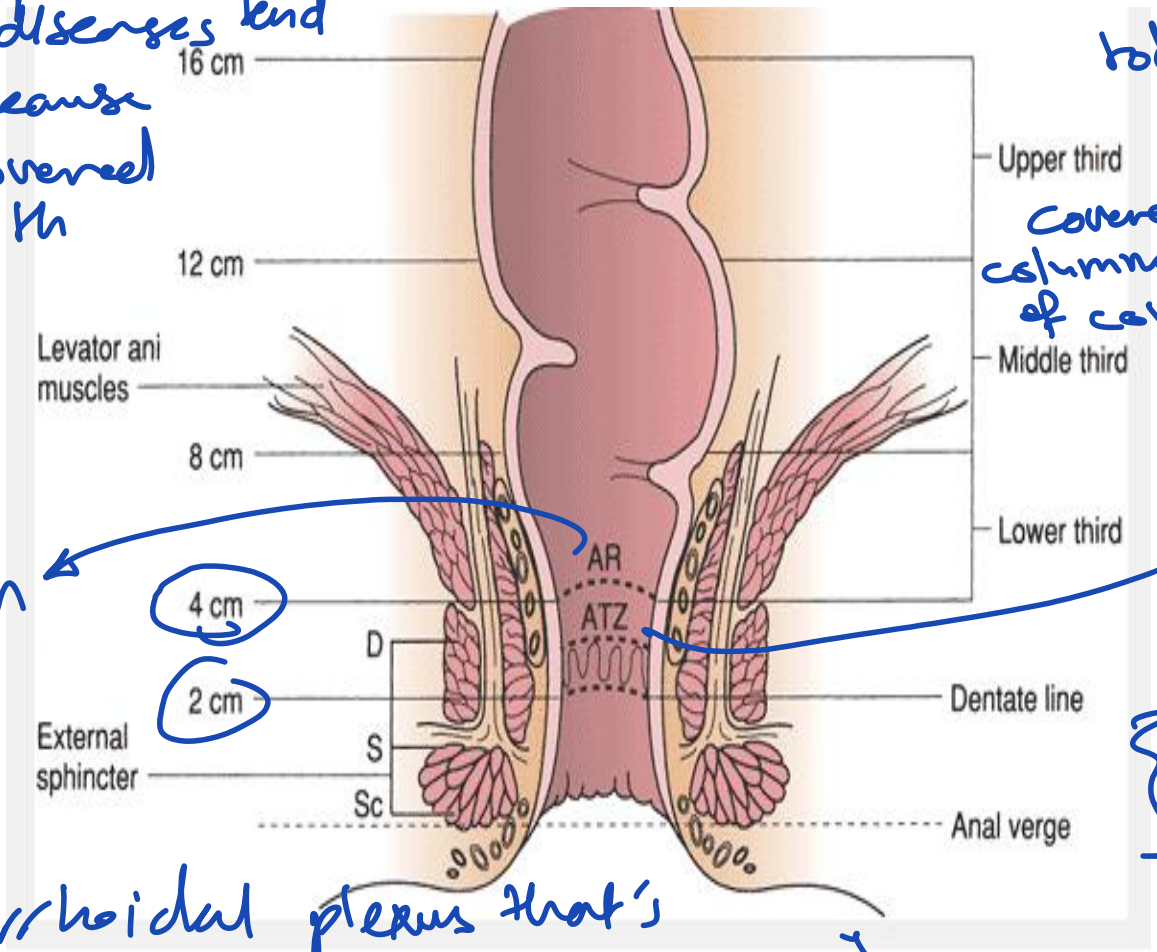
HEMORRHOIDS

Anatomy of the anal canal



*Hemorrhoidal diseases tend to be painless because the area is covered by mucosa with neural receptors

totally above the dentate line

covered by columnar type of colonic mucosa

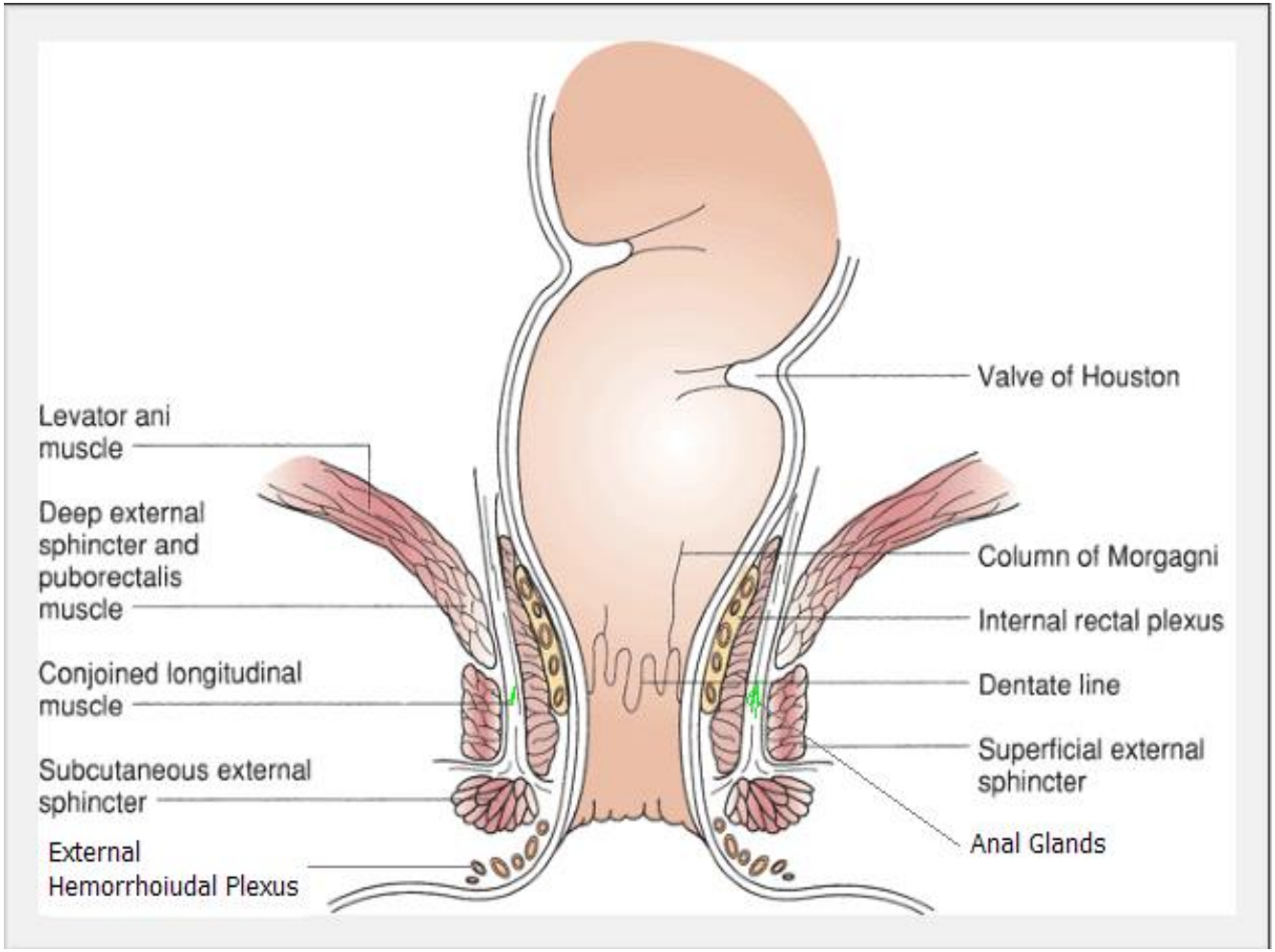
internal hemorrhoidal plexus in the upper part of the anal canal

anorectal ring in the anorectal junction

lower part of the anal canal that is covered by anoderm and it's called the surgical anatomical

*External hemorrhoidal plexus that's made from normal veins present underneath the anoderm and the perianal skin

Anatomy


Valve of Houston
Levator ani muscle
Deep external sphincter and puborectalis muscle
Column of Morgagni
Internal rectal plexus
Conjoined longitudinal muscle
Dentate line
Superficial external sphincter
Subcutaneous external sphincter
Anal Glands
External Hemorrhoiudal Plexus

Anatomy

- Hemorrhoids are not varicose veins.
- everyone has anal cushions. The anal cushions are composed of blood vessels (erectile tissue), smooth muscle (Treitz's muscle), and elastic connective tissue in the submucosa → compress the blood vessels and the vascular channel
- They are located in the upper anal canal, from the dentate line to the anorectal ring

Anatomy

- Three cushions lie in the following constant sites:
- left lateral (3), right anterolateral (11), and right posterolateral (7).
- Smaller discrete secondary cushions may be present between the main cushions.
- The configuration is remarkably constant and apparently bears no relationship to the terminal branching of the superior rectal artery

* Hemorrhoids contain large amount of oxygenated blood under low pressure
- Rectal varices results from enlarged varices caused by increased pressure

(portal hypertension)

PREVALENCE

- prevalence rate of 4.4%.
- peak between age 45 and 65 years
- Hemorrhoidectomies are performed 1.3 times more commonly in males than in females

ETIOLOGY AND PATHOGENESIS

- hemorrhoids are no more common in patients with portal hypertension than in the population at large
- Thomson concluded that a sliding downward of the anal cushions is the correct etiologic theory (shearing)
- Hemorrhoids result from disruption of the anchoring and flattening action of the musculus submucosae ani (Treitz's muscle) and its richly intermingled elastic fibers. Hypertrophy and congestion of the vascular tissue are secondary
- higher anal resting pressures in patients with hemorrhoids

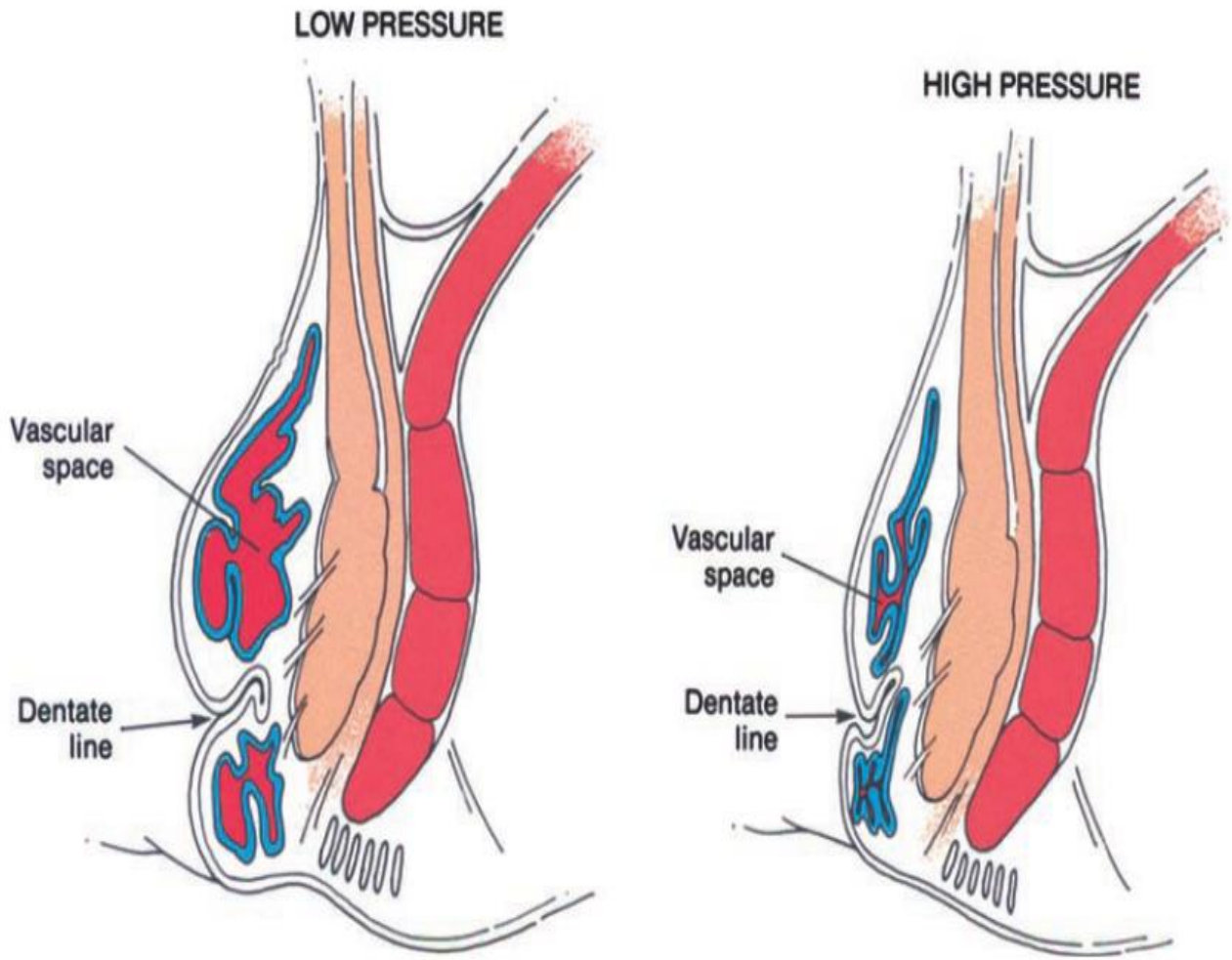
→ because of constipation or any difficult defecation

* Supporting tissue is disrupted → vascular tissue will enlarge secondary

ETIOLOGY AND PATHOGENESIS

- Constipation
- Prolonged straining
- Diarrhea
- Pregnancy
- Heredity
- Erect posture
- Absence of valves within the hemorrhoidal sinusoids,
- Increased intra-abdominal pressure
- Aging (deterioration of anal supporting tissues)
- Internal sphincter abnormalities

FUNCTION OF ANAL CUSHIONS



FUNCTION OF ANAL CUSHIONS

- compliant and conformable plug. Hemorrhoidectomy impairs continence to infused saline
- account for approximately 15%–20% of the anal resting pressure
- sensory information that enables individuals to discriminate between liquid, solid, and gas (anal sampling)

NOMENCLATURE AND CLASSIFICATION

- External skin tags are discrete folds of skin arising from the anal verge. most of them are congenital
  - independent of any hemorrhoidal problem.
- External hemorrhoids comprise the dilated vascular plexus that is located below the dentate line and covered by squamous epithelium.

NOMENCLATURE AND CLASSIFICATION

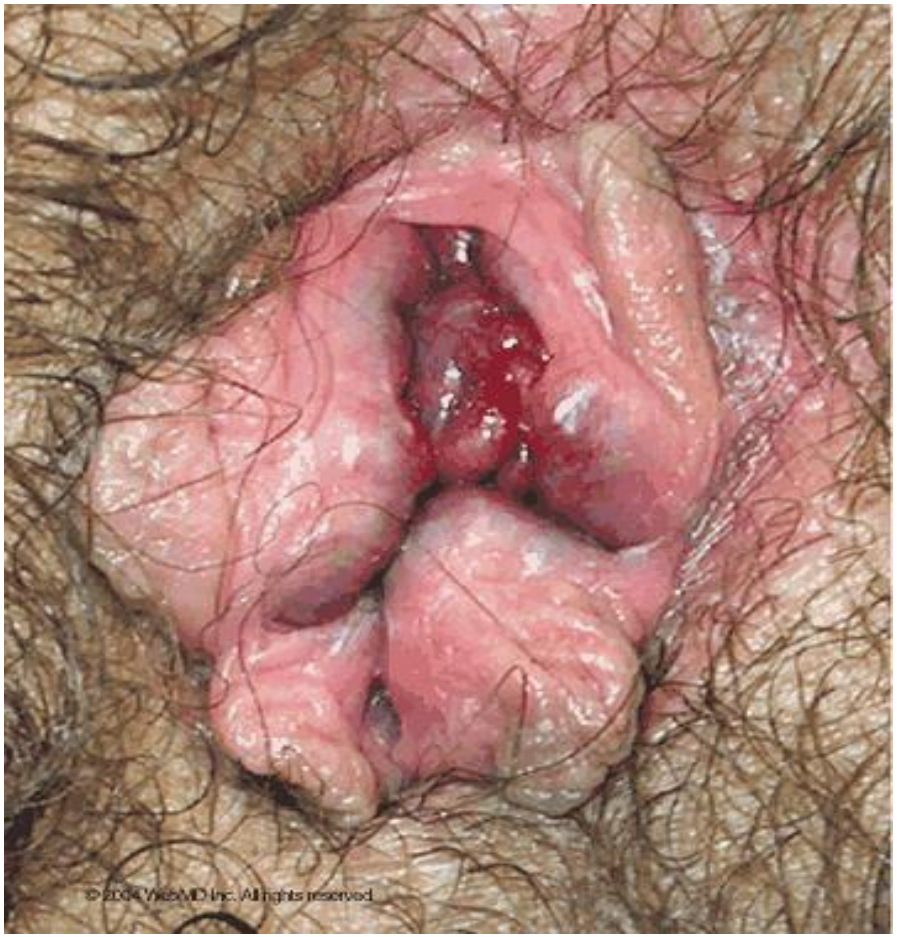
Internal hemorrhoids are the

symptomatic, exaggerated, submucosal vascular tissue located above the dentate line and covered by transitional and columnar epithelium.

NOMENCLATURE AND CLASSIFICATION

- Grade 1 internal hemorrhoids are those that bulge into the lumen of the anal canal and may produce painless bleeding.
- Grade 2 internal hemorrhoids are those that protrude at the time of a bowel movement but reduce spontaneously.
- Grade 3 internal hemorrhoids are those that protrude spontaneously or at the time of a bowel movement and require manual replacement.
- Grade 4 internal hemorrhoids are those that are permanently prolapsed and irreducible despite attempts at manual replacement. They may or may not be complicated

Classic sites



Left lateral

(uncomplicated)

DIFFERENTIAL DIAGNOSIS

- Rectal mucosal prolapse
- Hypertrophied anal papillae
- Rectal polyps
- melanoma
- carcinoma
- rectal prolapse
- Fissure

Symptoms: Bleeding

- Bleeding is bright red and painless and occurs at the end of defecation.
- The patient complains of blood dripping or squirting into the toilet bowl.
- Is rarely massive.
- The bleeding also may be occult, resulting in anemia, which is rare, or guaiac-positive stools

Other symptoms

- Prolapse
- Pruritus
- Pain when complicated → thrombosis or ulceration
- Mucous and fecal leakage
- Excoriation of the perianal skin

EXAMINATION

- Inspection; Straining
- Digital examination; SOFT IMPALPABLE
- Anoscopy
- Proctoscopy or flexible sigmoidoscopy
- Colonoscopy

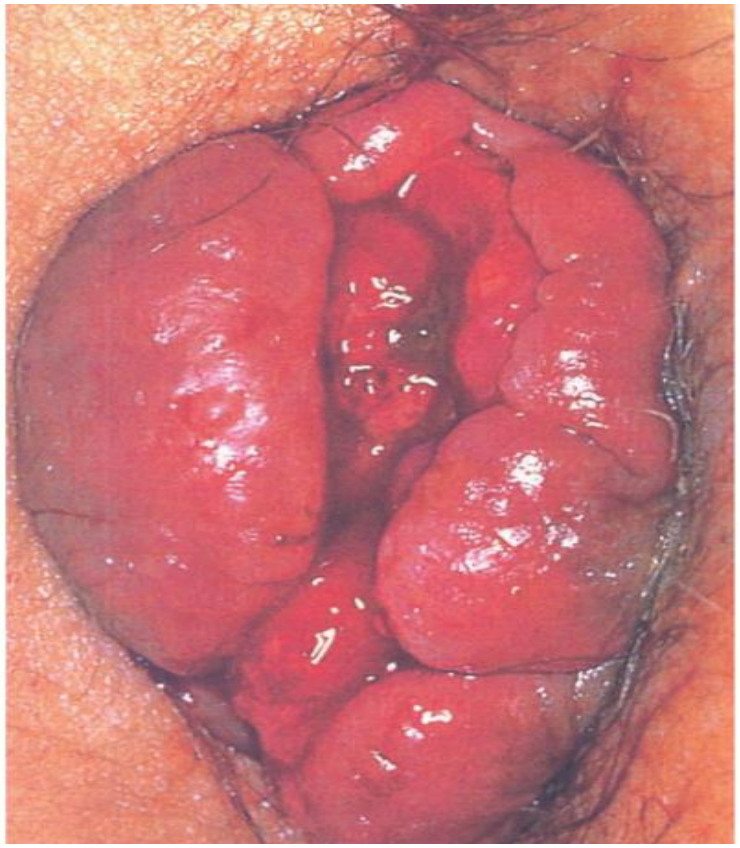
* left lateral position
:> the descent way of examination

→ if you palpable it, it's not haemorrhoid

→ not commonly done

→ to study the lower gi

Complicated Grade 4 hemorrhoids



→ thrombosis and severe edema that starts to become necrotic

→ may complicate to infection and sepsis

*Severity and symptoms aren't the same, progressive

Treatment in general

- Medical; 1st and 2nd degree
- Minor procedures; failed medical Rx 1st and 2nd degree, some 3rd degree
- Surgery; 3rd and 4th degree

Some of them are done in the clinic

Medical

- Warm Sitz baths
- Diet and bulk-forming agents
- Ointments, creams, gels, suppositories, foams, and pads
- Vasoconstrictors, Protectants, Astringents, Antiseptics, Keratolytics, Analgesics, Corticosteroids.

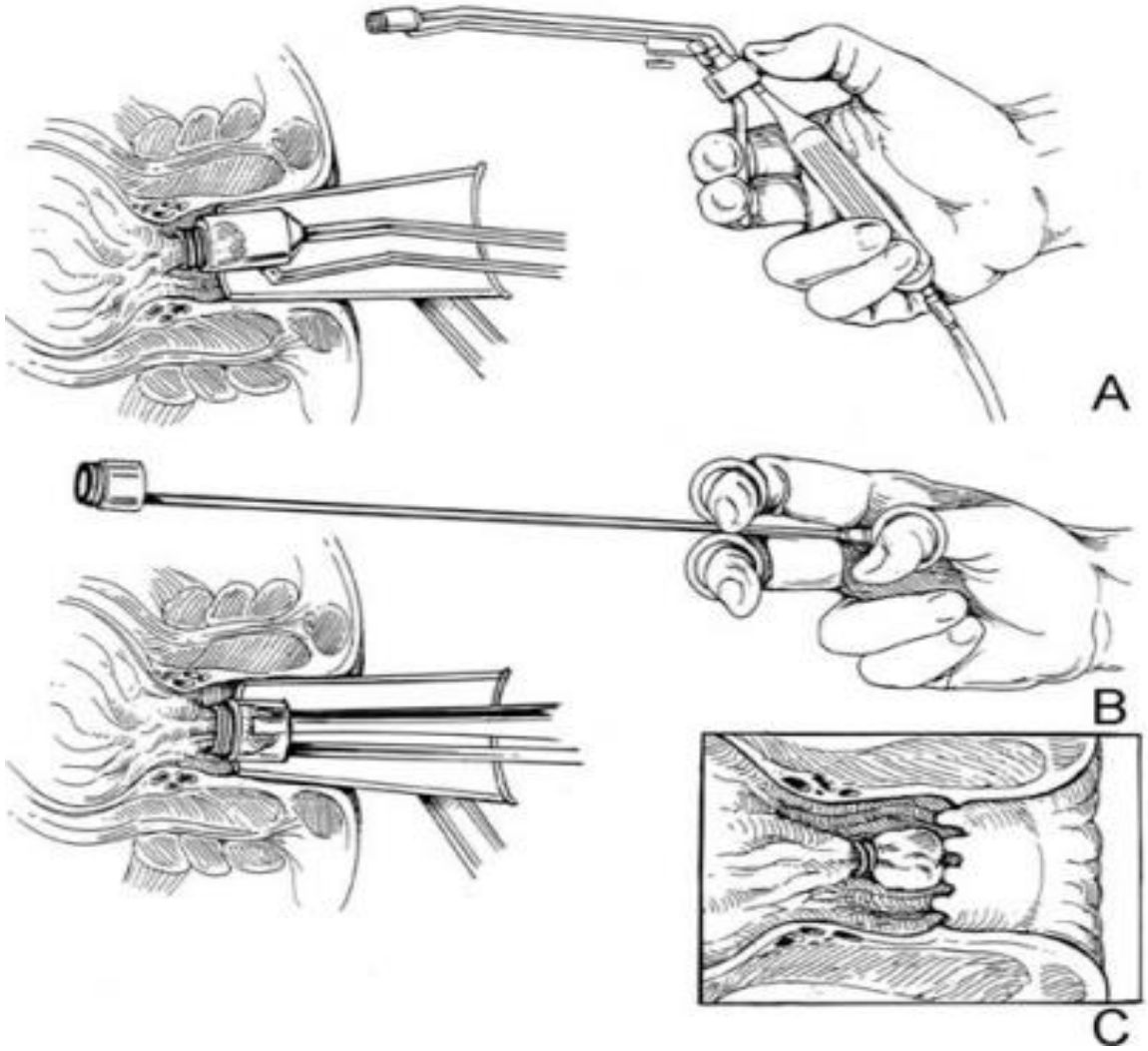
to decrease constipation

↳ to decrease the discomfort but they're not used frequently

Other procedures

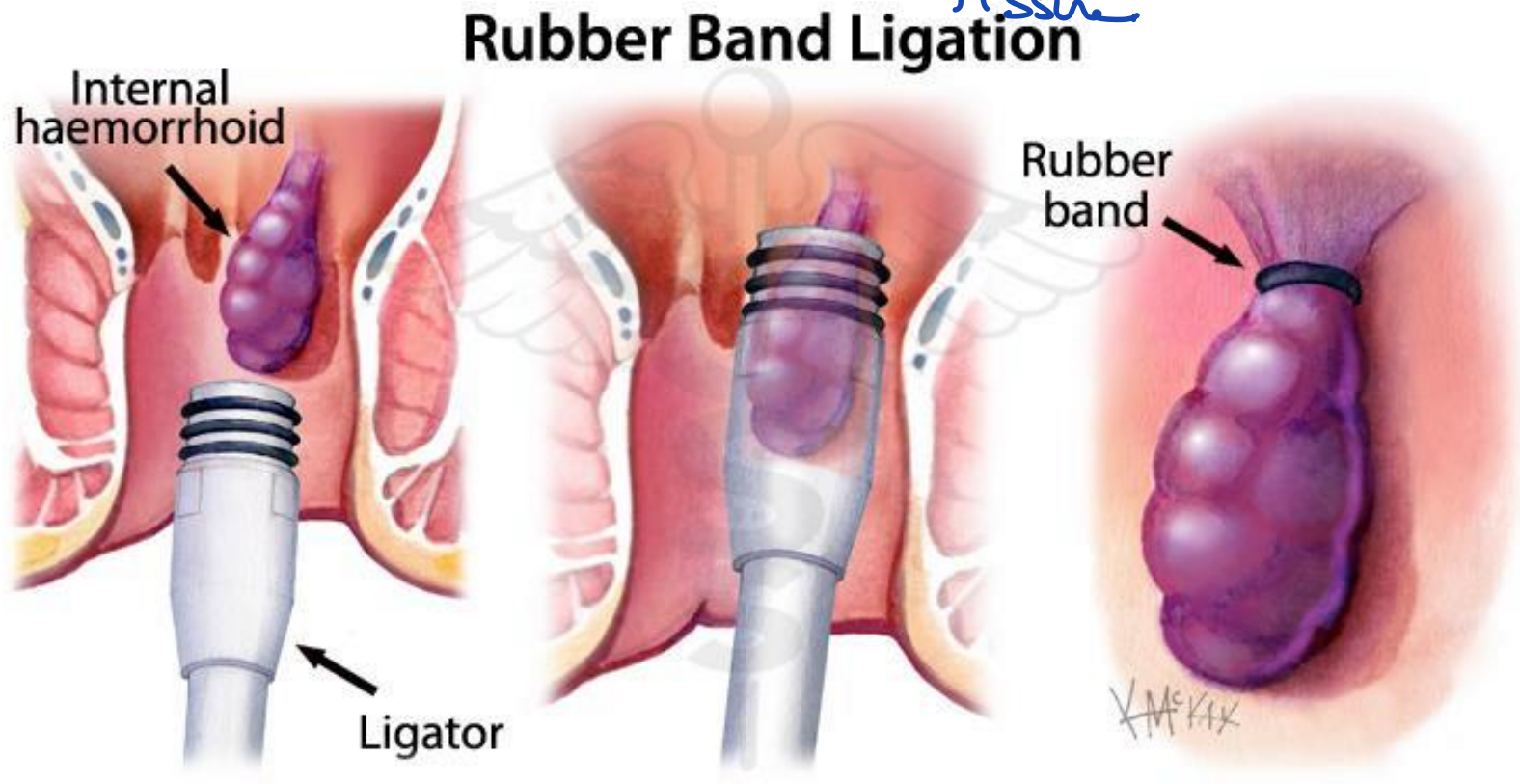
- Sclerotherapy → inject sclerosing agent
- Cryotherapy??? → not used anymore
- Infrared coagulation → office procedure
- Doppler guided hemorrhoidal artery ligation → in the OR
- Anal Stretch; ??? obsolete → can result in severe pain

Rubber Band Ligation

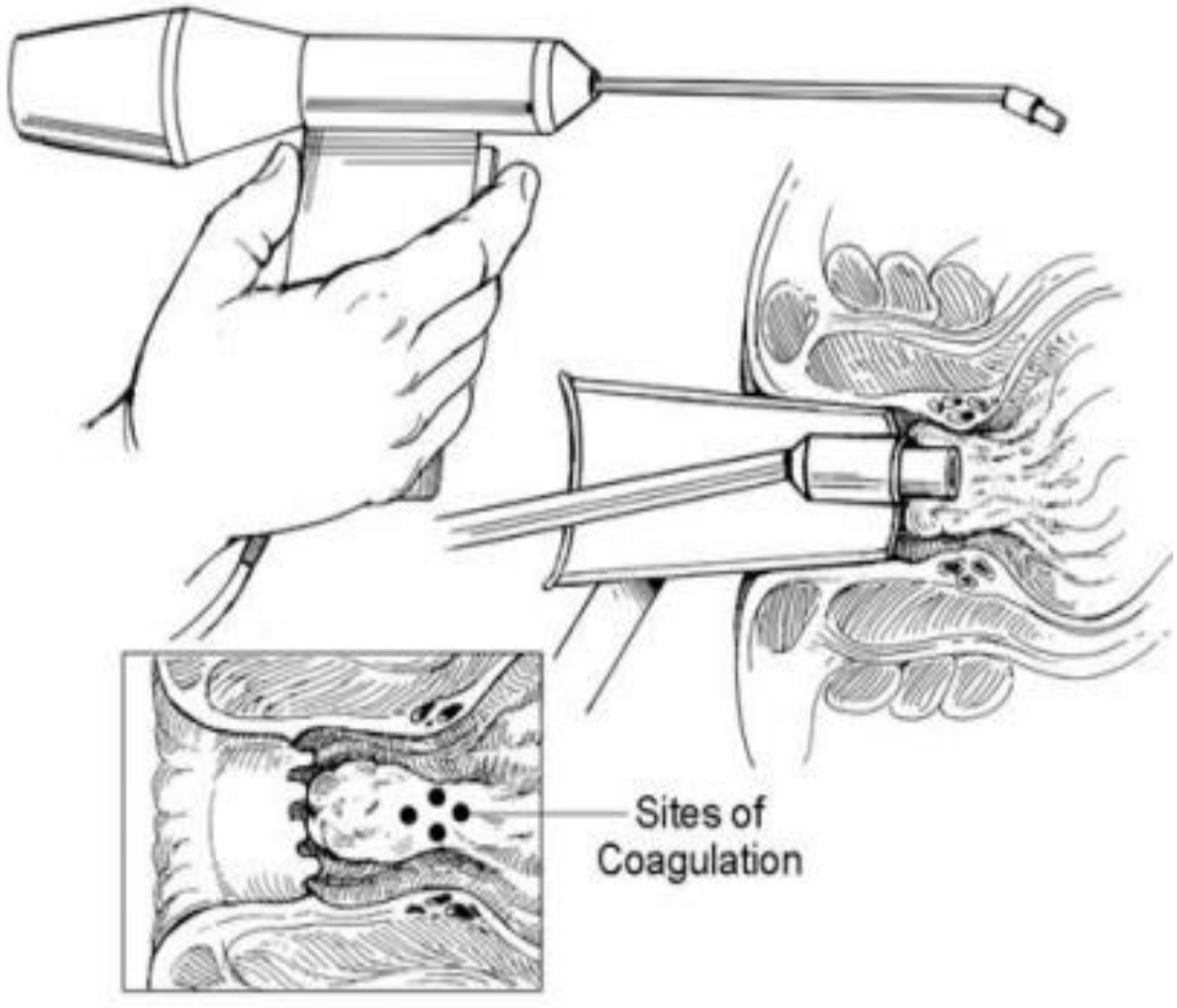


Rubber Band Ligation

↳ may not prevent the recurrence because it only obliterate the part of the hemorrhoid tissue

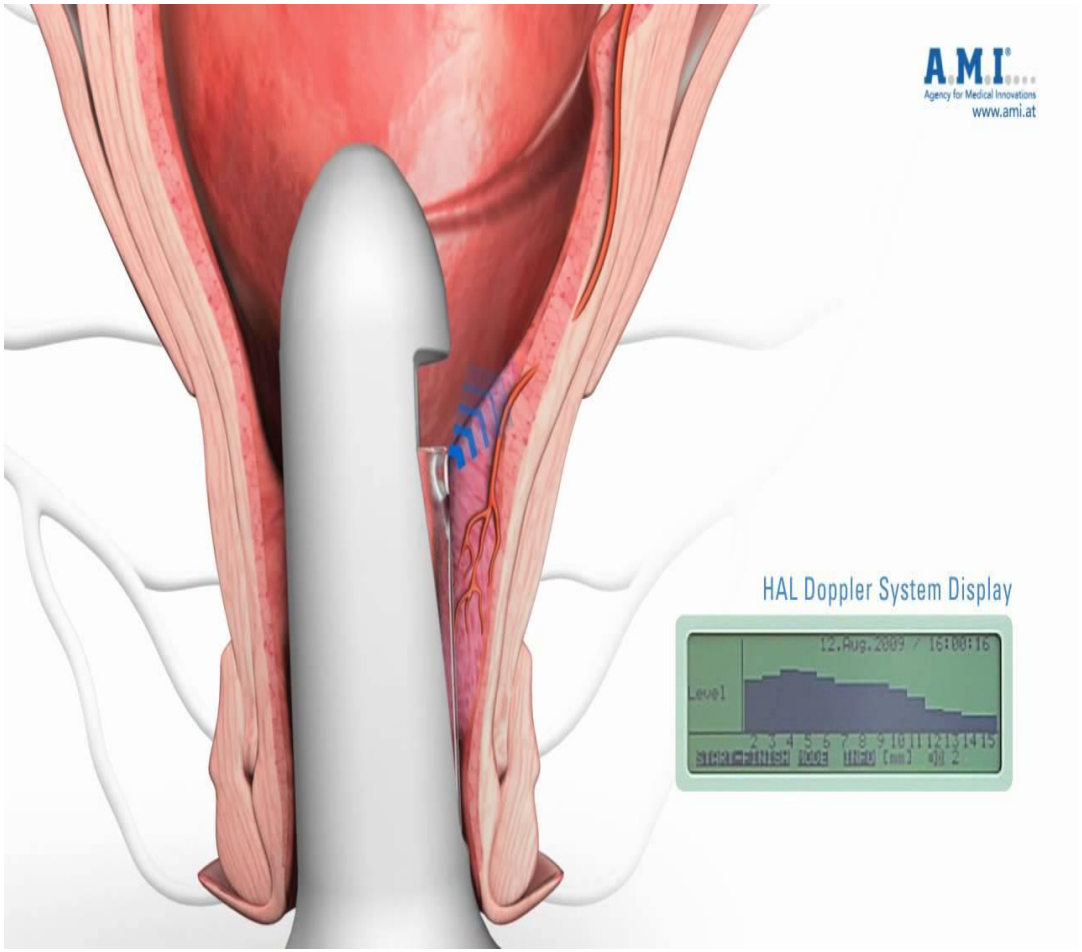


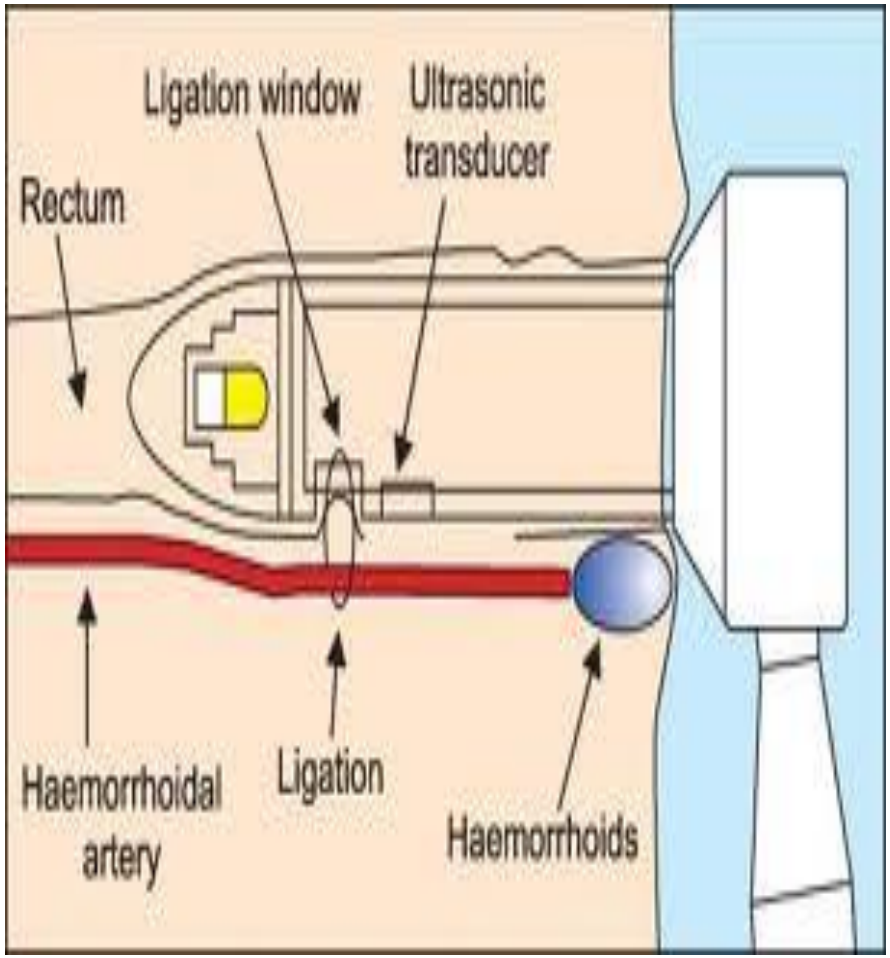
Infrared Photocoagulation



Doppler guided hemorrhoidal artery ligation → doppler define the field and then a special needle is used to ligate it.

* Not done in offic so not commonly used



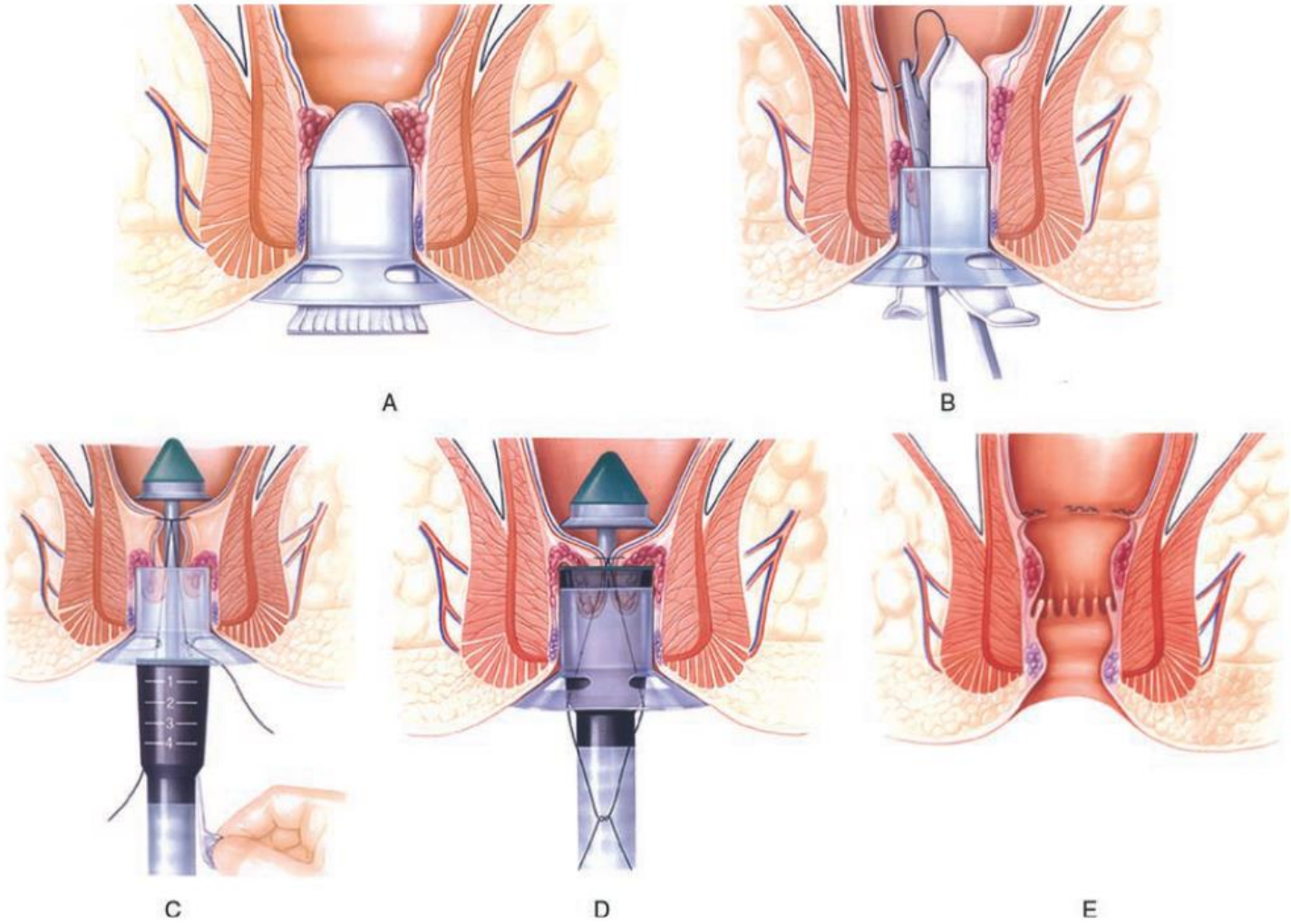


Hemorrhoidectomy

- Closed hemorrhoidectomy
- Open hemorrhoidectomy =Excision and Ligation
- Laser Hemorrhoidectomy → cut the hemorrhoids not just thrombose them
- Stapled hemorrhoidectomy

↳ removal of all the hemorrhoidal tissue and may result in high recurrence. and some incontinence because of the whole loss

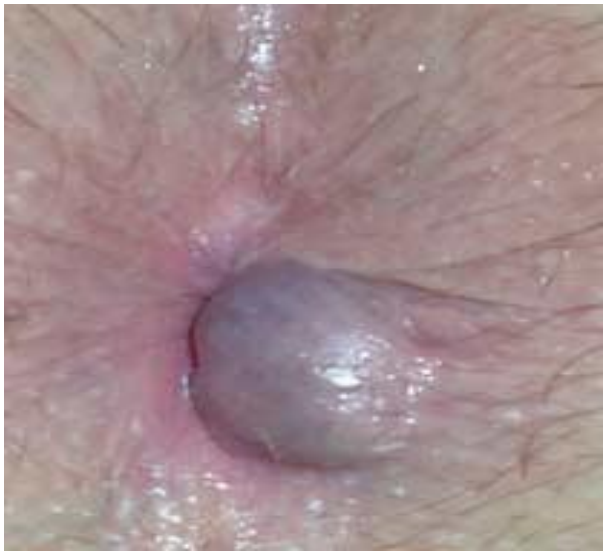
Stapled Hemorrhoidectomy



THROMBOSED EXTERNAL HEMORRHOIDS

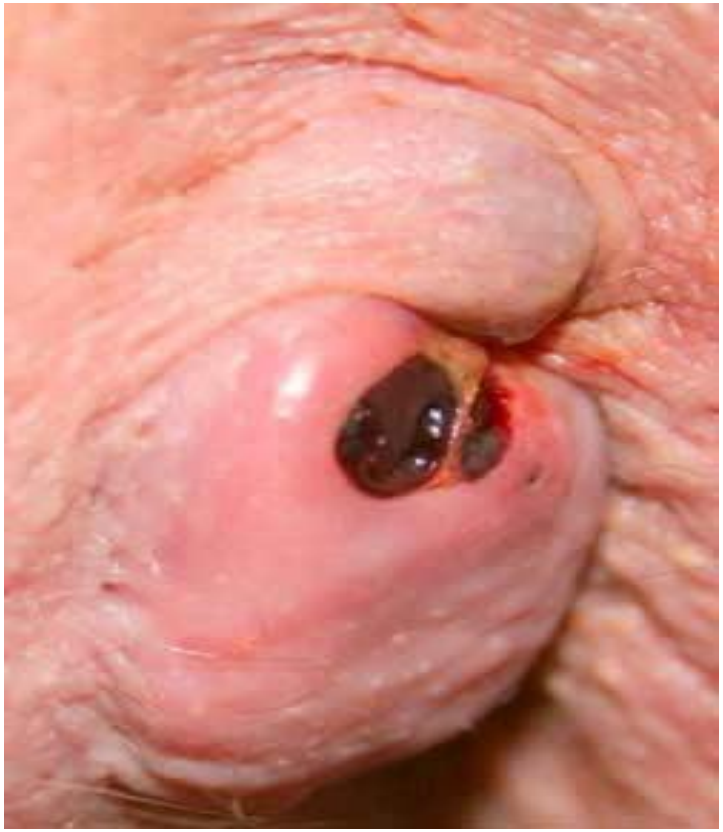
- an abrupt onset of an anal mass and pain thatusually peaks within 48 hours and subsides in 5 days.
- The pain becomes minimal after the fourth day.
- If left alone, the thrombus will shrink and dissolve in a few weeks.
- Occasionally, the skin overlying the thrombus becomes necrotic, causing bleeding and discharge or infection, which may cause further necrosis and more pain.
- A large thrombus can result in a skin tag

THROMBOSED EXTERNAL HEMORRHOIDS



very painful bluish mass

THROMBOSED EXTERNAL HEMORRHOIDS



THROMBOSED EXTERNAL HEMORRHOIDS

management

- Early may be incised
- Late
  - local anesthetics
  - Warm Sitz baths

Anal Fissure

→ hypertonic internal sphincter as younger individuals have more tone in their internal sphincter.

- Occur in young and middle aged adults but also may occur in infants, children, and the elderly.
- Fissures are equally common in both sexes.
- Anterior fissures are more common in women than in men
- Posterior fissures are more common than posterior in both sexes.

→ if constipated and dehydrated

anterior

Anal Fissure

- Acute fissure; a tear
- Chronic fissure; sentinel pile, hypertrophied anal papilla, fibrous induration
- complications: Abscess and fistula

(ulcer)

because of blockage at the inner glands

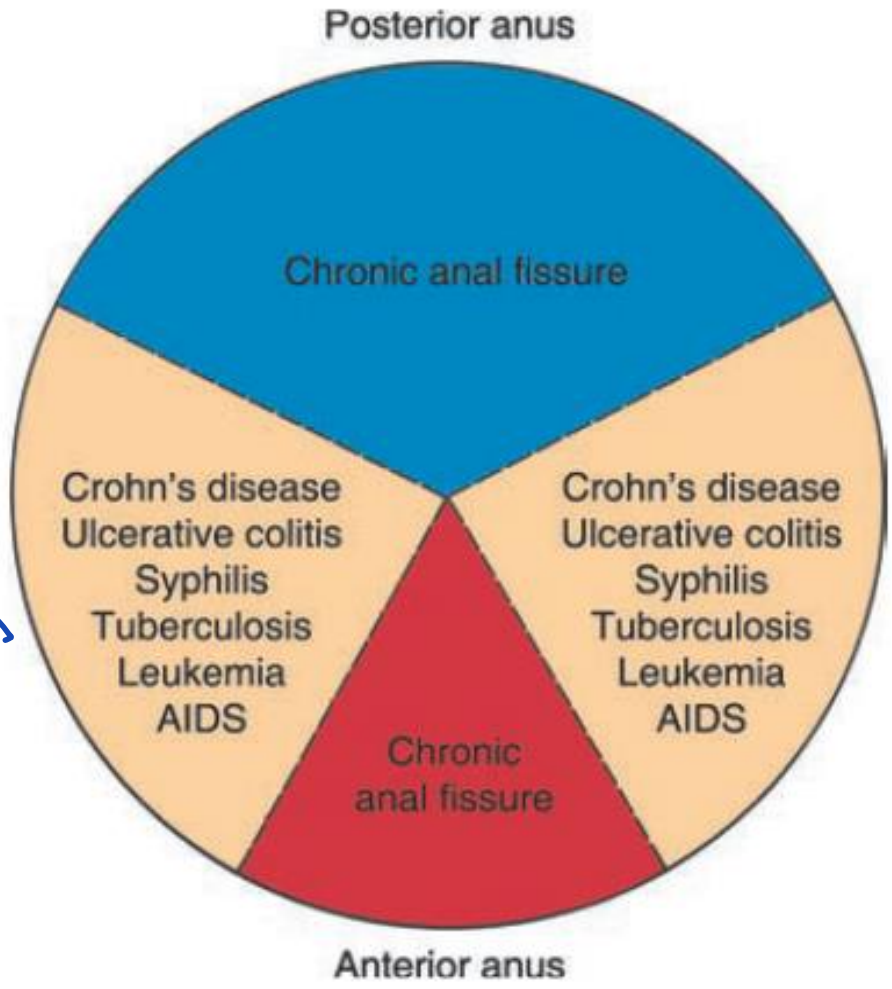
PREDISPOSING FACTORS

- Primary; hypertonic Internal anal sphincter (IAS)
  - ↳ involuntary
- Secondary fissures (low pressure fissure) no need for high tone
  - Anatomic anal abnormality (e.g. postpartum)
  - Inflammatory bowel disease
  - HIV
  - Other chronic infections
  - leukemia

symptoms

- PAIN (ischemic pain) in the anus during and after defecation
- Bleeding; streaks
- Constipation; cause and consequence
- large sentinel pile
- Discharge (pus--)

site



lateral

lateral

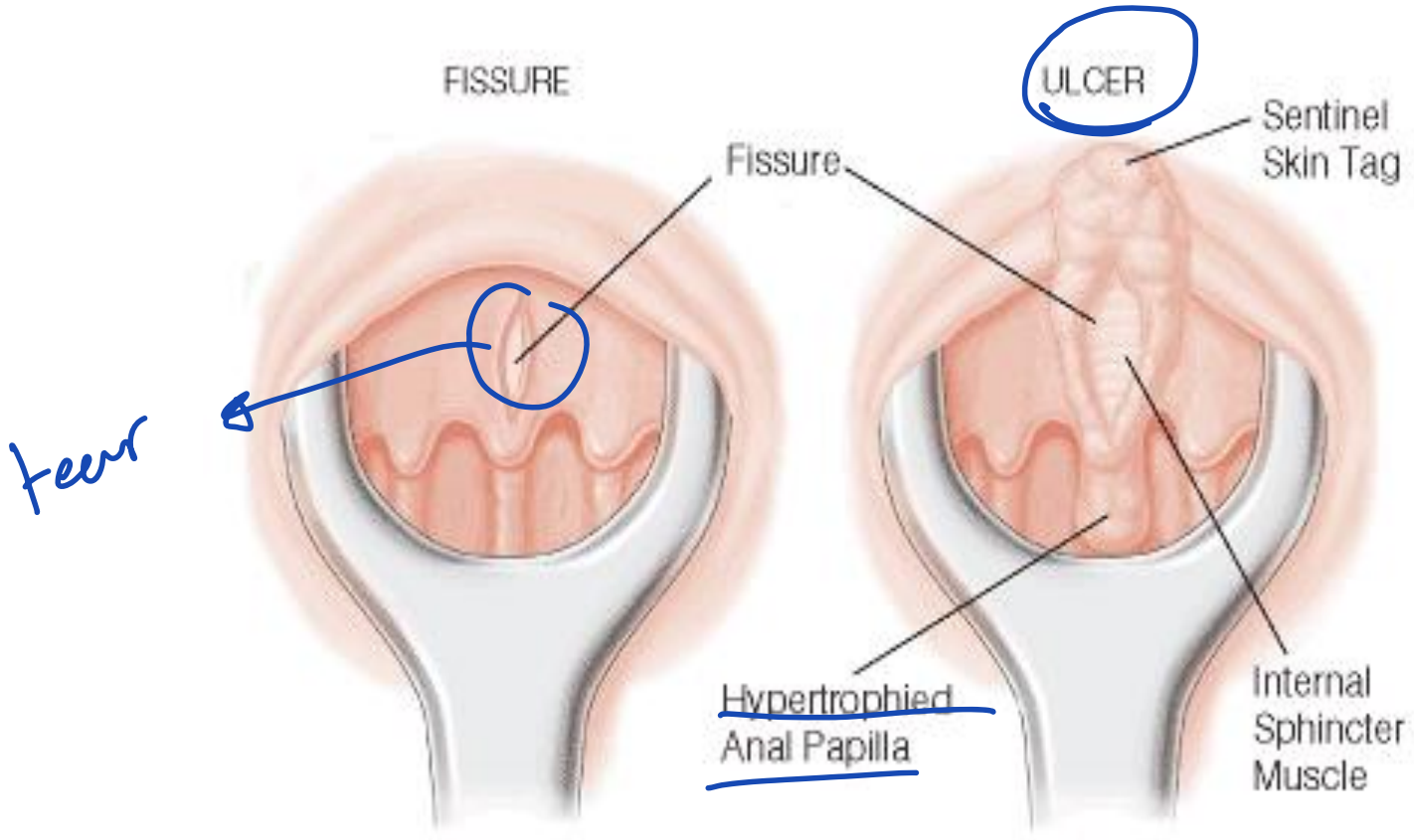
not specific

When is it chronic

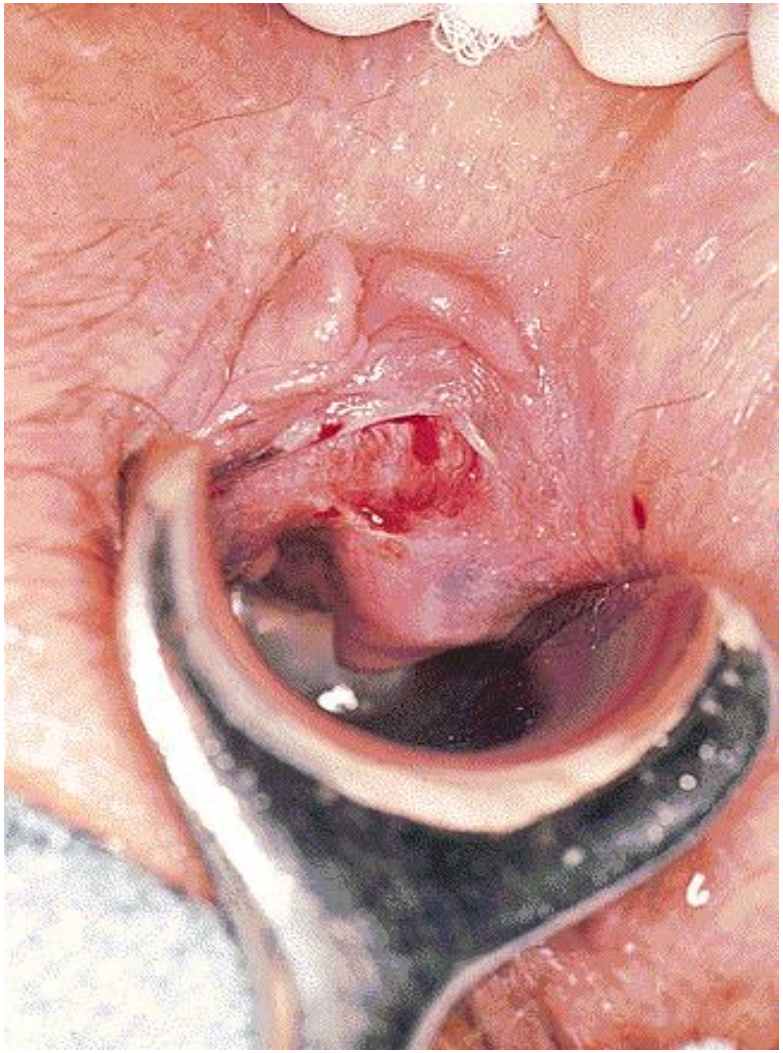
- History more than 1month
- Presence of

1. Sentinel pile
2. Hypertrophied anal papilla
3. Fibrosis
4. Submucous fistula

anal fissure
Acute vs. chronic



Chronic anal fissure



Some fibrosis

Treatment; Acute fissure

- Conservative (cut the cycle of the pain)
  - Bulk-forming agents
  - Local preparations, local anesthetics
  - Warm Sitz baths
- Pharmacologic Sphincterotomy; Glyceryl Trinitrate, Calcium Channel Antagonists, Botulinum Toxin → tend to decrease the tone of the internal sphincter and increase the blood supply
- Sphincterotomy ← if above failed

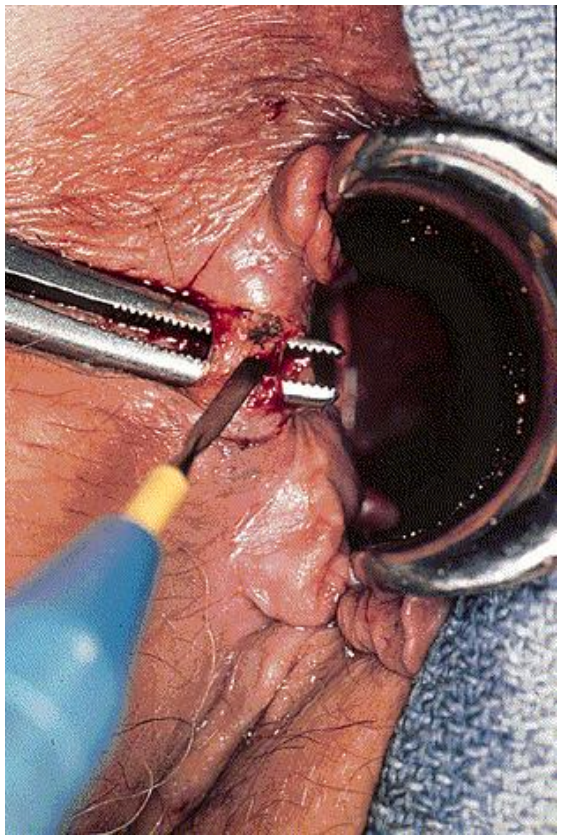
Treatment Chronic fissure

↳failed treatment usually

- Conservative; same as acute → if never received
- Internal sphincterotomy (lateral partial) the standard surgery
- Classic Excision
- V-Y Anoplasty (Advancement Flap Technique)
- Finger Anal Sphincter Stretch; ??? Obsolete
- Controlled intermittent anal dilatation

→ anything that stretch the anus will not just disrupt the anus but external sphincter also which is norma

Partial lateral internal sphincterotomy



Treatment Chronic fissure fissurectomy and V-Y Anoplasty