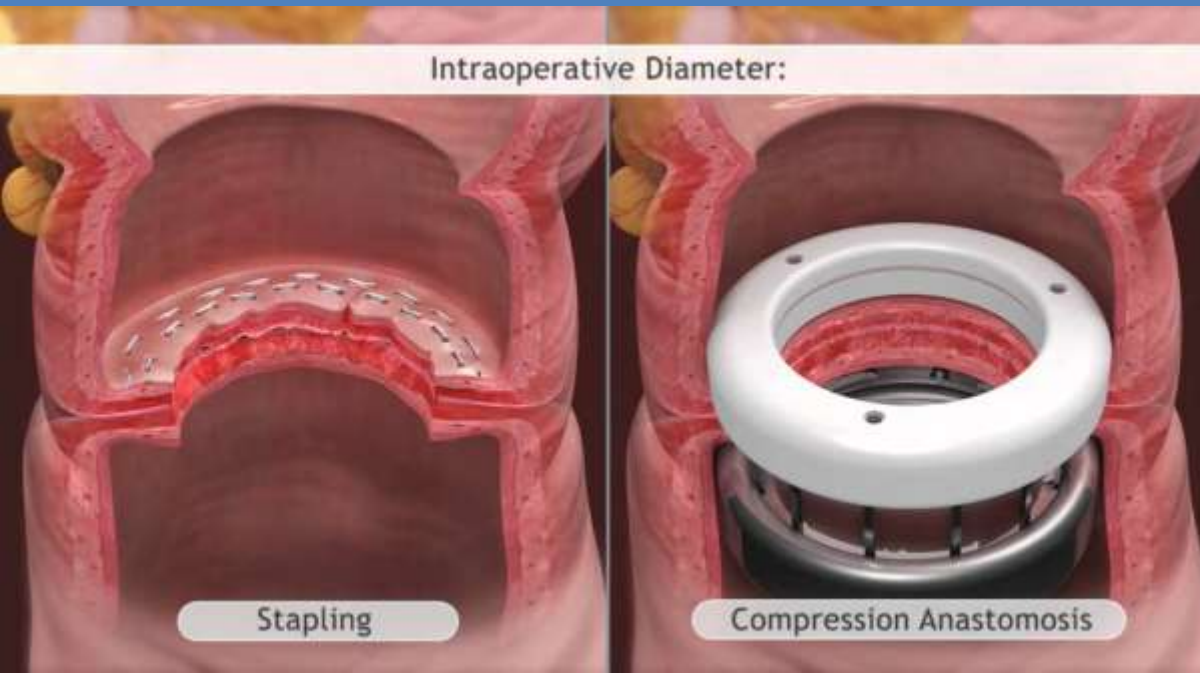
Principles of anastomosis

- Good blood supply.
- Tension free anastomosis.
- Air tight & water tight.
- Anastomosis with healthy, non diseased bowel ends.

- 3-0 R/B vicryl.
- Single layer seromuscular extramucosal.
- Single layer full thickness.



Intraoperative Diameter:



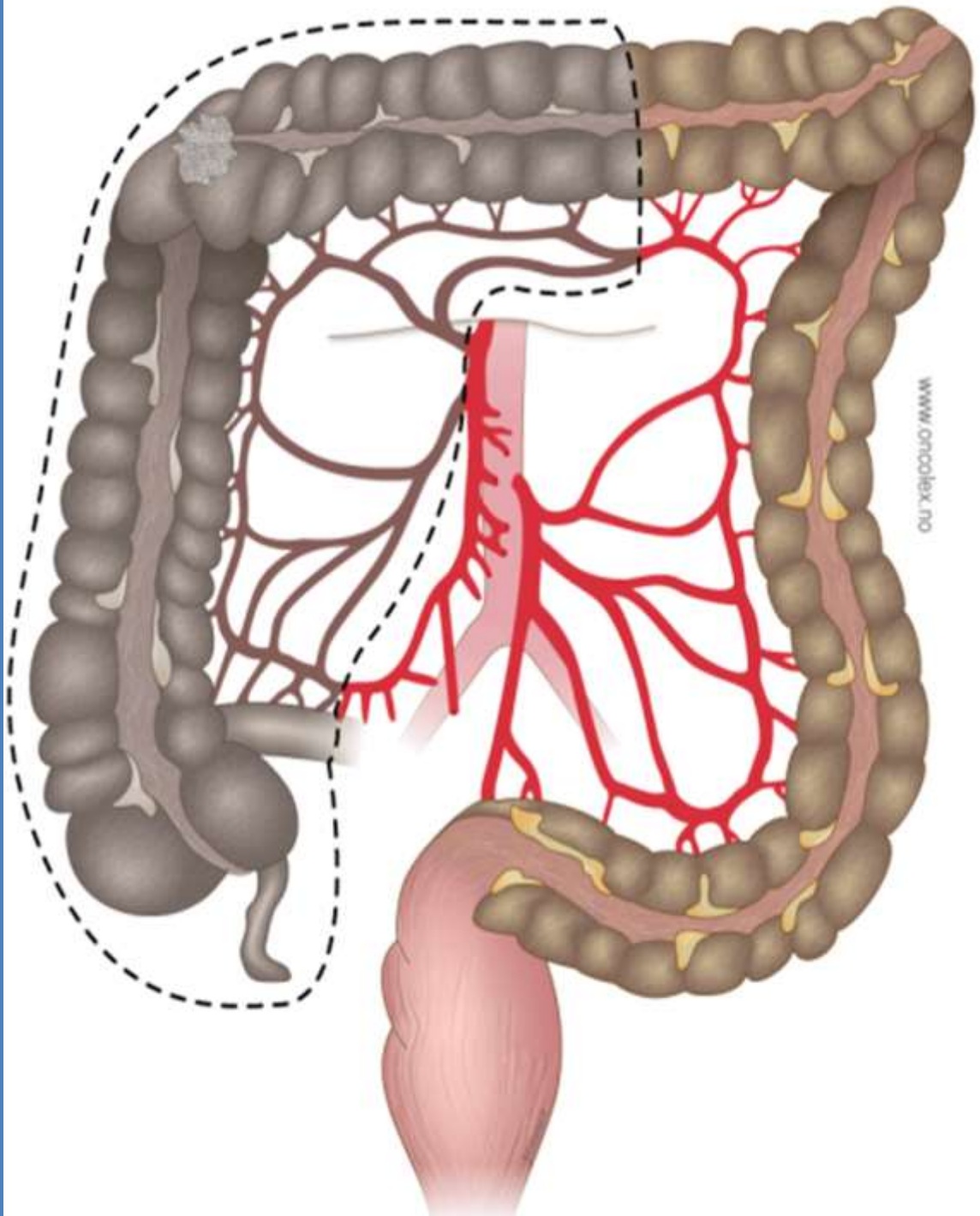
Patency test.



Leak test

PRM

- 10 cm tumor free resection margin is adequate.
- At least 5 cm should be resected.



DRM

Maximum distal mesorectal spread upto 2-3 cm.

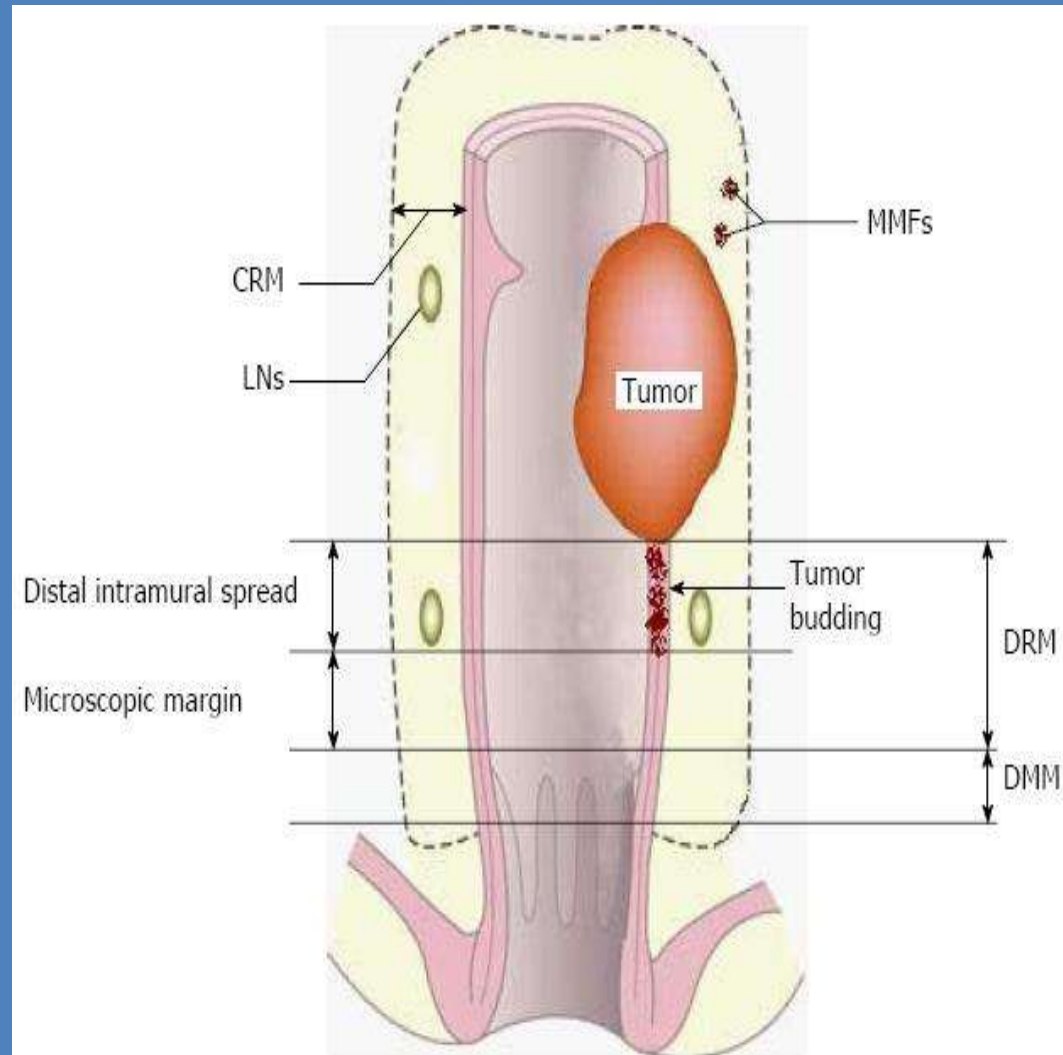
- DRM should be 5 cm where possible.

Standard for low rectal cancer

- At least 2 cm.

SSS-

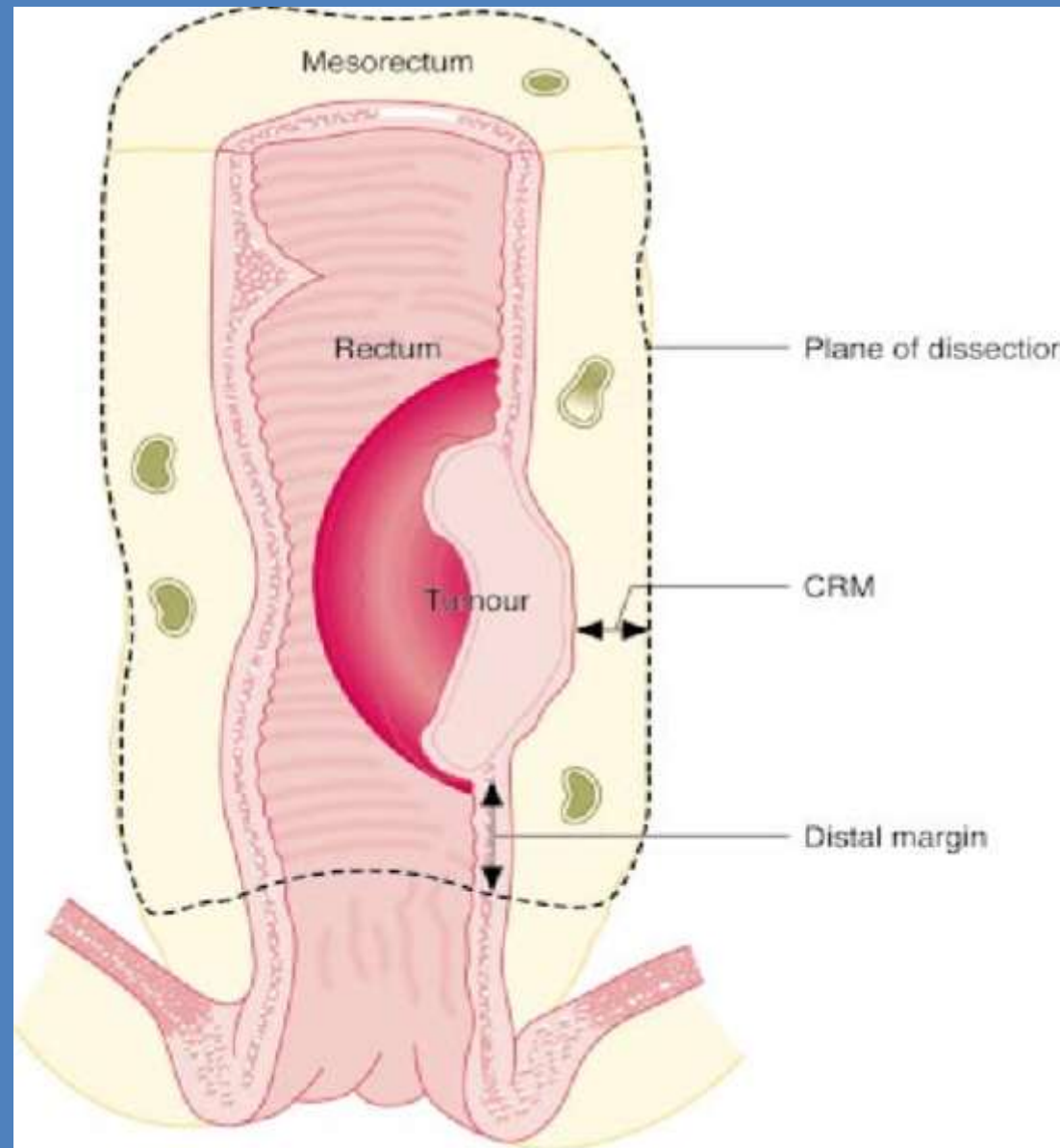
- Well diff-0.5 cm
- Mod. diff-1 cm
- Poorly diff- 2 cm

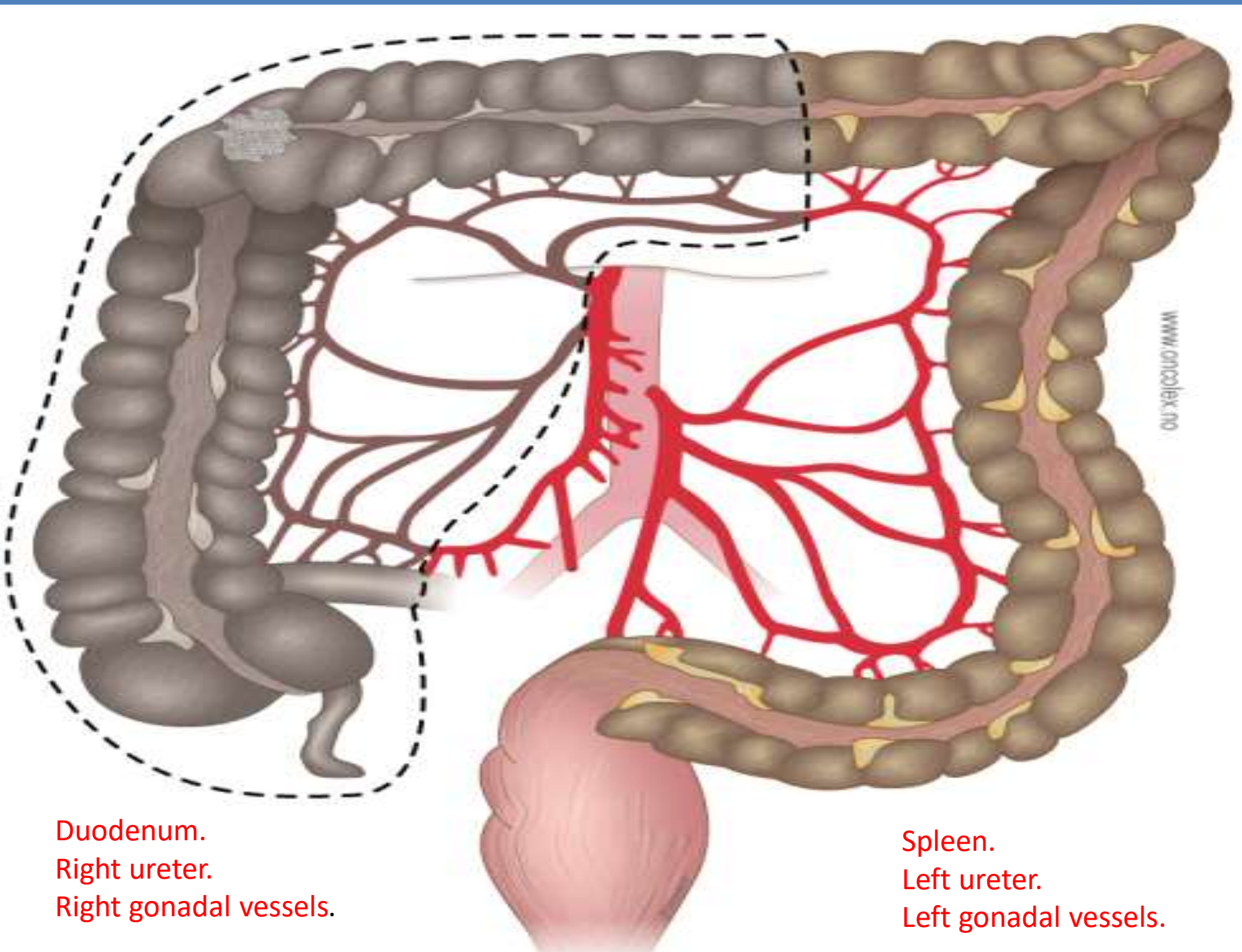


CRM

CRM positive

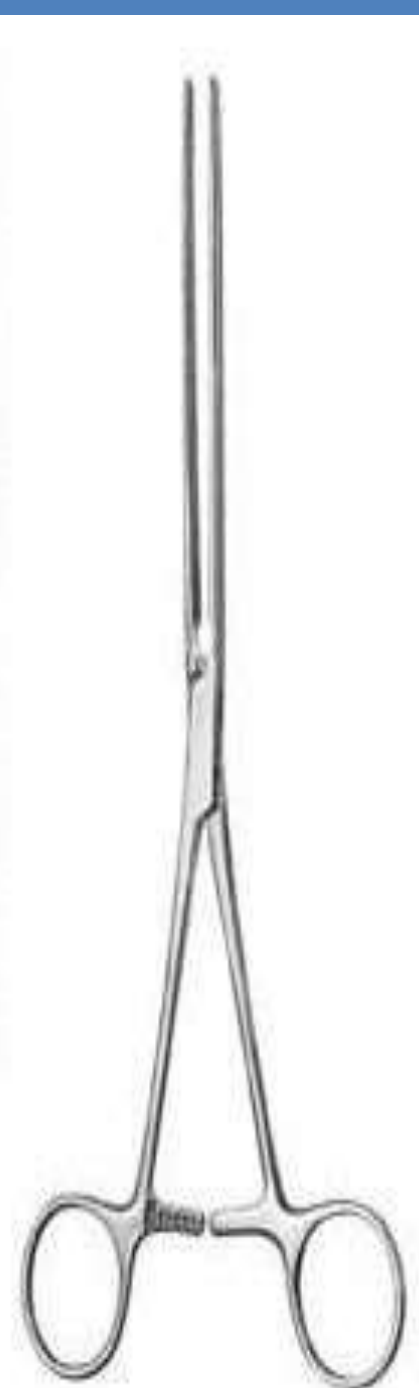
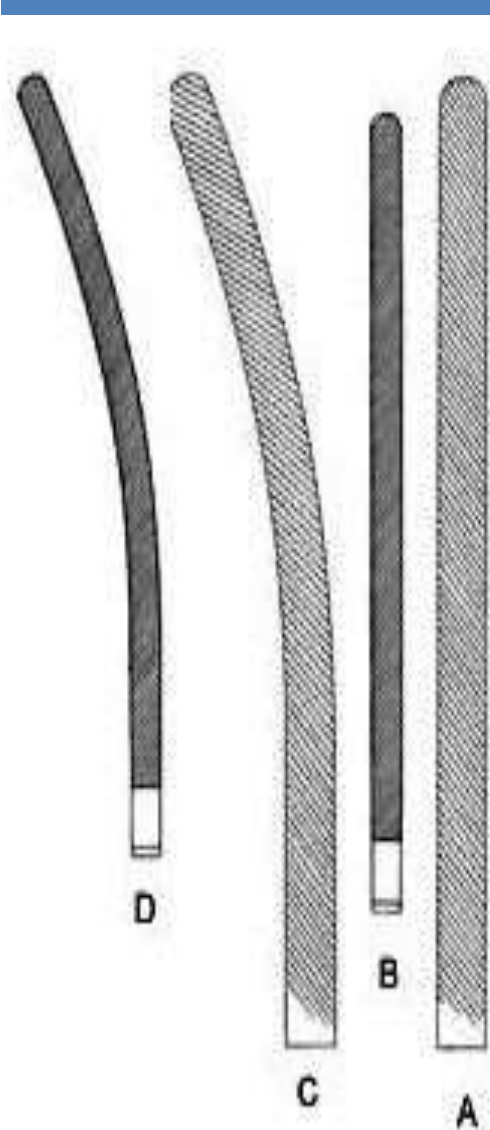
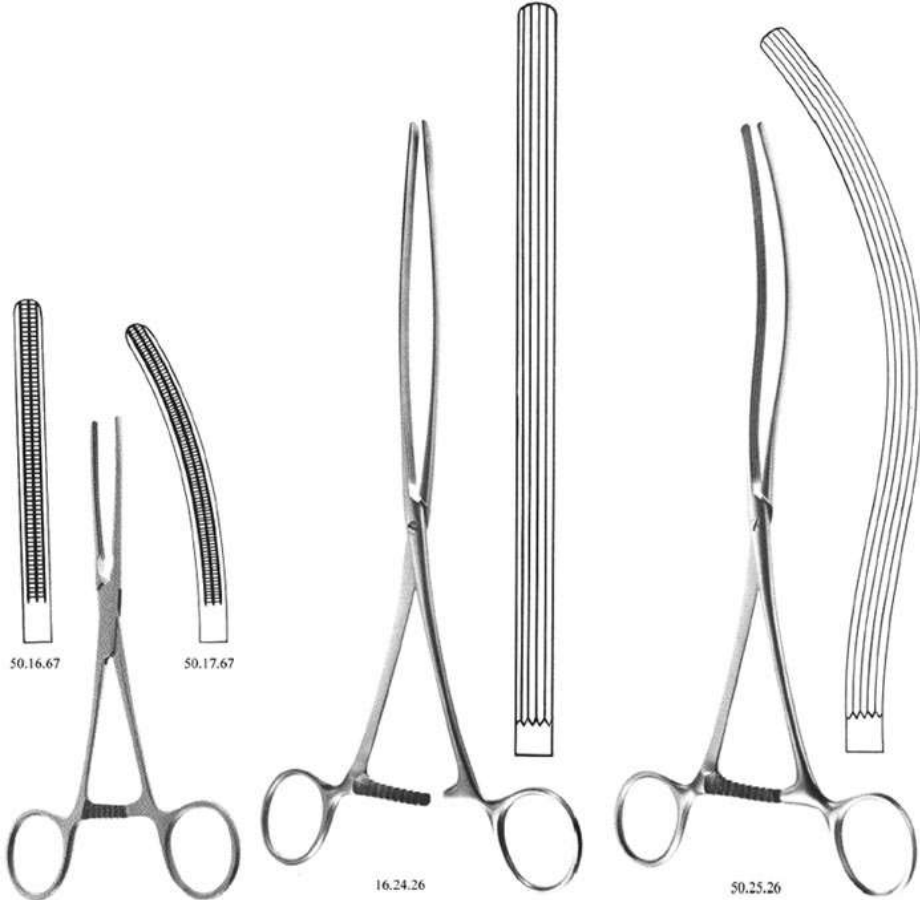
- Tumor cell deposit within 1 mm of CRM.
- Bad prognostic sign
- High chance of recurrence.





Duodenum.
Right ureter.
Right gonadal vessels.

Spleen.
Left ureter.
Left gonadal vessels.



Occlusive variety.
Crushing variety.

Straight.
Curved.

Functions-

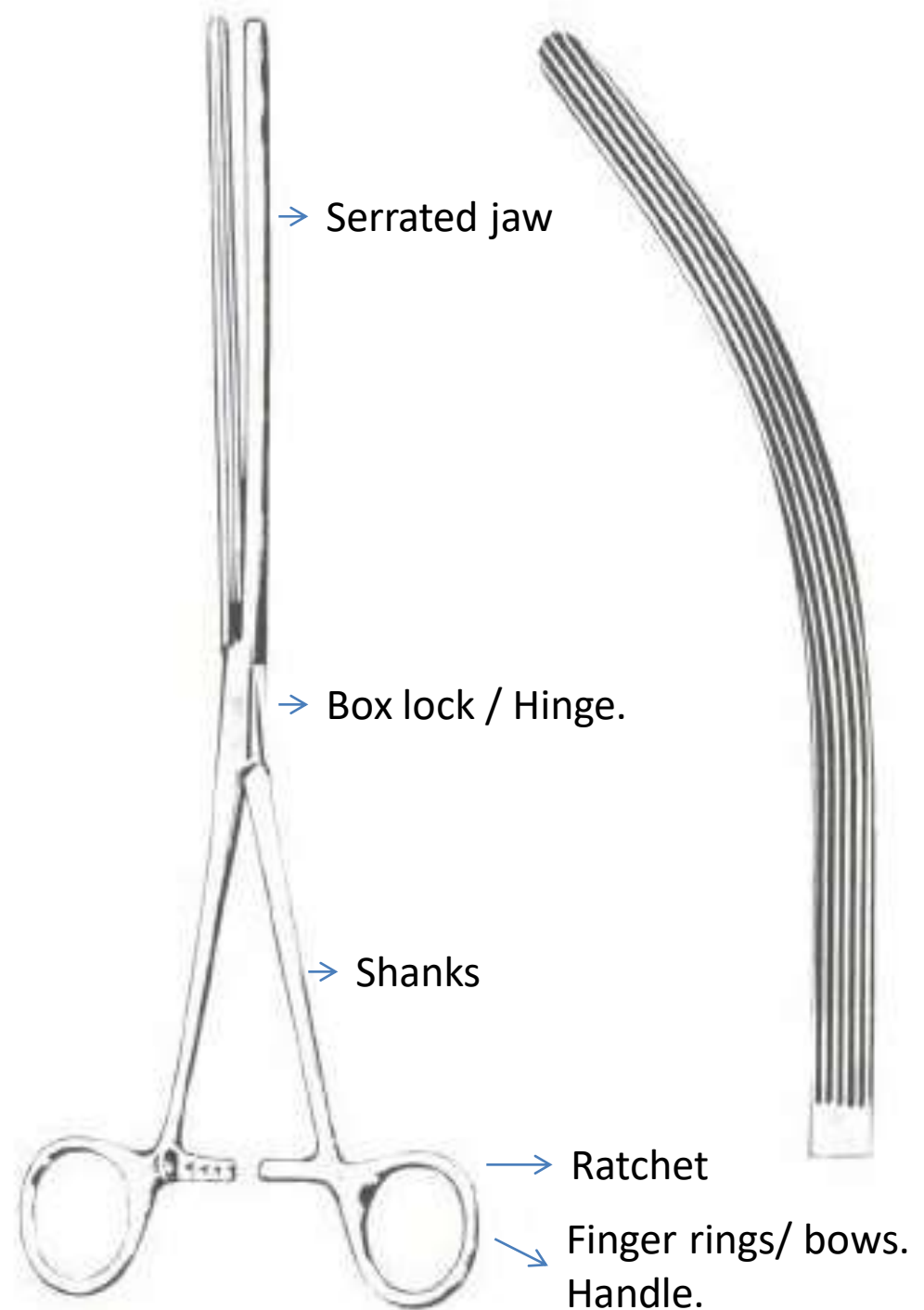
- Occlusion.
- Haemostasis.
- Apposition.

Sterilization-

- Autoclaving.



Resected end- Crushing variety.
Remaining segment- Occlusive.



Proctoscope



Proctoscope:



Length

- Depends upon the length of proctoscope.
- Upto 12 cm.



Proctoscope

Parts-

- Outer sheath with a handle.
- Inner obturator.

Types-

- Illuminating.
- Non illuminating.

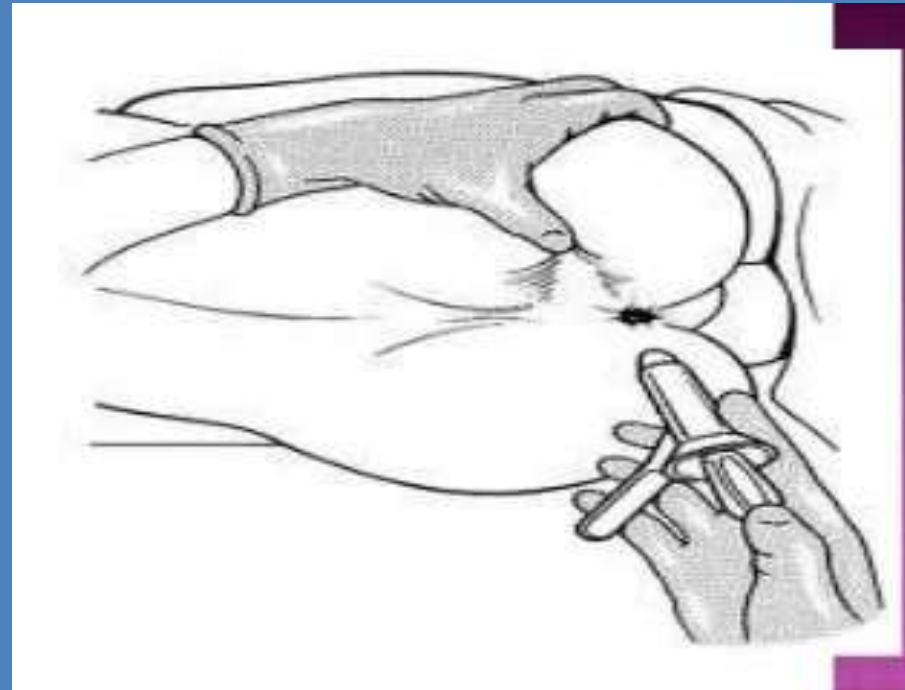
Proctoscope:



Indications

Diagnostic-

- Haemorrhoids.
- Fissure.
- Fistula.
- Polyp.
- Biopsy.
- Stricture.



Therapeutic-

- Sclerotherapy.
- Polypectomy.
- RBL.

Complications

- Pain.
- Bleeding.
- Thrombosis.
- Prolapse.
- Ulceration.
- Abscess formation.
- Portal pyemia (rare).

Contraindication-

- Painful anal condition.

Per rectal bleeding

Painless-

- Haemorrhoids.
- Rectal polyp.
- IBD.
- Diverticular disease.
- CRC (early).
- SRUS.
- Rectal varices.
- Postpolypectomy .

Per rectal bleeding

Painful-

- Thrombosed haemorrhoids.
- Anal fissure.
- Anal trauma.
- Advanced cancer.
- Anal warts.
- Rectal prolapse.
- Proctocolitis.

Painful anal condition

- Acute anal fissure.
- Complicated haemorrhoids.
- Anorectal abscess.
- Perianal haematoma.
- Anal cancer.
- Proctalgia fugax.

One-piece type

Two-piece type

Urine collection bag

Stool collection bag

Faceplate
stoma hole

Flange
(connection part)

Non-return
valve

Faceplate

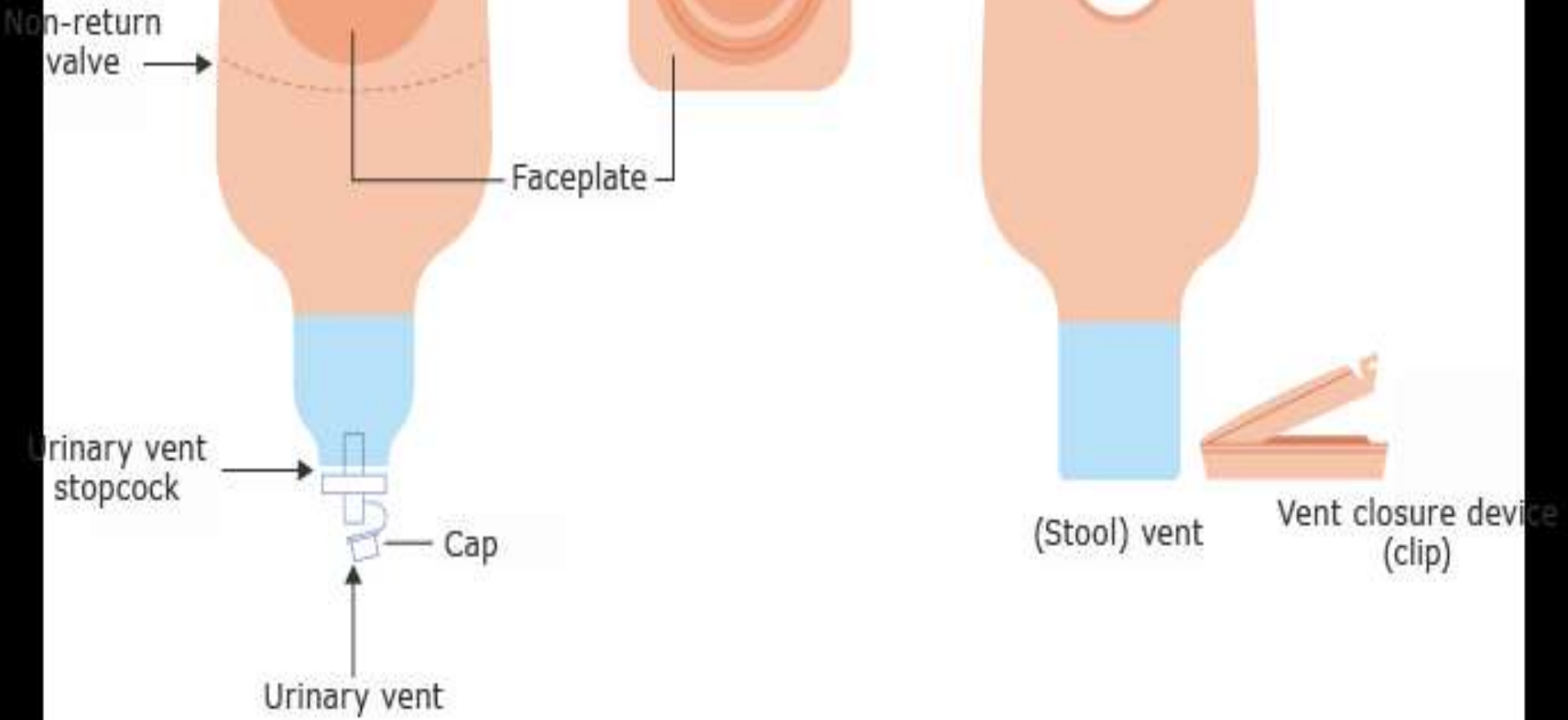
Urinary vent
stopcock

Cap

Urinary vent

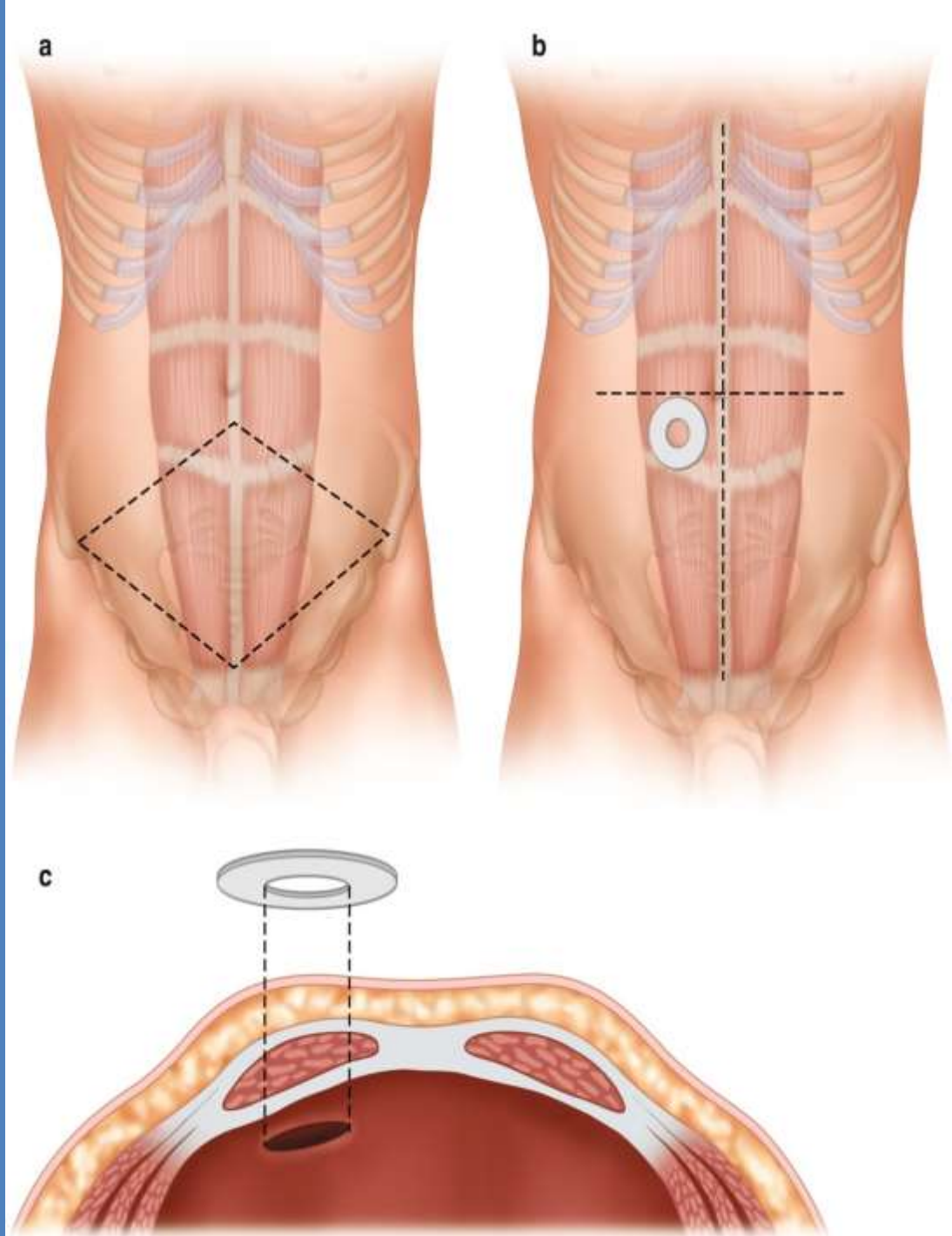
(Stool) vent

Vent closure device
(clip)



Stoma triangle-

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



Indications of stoma

- Anastomosis below peritoneal reflection
- Obstruction
- Perforation
- Immunosuppression
- Comorbidities
- Haemodynamic instability
- Intraoperative severe blood loss
- Hypoalbuminemia- < 2.1 gm/dl
- Sepsis
- Long time steroid
-

Histopathology requisition

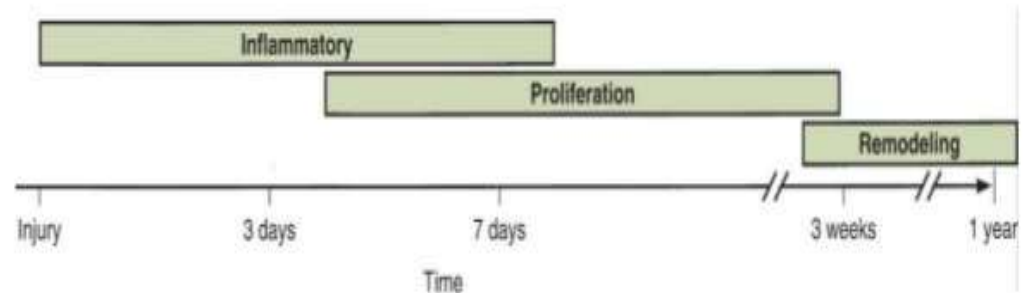
- Tissue diagnosis
- Type of malignancy
- Grading
- PRM
- DRM
- CRM
- Nb. Of LN
- Nb. Of positive LN.
- Immunohistochemistry
- Tumor biology & molecular profiling.

Healing of anastomosis

- Inflammatory / Lag phase.
 - 0-4 days.
- Proliferative phase-Fibroplasia.
 - 3-14 days.
- Remodelling / maturation phase.
 - >10 days.

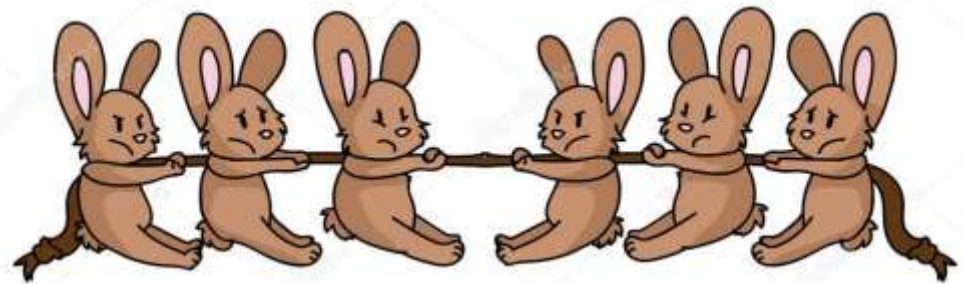
Intestinal healing

- Occurs like other tissues
- Hemostasis & Inflammatory phase
- Proliferative phase
- Remodelling & maturing phase



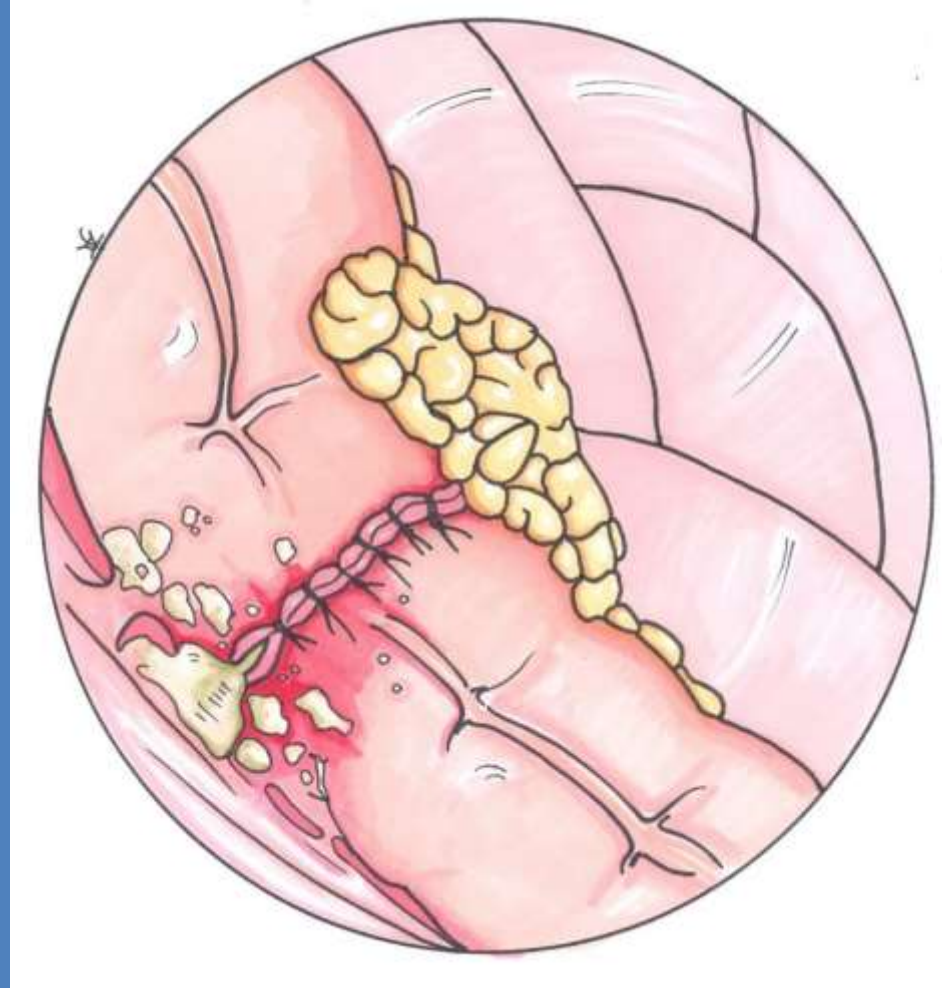
Anastomotic strength

- From collagen of submucosa.
- Low during the 1st POD.
- Early strength- on suture or stapler.
- Weakest- 3- 4th POD.



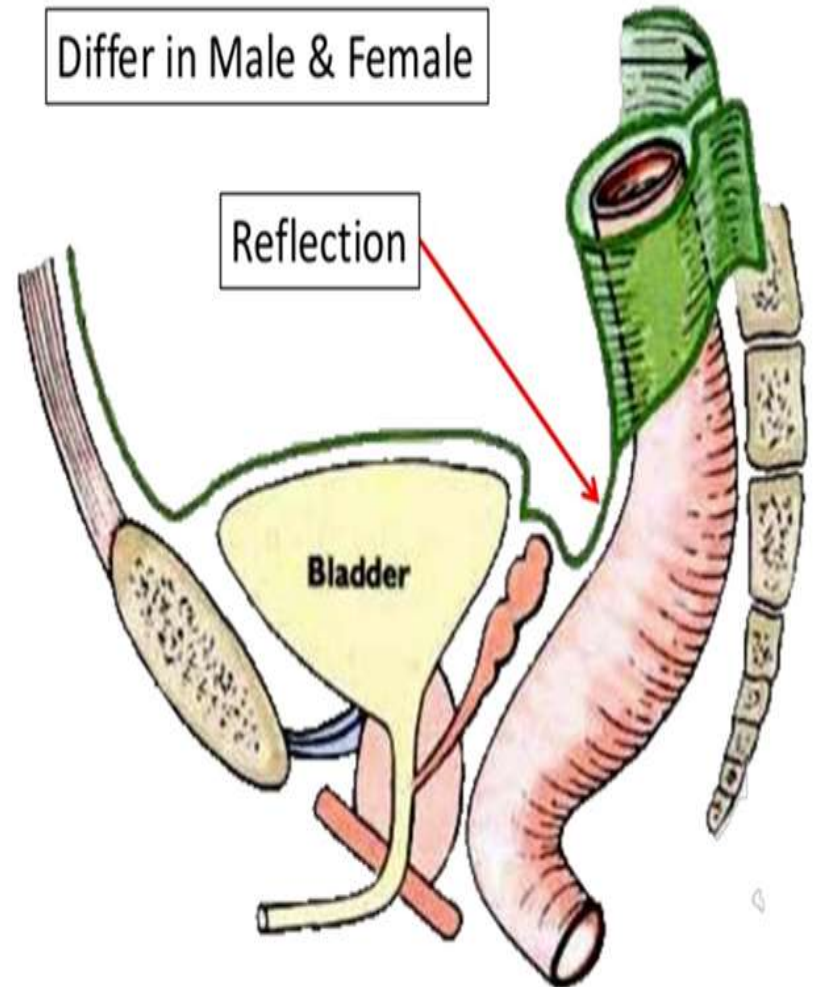
Grading of anastomotic leakage

- A- leakage with-
 - Minimal or
 - No clinical impairment.
 - Require no active intervention.
- Leakage require-
 - Active intervention.
 - But manageable without surgical intervention.
- Leakage require-
 - Repeat surgical intervention.
 - Often require diversion.



Types of surgery

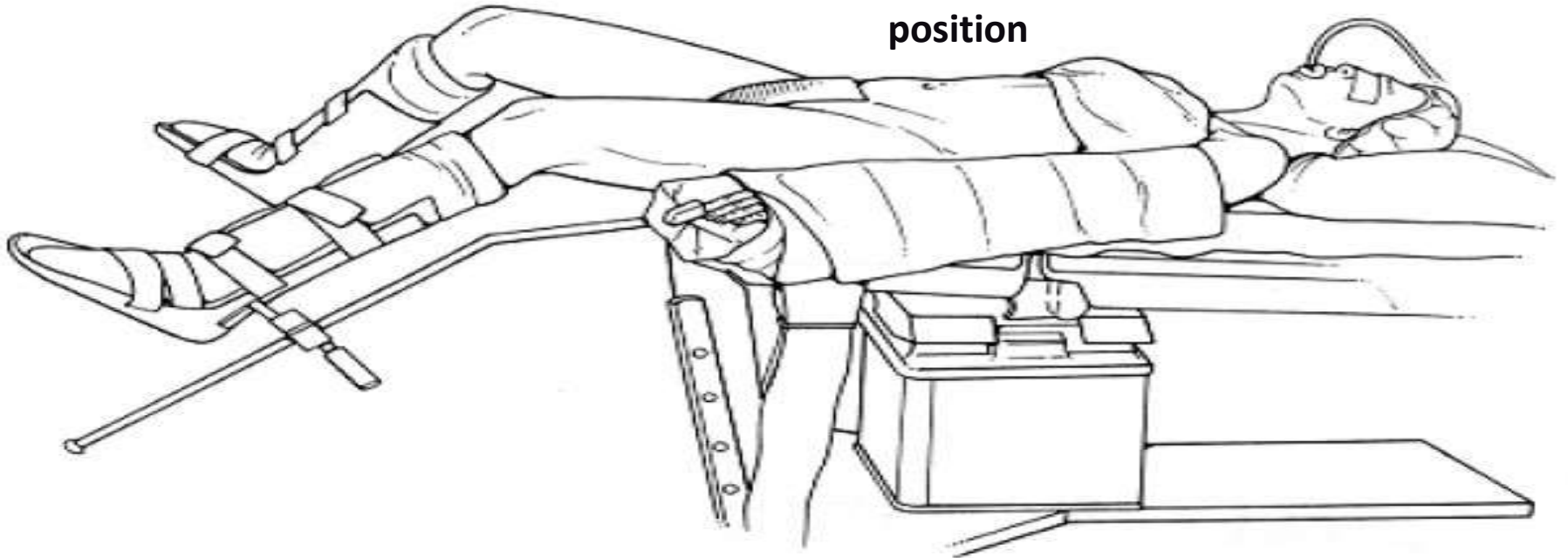
- High anterior resection-
 - Anastomosis above peritoneal reflection.
- LAR-
 - below peritoneal reflection.
- ULAR-
 - Coloanal anastomosis.
- APR.



Lithotomy position



Modified Lithotomy position



Website---www.ferdauscolorectalcare.info.

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