Common Anorectal Disorders

Second General Medicine Academy

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No Financial Disclosures

Anorectal Conditions

- ✓ Introduction
- ✓ Surgical Anatomy
- ✓ Examination of the Anus
- ✓ Common Anal Conditions

Introduction

Anal and perianal disorders makeup
About 20% of all outpatient Surgical
referrals. These conditions are extremely
distressing and embarrassing patient
often put up with symptoms for long time,
before seeking medical care.

The Common Anal Symptoms

- ✓ Anal bleeding
- ✓ Anal pain and discomfort
- ✓ Perianal itching and irritation
- ✓ something coming down
- ✓ perianal discharge

Surgical Anatomy

The anal canal 1.5” (4 cm) long and is directed downward and backward from the rectum to end at the anal orifice.

The mid of anal canal represents the junction between endoderm and ectoderm

Anorectal Anatomy

Arterial Supply

Inferior rectal A
middle rectal A

Venous drainage

Inferior rectal V
middle rectal V

3 hemorrhoidal complexes

L lateral

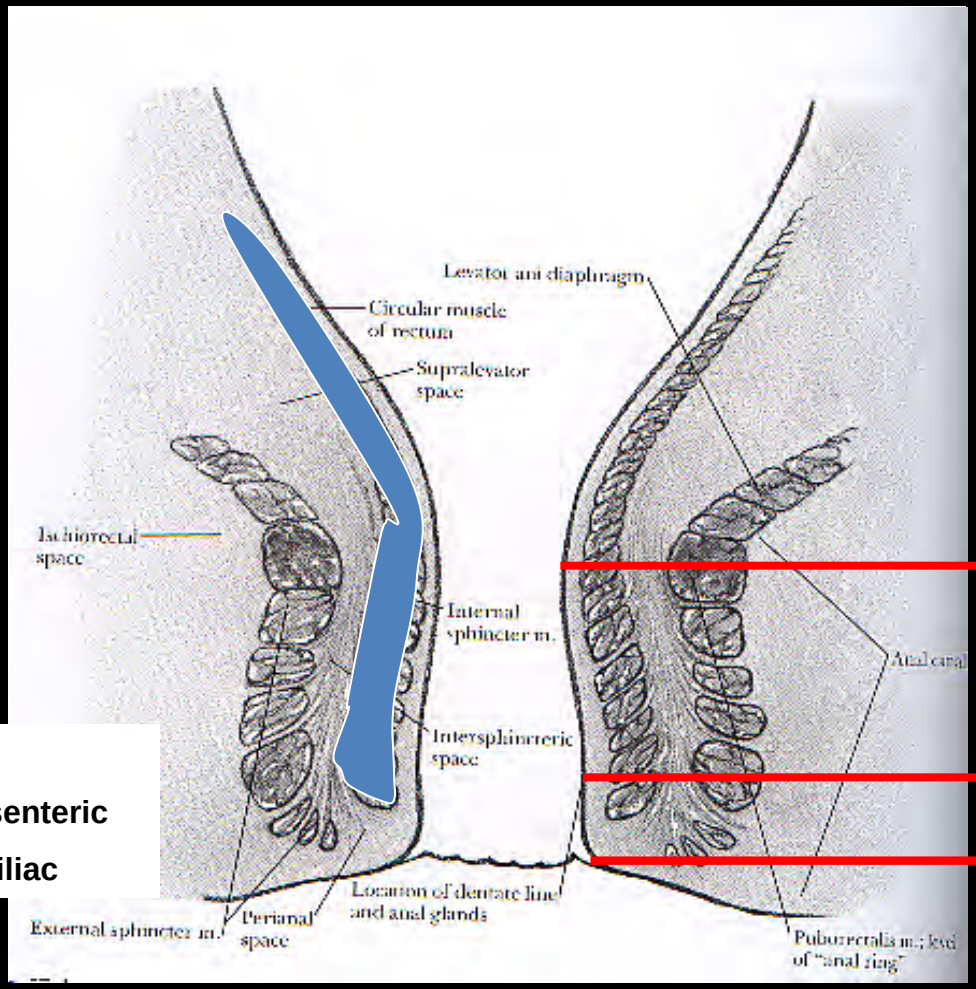
R antero-lateral

R posterolateral

Lymphatic drainage

Above dentate: Inf. Mesenteric

Below dentate: internal iliac



Nerve Supply

Sympathetic: Superior hypogastric plexus

Parasympathetic:

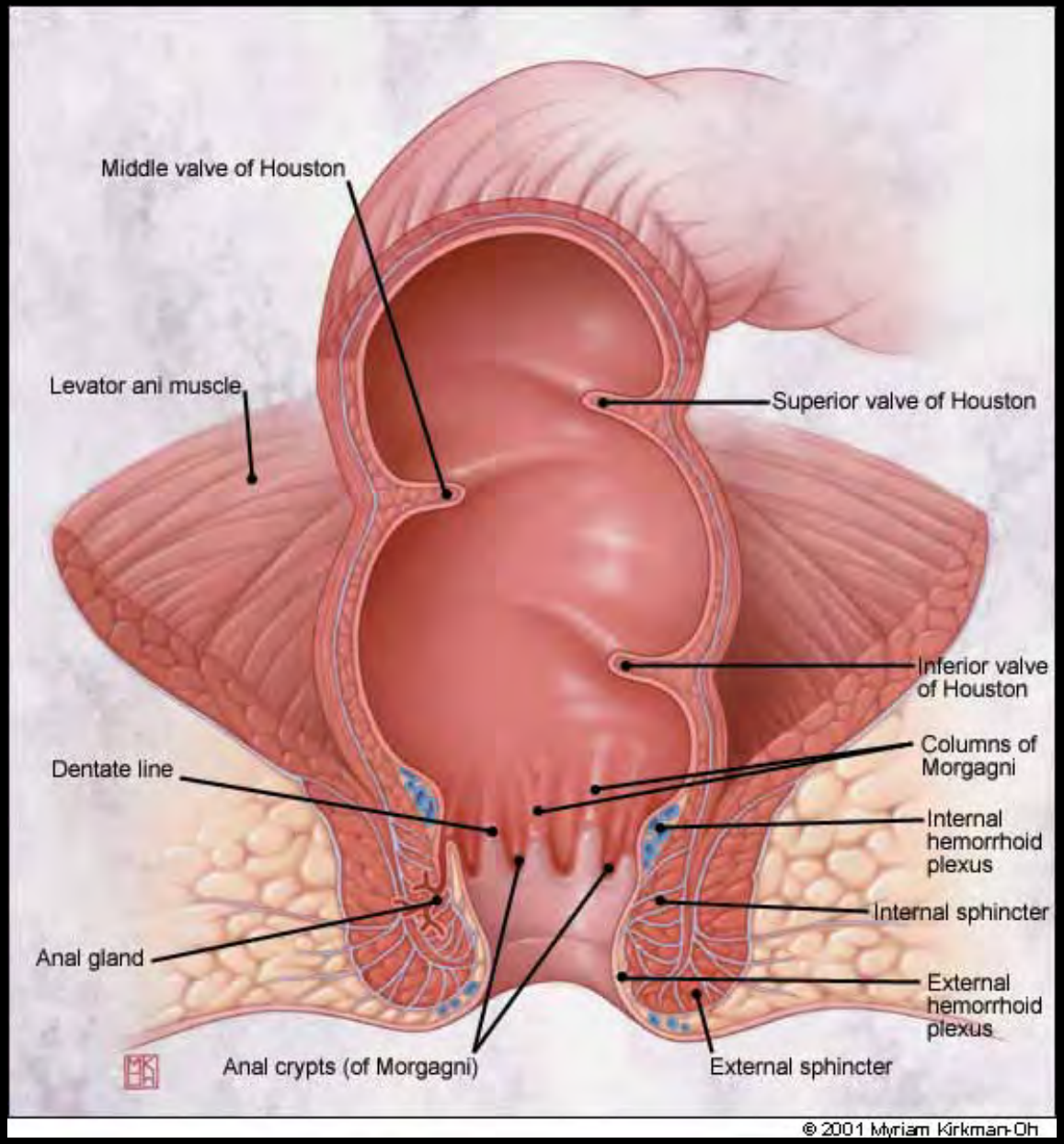
S234 (nerviergentis

Pudendal Nerve:

Motor and sensory

Anal canal

Anal verge


Middle valve of Houston
Levator ani muscle
Superior valve of Houston
Inferior valve of Houston
Columns of Morgagni
Dentate line
Internal hemorrhoid plexus
Internal sphincter
Anal gland
External hemorrhoid plexus
Anal crypts (of Morgagni)
External sphincter
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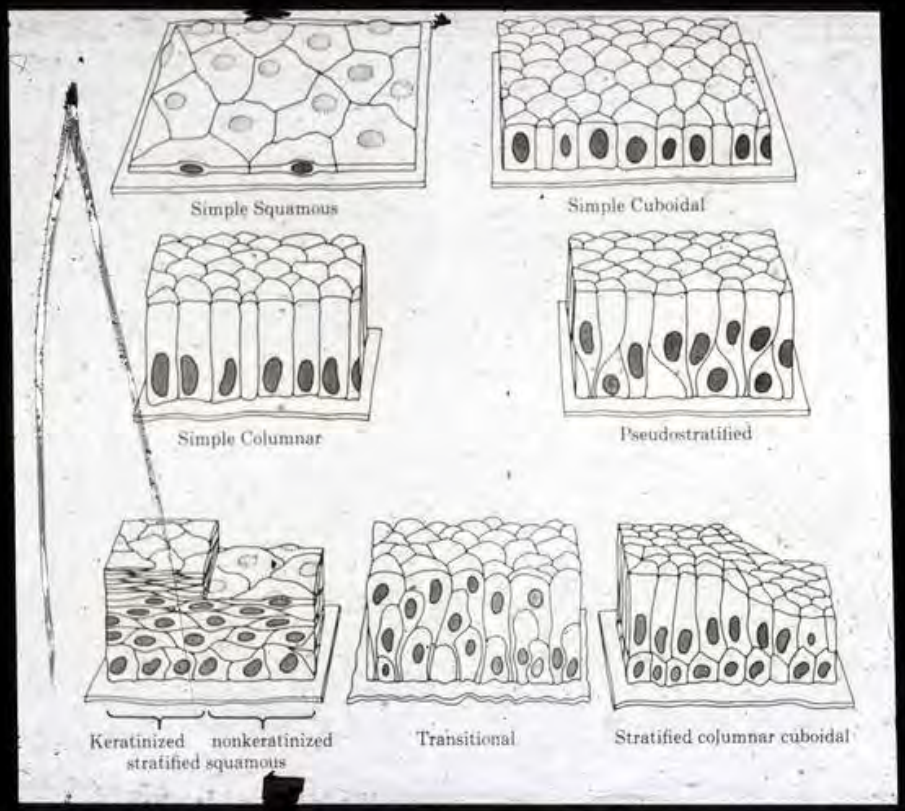
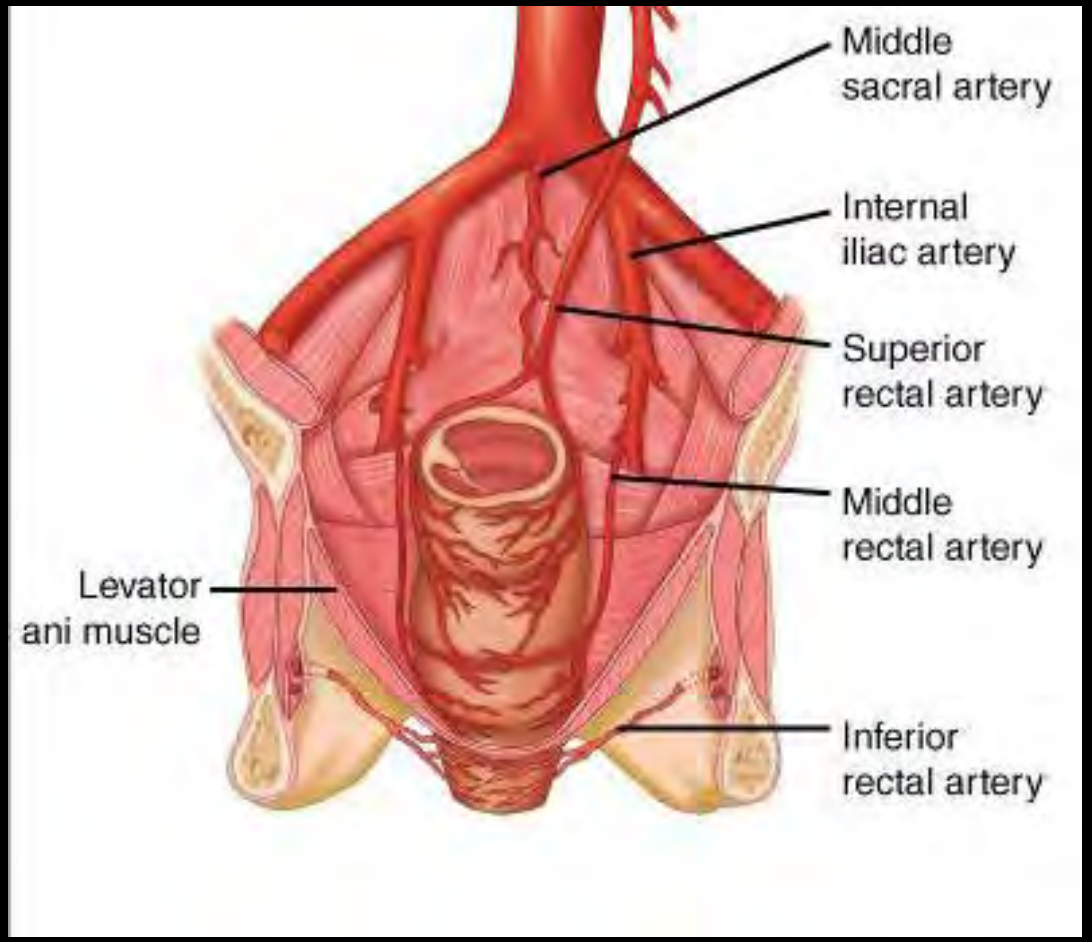
Lining of the Anal Canal and Low Rectum

The lower ½ is lined by squamous epithelium and the upper ½ by columnar epithelium. So carcinoma of the upper ½ is adenocarcinoma. Where as that arising from the lower part is squamous tumor.

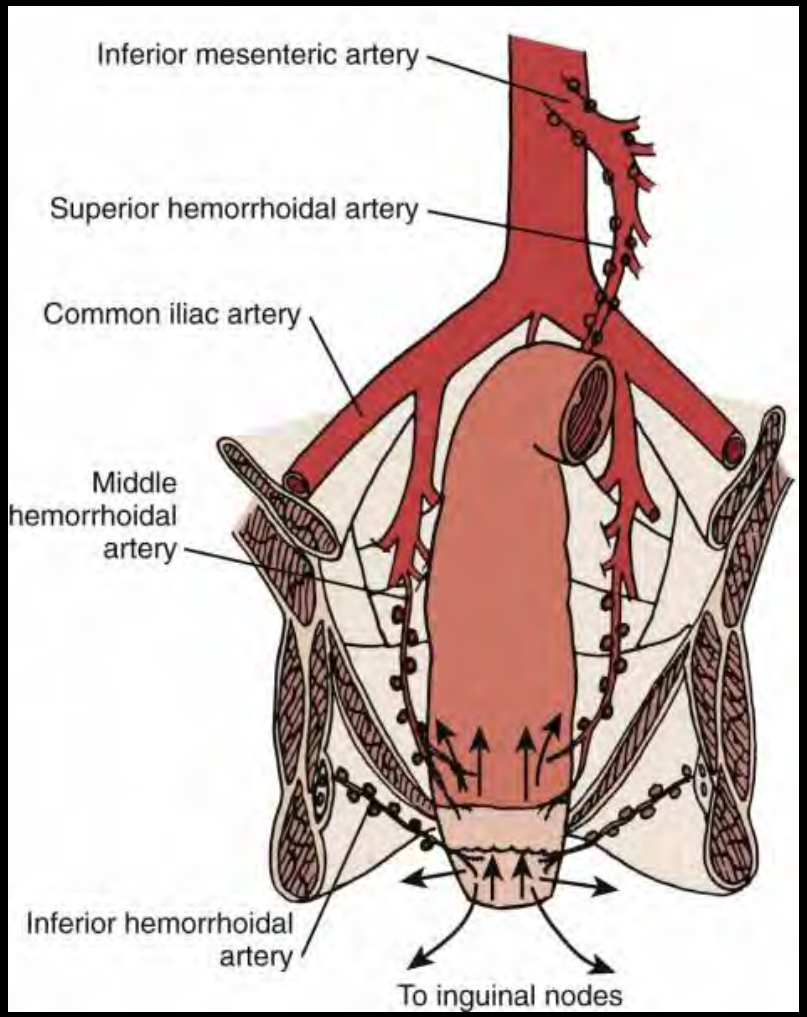


Blood Supply

The blood supply of upper ½ of the anal canal is from the superior rectal vessels. Where as that of the lower ½ is supply of the surrounding anal skin the inferior rectal vessels which derives from the internal pudendal ultimately from the internal iliac vessels.



Lymphatic Drainage and Nerves Supply

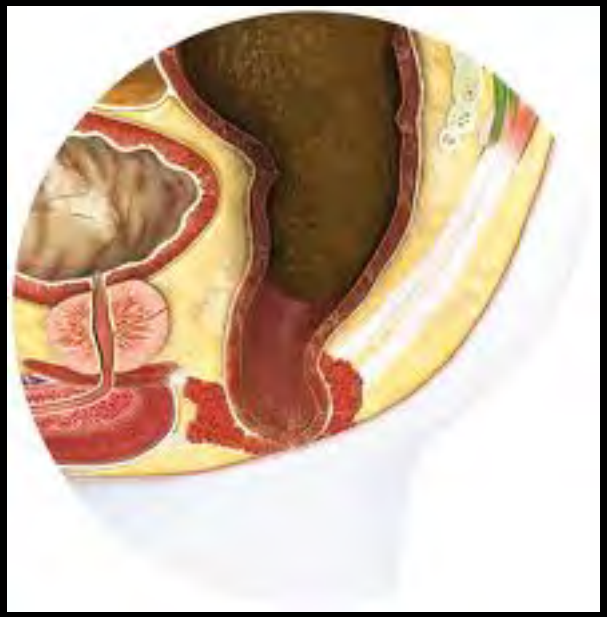


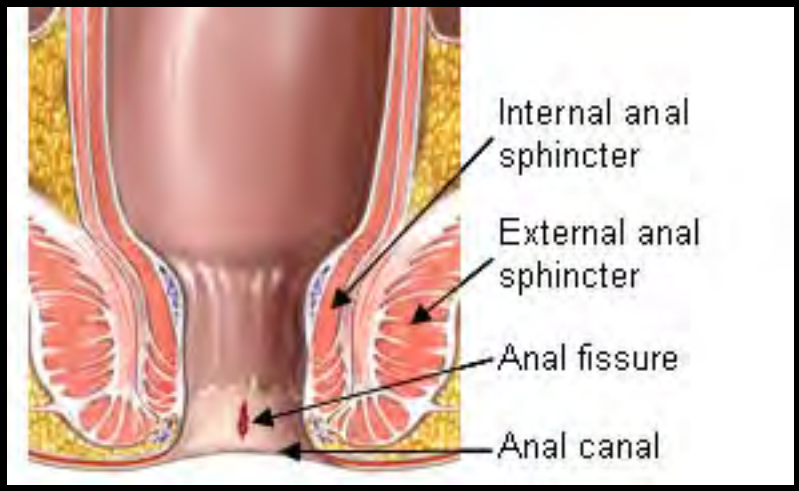
- The lymphatic above the muco cutaneous junction drain along the superior rectal vessels to the lumbar lymph nodes, where as below this line drainage is to the inguinal lymph nodes.
- The nerve supply to the upper ½ via autonomic plexus and the lower ½ is supplied by the somatic inferior rectal nerves terminal branch of the pudendal nerve. So the lower ½ is sensitive to the prick needle

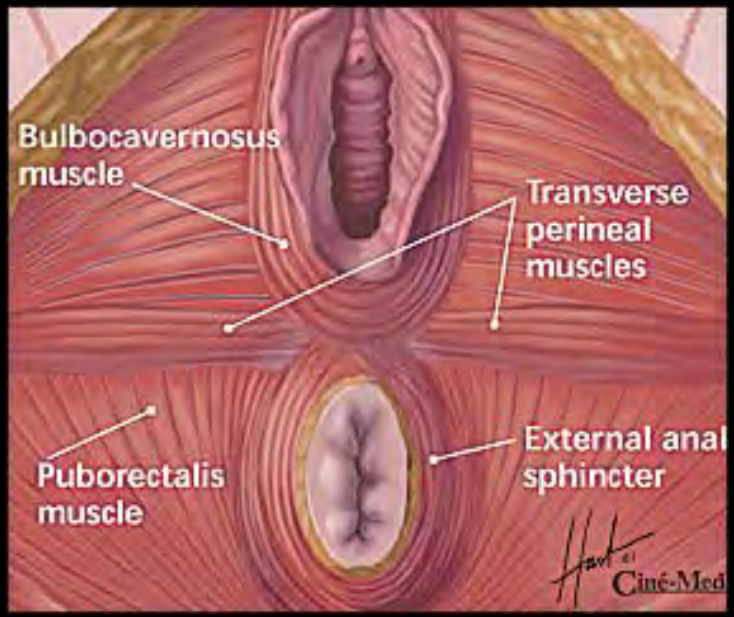
Anal Sphincter

- The internal anal sphincter of in voluntary muscle, which is the contination of the circular muscles of the rectum.
- The external sphincter of the voluntary muscles, which surrounds the internal sphincter and comprises 3 parts
  - subcutaneous the lower most portion of the external sphincter
  - superficial part
  - deep part

Perspectives







Examination of the Anus and Rectum

This requires careful attention to circumstances (couch, light, gloves). The Sims (left lateral position) is satisfactory. The examination proceed by;

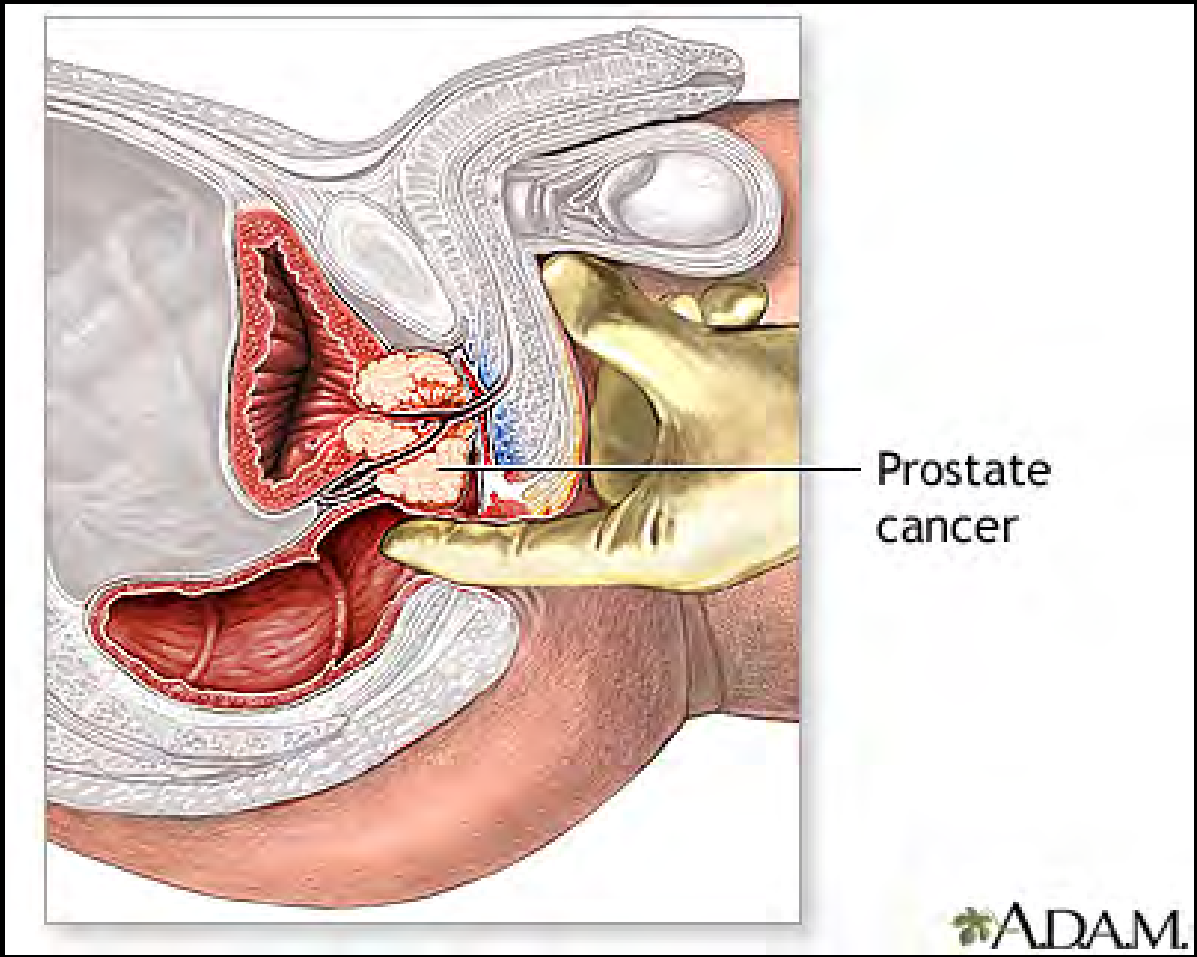
- inspection
- digital examination with index finger
- exam positions and illumination
- description of the exam
- proctoscopy, anoscopy
- sigmoidoscopy

Anorectal examination

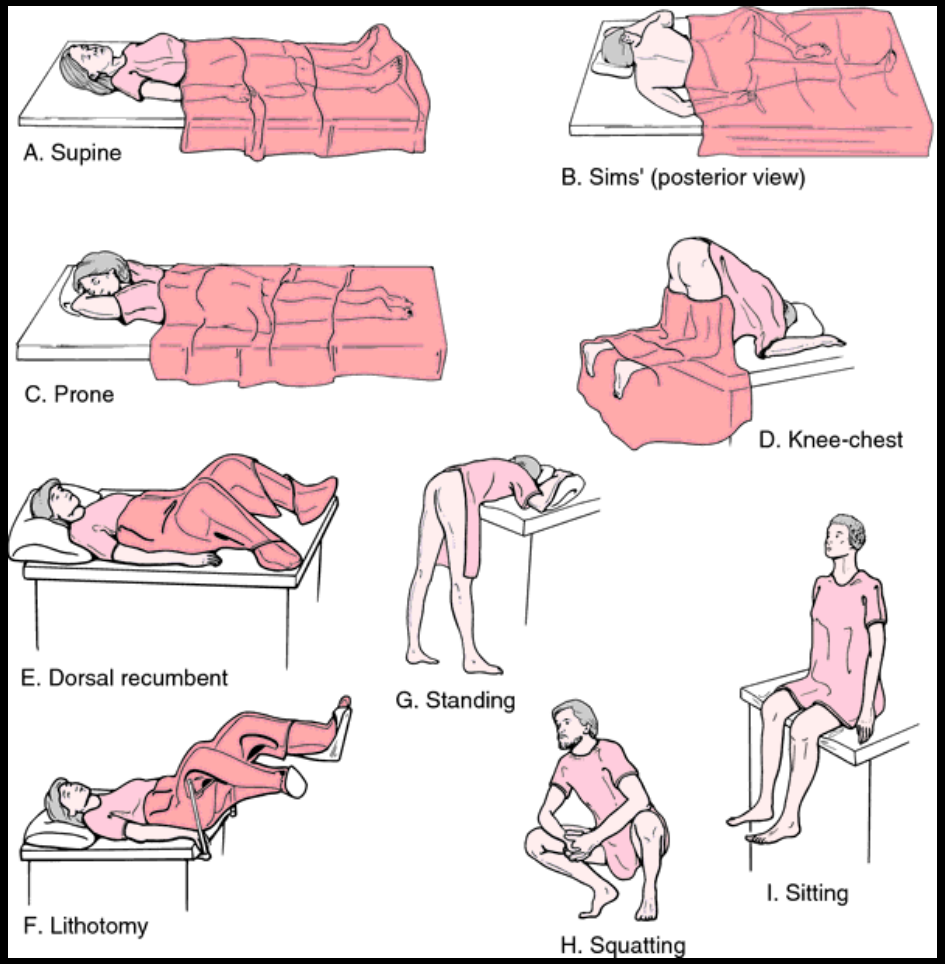
- **Things never to be forgotten:**
  - Explain necessity of procedure and reassure the patient
  - Explain the procedure
  - Tell the patient that is usually uncomfortable but not painful Get informed consent
  - Ensure adequate privacy
  - Obtain services of chaperone if appropriate
  - Expose the patient from waist to knee and explain the position of examination.
  - Equipment: plastic glove + lubricating jelly + good light

Inspection

Digital Rectal Examination

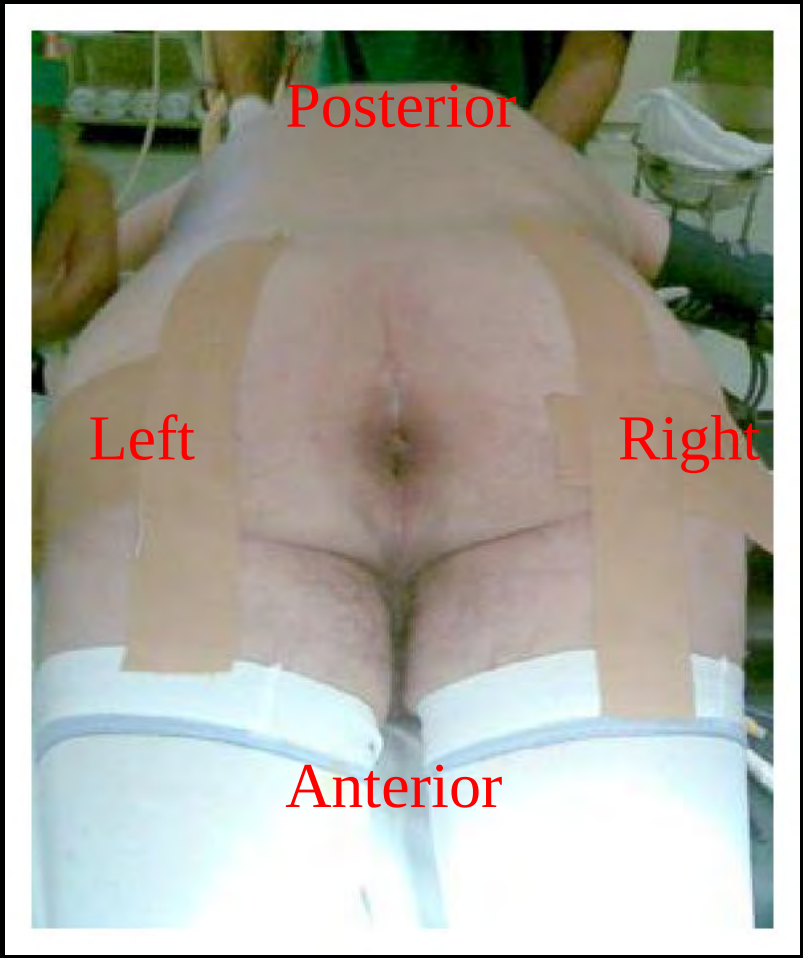


Exam Positions

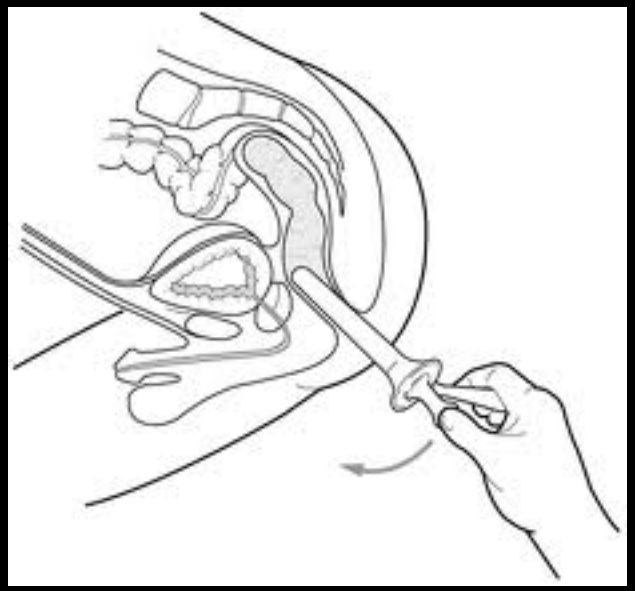


Light

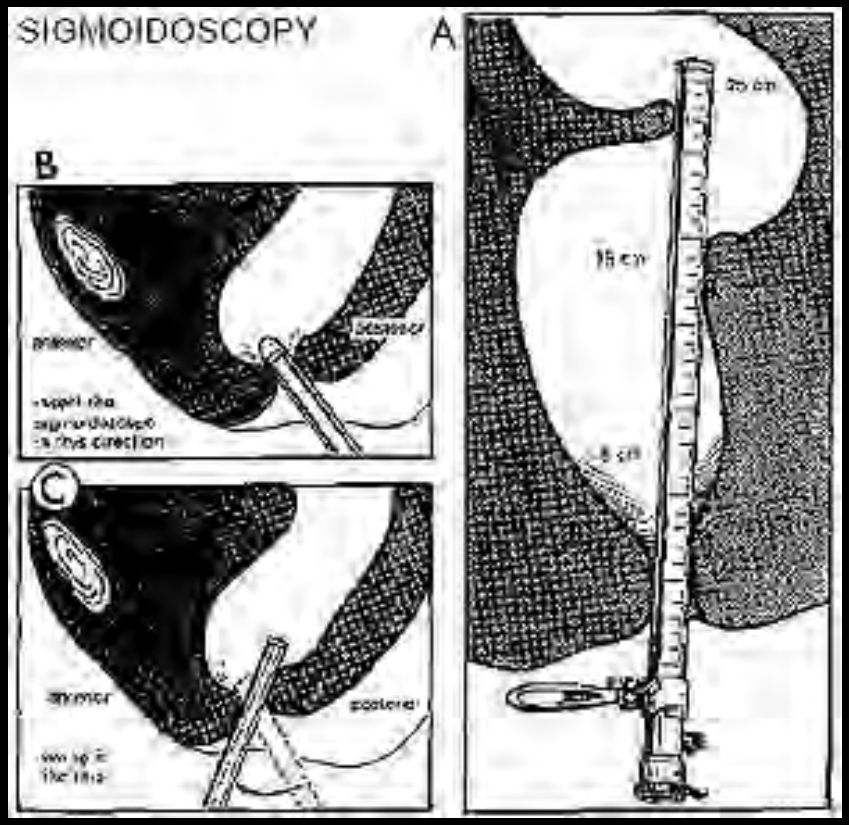
Document/Description of your Exam



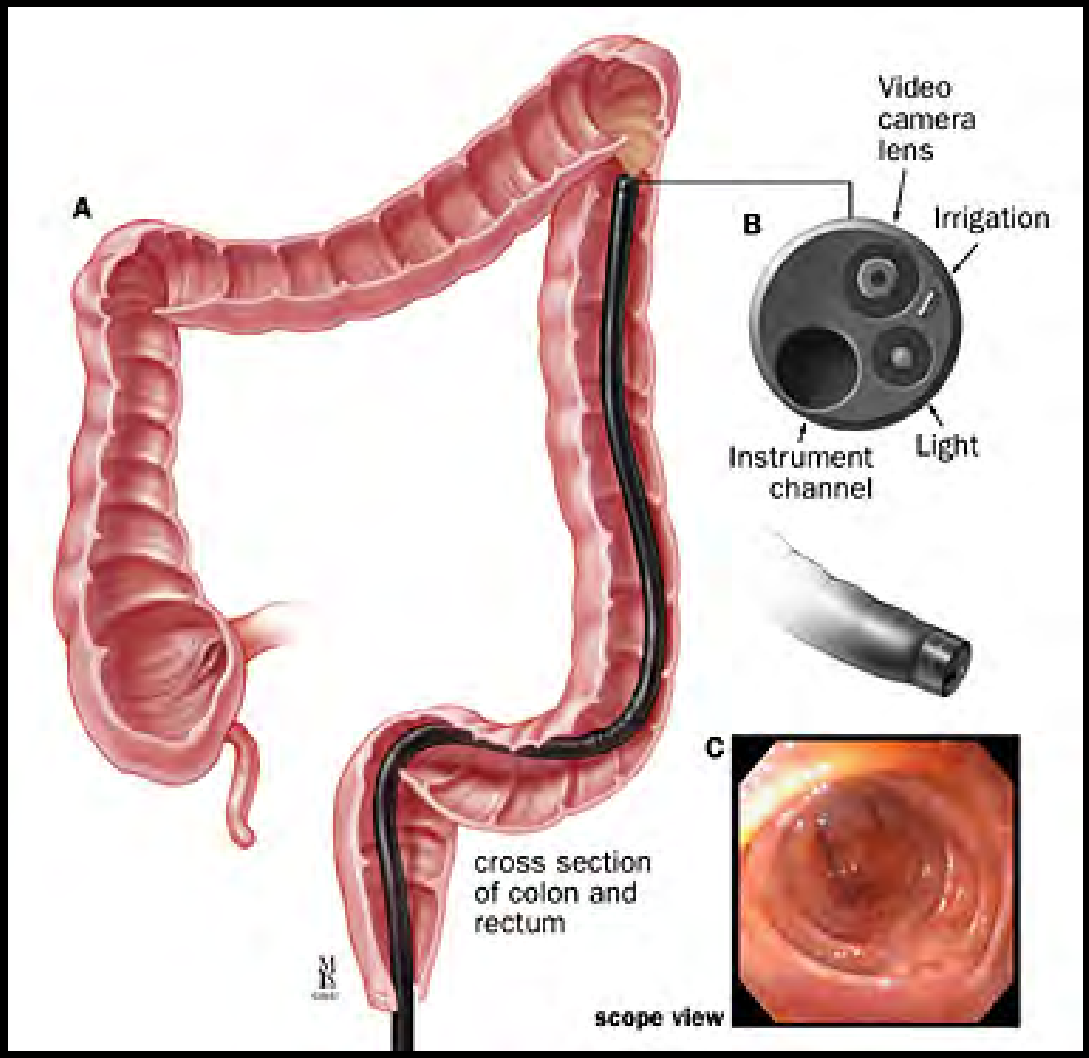
Anoscopy

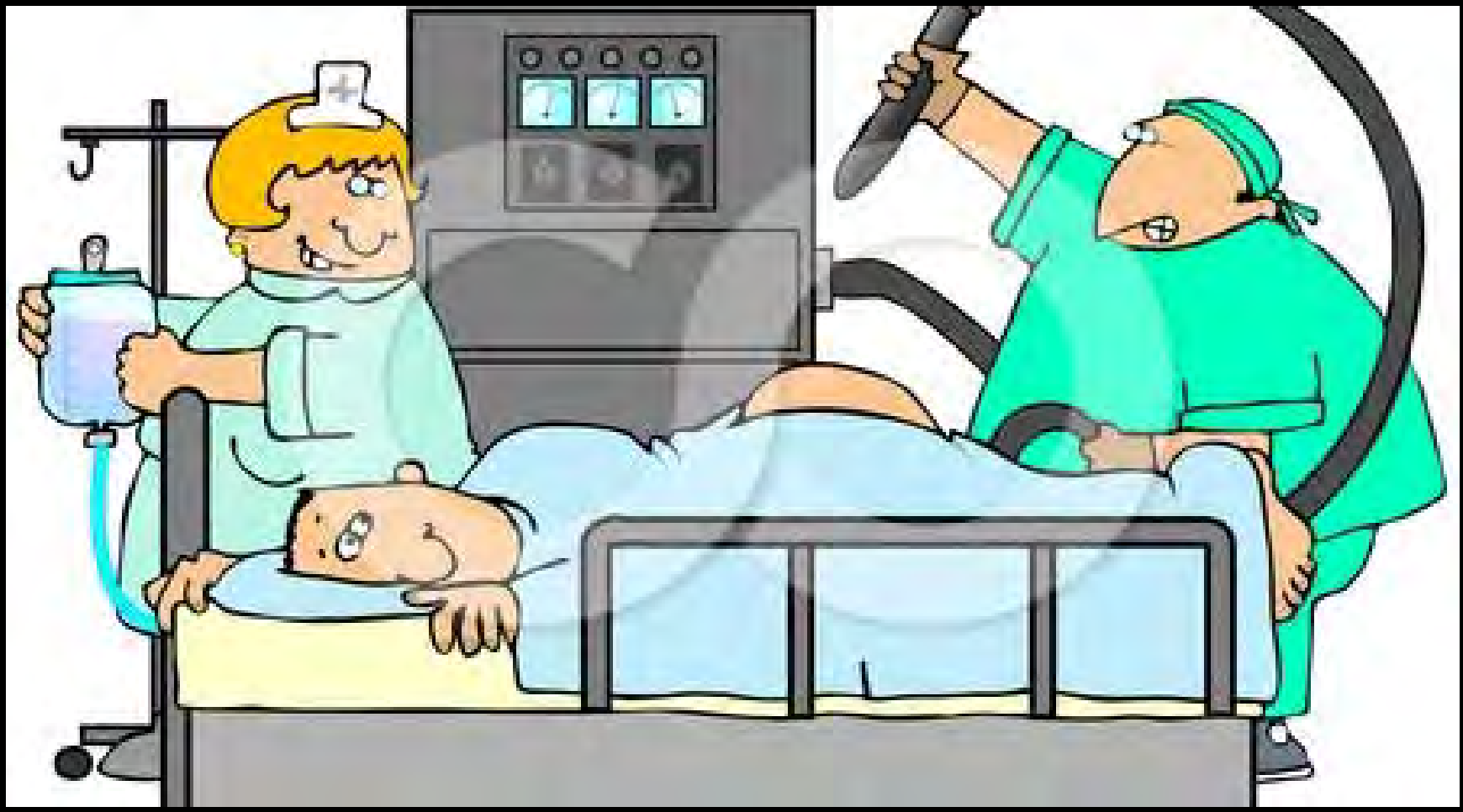


Proctoscopy



Sigmoidoscopy





Common Ano Rectal Diseases

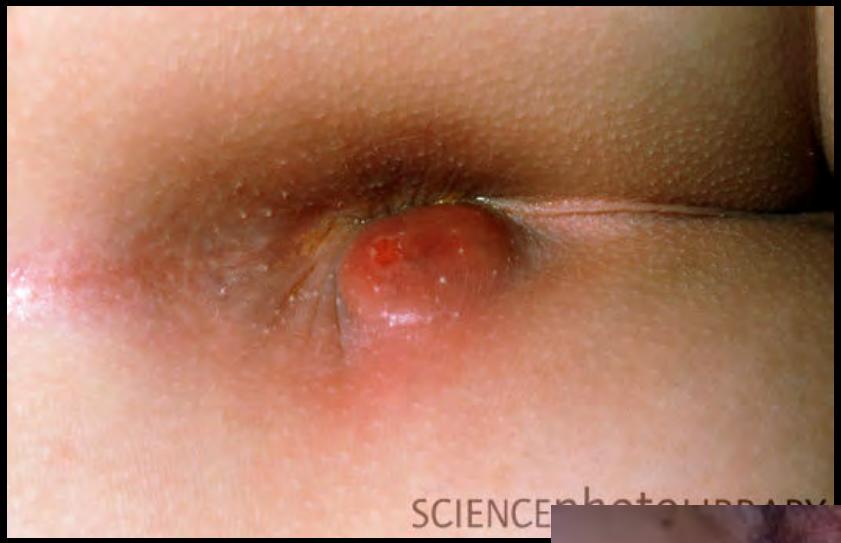
Anal Abscess
Anal Fistula
Anal Cancer
Anal Fissure
Cancer of the Anus
Cancer of the Rectum
Cryptitis
Enlarged Papillae
Fecal Incontinence

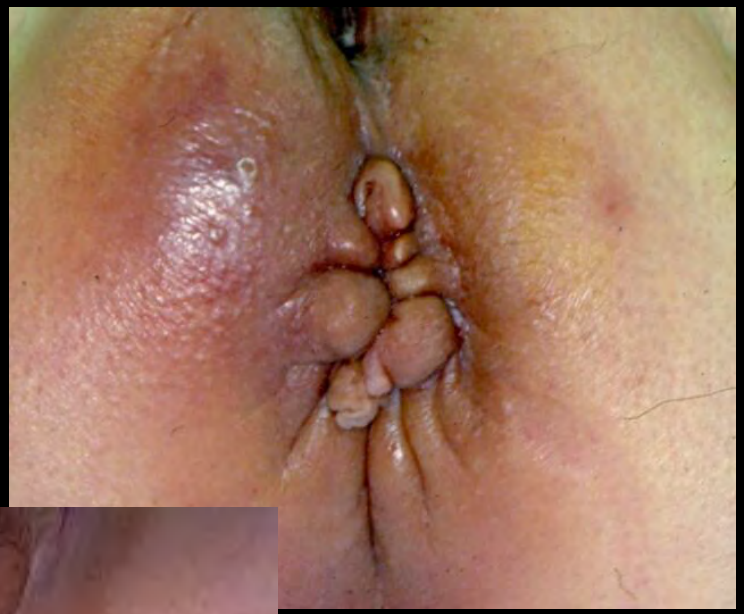
Hemorrhoids
Levator Syndrome
Pilonidal Cyst
Polyps
Proctalgia Fugax
Proctitis
Pruritus Ani
Rectal Prolapse
Rectocele
Venereal Warts (Condyloma)

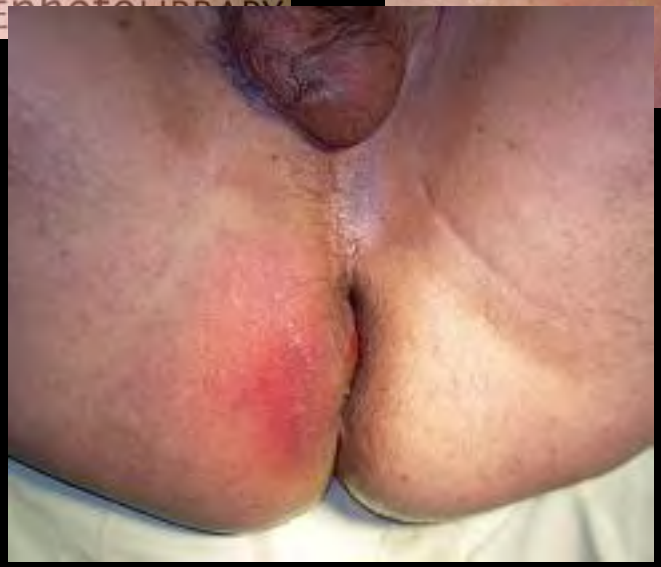
Problems in the treatment of Anorectal abscess

- ✓ Anal Fistula
- ✓ Recurrence
- ✓ Inflammatory bowel disease

Clinical Presentation







Clinical Presentation – cont.

- ✓ Acute pain
- ✓ High fever
- ✓ Swelling
- ✓ Tenderness with induration

Treatment:

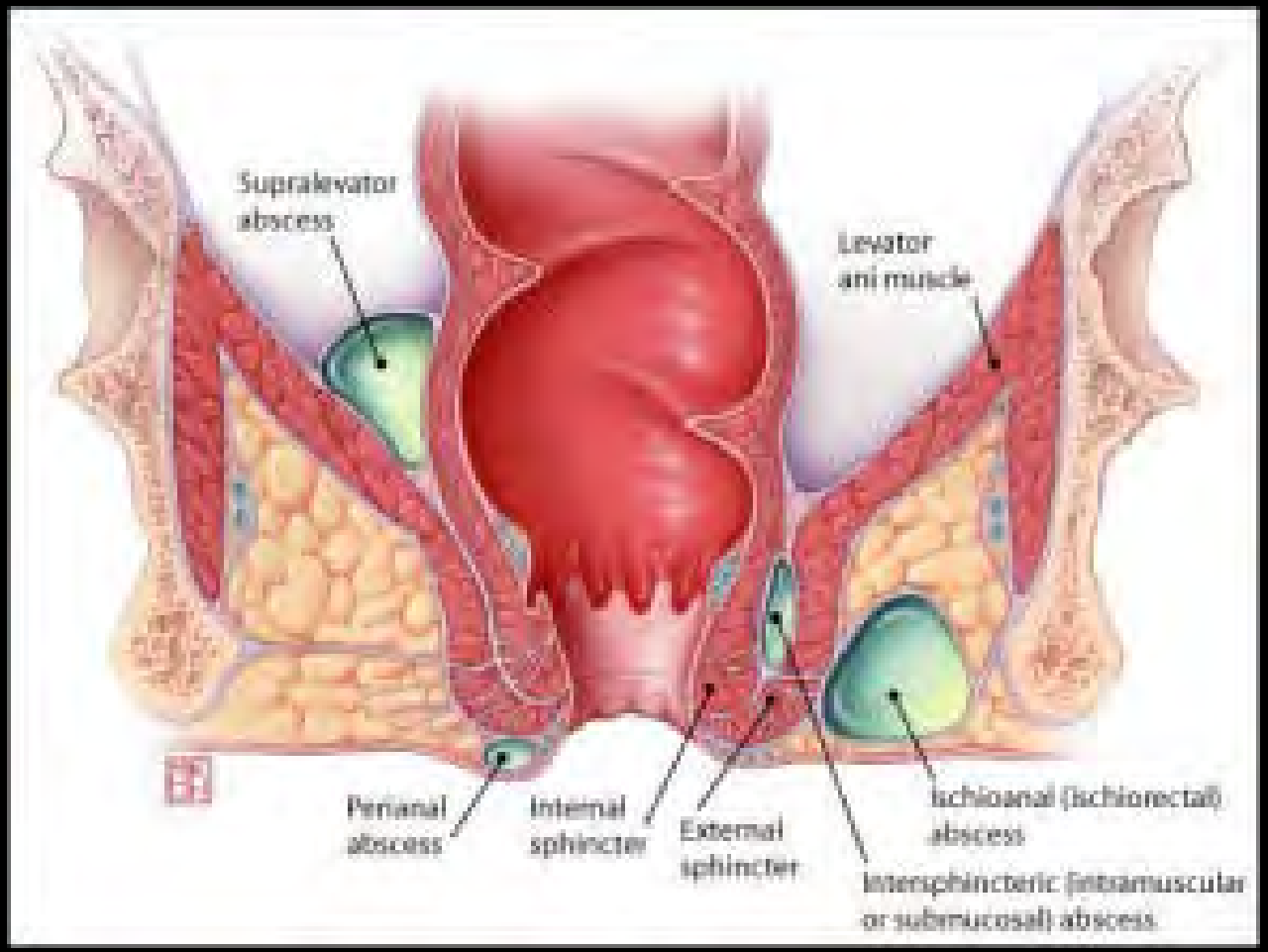
- ✓ Incision and drainage

Pathology

The infection usually starts in one of the crypts of Morgagni and extends along the related anal gland to the inter sphincteric plane where it forms as abscess. Soon it tracks in various directions to produce different types of abscesses which are classified as follows:

① Perianal abscess (60%)
② Ischiorectal abscess (30%)
③ Sub mucous abscess (5%)
④ Pelvirectal or Supralevator abscess

Types of Abscesses



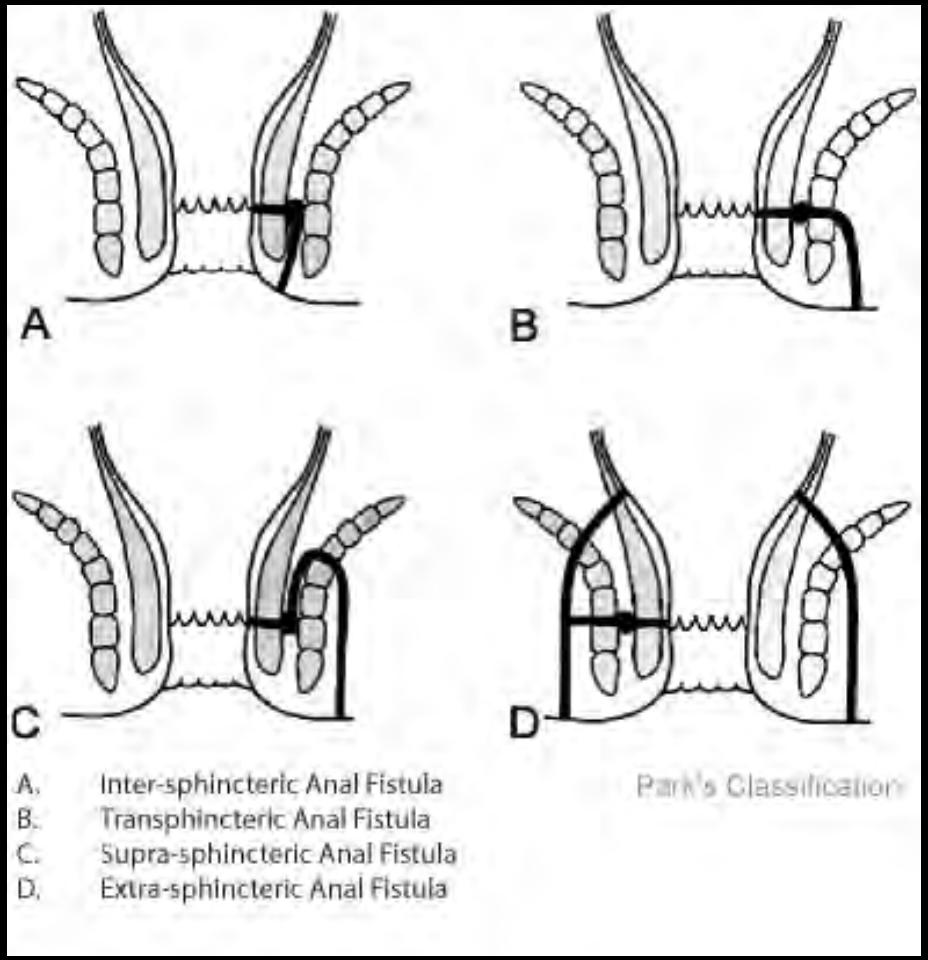
Anal Fistula

Defined as track lined by granulation tissues, which connects deeply in the anal canal or rectum and superficially on the skin around the anus. It usually result from an anorectal abscess. However the aetiology is uncertain. Anal fistulas have well recognized association with crohn's disease, UC, TB, colloid carcinoma of the rectum and lympho granuloma venercum.

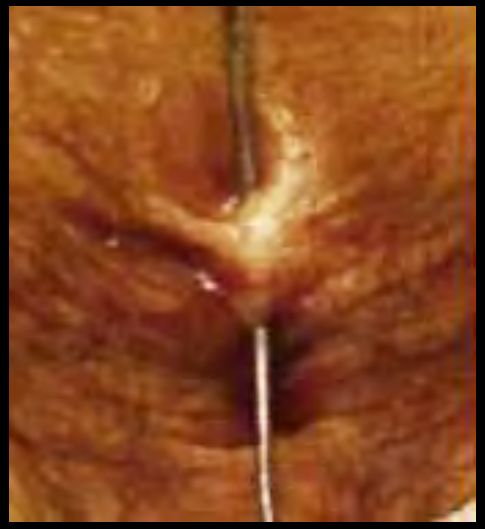
Parks classification according to relation of anal sphincter

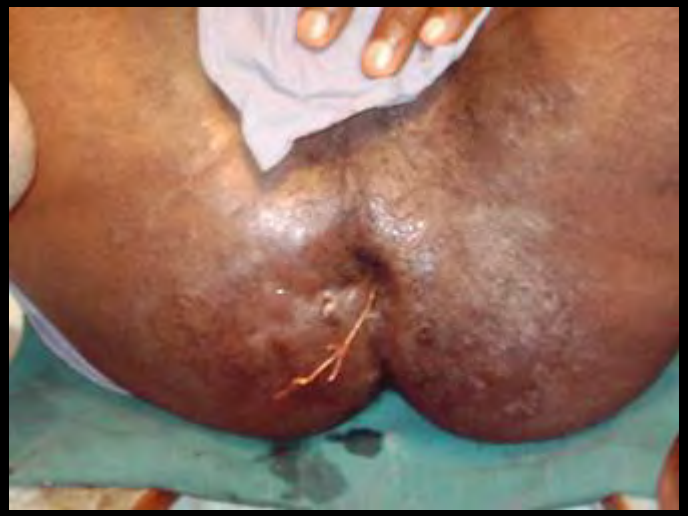
- ✓ Inter sphincteric (70%) low level anal fistula
- ✓ Trans-sphincteric (25%) high level anal fistula
- ✓ Supra sphincteric fistula (4%).
- ✓ Extra sphincteric (1%) rare type include the tract passes outside all sphincter muscles to open in the rectum.

Types of Fistulas



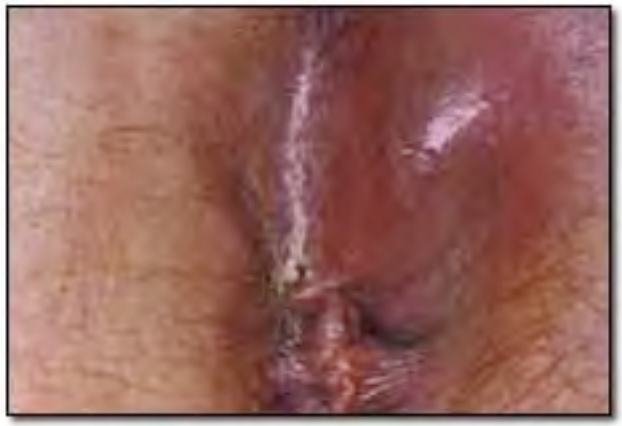
Clinical Presentation

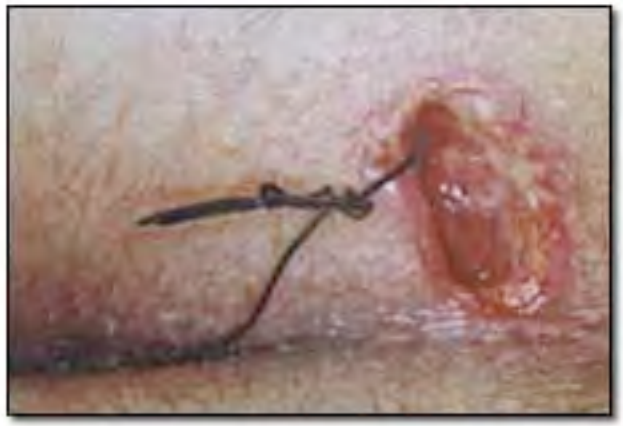




Initial Phase

Chronic Phase

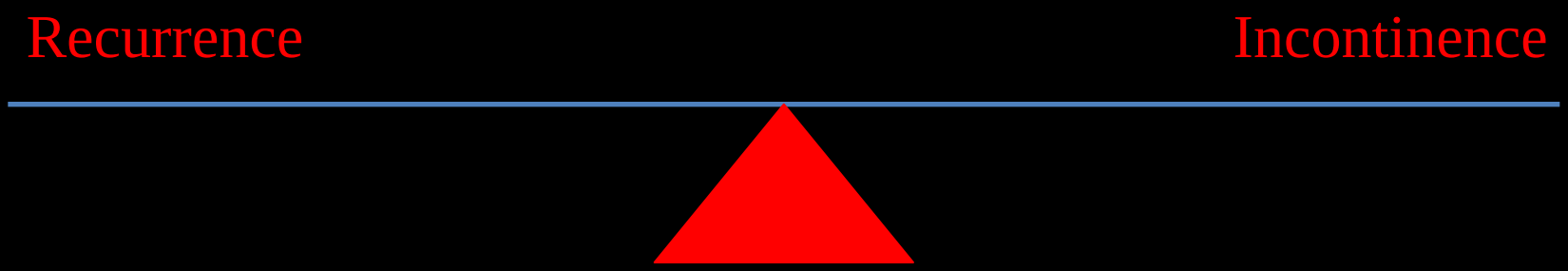




Peri-Anal Abscess

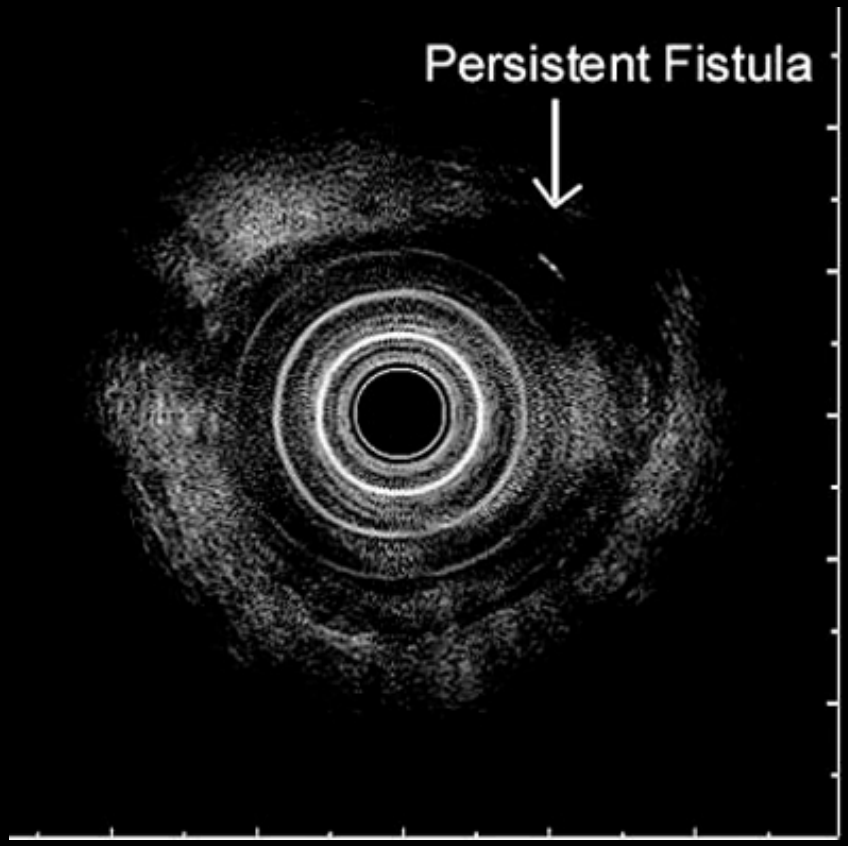
Fistula

Surgical Treatment
A Surgical Dilema

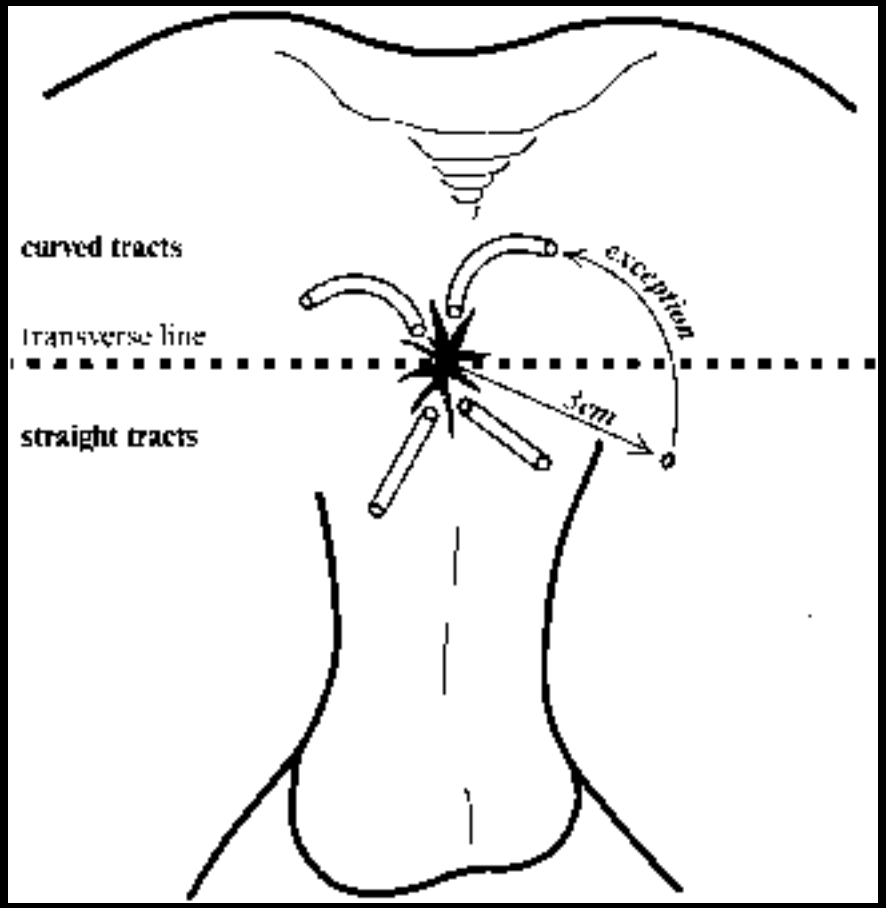


Clinical Assesment

ERUS



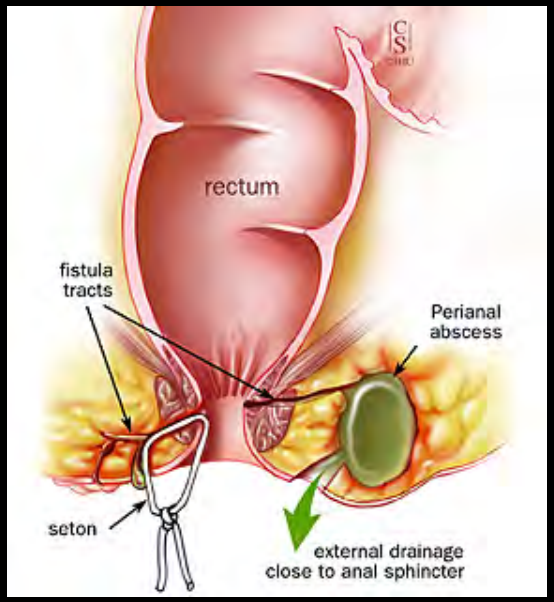
Good Sall's Rule

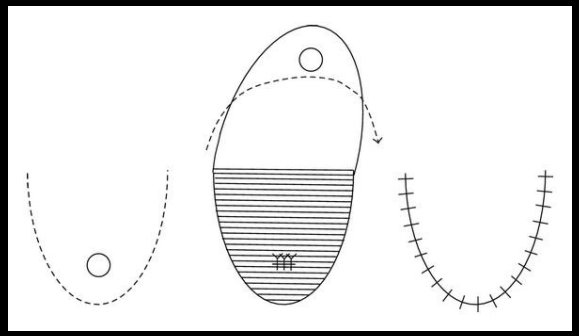


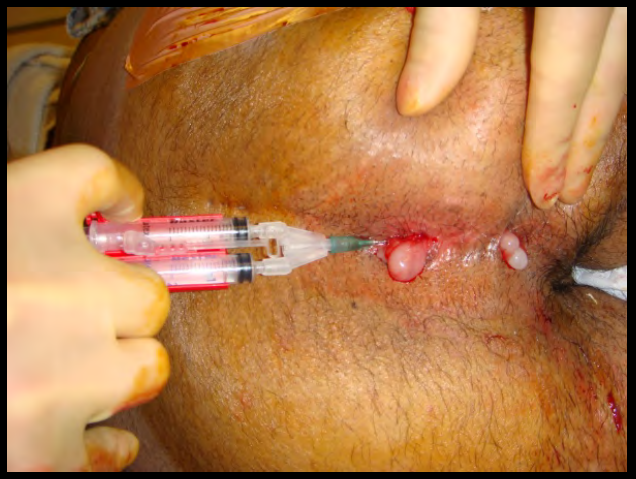
Transsphincteric Fistula Management

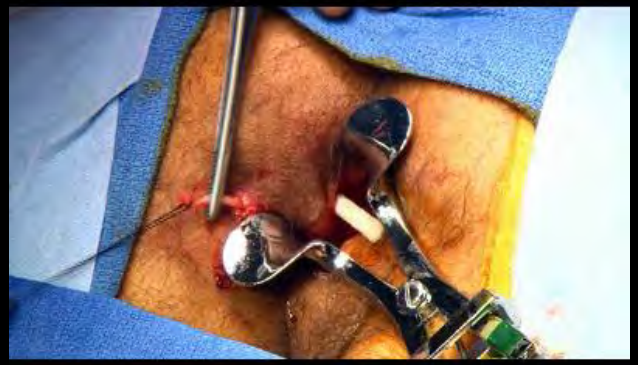
Method	Recurrence Rate	Impaired Continence
Cutting Seton	0-25%	0-73%
Advancement Flap	2-40%	0-20%
Fibrin Glue	20-83%	0% ?
Fistula Plug		
Lift Procedure		

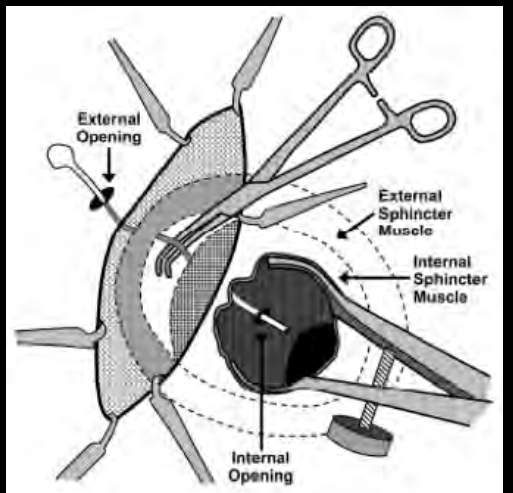
Cont









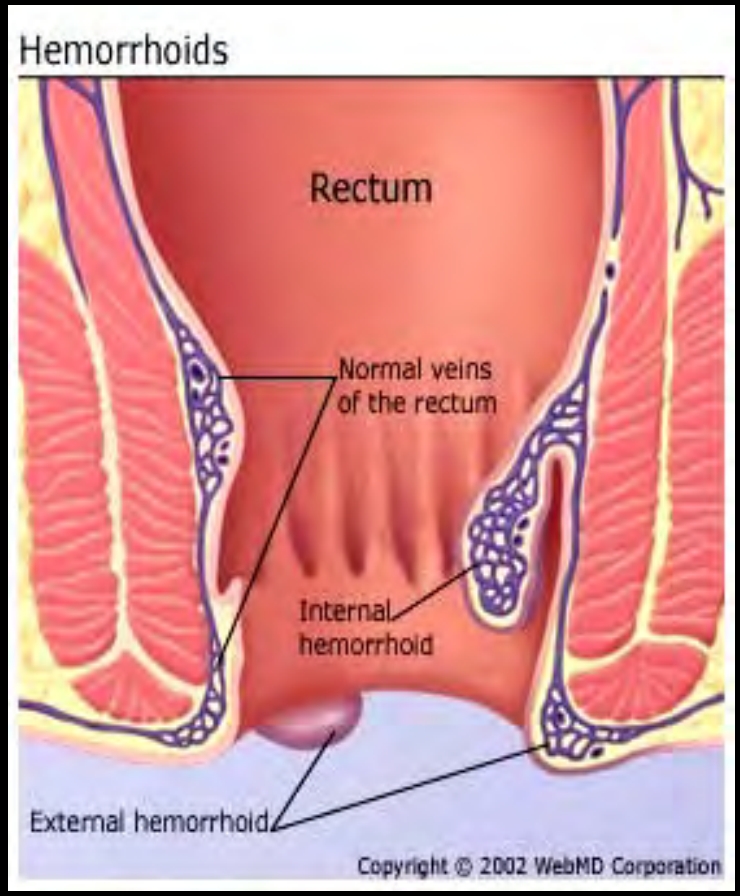


Ligation of the intersphincteric fistula tract has shown success rates of at least 50%.

Courtesy of Joshua I.S. Bleier, MD

Hemorrhoids

- They are part of the normal anoderm cushions
- They are not veins but sinusoids (no muscular wall). Bleeding is mostly arterial from presinusoidal arterioles.
- The contribute 15-20% of the normal resting pressure and feed vital sensory information .
- 3 main cushions are found
  - L lateral
  - R anterior
  - R posterior
- But can be found anywhere in anus



Hemorrhoids
Risk Factors

1. Constipation and straining
2. Low fiber high fat/spicy diet
3. Prolonged sitting in toilet
4. Pregnancy
5. Aging
6. Obesity
7. Hereditary Factors

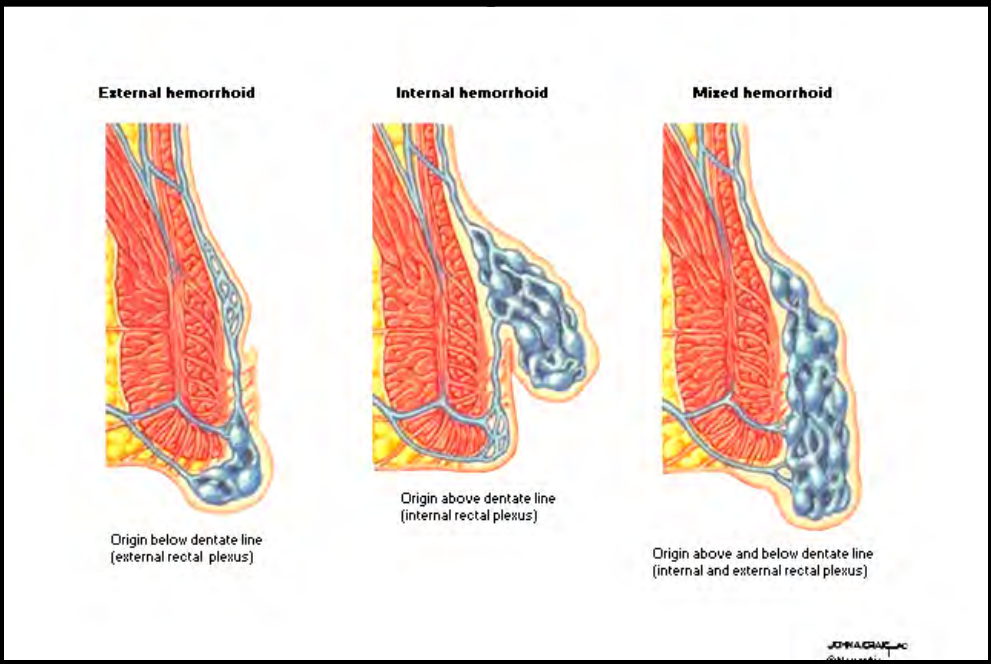
Hemorrhoids
Classification

Origin in relation to Dentate line

1. Internal: above DL
2. External: below DL
3. Mixed

Degree of prolapse through anus

- 1st: bleed but no prolapse
- 2nd: spontaneous reduction
- 3rd: manual reduction
- 4th: not reducible



Hemorrhoids
Investigations:

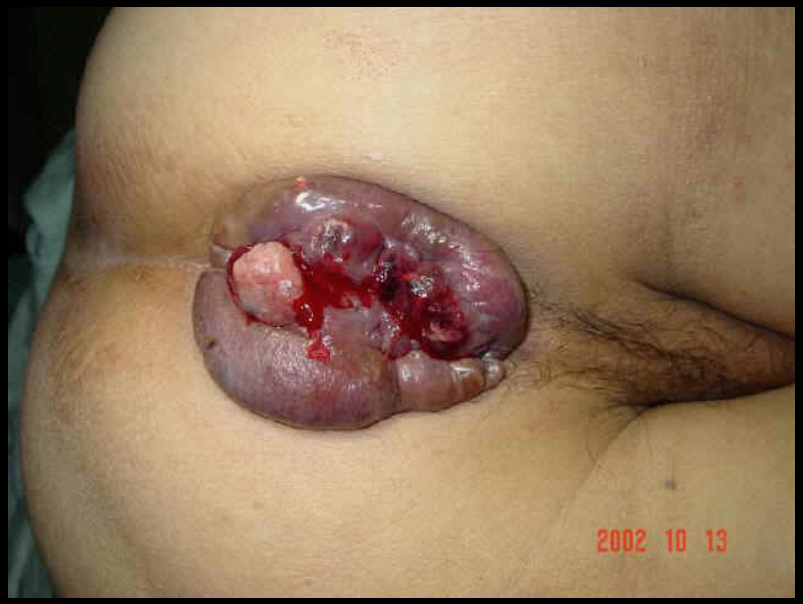
The diagnosis of hemorrhoids is based on clinical assessment and proctoscopy.

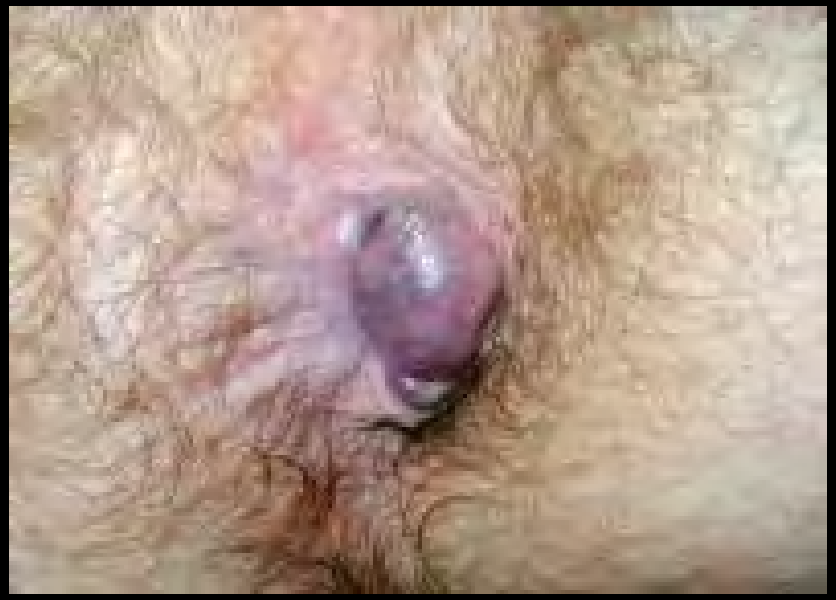
Further investigations should be based on a clinical index of suspicion ; colonoscopy

Complications

Thrombosis

Treatment: Less than 72 hours & more than 72 hours





Hemorrhoids
Treatment :

Conservative Measures

Grade 1&2

- Dietary modification: high fiber diet
- Stool softeners
- Bathing in warm water
- Topical creams NOT MUCH VALUE

Minimally invasive

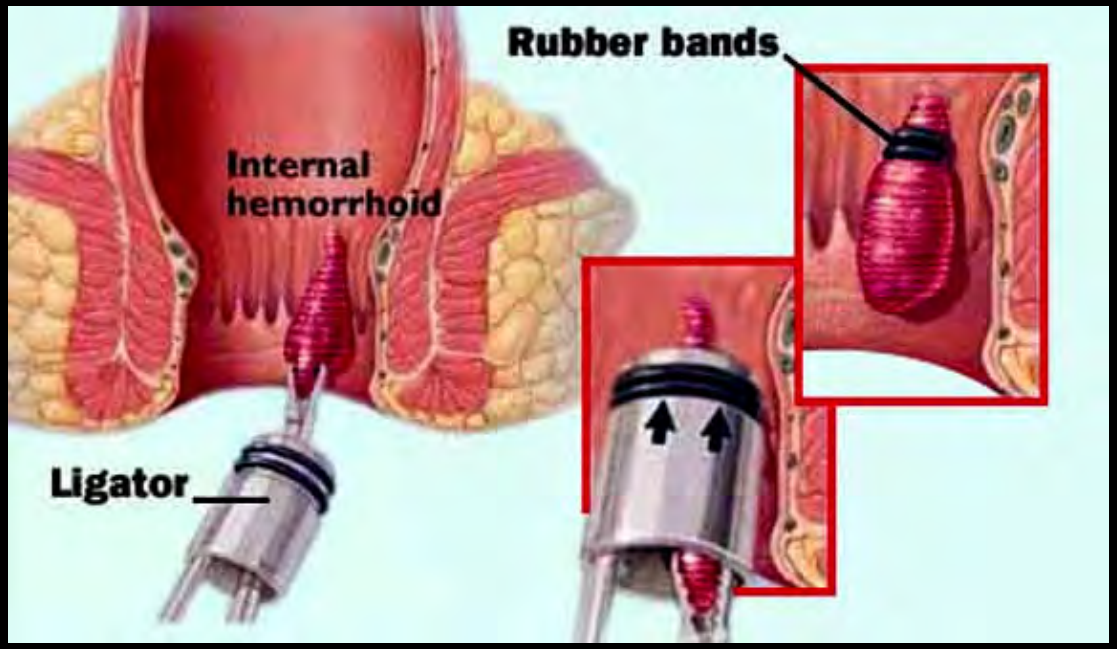
Indicated in failed medical treatment

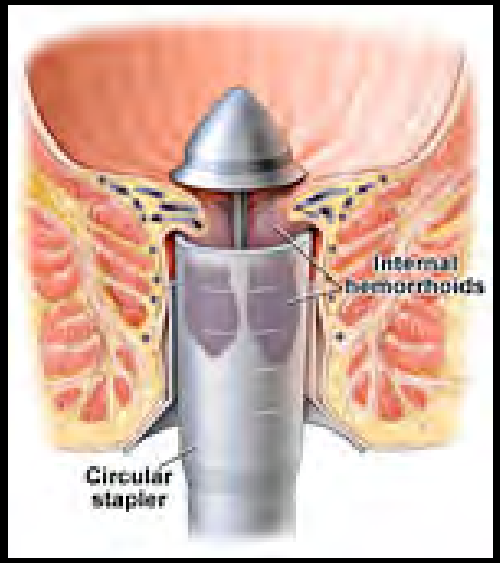
- injection sclerotherapy
- Rubber band ligation
- Laser photocoagulation
- Cryotherapy freezing
- Stapled hemorrhoidectomy

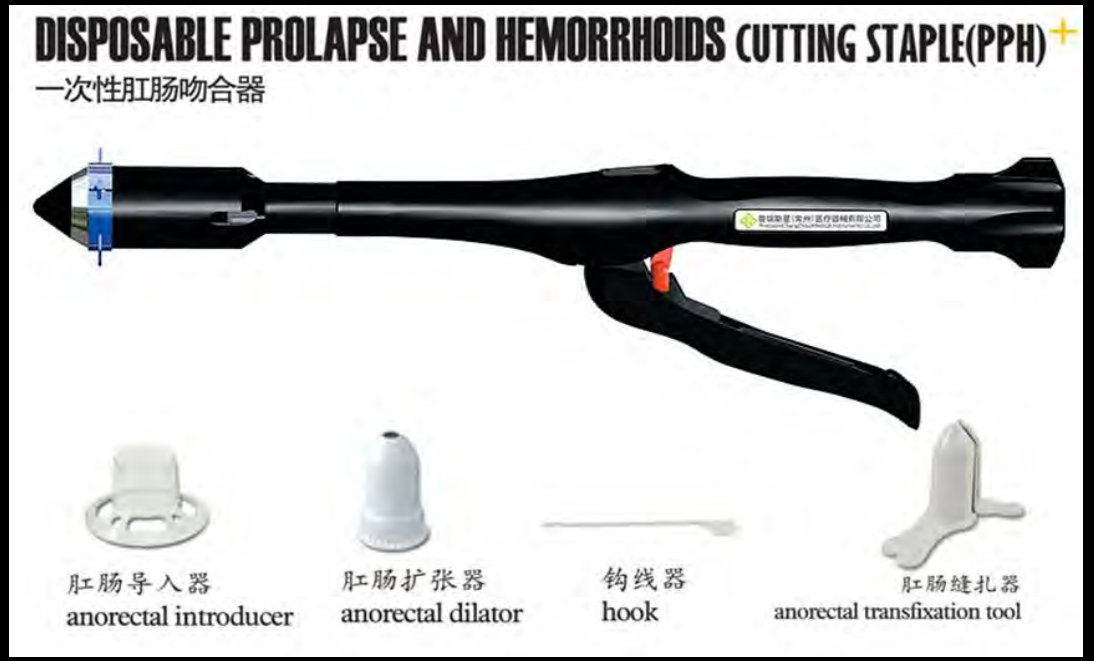
Surgical

Indications:

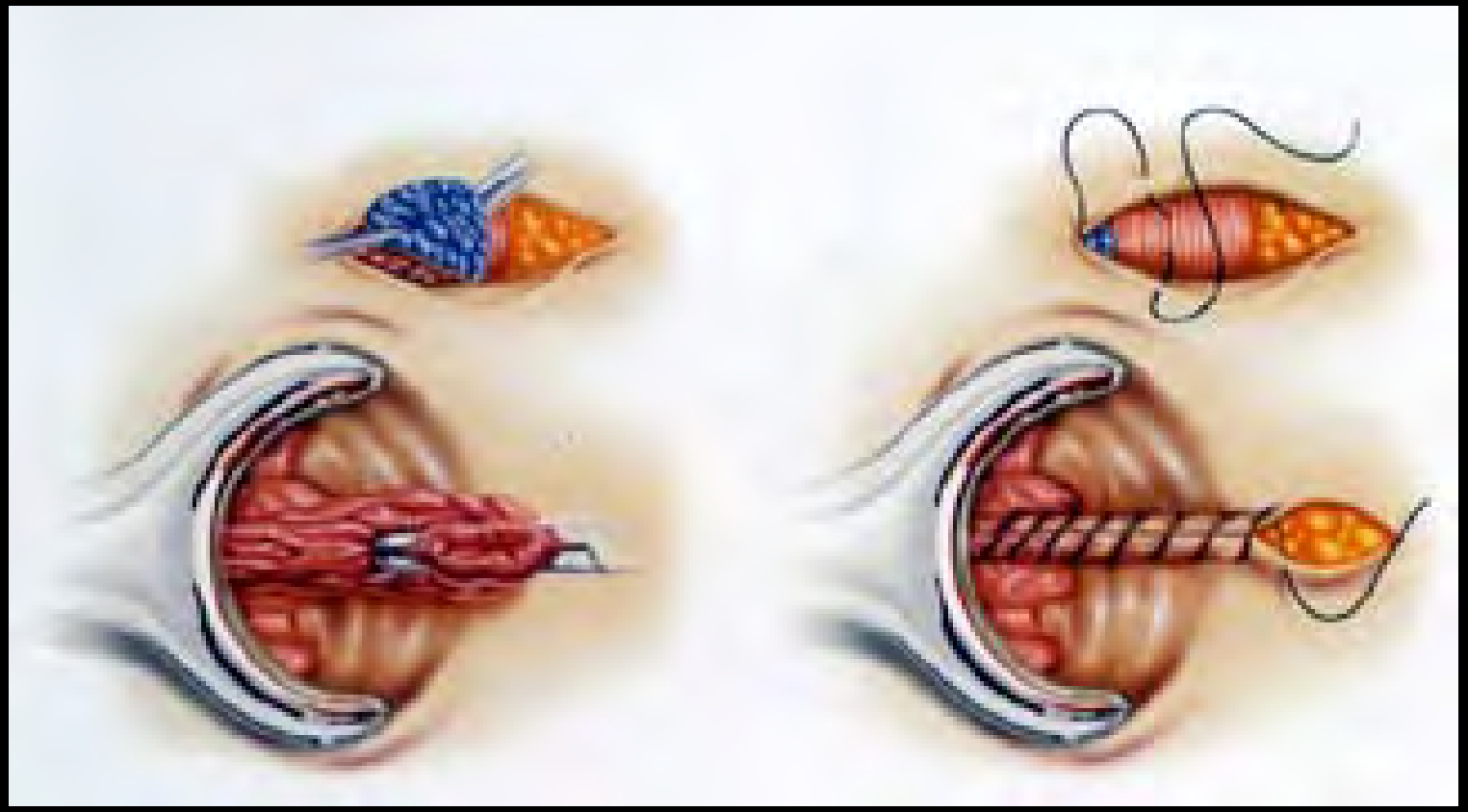
1. Failed other treatments
2. Severely painful grade 3&4
3. Concurrent other anal conditions
4. Patient preference
5. Quality of Life
6. Pre-op informed consent including post-op instructions


Rubber bands
Internal hemorrhoid
Ligator


Internal hemorrhoids
Circular stapler

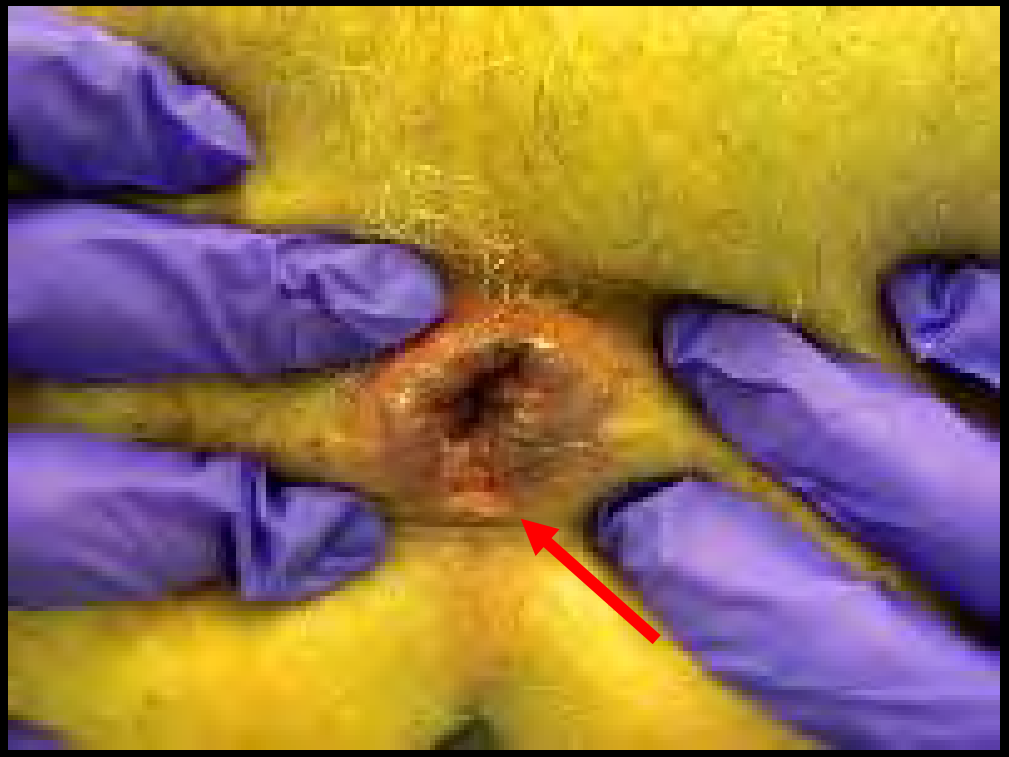

DISPOSABLE PROLAPSE AND HEMORRHOIDS CUTTING STAPLE(PPH)
一次性肛肠吻合器
肛肠导入器
anorectal introducer
肛肠扩张器
anorectal dilator
钩线器
hook
肛肠缝扎器
anorectal transfixation tool

Closed vs Opened Hemorrhoidectomy



Anal Fissure

- **Linear tears in the anal mucosa exposing the internal sphincter**
- **90% are posterior**
- **Caused mainly by trauma (hard Stool as well as diarrhea). Followed by increased sphincter tone and ischemia.**
- **Other causes: IBD, Ca, Chronic infections**

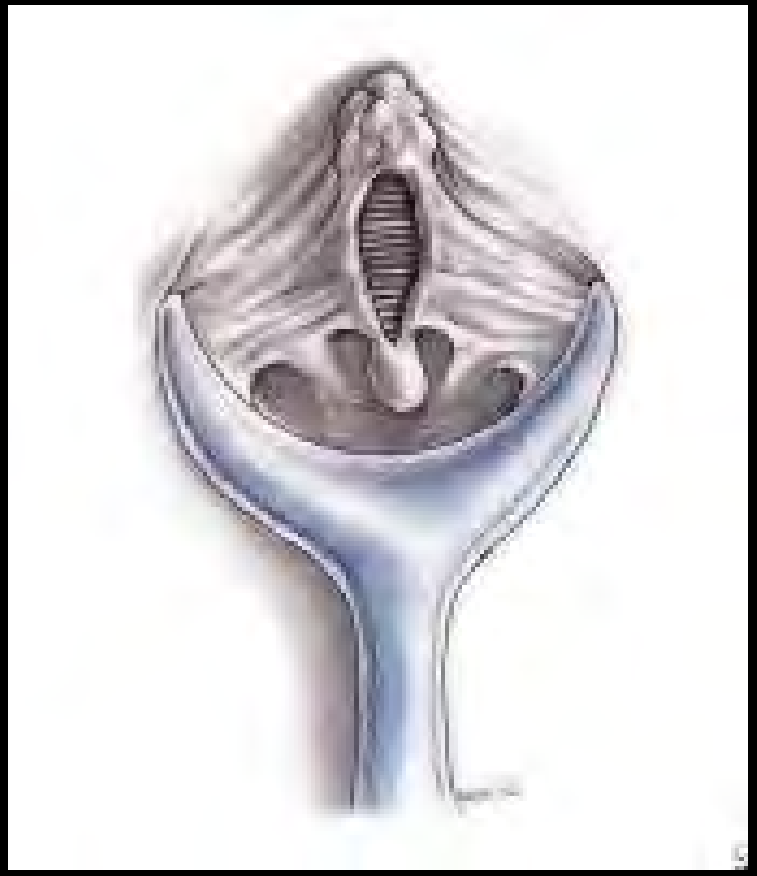


Pain!

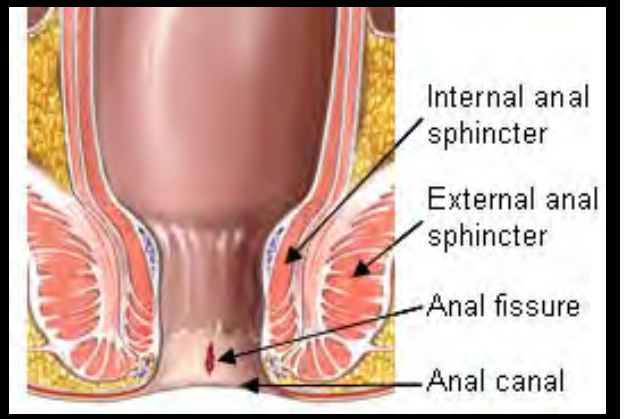
Anal Fissure

Clinical Assessment

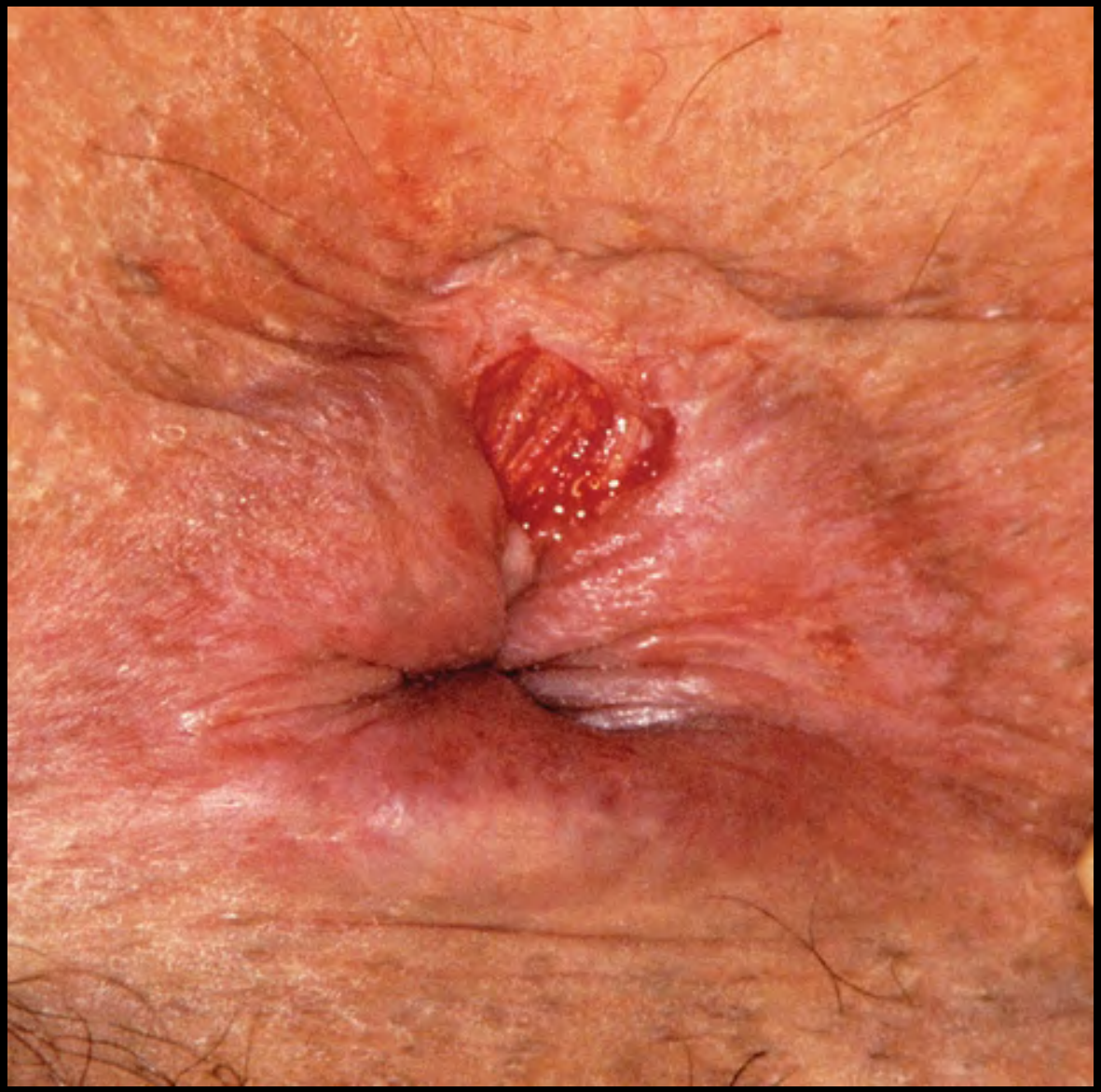
Acute	Chronic
•Sever acute pain •Fresh blood spotting •Clean linear tear.	•Pain mild to moderate •More than 6 weeks •Hypertrophied Int.sphincter •Skin tag •Granulation around the edge



Anal Fissure
Treatment

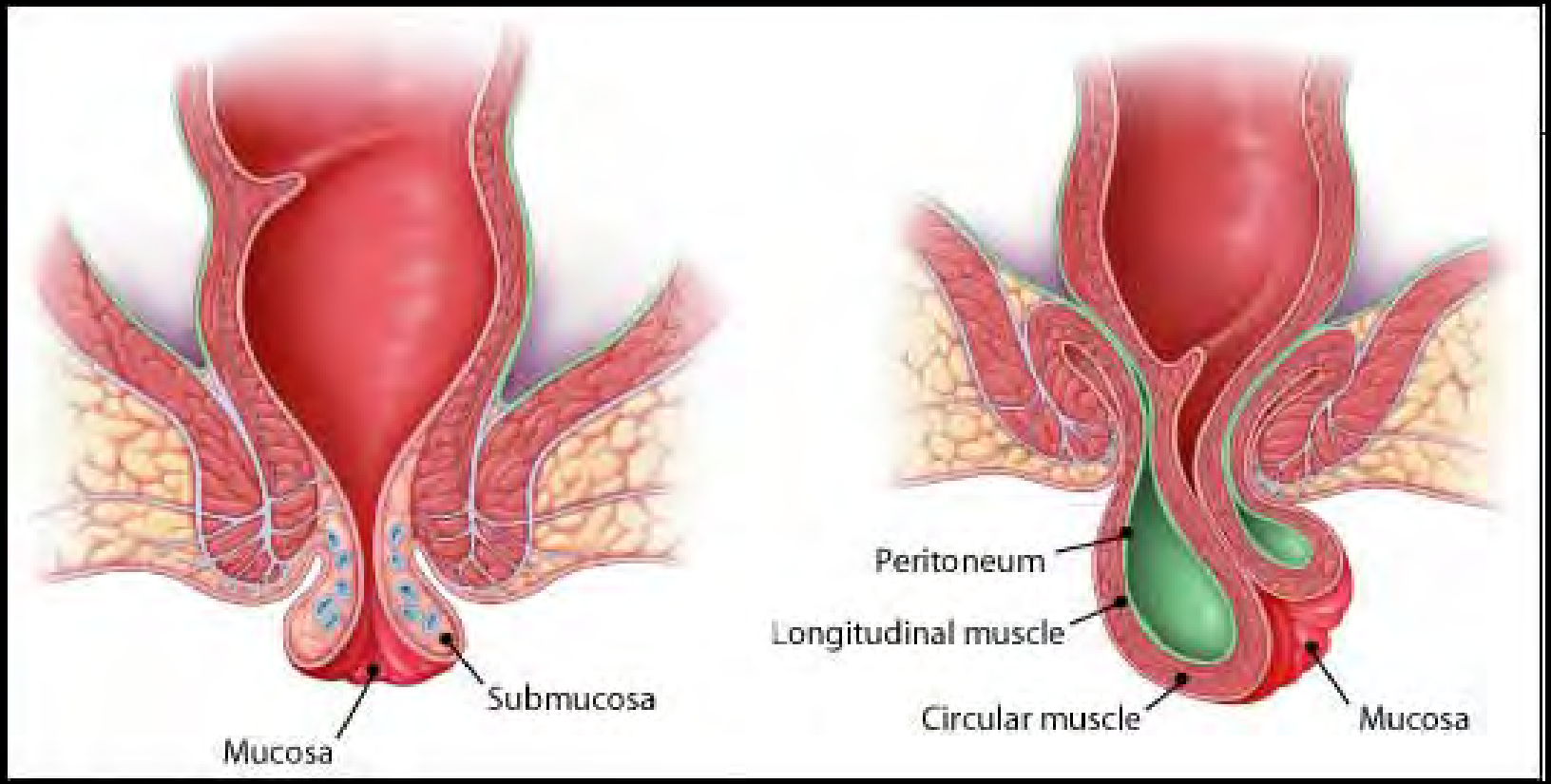
Conservative	Surgical
•High fiber diet •Medical sphincterotomy: –NTG 0.2% –Ca channel blockers –Butulinum toxins	Lateral sphincterotomy (15% minor continence defect) 

Beware for: elderly, poor preop continence, chronic diarrhea
History of prior surgery.



Rectal Prolapse

- **Rectal prolapse is the abnormal movement of the rectal mucosa down to or through the anal opening.**



Mucosal prolapse

Complete rectal prolapse

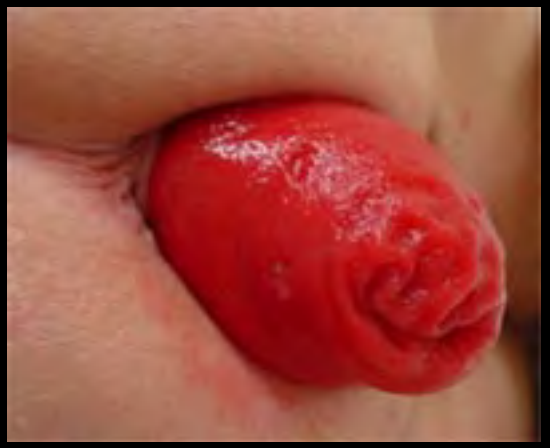
Rectal prolapse

- Mucosal prolapse is more often seen in children below 3 yrs of age following an attack of diarrhea or whooping cough , and if it occurs in adult is usually associated with hemorrhoids.
- Complete rectal prolapse is seen more commonly in elderly women who have a habit of excessive straining during defecation. (mucosal prolapse may be pre-full rectal prolapse)
- Rectal prolapse is often associated with other conditions such as:

  * Pinworms(Enterobiasis)
  * Cystic fibrosis
  * Malnutrition and malabsorption (Celiac disease)
  * Constipation
  * Prior trauma to the anus or pelvic area

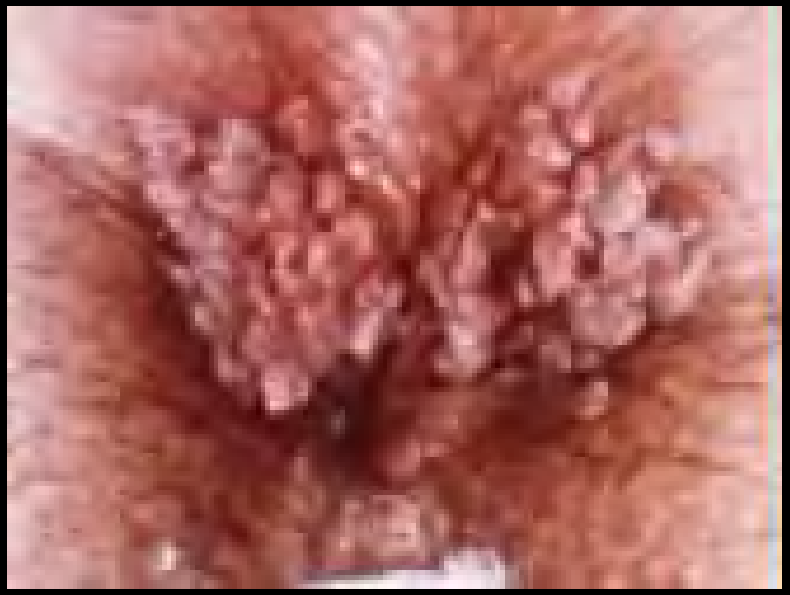
Rectal prolapse

- Symptoms: The main symptom is a protrusion of a reddish mass from the anal opening, especially following a bowel movement.



- Treatment :
  - Treating the underlying condition
  - The rectal mass may be returned to the rectum manually
  - Surgical correction abdominal surgery vs perineal surgery

Anal Warts (condyloma acuminata)



Cont.

- First appear as tiny spots or growths.
- May grow larger than the size of a pea.
- Asymptomatic vs itching, bleeding, mucous discharge or lumps in the anal area.
- HPV Virus, sexually transmitted disease, anal intercourse +/-
- Strongly related to anal cancer

HPV Infection risk for anal cancer:

1. HPV Infection:
   - previous cervical cancer or CIN III
   - Wife with cervical cancer
   - Numerous lifetime sexual partners
2. Immunosuppression:
   - Any solid organ transplant
   - HIV +
3. Anal Intercourse: MSM

HPV Prevalence

- Most Common STI (sexually transmitted Infections)
- 80% risk of infection by age 50
- 20 million Americans (15% adult population) are DNA + for anogenital HPV at any given time.
- In terms of incidence cervix and rectum almost 100% attributable to HPV.

Anal HPV
A Prevalent Problem!

Women

- Women 27% of general population
- 42% Sex Workers
- 76% HIV +

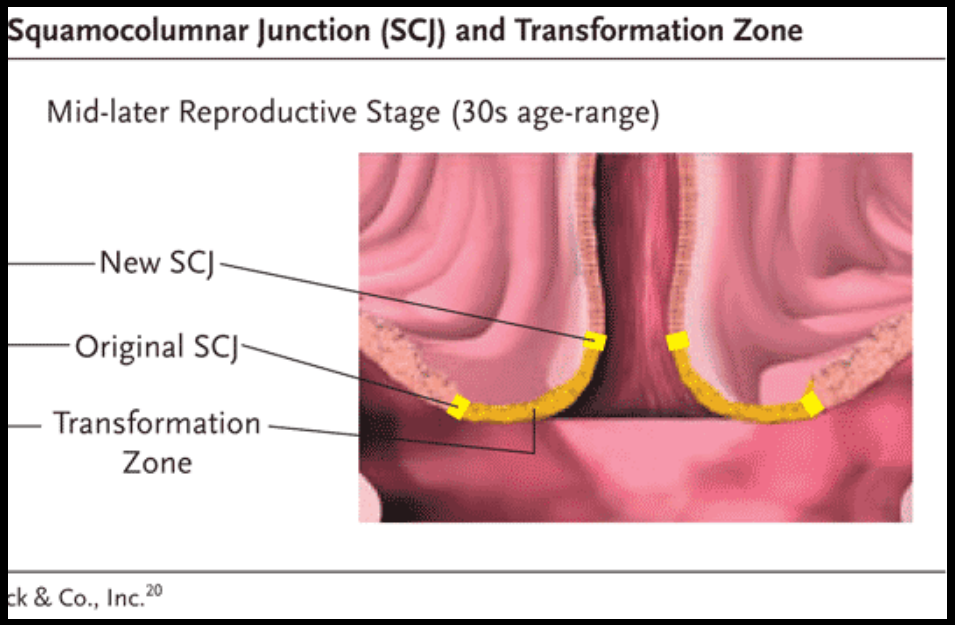
Homosexual men (MSM)

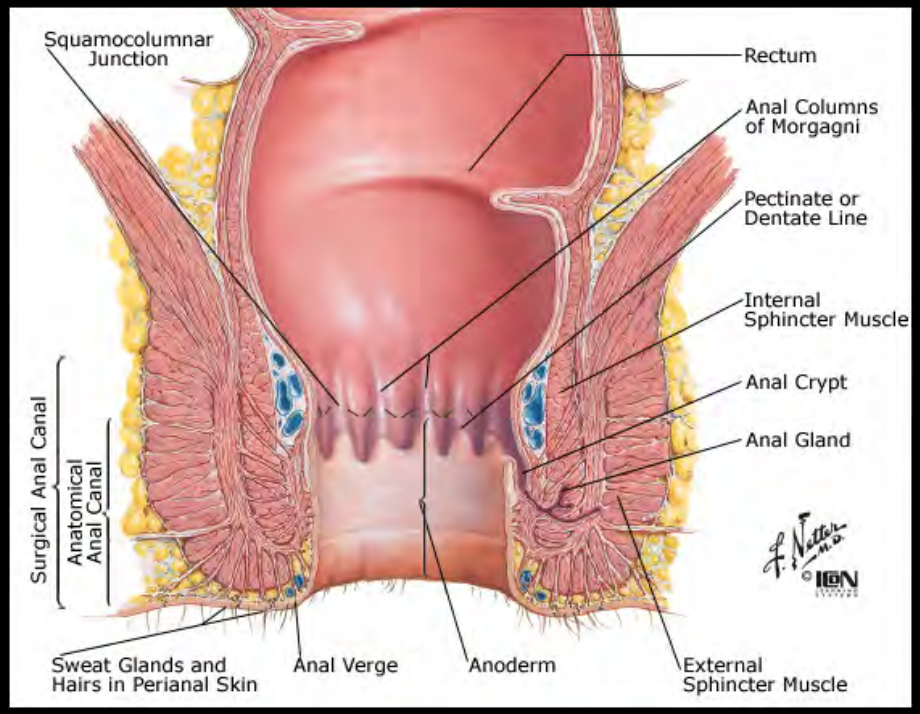
- Seattle: 87% HIV +; 57% HIV –
- San Francisco 93% HIV +; 61% HIV -

AIN (Anal Intraephithelial Neoplasia)

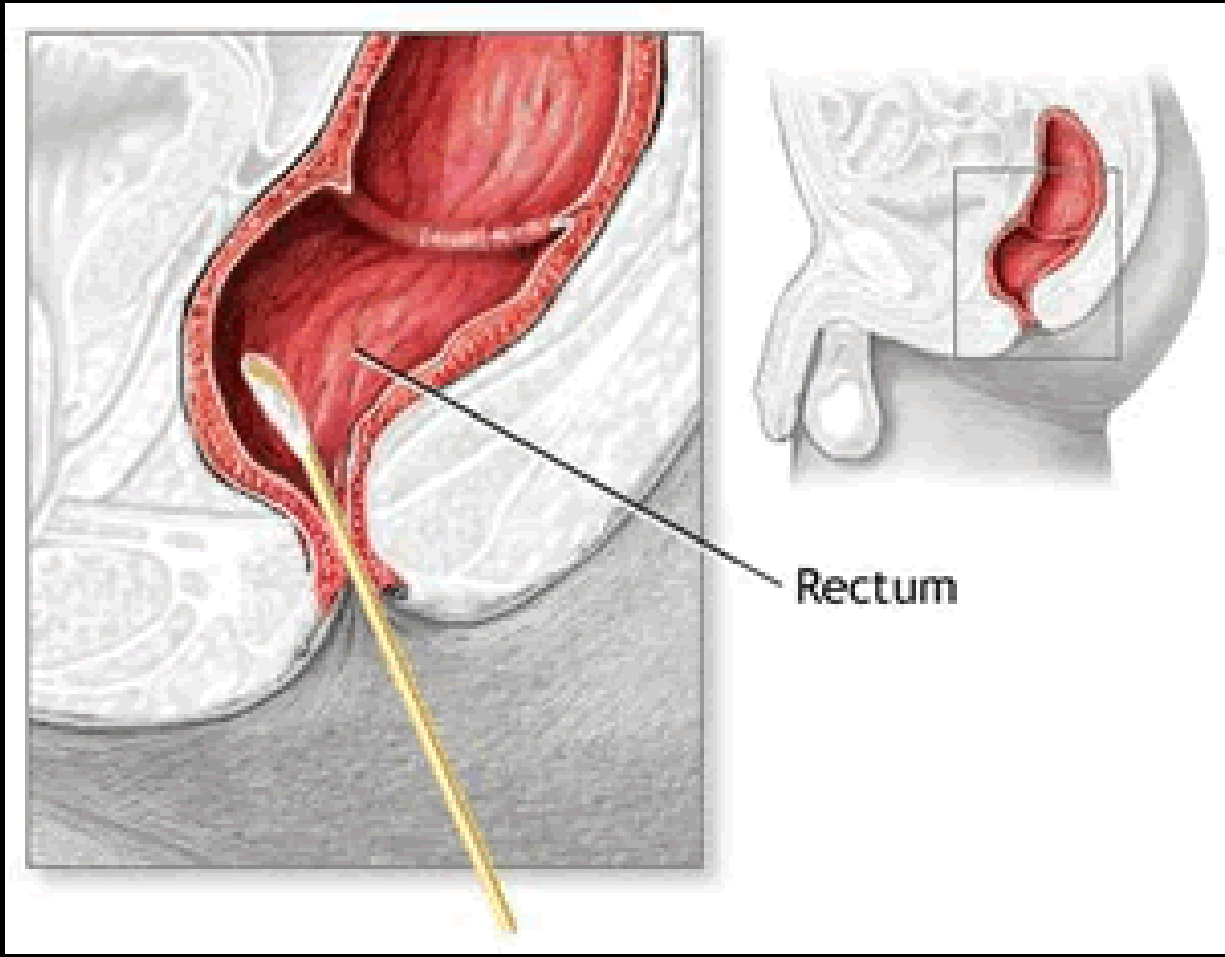
- Premalignant lesion cause by hpv
- Analog to CIN
- VIN
- VaIN
- PIN
- PaIN

Squamocolumnar Junctions





Anal PAP



Treatment

- High Resolution Anoscopy:
  - Focal Destruction with fulguration, infrared coagulation or bovie
- Serial Exams
- Vaccines: Most administer before infection, Girls and women 9-26 years many under investigation.
- Not Proven effective in men or immunosuppressed
- Prevention: aggressive screening and ablation (MSM, women with cervical or vulvar lesions , all HIV, all transplant recipients.

Thank You