

# Anorectal Diseases

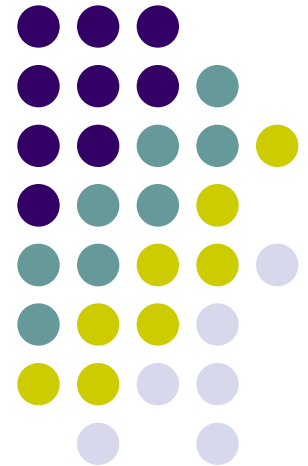
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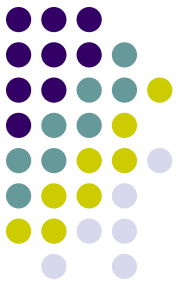
Vito Mahendra Ekasaputra

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Semarang



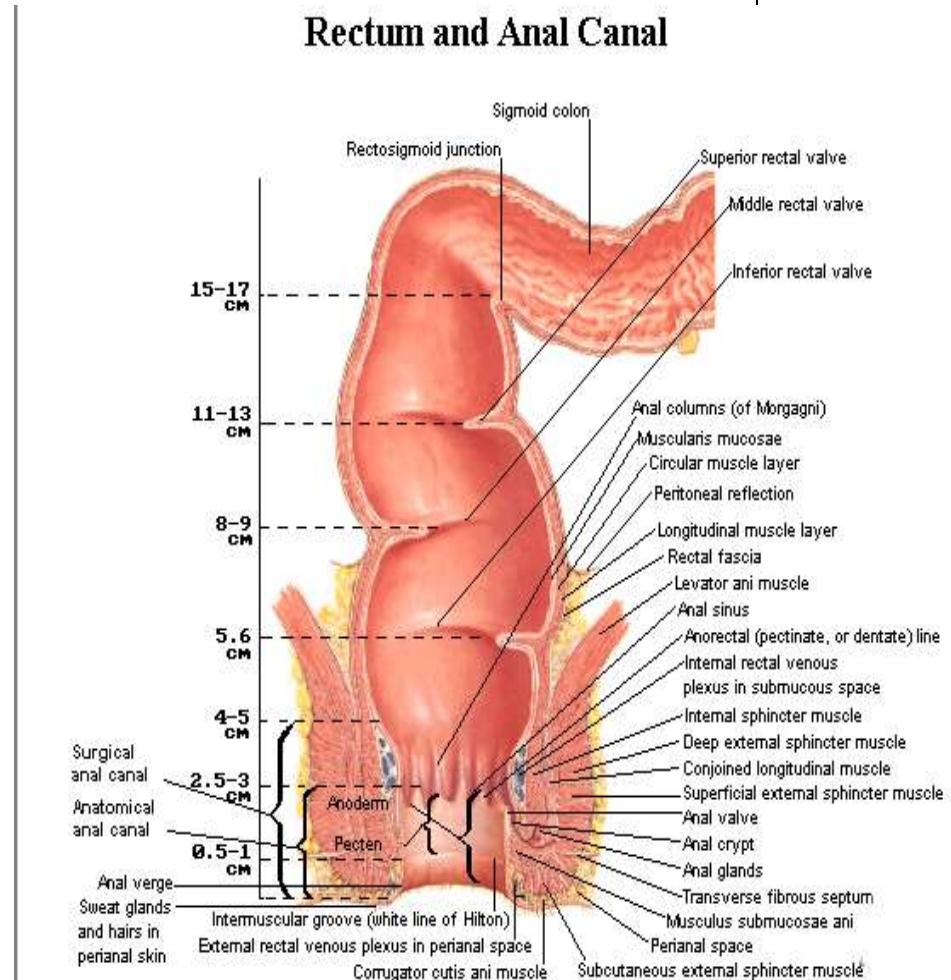


# References

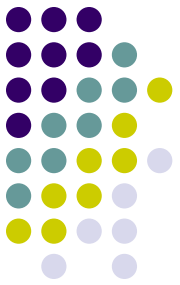
- Baily and Love's "Short Practice of Surgery 23<sup>rd</sup> Edition"
- Norma L. Browse "An introduction to the symptoms and Signs of Surgical Disease, 3<sup>rd</sup> edition"
- Schwartz Principles of Surgery 9<sup>th</sup> ed.
- Kaley E. Rarey "Human Anatomy" CD.

# Anatomy of the Rectum

- **Length:** 12 cm (rectoscopy)
- **Diameter:** Upper part → same of sigmoid (4cm) but lower is dilated (rectal ampulla).
- **Beginning:** rectosigmoid junction (sacral promontory).
- **End:** 2.5 cm below and in front of the tip of coccyx.
- **Difference** b/w rectum and large intestine?

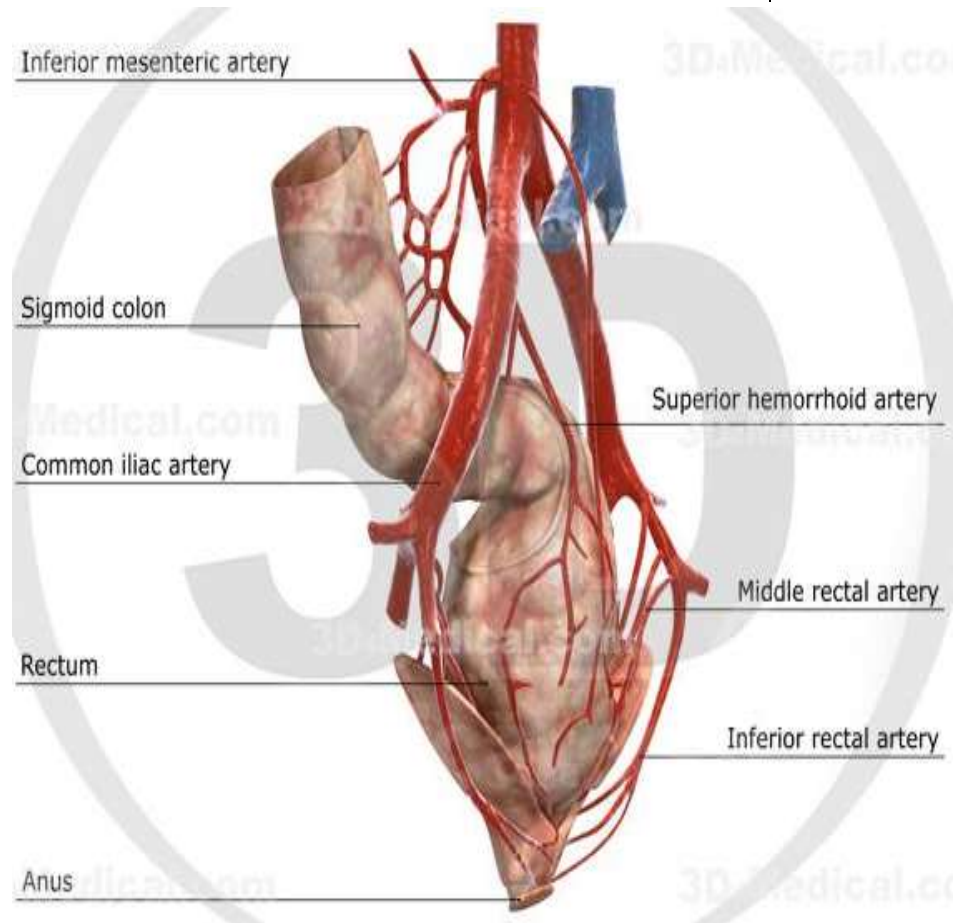


# Anatomy of rectum

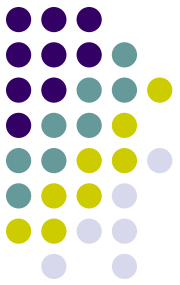


## Arterial Supply

- Superior rectal artery (chief artery)
- Middle rectal artery
- Median Sacral artery

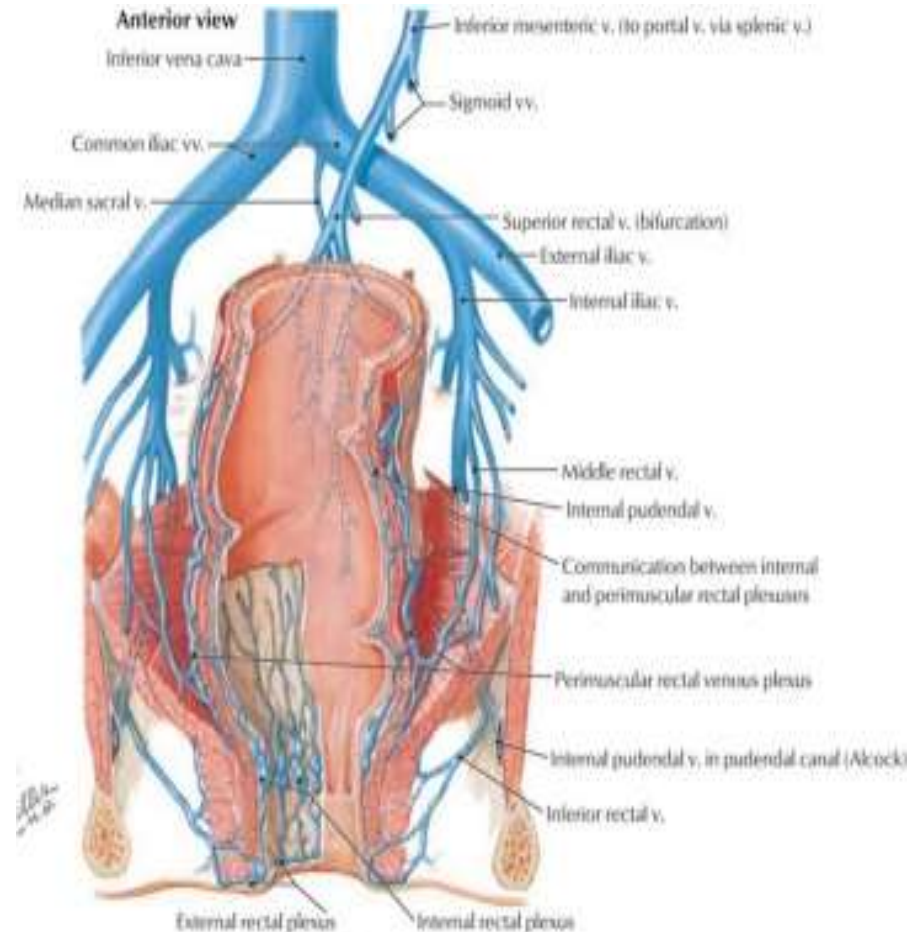


# Anatomy of Rectum



## Venous Drainage

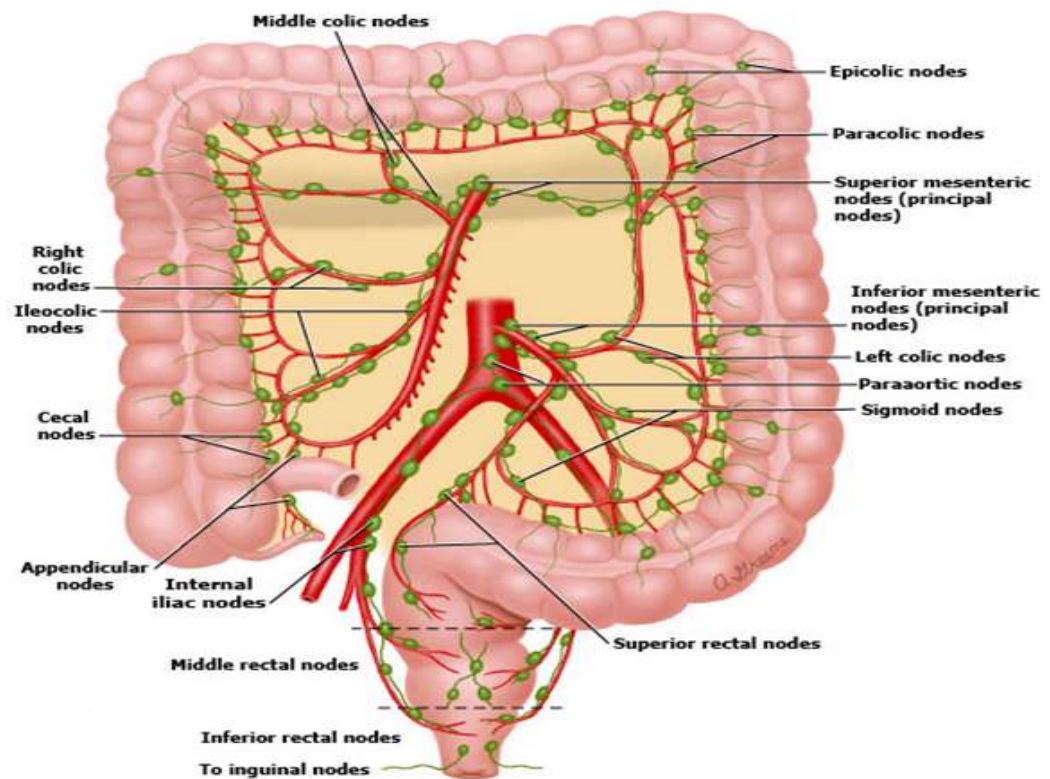
- Internal rectal venous plexus
- External rectal venous plexus



# Anatomy of Rectum

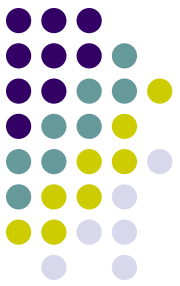
- Lymphatic drainage

Lymphatic drainage of the colon and rectum



This figure depicts the lymphatic drainage of the colon and rectum.

# Anatomy of Anal Canal

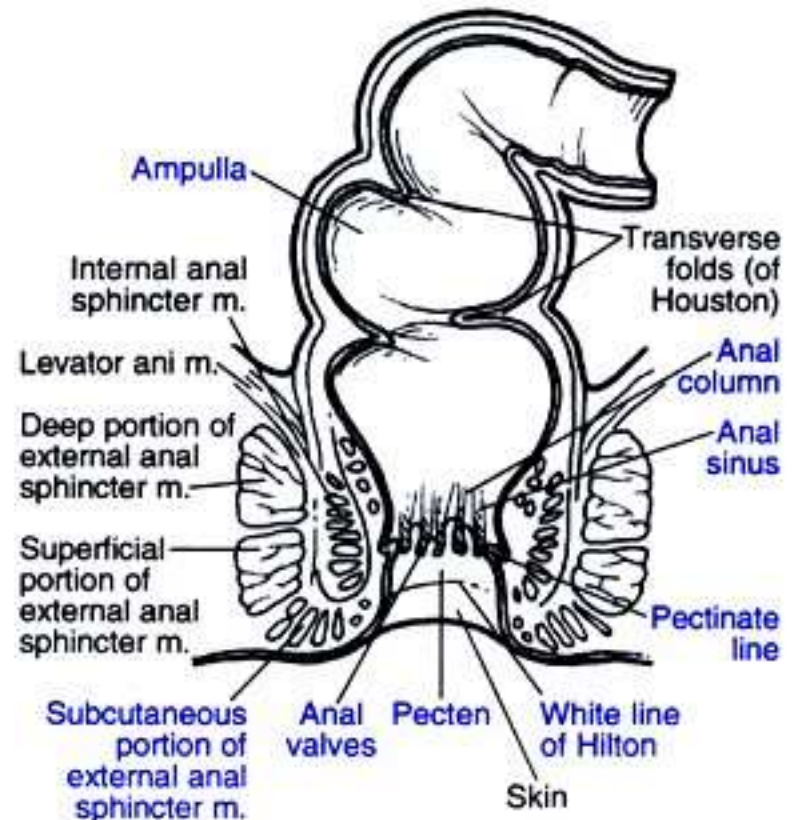


**Length:** 4 cm

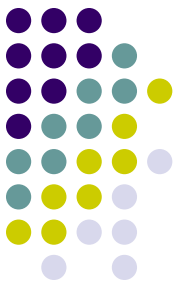
**Extent:** from anorectal junction to the anus.

**Interior:**

- Upper part:
  - Anal column
  - Anal valve
  - Anal sinus
  - Dentate line
- Middle part:
- Lower Part:

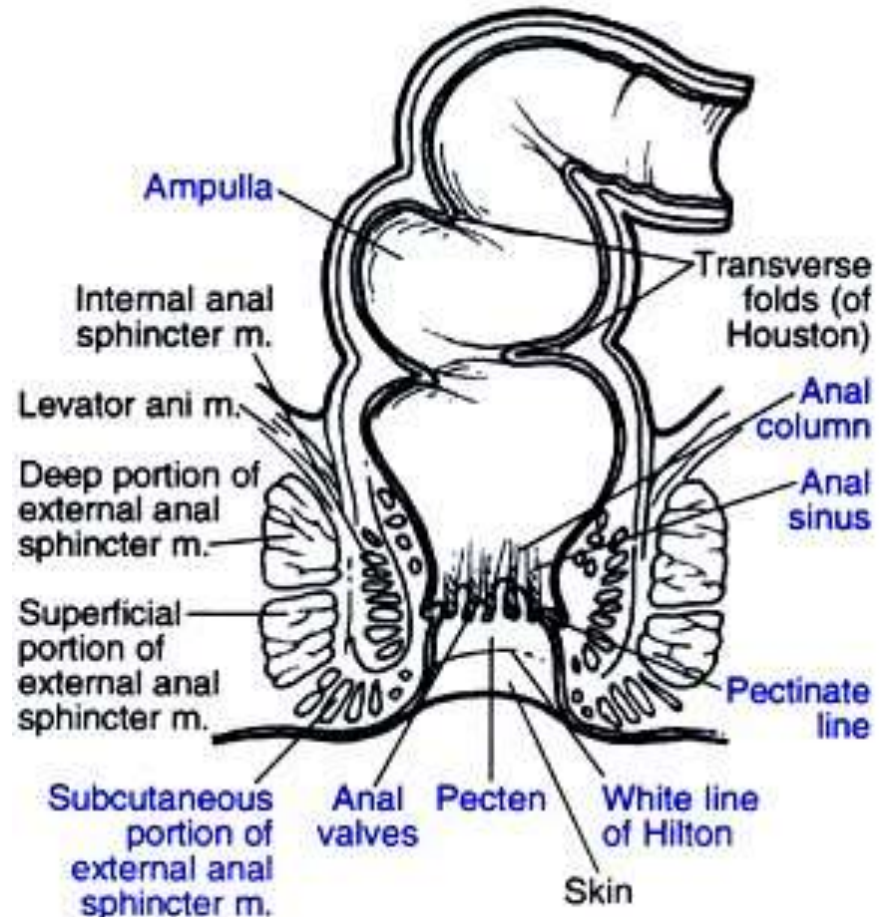


# Anatomy of Anal Canal

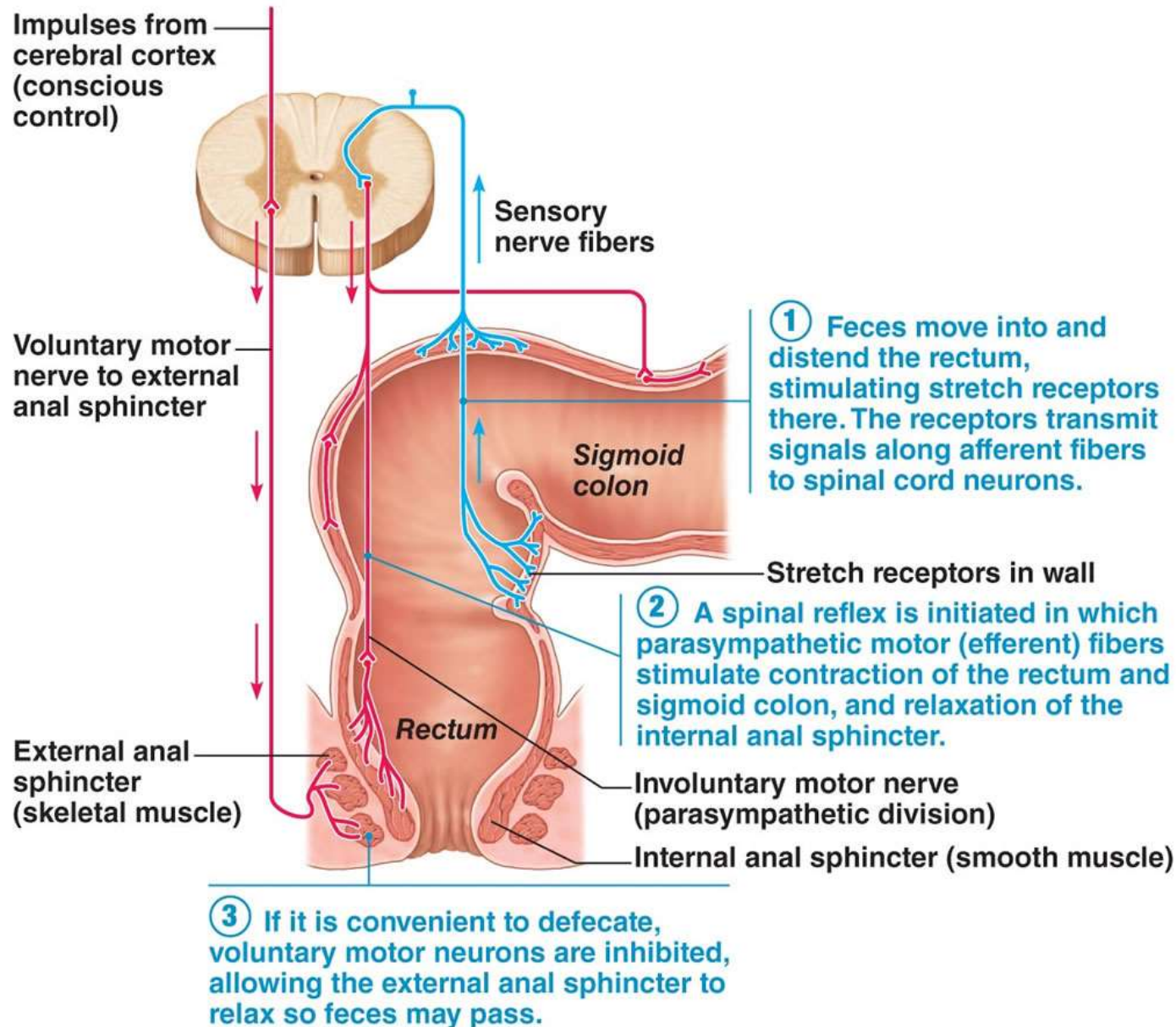
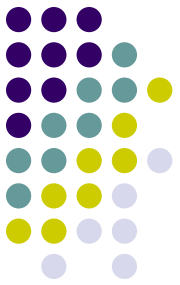


## Musculature:

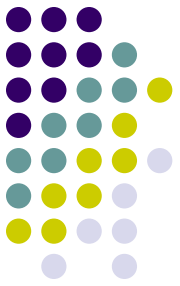
1. External anal sphincter
  2. Internal anal sphincter
- Arterial supply:
    - Superior and inferior rectal arteries.
  - Venous Drainage:
    - Rectal venous plexus
  - Lymphatic Drainage.



# Defecation Physiology

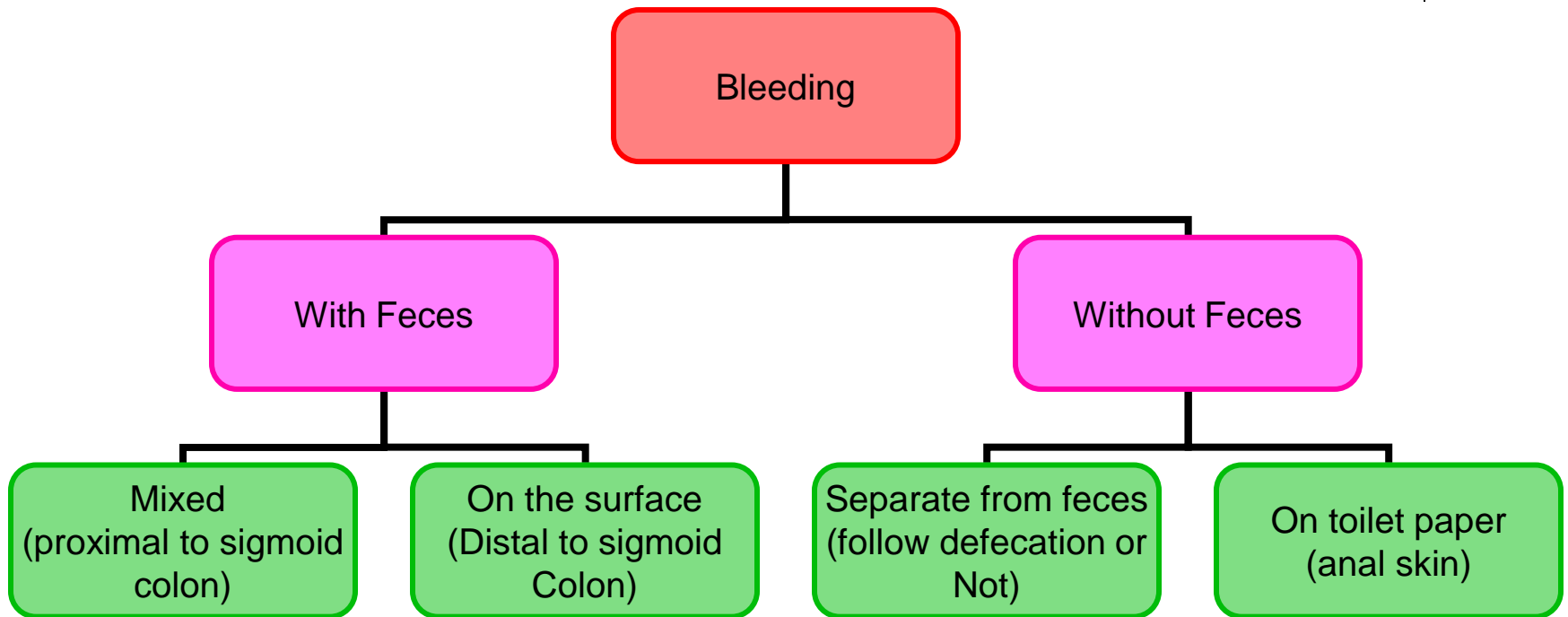


# Clinical Features of Anorectal Disease

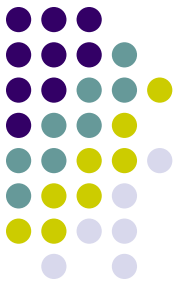


1. Bleeding.
2. Pain.
3. Altered bowel habit.
4. Discharge.
5. Tenesmus.
6. Prolapse.
7. Pruritis.
8. Loss of weight

# Bleeding

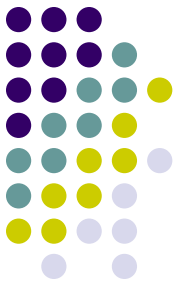


- The color of blood
  - Bright red → anal or rectum
  - Dark → proximal lesion in the large bowel or higher.



# Clinical Features

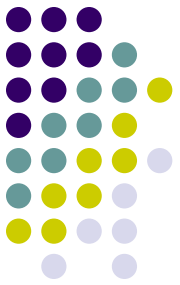
- Pain
  - Painful or not?
    - Painless → Hemorrhoids and rectal Ca.
    - Painful → anal fissure, abscess
- Altered Bowel Habits
  - Spurious diarrhea



# Clinical Features

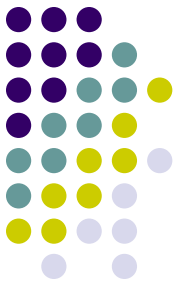
## Discharge

- Mucus or pus
- Tenesmus
  - “ I feel I want to go but nothing happens”
- Prolapse
- Pruritis
  - Secondary to a rectal discharge



# Anorectal Examination

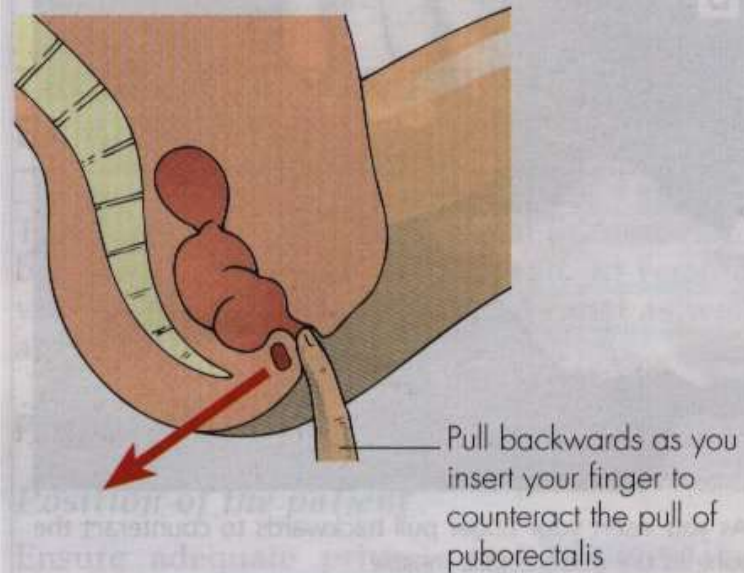
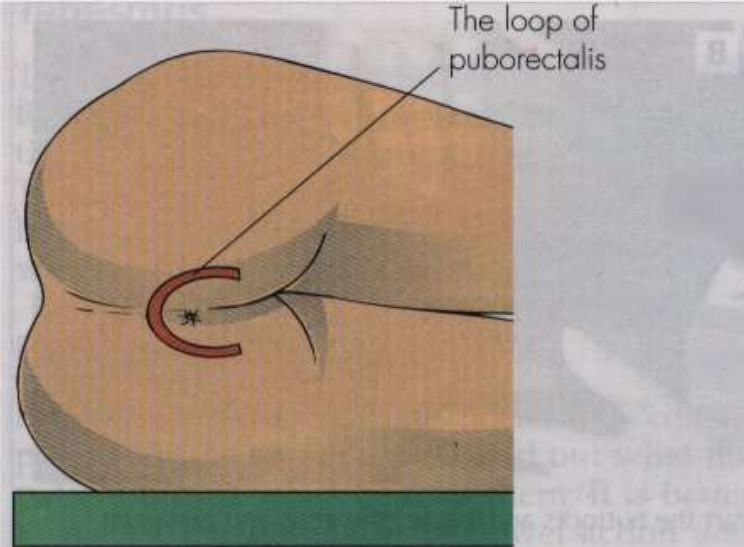
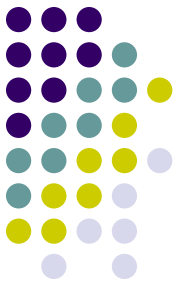
- Preparation
  - Position of the patient
  - Equipment
- Inspection
  - Skin rashes
  - Fecal soiling, blood or mucus.
  - Scars or fistula.
  - Lumps.
  - Ulcers especially fissures.



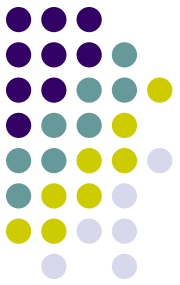
# Anorectal Examination

## Palpation

- Anal Canal.
- Rectum.
- Rectovesico/rectouterine pouch
  - Prostate and seminal vesicles
  - Cervix and uterus
- Bimanual examination.
- Your finger.



The puborectalis muscle forms a loop which helps to keep the anal canal closed. As you insert your finger into the anal canal you must oppose this tone by pressing your finger backwards



# Investigations

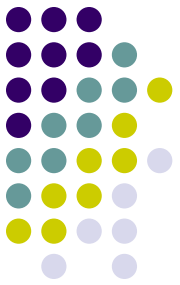
## Proctoscope

- Inspect (10-12 cm)
- Biopsy can be taken

## Proctosigmoidoscope

- Lighted tube 2 cm in diameter.
- 20 to 25 cm long.
- Reaches 20 to 25 cm from the dentate line.
- 20 to 25 % of colorectal tumors.
- Safe and effective for screening low-risk adults under 40 years of age.
- An enema is sometimes used to prepare the patient before the examination.





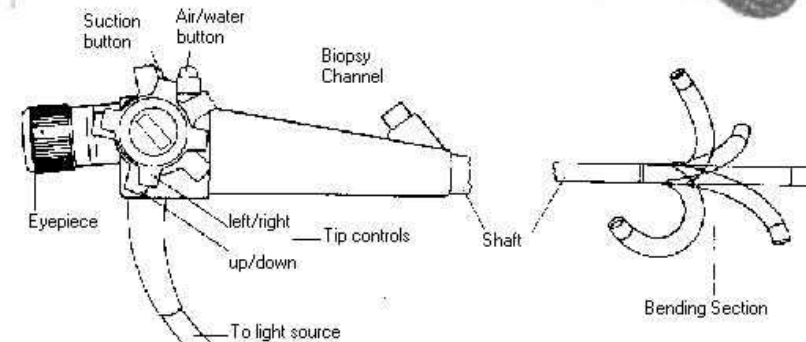
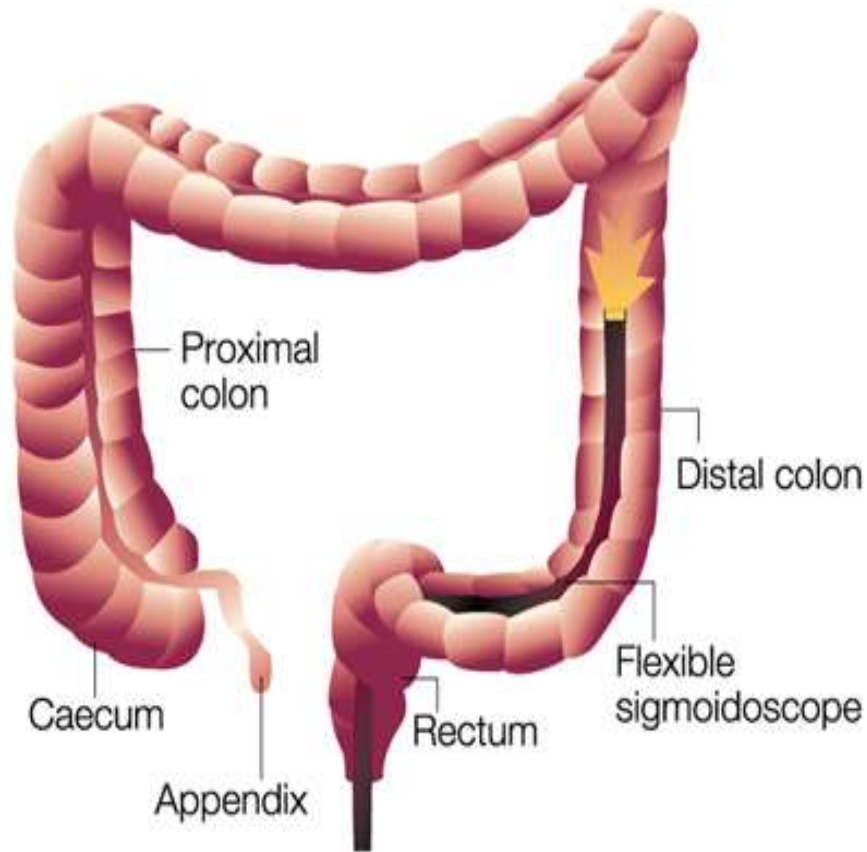
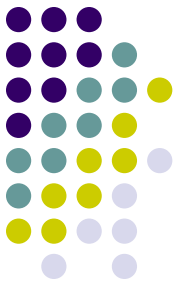
# Investigation

## Sigmoidoscope

- 18 cm
- Inspect

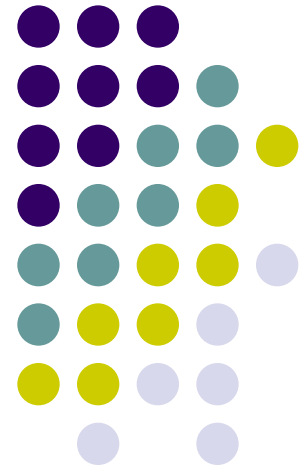
## Flexible sigmoidoscope

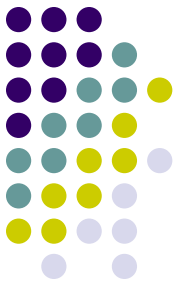
- A fiberoptic scope.
- Measures 60 cm in length.
- Reach the proximal left colon or even the splenic flexure.
- 50 % of colorectal cancers.
- Every 5 years beginning at age 50 is the current endoscopic screening method recommended for asymptomatic persons at average risk for colorectal carcinoma.



# Common Anorectal Disease PART I

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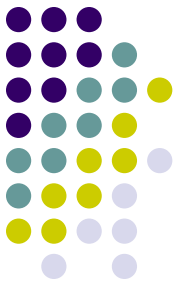




# Case Scenario I

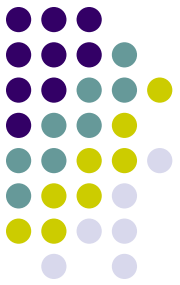
- 32 years old male, complaining of painless bleeding per rectum and a palpable lump after defecation. Pt sometimes has mucus discharge and pruritis in the perianal area
- What other questions you want to ask? And why?
- What are D/D of painless bleeding per rectum?





# Scenario I

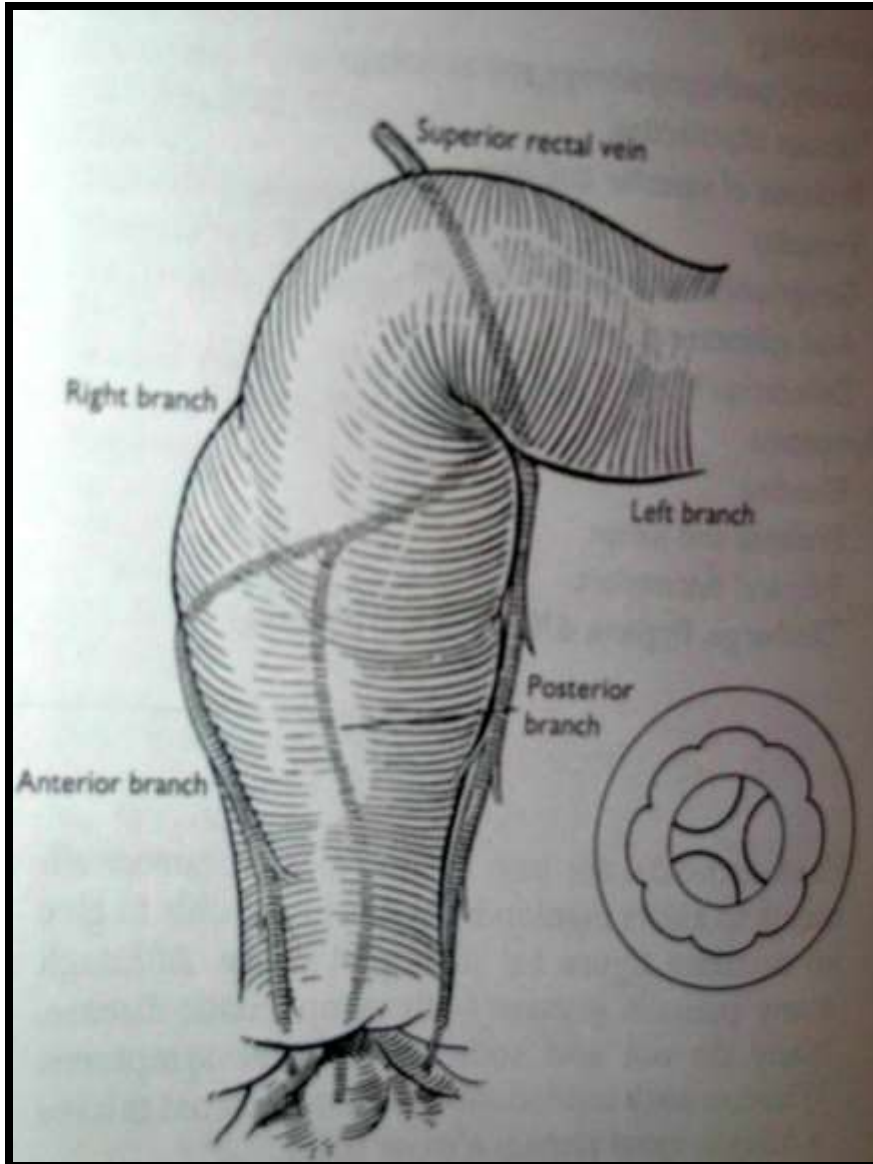
- What is your provisional Diagnosis?
- What are the investigations you need and why?
- What is the most common complication in such pt?



# Hemorrhoids

- Definition
  - Internal
  - External
- Sites
  1. Left lateral (3 o'clock).
  2. Right posteriolateral (7 o'clock).
  3. Right anterolateral (11 o'clock).

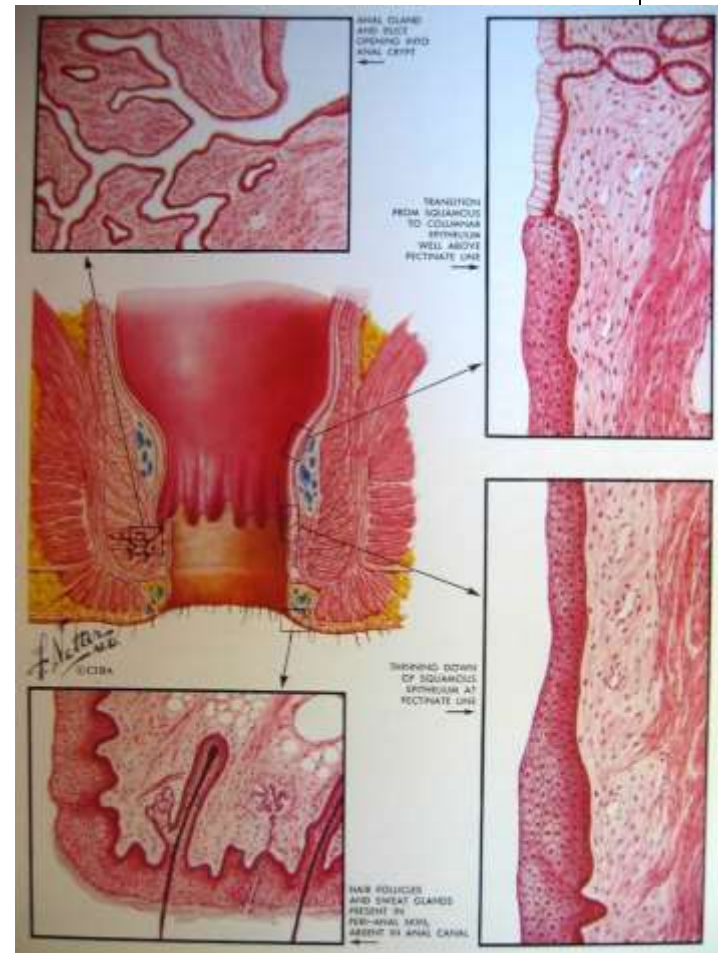
## ANATOMY OF THE ANORECTAL REGION



Superior hemorrhoidal artery divided in 3 main branches: left (3 o'clock), anterior right (11 o'clock) and posterior right (7 o'clock), corresponding to the three normal hemorrhoidal groups

# ANAL CUSHION

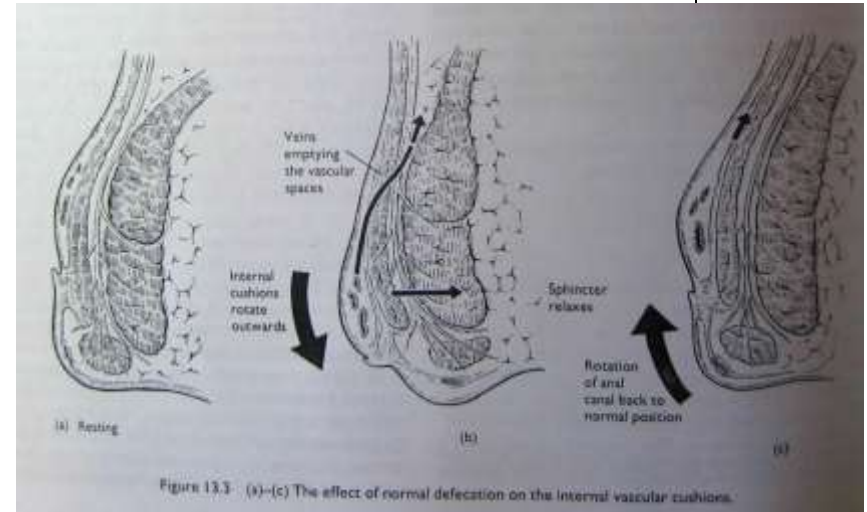
- 1975, Thomson: plexus is vascular cushions
- Mucosa does not form a continuous ring of thickening tissue in the anal canal, but a discontinuous series of cushions.
- 3 main cushions: left lateral, right anterior, right posterior
- Internal hemorrhoids are secured by fibroelastic network (Parks' ligament) coming from int. sphincter, muscularis propria or muscularis mucosa of the rectum



# THE FUNCTION OF ANAL CUSHION



- Protect anal canal from injury during defecation
- Play an important role in accomplishing anal continence, especially with respect to liquids.
- Provide 15-20% resting pressure of the anal canal
- The muscularis submucosa and its connective tissue fibers return to the anal canal lining to its initial position after temporary downward displacement occur during defecation.



**The anchoring and supporting tissue deteriorates with aging,  
→ produces venous distention,  
erosion, bleeding and  
thrombosis**

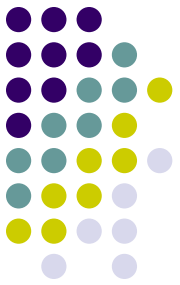
# PATHOGENESIS OF HEMORRHOIDAL DISEASE



Plexus hemorrhoidalis: normal condition without symptom. Congested plexus hemorrhoidalis gives symptoms.

The pathogenesis of hemorrhoidal disease (symptomatic hemorrhoid) is not completely understood, there are 2 theories:

1. vascular theory
2. increase the laxity of the hemorrhoidal support tissue.



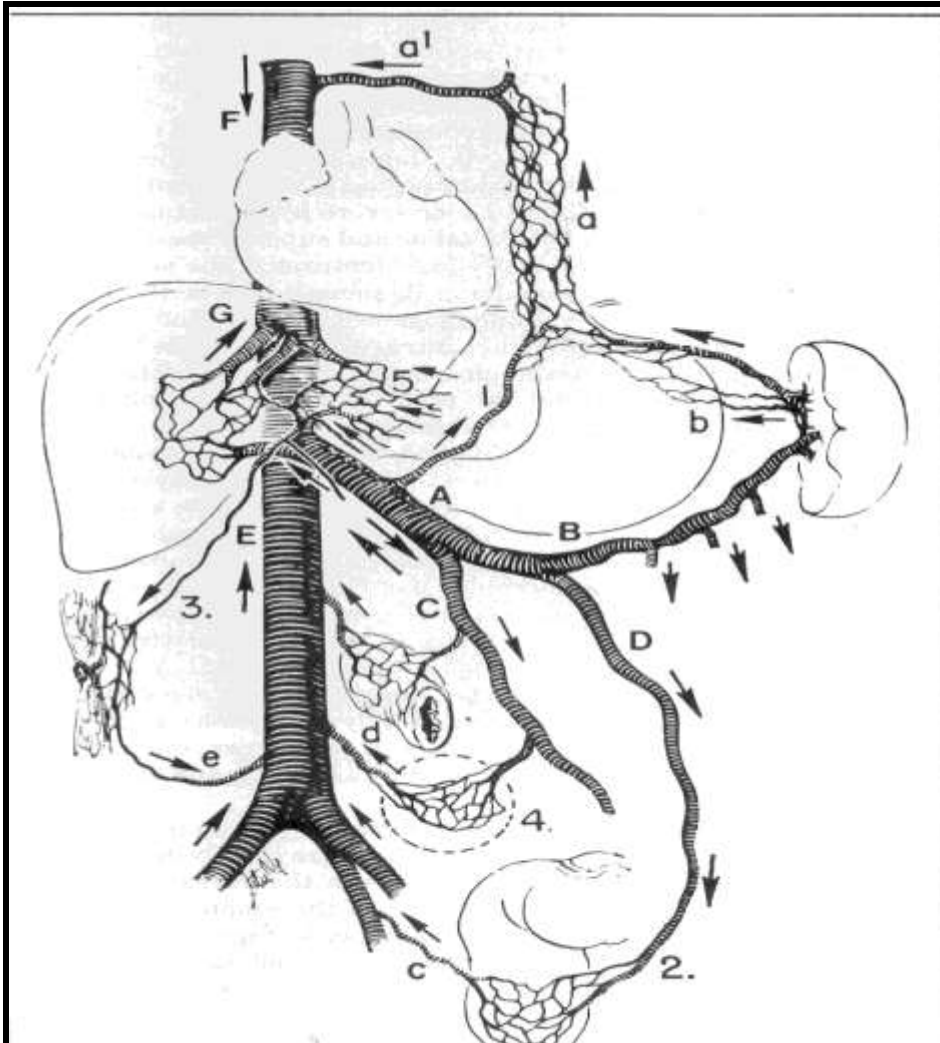
# VASCULAR THEORY

- Hemorrhoids are **varicose dilatations** of the radicles of the hemorrhoidal veins



- Internal hemorrhoid: varicose enlargement of the veins of superior hemorrhoidal plexus.
- External hemorrhoid: varicose enlargement of the veins of inferior plexus.

# HEMORRHOID vs RECTAL VARICES DUE TO PORTAL HYPERTENSION

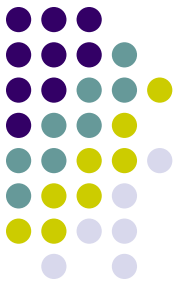


**A number of study failed to demonstrate an increased incidence of hemorrhoid in patients with portal hypertension.**

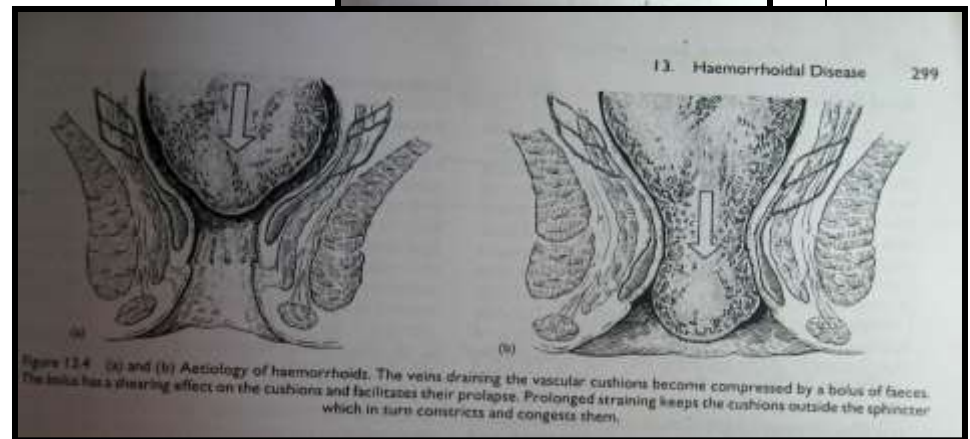
**Rectal varices → enlarged portal-systemic collateral through middle and inferior hemorrhoidal veins.**

**Hemorrhoid and rectal varices are different disease entity.**

# INCREASE LAXITY OF THE HEMORRHOIDAL SUPPORT TISSUE



**Chronic straining may weaken and increase the laxity of hemorrhoidal support tissue → piles are nothing more than sliding downward of part of the anal canal lining.**

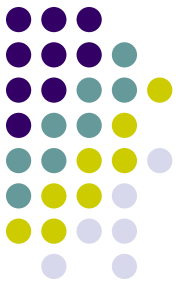
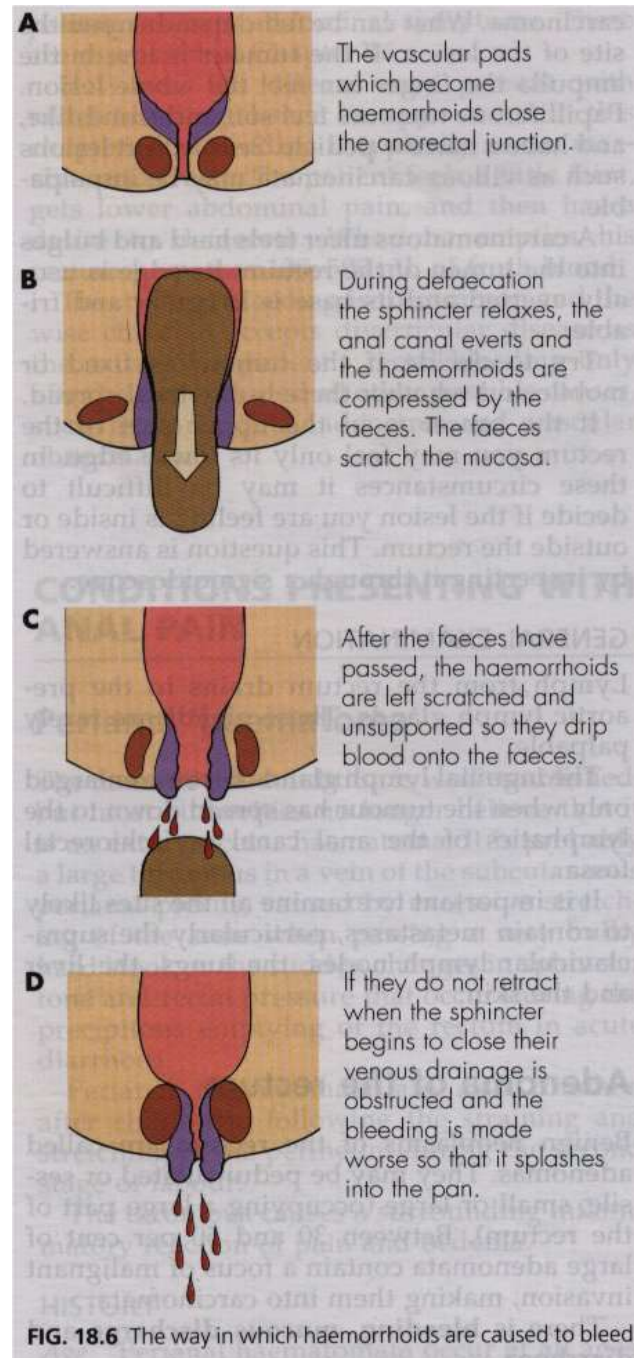


**The main structural disturbances characterizing anal prolapse are the stretching of the upper and middle hemorrhoidal vessels and formation of kinks. Under such condition, closing pressure of the anal sphincter creates an obstacle to the venous flow, creating predisposition to thrombosis**



Grade 1	Grade 2	Grade 3	Grade 4
Bab keluar darah (anoskopi)	Bab keluar darah Keluar benjolan Masuk spontan	Bab berdarah Keluar benjolan Dimasukkan dg jari	Prolaps Tidak dpt masuk

# How Hemorrhoids Cause Bleeding ?

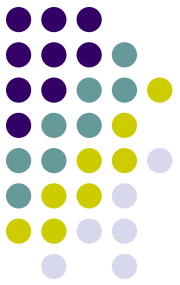


# Hemorrhoids

- Diagnosis
- Complication



**FIG. 18.5** Prolapsed, strangulated, thrombosed haemorrhoids. Note the bloody serous discharge



# Treatment of Hemorrhoid

1<sup>st</sup> degree

Conservative

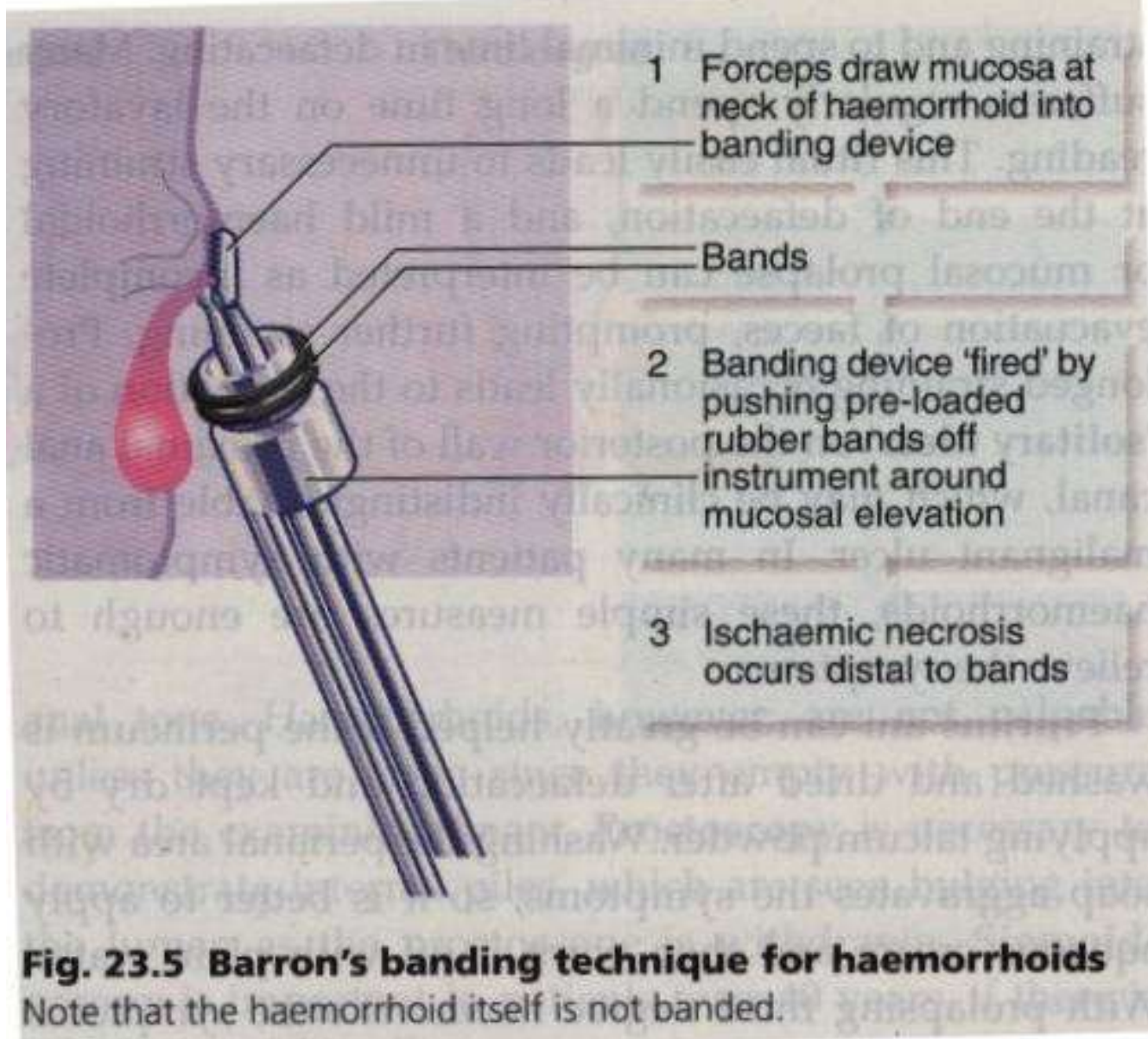
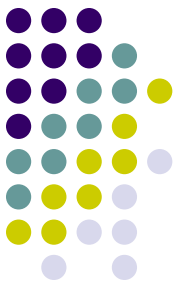
- Dietary advise
- Bulk laxatives
- Sitz bath
- Treatment will be effective at 6 month



# Treatment of hemorrhoids

## 2<sup>nd</sup> degree

- Rubber band ligation.
- Complication of band separates
  - Hemorrhage
  - Sepsis
  - Pain



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HEMORROIDES INTERNA

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DR MURRA SACA



# Treatment of hemorrhoids

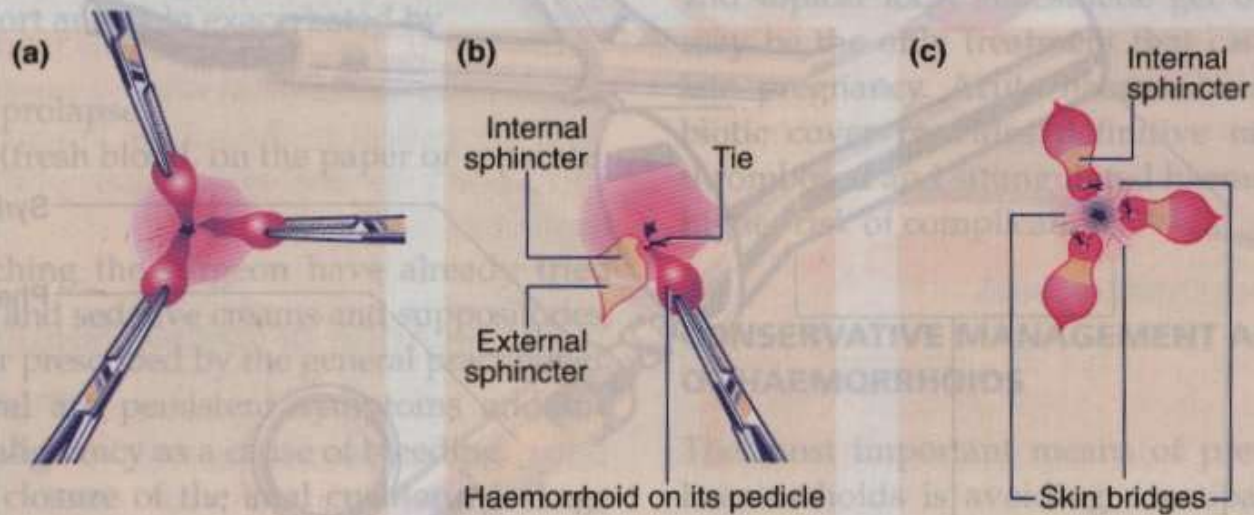
- 3<sup>rd</sup> degree
  - Hemorrhoidectomy

## Complication of hemorrhoidectomy

- Acute urinary retention
- Secondary hemorrhage
- Anal stenosis

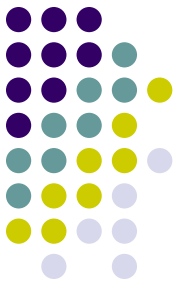
## Thrombosed hemorrhoid

- Conservative (laxative, analgesic, ice packs)
- Operative manual dilatation of the anus and hemorrhoidectomy



### Technique of Milligan-Morgan haemorrhoidectomy

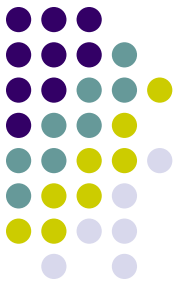
**(a)** Identification of the main haemorrhoids; the external part of each is clamped with a haemostat and retracted outwards. **(b)** Scissors are used to incise the skin around the external haemorrhoid, any excess skin being excised at the same time. The haemorrhoid is then raised on its pedicle by dissection from the external sphincter and the internal sphincter. The pedicle is transfixed and ligated at its base with an absorbable suture. The skin is not closed. **(c)** The same process is repeated for the other primary haemorrhoids, ensuring that skin bridges are preserved between each raw area. The completed haemorrhoidectomy has a 'cloverleaf' appearance. After haemostasis is ensured, wounds are dressed with paraffin gauze (tulle gras) and a surgical pad applied, held in place by a perineal 'T' bandage.



# Case Scenario II

- 18 years old, male pt, complain of anal pain which begins during defecation and persists for minutes after defecation, it is severe, pt becomes frightened to defecate and the pain makes him more constipated, pt has little amount of bleeding.
- There is splitting of anal skin in the midline.
- Anal sphincter is spasm.
- What is your diagnosis?
- What is your treatment?

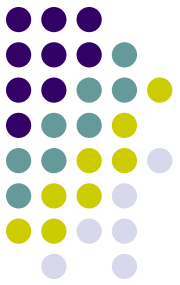




# Fissure-in-ano (anal fissure)

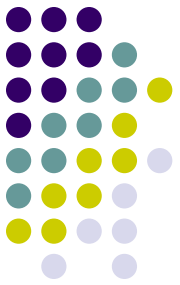
## Definition:

- Acute & chronic
- Longitudinal split in the skin of the anal canal.
- Common sites:
  - Midline 6 and 12 o'clock.
- Rarely associated with crohns, HSV, HIV.



# Fissure-in-ano

- Diagnosis
- Treatment
- Non- operative
  - Stool softeners and laxatives to relieve straining.
  - Improve hygiene.
  - Anesthetic suppositories may be helpful.
- Operative
  - Anal dilation.
  - Lateral internal sphincterotomy
  - Fissurectomy and midline sphincterotomy.



# Proctitis

- Cause
  - Nonspecific
  - Ulcerative proctocolitis
  - Crohn's disease
  - Infection
    - Clostridium difficile
    - Bacillary dysentery
    - TB proctitis
    - Syphilis
    - Gonococcal



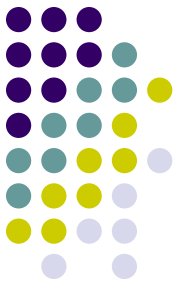
# Proctitis

## Nonspecific proctitis

- is an inflammatory condition affecting the mucosa and, to a lesser extent, the submucosa, confined to the terminal rectum and anal canal.
- It is the most common variety.

## Aetiology.

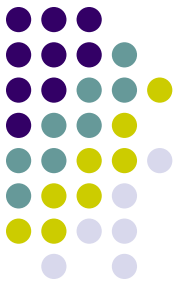
- This is unknown.
- The most acceptable hypothesis: It is a limited form of ulcerative colitis (although actual ulceration is often not present).



# Proctitis

## Clinical features

- Middle-aged.
- Slight loss of blood in the motions.
- Diarrhoea
- On rectal examination, the mucosa feels warm and smooth. Often there is some blood on the examining finger.
- Proctoscopic and Sigmoidoscopic examination:
  - Inflamed mucous membrane of the rectum, but usually no ulceration. The mucosa above this level being quite normal.



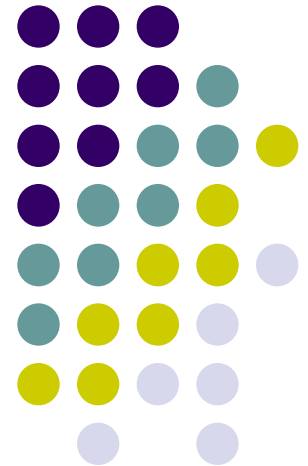
# Proctitis

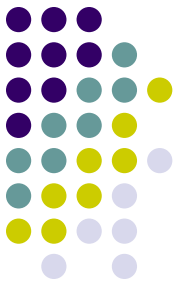
## Treatment

- Self-limiting.
- Sulphasalazine (Salazopyrin).
- Severe cases → oral steroids.
- Rarely → surgical treatment (last resort)

# Common Anorectal Disease PART II

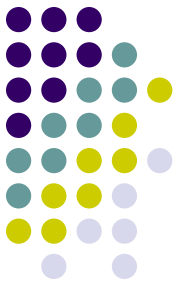
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## Case Scenario III

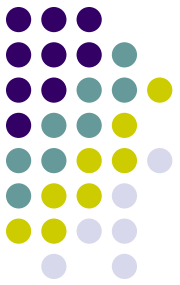
- 35 years old, male pt, complaining of anal pain which begins gradually increase in severity over hours and subsides spontaneously over 5 days. It is continuous discomfort, also, he has lump which is gradually enlarged and become painful.

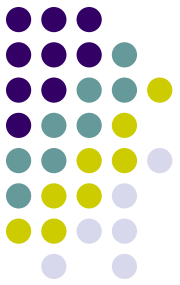


# Case Scenario III

- O/E
- There are 2 lumps around the anal margin. The skin is not edematous and the lump has a deep red-purple color, they are tender spherical shape, 1 cm in diameter, hard in consistency, LN not enlarged.
- What is your provisional Dx?
- What is the susceptible complication?
- What is the treatment?
- If seen within 24hr of the onset, the blood clot can be evacuated under local anesthesia

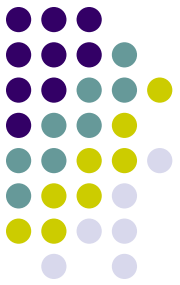
# Anorectal Abscess





# Anorectal Abscess

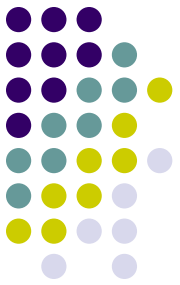
- Definition: Infection in one or more of anal spaces, usually is bacterial infection of blocked anal gland at dentate line.
- Organisms
  - Ecoli
  - Staph aureus.



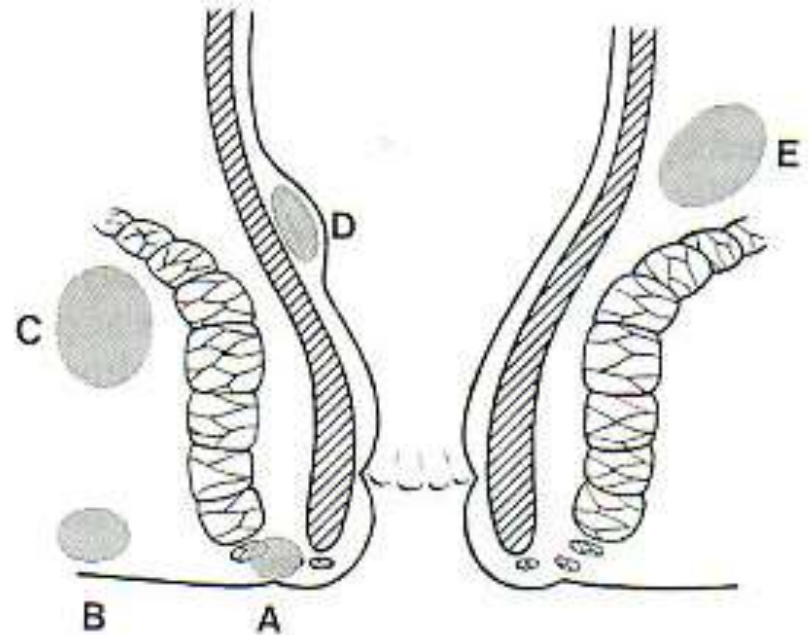
# Para anal abscess Pathogenesis

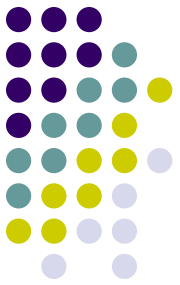
- From “cryptoglandular” abscess
- Glandular density mostly from  $\frac{1}{2}$  posterior of anal canal
- Infection : stasis, obstruction of fecal material.

# Anorectal Abscess



- Sites
  - A. Perianal.
  - B. Perineal
  - C. Ischiorectal
  - D. Submucosal
  - E. Pelvirectal
- Increase incidence with?





# Anorectal Abscess

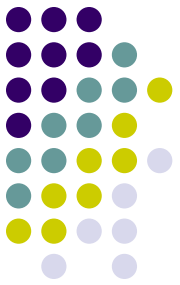
## History

- Age, sex, symptoms

## Examination:

- Position
- Tenderness
- Color/temp
- Shape, size, composition
- Lymph drainage
- Local tissue
- General Examination

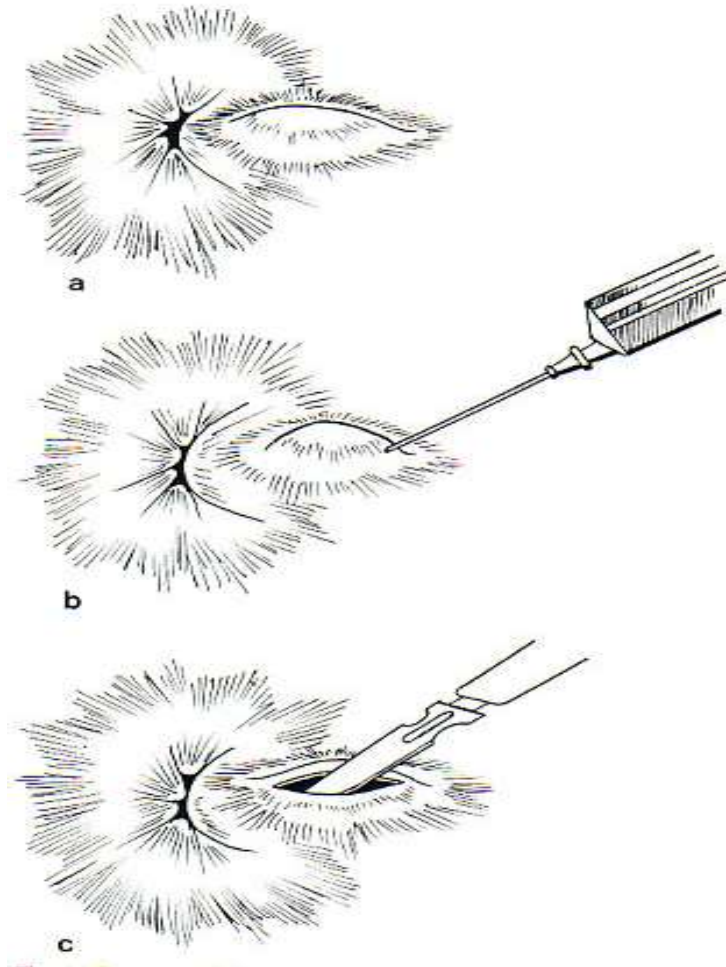
# Anorectal Abscess



## Investigation

## Treatment

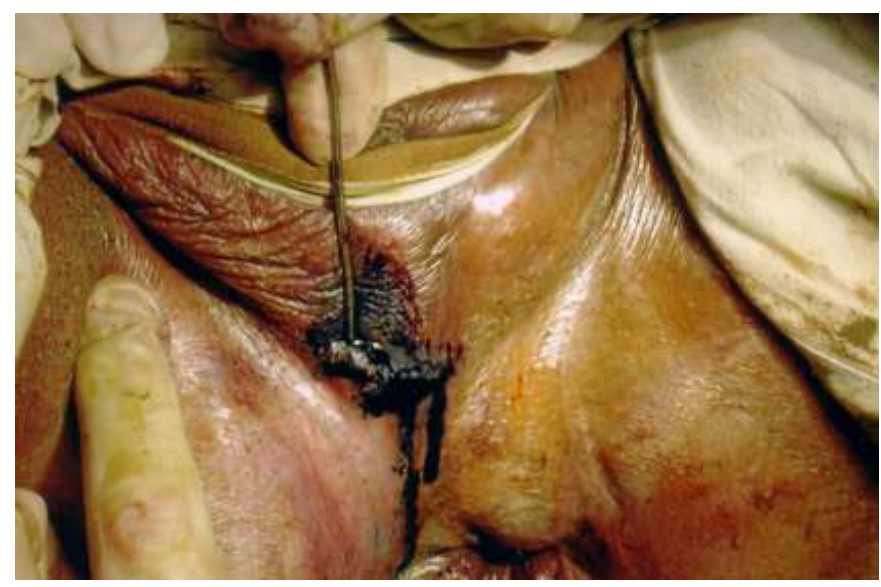
- Incisional and drainage
- Antibiotics





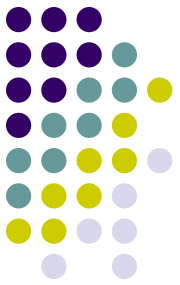
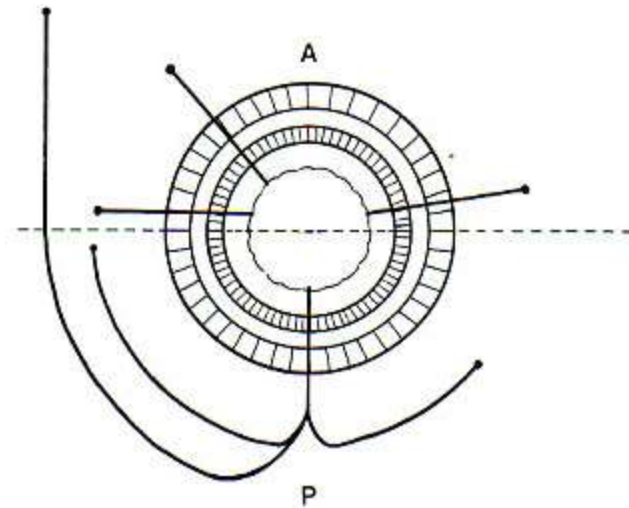
# Anal Fistula

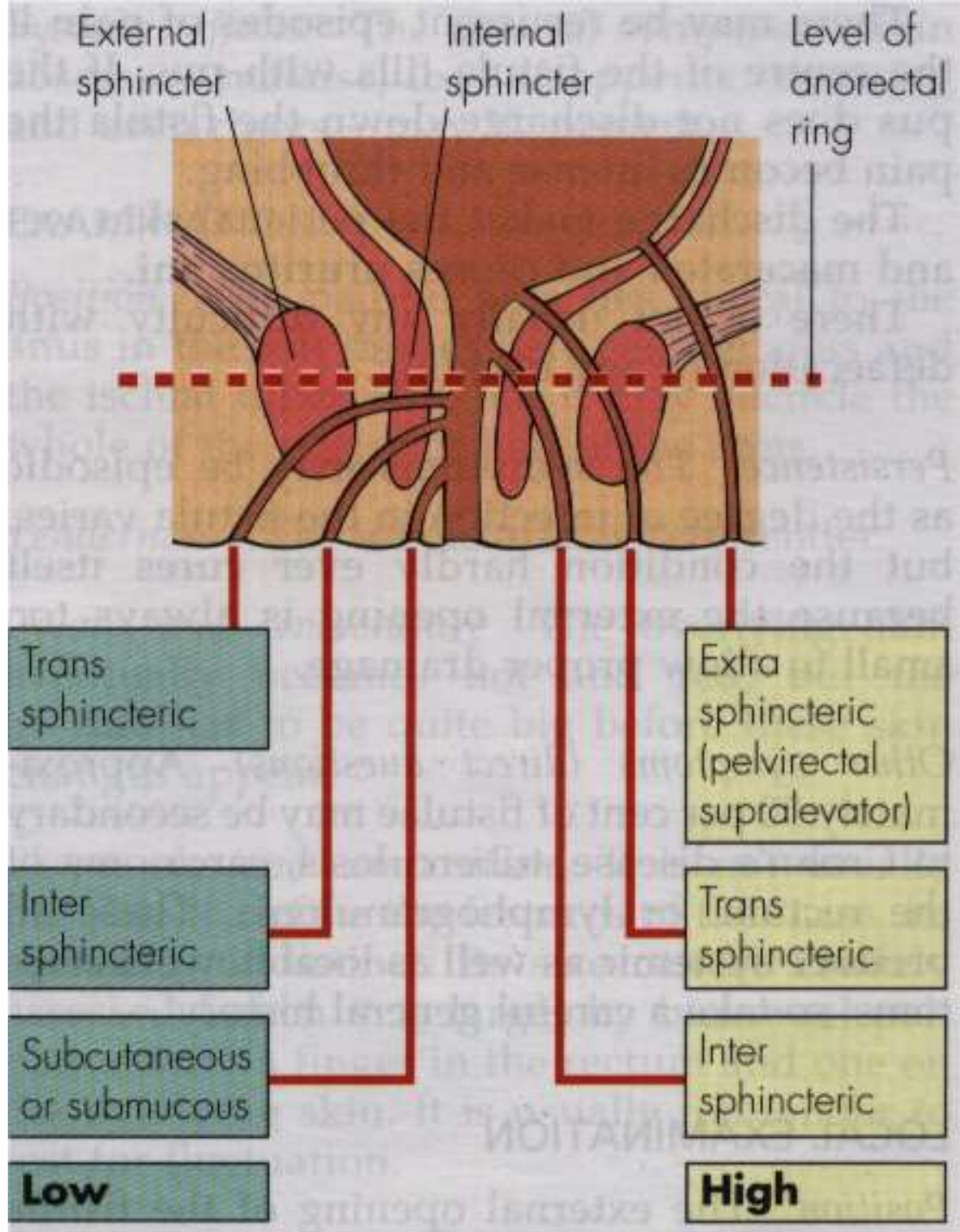
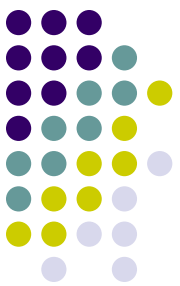
- Definition
- 50% secondary to crohn's, TB, CA of rectum or lymphogranuloma.
- S/S
  - Watery or purulent discharge from the external opening of fistula
  - Recurrent episode of pain.
  - Pruritis.

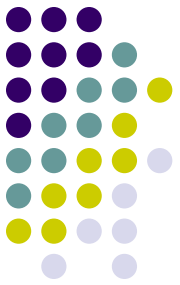


# Goodsall's Rule

- Anterior tract (A) radial line,
- Posterior tract (P) loop line
- Secondary opening anterior with distance  $> 3$  cm from anal margin, will compose loop line and connecting with posterior anal gland.







# Examination

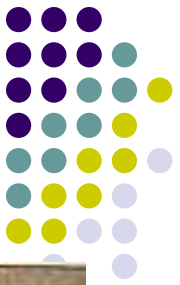
- Anamnesis
  - Chief complaint
  - History of illness
  - History of past illness
- Physical examination
  - Inspection
  - Palpation
  - Rectal touche

# Additional Examination

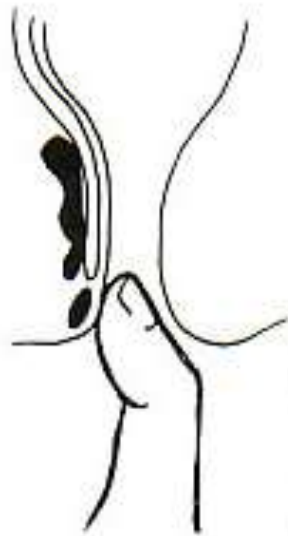
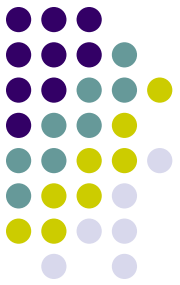


- Fistulography
- Insuflation : H<sub>2</sub>O<sub>2</sub>, methylene blue
- MRI
- Endoanal sonography (EAS)

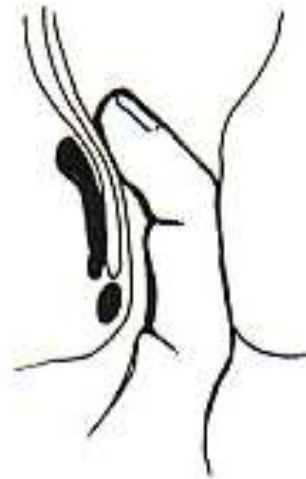
# Inspection



# Rectal Toucher



Palpation of lower border  
of internal sphincter

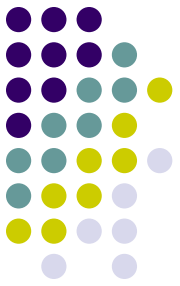


Palpation of posterior  
ano-rectal ring

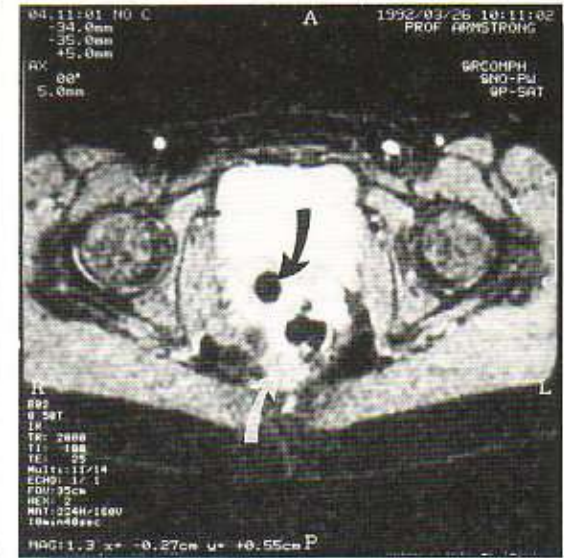
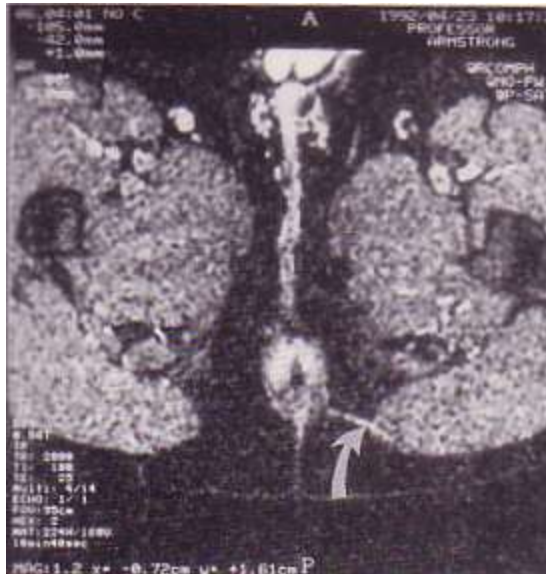
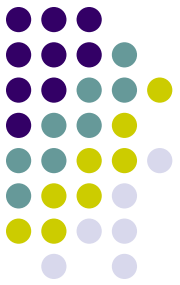


Palpation of anterior  
ano-rectal ring

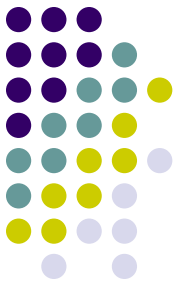
# Fistulography

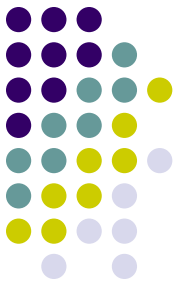


# MRI



# Endoanal sonography & MRI



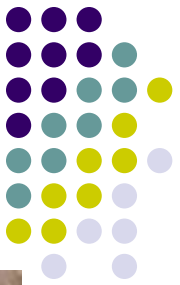


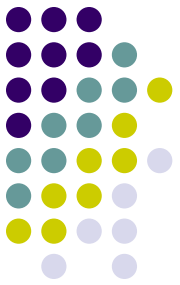
# Treatment

## Principles :

- Fistula anatomy → primary dan secondary tract
- Drainage and adequate antibiotic and analgetic
- fistula tract → fistulektomi / fistulotomi
- Prevent reccurency
- Continence and sphinter preservation

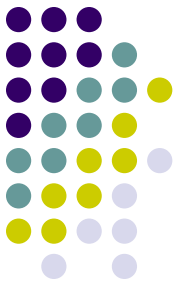
# Horseshoe Fistula





# Rectal Prolapse

- Definition: Eversion of whole thickness of the lower part of rectum and anal canal.
- Types
  1. Partial prolapse.
  2. Complete prolapse.
- Cause
- Predisposing factors
- Differential diagnosis



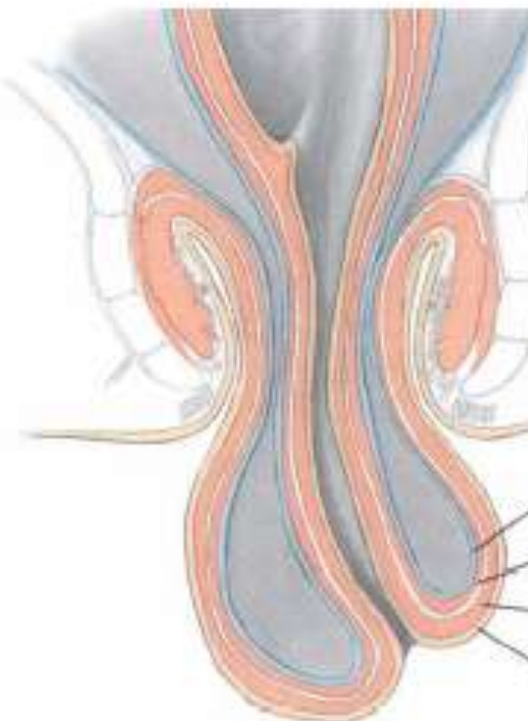
# Rectal Prolapse

## History

- Age.
- Sex.
- Symptoms.

## Examination

A

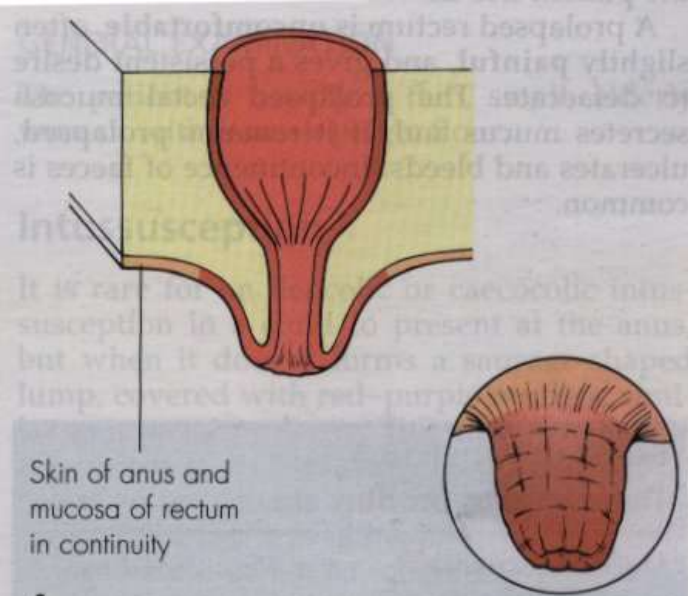
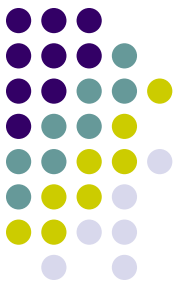


C

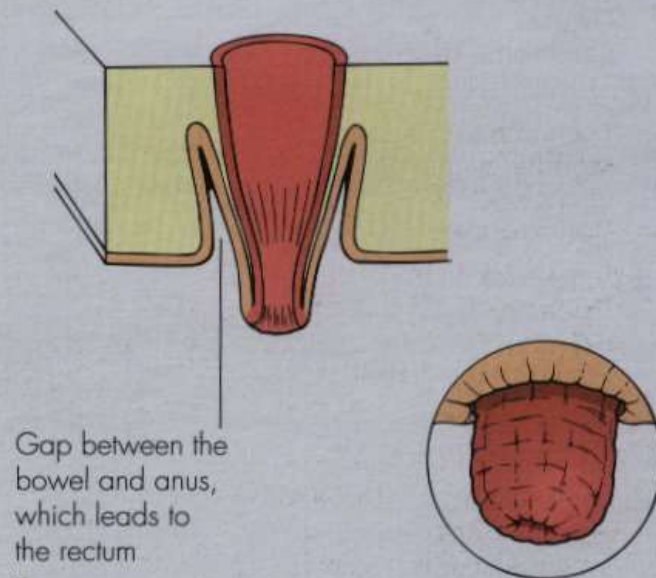


D

**FIGURE 4 ■** Folds in prolapse of the rectal wall. (A) Concentric folds of rectal procidentia. (B) Bowel wall layers seen with complete rectal procidentia. (C) Radial folds of prolapsing internal hemorrhoids. (D) Bowel wall with only mucosal prolapse or prolapsing internal hemorrhoids.

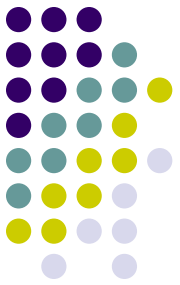


**A**



**B**

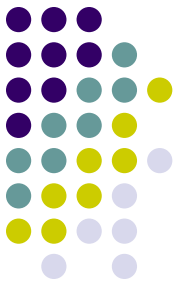
The difference between a rectal prolapse (**A**) and an intussusception presenting through the anus (**B**)



# Rectal Prolapse

## Treatment

- Partial
  - Infant
  - Adult
- Complete (Thiersch wire).



# Pilonidal sinus

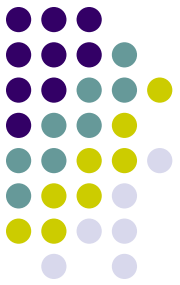
- Definition: Sinus which contain tuft of hairs, mainly in skin covering the sacrum and coccyx but can occur between fingers, in hair dressers, and the umbilicus.
- Etiology : ingrown hair, excessive sitting → increase pressure coccygeal region, congenital pilonidal dimple, excessive sweating
- Symptoms : itchy, painful, swelling, purulent, usually found near coccyx, armpit, genital, occur age 15 - 35
- Treatment
  - Acute abscess
  - Chronic abscess



The patient is lying on his right side with buttocks held apart to expose the bottom of the natal cleft. The sinus, which is difficult to see, is the small pale central pit. The stiff black hair which commonly covers the buttocks of these patients has been shaved off



The hairs that were removed from the sinus shown in (A)



# Pruritis ani

- Definition: Perianal itching, particularly the frequent and distressing one.
- Etiology
- Symptoms
- Treatment



# Anal Neoplasm

## Epidermoid carcinoma

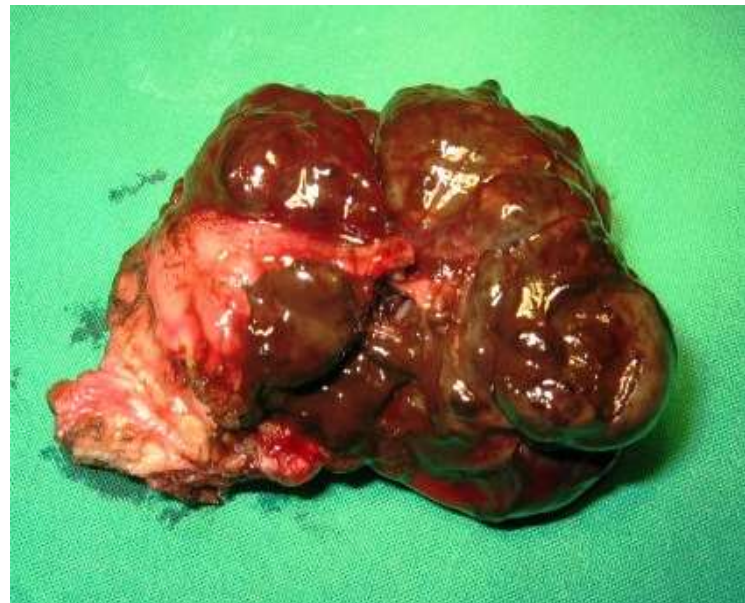
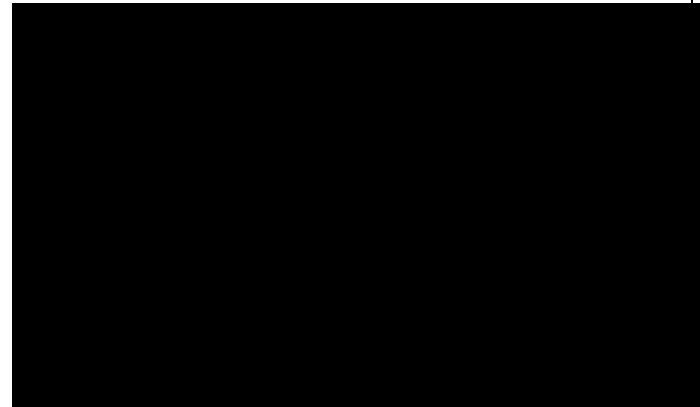
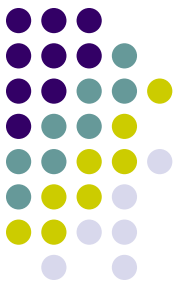
- Most common
- Type of cell
- Prone to HPV infection.
- Presented with.
- Treatment of choice.



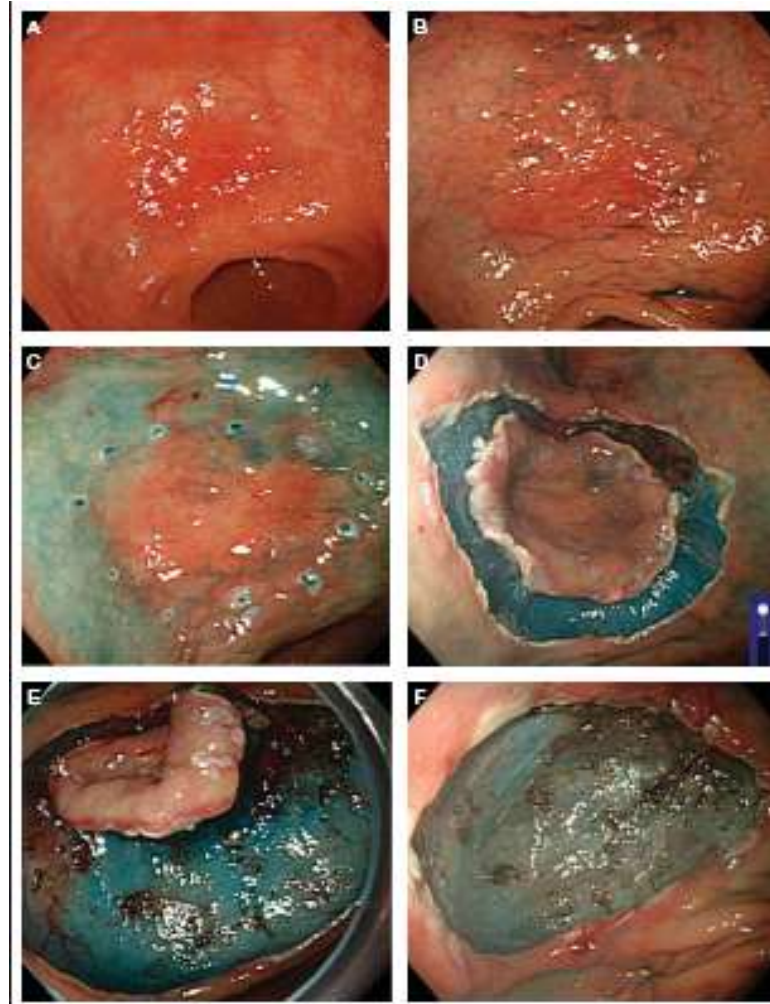
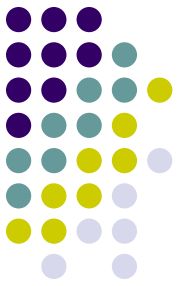
# Anal Neoplasm

Malignant melanoma of anal margin

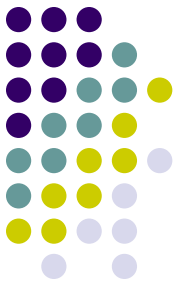
- 3<sup>rd</sup> common site.
- Course.
- Treatment of choice.
- Survival rate.



# Rectal cancer



# Thank You for Your Kind Attention



- Question ?
- Discussion ?