Anorectal Disorders

Common Problems & Easy Solutions

The Non-Operative Treatment of Hemorrhoids and Anal Fissures

Presented by Mitchel Guttenplan, MD, FACS
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Non-Surgical Hemorrhoid Treatment
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Disclaimers

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- Medical Director – CRH Medical Products Corp – manufacturer of the CRH O'Regan System®
- "Off label" drug discussions to be noted
    - *Nitroglycerin Ointment*
    - *Botulinum Toxin*
    - *Nifedipine, Diltiazem, Cardizem*

Objectives

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1. Improve your current skill-set regarding the evaluation and treatment of peri-anal complaint
2. Evaluation & treatment of anal fissures
3. Evaluation & treatment of hemorrhoids
4. Discuss misc. anorectal conditions

Definition?

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a·nus **[ey-*nuhs*]**

An orifice through which one inserts a colonoscope.

From "The Gastroenterologist's Dictionary"

Anatomy of the Anal Canal

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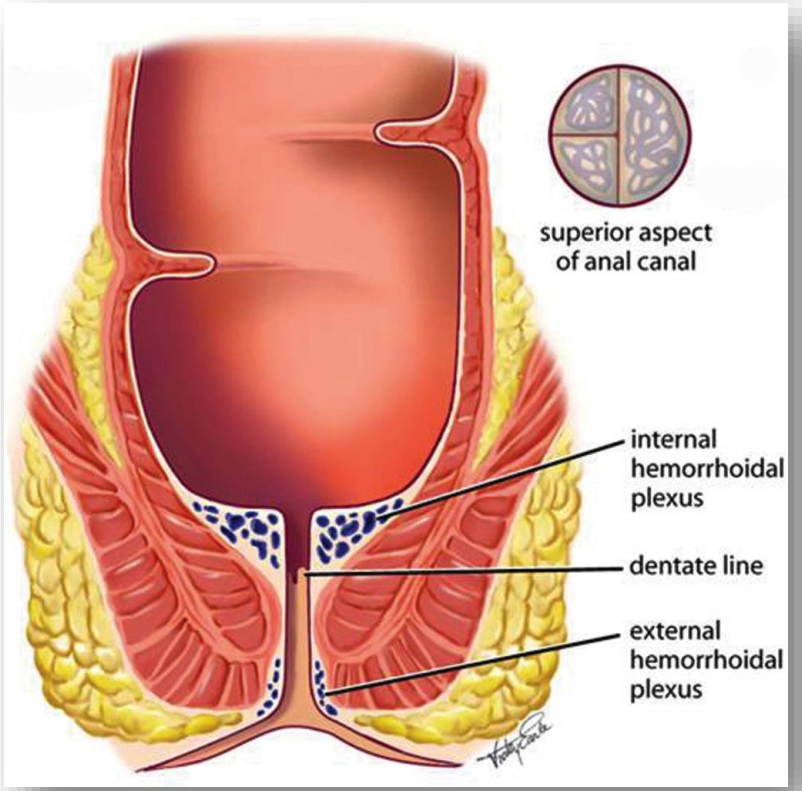
- 3 Cushions (LL, RA, RP).
- Fibrovascular Tissue.
- "Anchored" by Muscularis Submucosae.
- "Internal" hemorrhoids covered by mucosa (columnar).
- "External" covered by anoderm (squamous).
- "Dentate Line" separates "internal" from "external"



Muscular Anatomy of the Anal Canal

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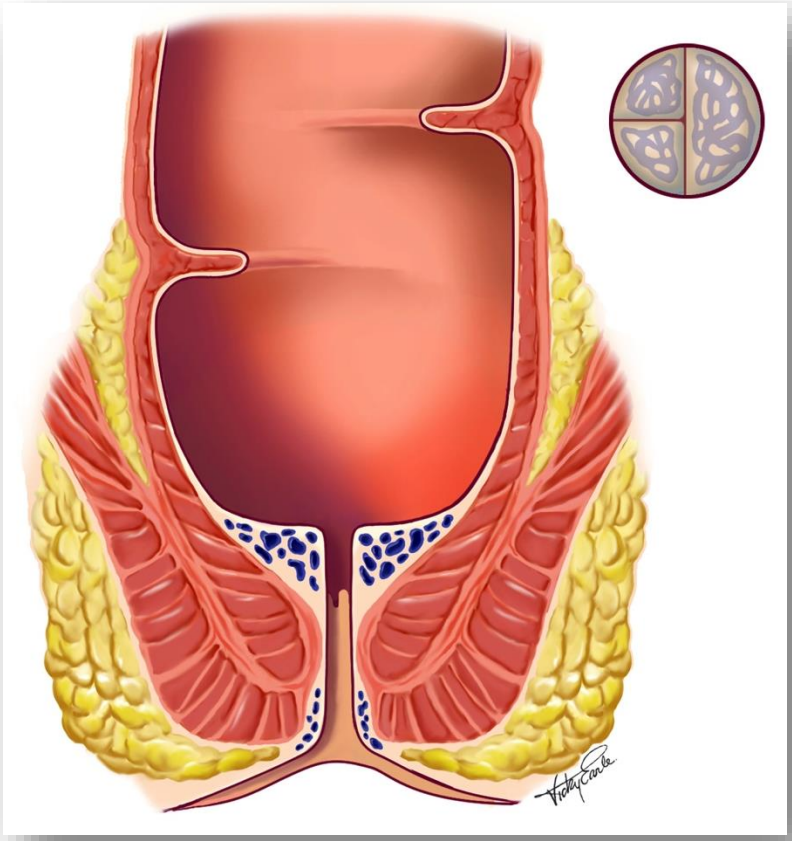
- External Sphincter – skeletal muscle, incorporates with perineal and levator muscles
- Internal Sphincter – smooth muscle, involuntary
- "Internal Sphincteric Groove" – plane between sphincters.



Physiology of Hemorrhoids

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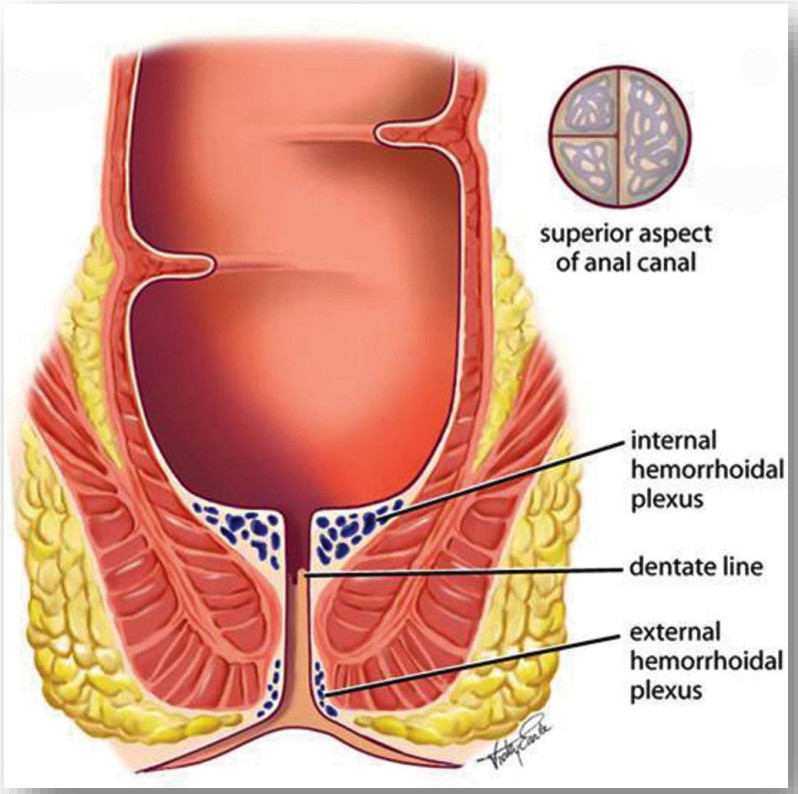
- Continence function – 15-20% of anal closure pressure.
- "Protective" function.
- Arteriovenous connections allow for swelling of cushions in response to valsalva.



Pathophysiology of Hemorrhoids

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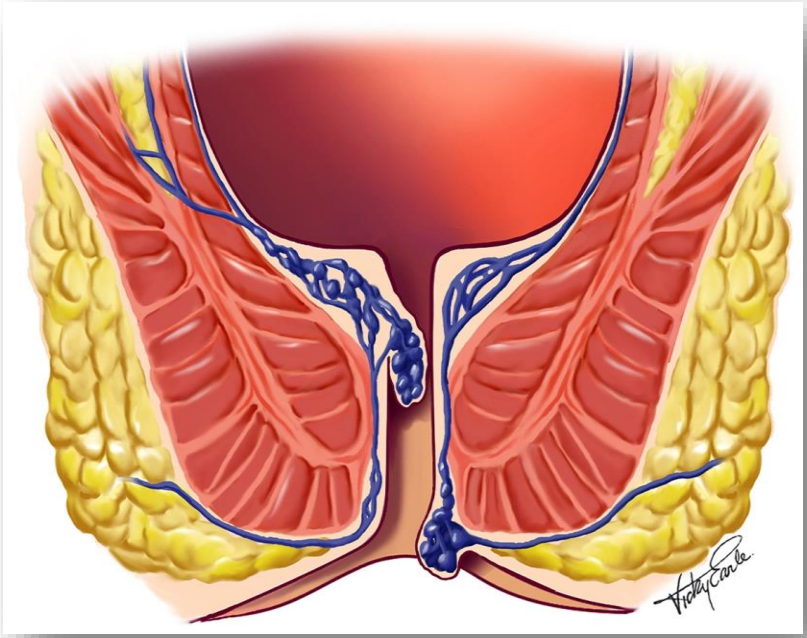
- Muscularis submucosae becomes fibrotic.
- Fibrotic fibers break down allowing for slipping & prolapse.
- It is the PROLAPSE and slippage that causes problems with hemorrhoids.
- At least 20% have coexistent anal fissures.



Epidemiology

Hemorrhoids are NOT new!

"The LORD will smite thee with the botch of Egypt, and with the emerods, and with the scab, and with the itch, whereof thou canst not be healed."

-- Deuteronomy 28:27

Epidemiology

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- Unusual in patients less than 20 years old
- Peak incidence from 45-65 years old
- Prevalence noted from 4.4% - 40%
- 75% will have symptoms during lifetime
- Risk factors include:
  - Inadequate fiber and fluid intake, constipation
  - Behavioral – sedentary lifestyle, spend too long on commode
  - Increased abdominal pressure
  - Spinal cord injury
  - Decreased connective tissue strength
  - Increased anal sphincter pressure
  - **NO CORRELATION WITH PORTAL HYPERTENSION!**

Symptomatic Hemorrhoids

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ITCHING

Prolapsing hemorrhoids deposit mucus on perianal skin

BLEEDING

Tissue friability, arteriolar source of blood

SWELLING

Internal Hemorrhoids Extend to External Hemorrhoids (mixed)

PROLAPSE

Cushions separate from muscle

SOILAGE

Prolapsing tissue interferes with anal closure

PAIN? – INTERNAL HEMORRHOIDS DON'T HURT*!!!

"Mixed" Hemorrhoid

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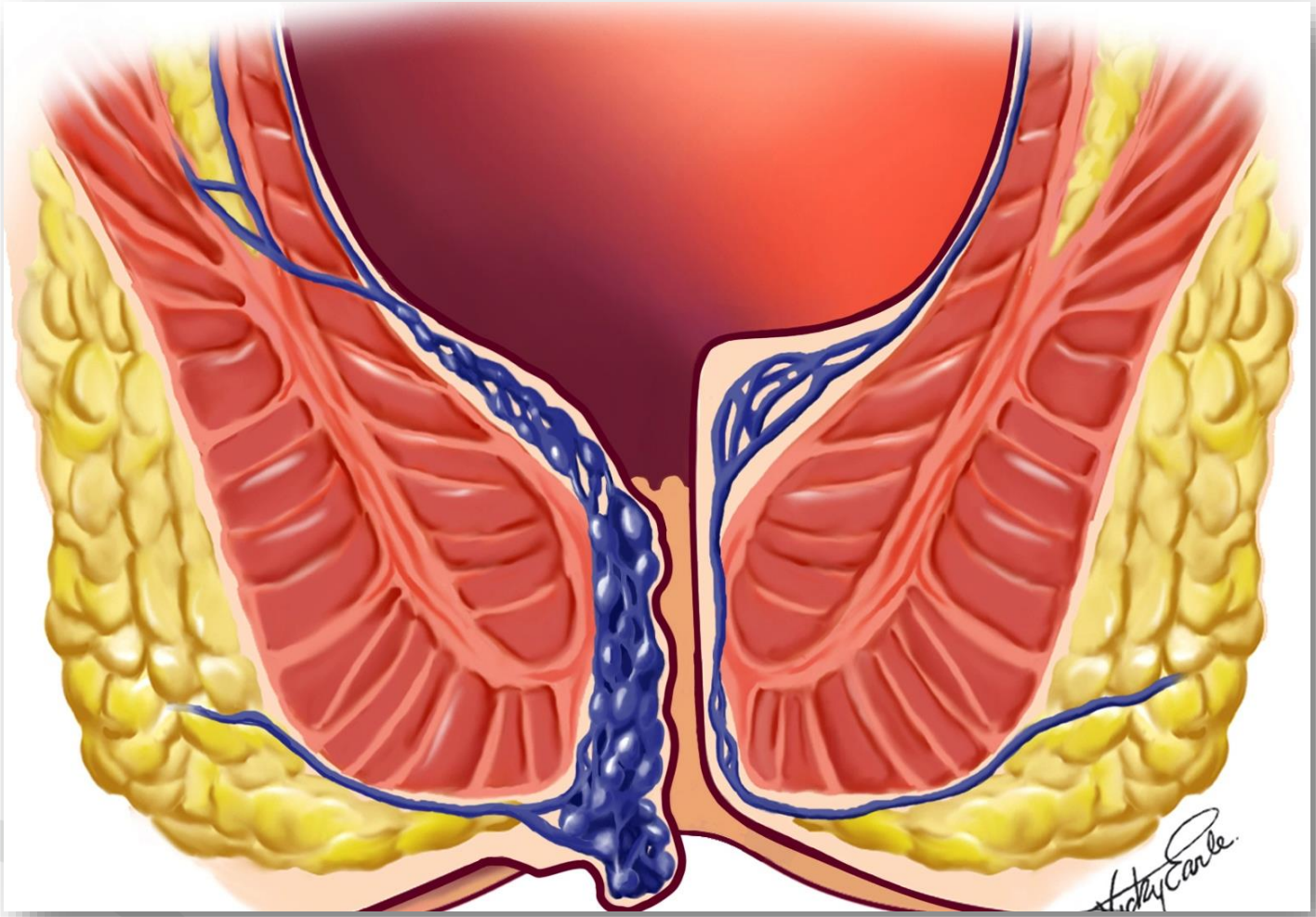

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Rules for Hemorrhoids

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1. Internal hemorrhoids don't hurt!

Internal Hemorrhoids Don't Hurt*

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- Pelvic Floor Dysfunction (Spasm)
  - Anal Fissure
  - Anal Spasm
  - Pelvic Dysynergia
  - Proctalgia Fugax
- Infection**
  - Perianal or Perirectal Abscesses
  - Fistulae

* Thrombosed ext hemorrhoids an exception – associated with spasm, however.
** Rule out Crohns', Tumors, etc.

Rules for Hemorrhoids

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1. Internal hemorrhoids don't hurt!
2. External hemorrhoids don't bleed!

Rules for Hemorrhoids

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1. Internal hemorrhoids don't hurt!
2. External hemorrhoids don't bleed!
3. Patients don't know what is going on "back there"!

Grades of Hemorrhoids

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Prolapse is the underlying issue

- Breakdown of supporting tissue

Grade 1
No prolapse - may cause painless bleeding.

Grade 2
Prolapse on defecation - reduce spontaneously

Grade 3
Prolapse and are manually reduced

Grade 4
Incarcerated - leading to mucoid discharge, bleeding, pain, necrosis

Anatomy of Hemorrhoids

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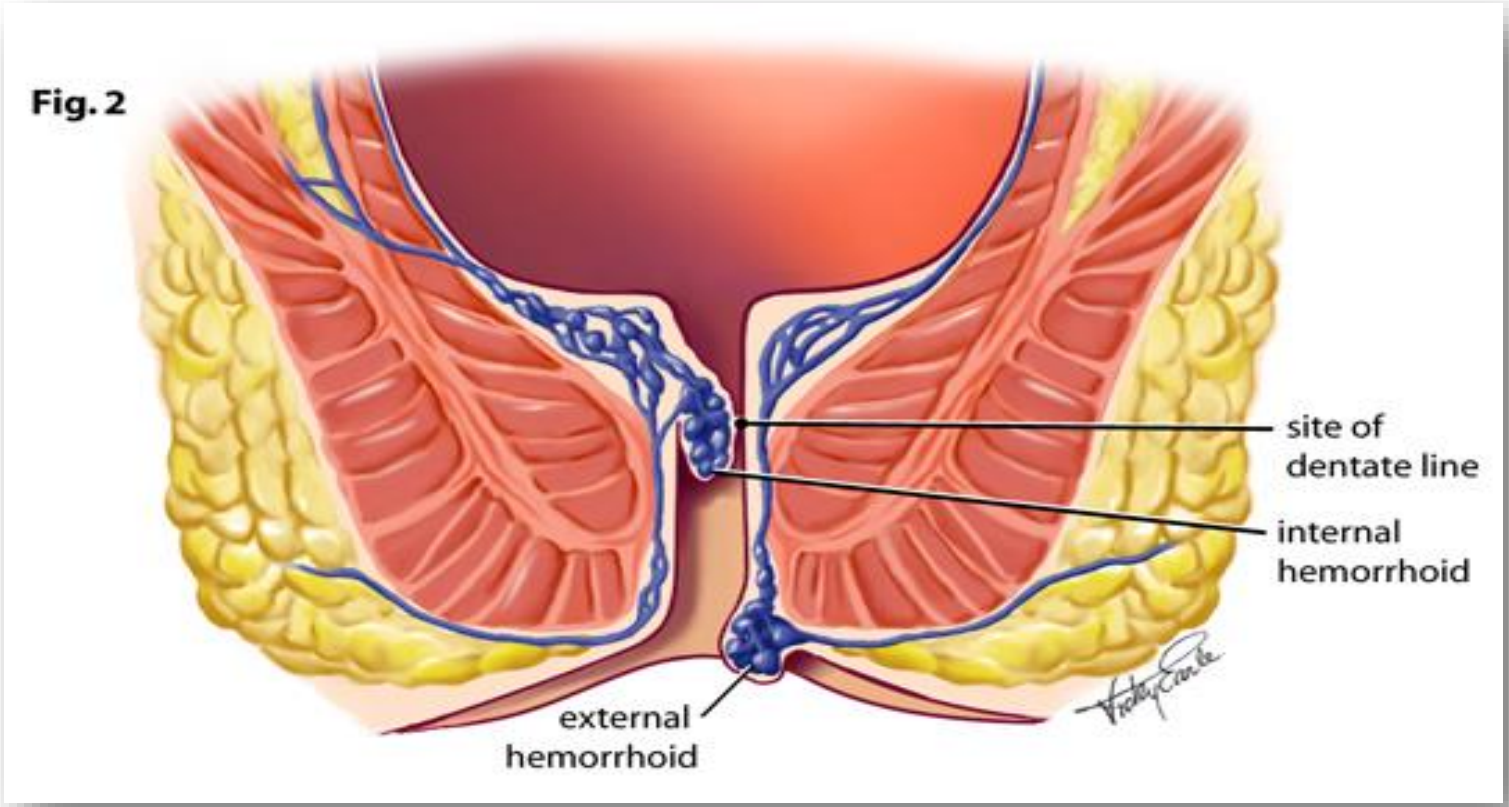

Diagnosis of Hemorrhoids

History

- Pain?
  - R/O associated issues (fissure, abscess, spasm, thrombosis, etc.)
- Bleeding?
- Prolapse?
- Bowel habits?

Diagnosis of Hemorrhoids

Physical Examination

- Visual
  - Rashes, lesions, tags, external hemorrhoids, fistulae, etc.
- Anal examination
  - Fissure, fistula, spasm, lesions, abscesses, etc.
- Rectal examination
  - Hemorrhoids, papillae, lesions, prostate, rectocoele, etc.
- Bowel habits?

Diagnosis of Hemorrhoids

Endoscopic Evaluation

- Anoscopy
  - Quick, inexpensive, accurate
  - MOST ACCURATE METHOD TO EVALUATE ANUS
- Flexible sigmoidoscopy or colonoscopy
  - Requires prep, more expensive, more uncomfortable
  - Less accurate at finding anorectal lesions than is anoscopy
  - Flexible endoscopy will miss almost half of anorectal lesion

Prolapsed Hemorrhoids (Grade III)

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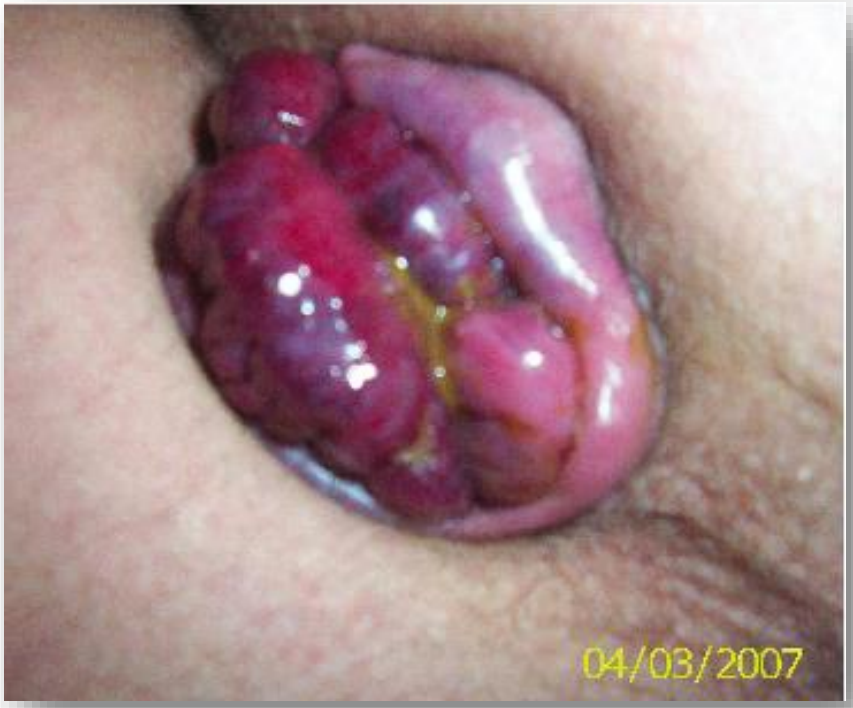

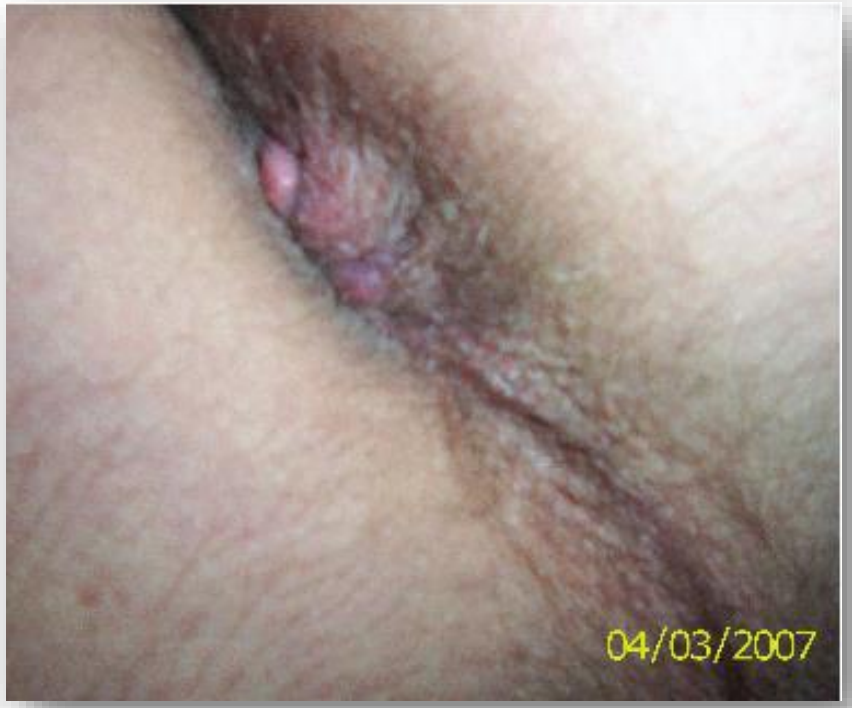

With Retroflexion & Insufflation

You see the EXTERNAL disease

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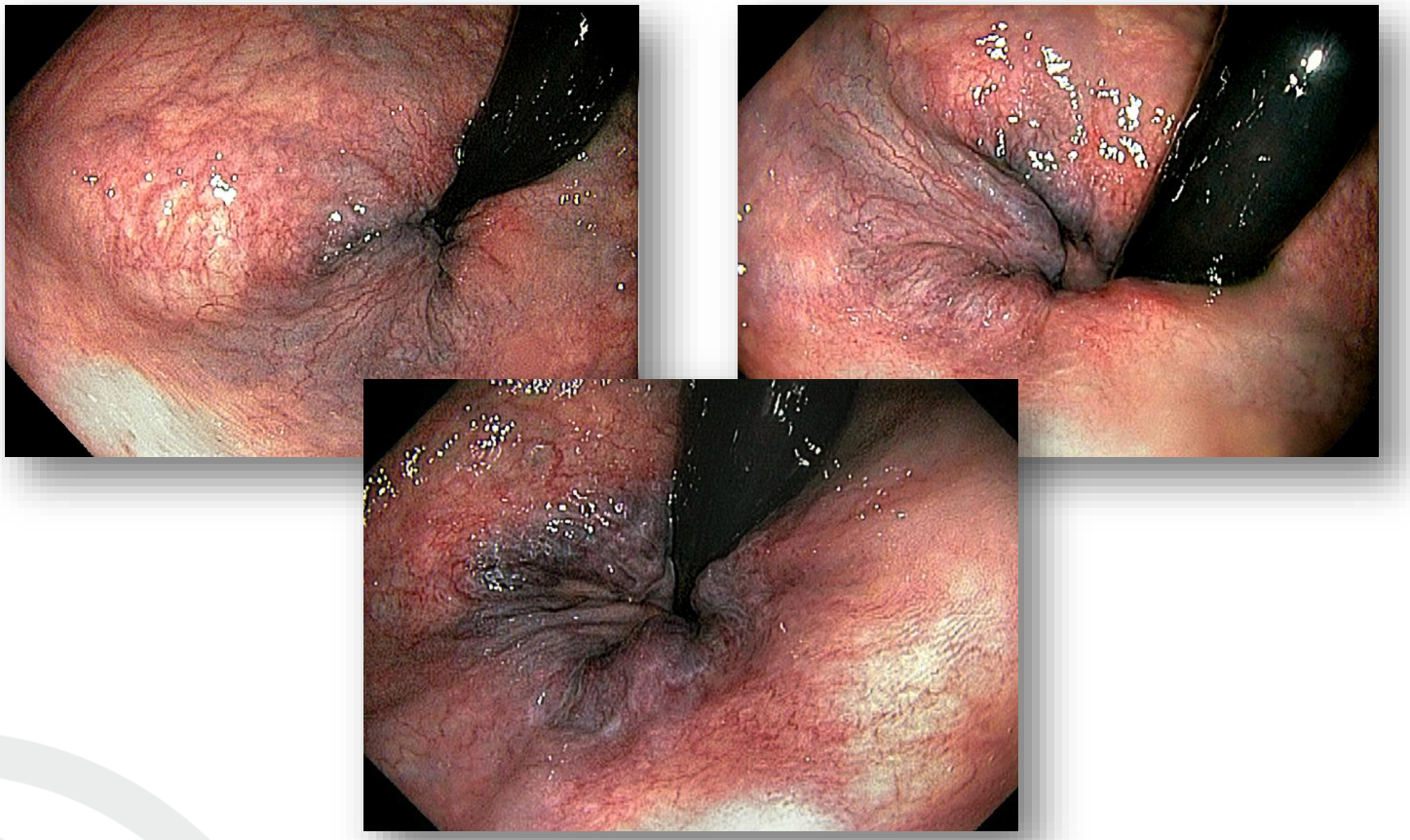

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Rules for Hemorrhoids

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1. Internal hemorrhoids don't hurt!
2. External hemorrhoids don't bleed!
3. Patients don't know what is going on "back there"!
4. External doesn't mean "outside"!

Grade IV Hemorrhoids

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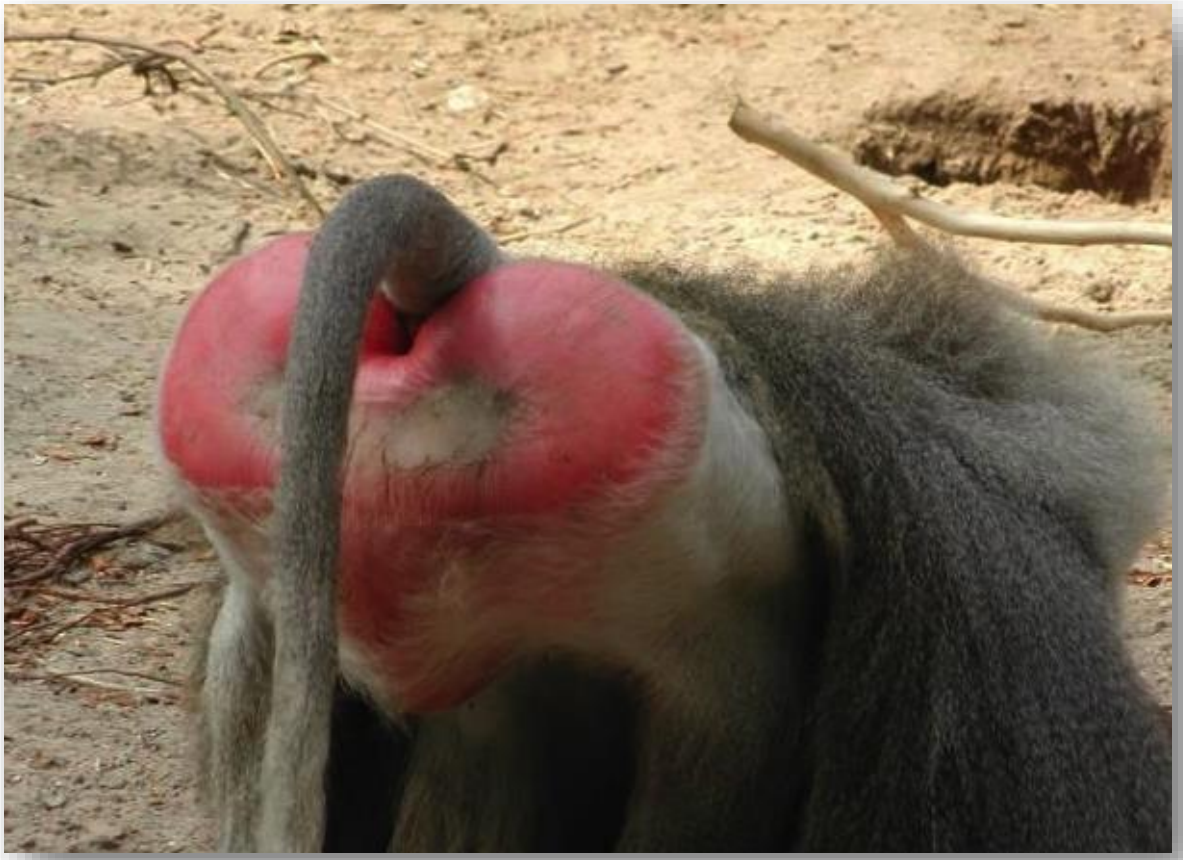

Medical Management

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- Add fiber to prevent constipation and diarrhea (15 – 20gm per day)
- Increase fluid consumption (6 – 8 glasses/day)
- Do not ignore the urge to go
- Do not strain
- Limit time on commode to two minutes
- Remove the library from the bathroom
- Minimize use of steroids – short course only

Surgical Treatments

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- Hemorrhoidectomy
- PPH (Procedure for Prolapsing Hemorrhoids) – Stapled Hemorrhoidectomy
- Doppler – Guided Ligation of Hemorrhoidal Vessels

Accompanied by significant expense, morbidity, loss of work, postoperative complications, but most studies demonstrate lowest recurrence rates.

Non-Surgical Treatments

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- Rubber Band Ligation – most frequently utilized

Rubber Band Ligation (RBL)

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RBL – McGivney or Barron Ligator

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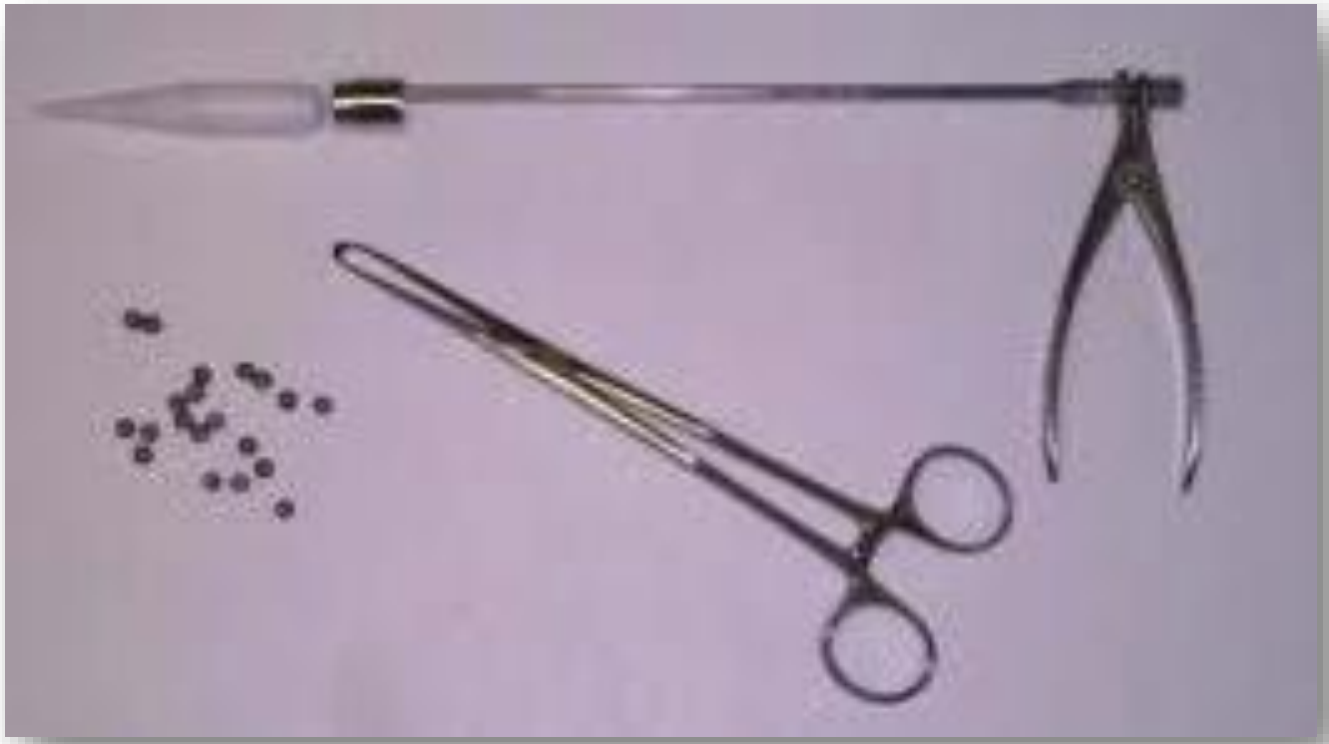

RBL – McGivney Technique

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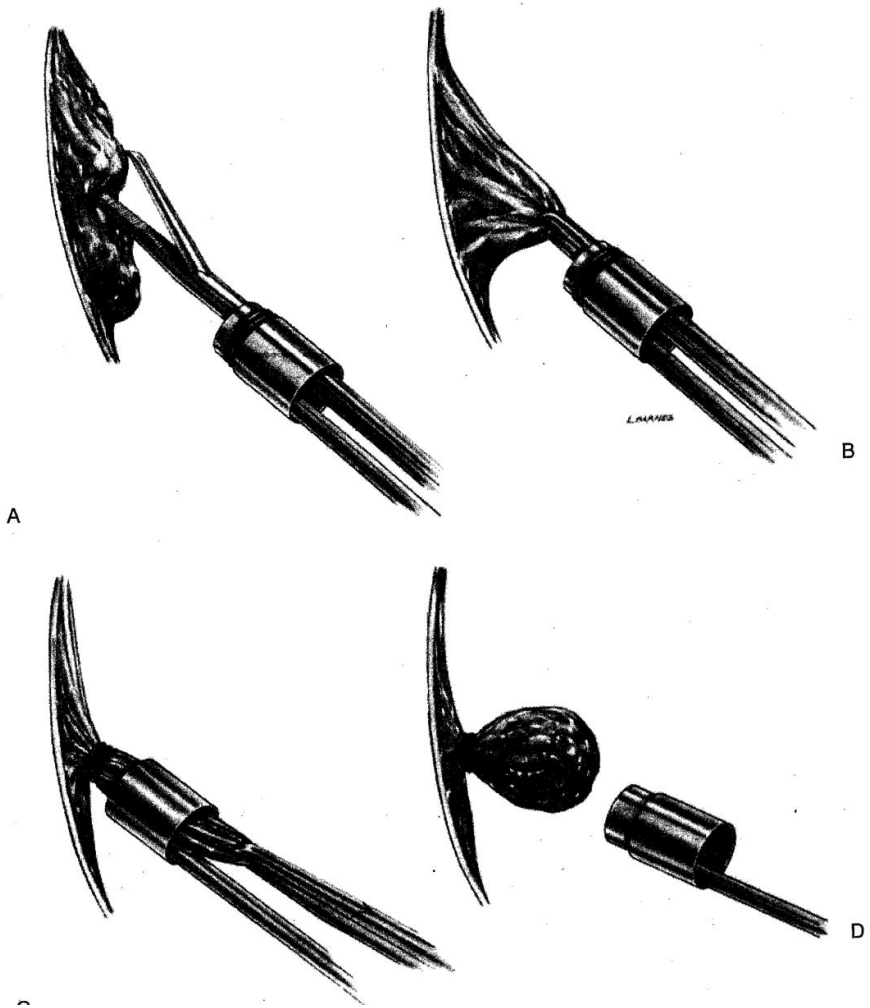

Rubber Band Ligation

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1954: Blaisdell first report of hemorrhoid ligation (suture)

1963: Barron report on 150 patients banded in office

1999: O'Regan develops disposable suction RBL

2005: Cleator reports on 5,424 bandings in 1,852 patient
99.1% effective, 0.3% complications, 5% 2-yr recur.

2010: Cleator f/u study 20,206 RBL in 6,690 pts. Confirms 2005 study with 13% recurrence at mean of 42 months

- Banding normalizes the size of hemorrhoidal cushions
- Shown safe & effective in approx 300K bandings
- Inflammation "pexes" mucosa to underlying tissues.
- External disease improves but tags may be left behind.

RBL – Endoscopic Banding

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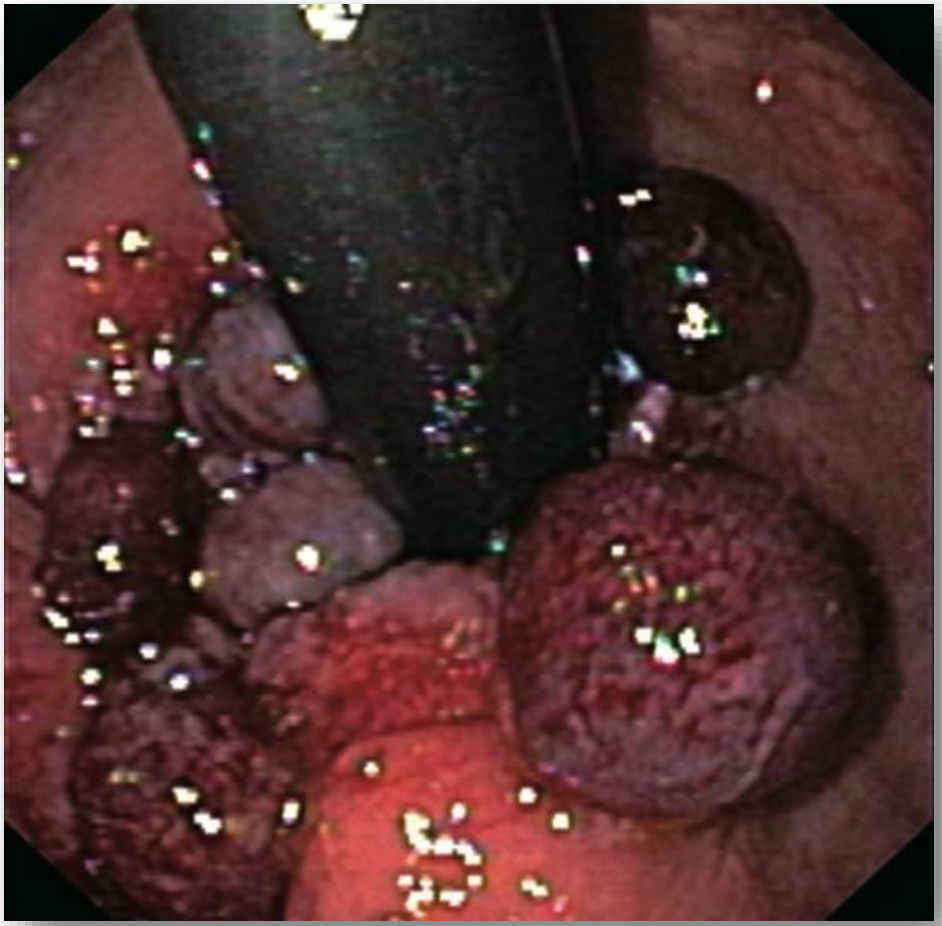

RBL – CRH O'Regan System

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RBL – CRH O'Regan System

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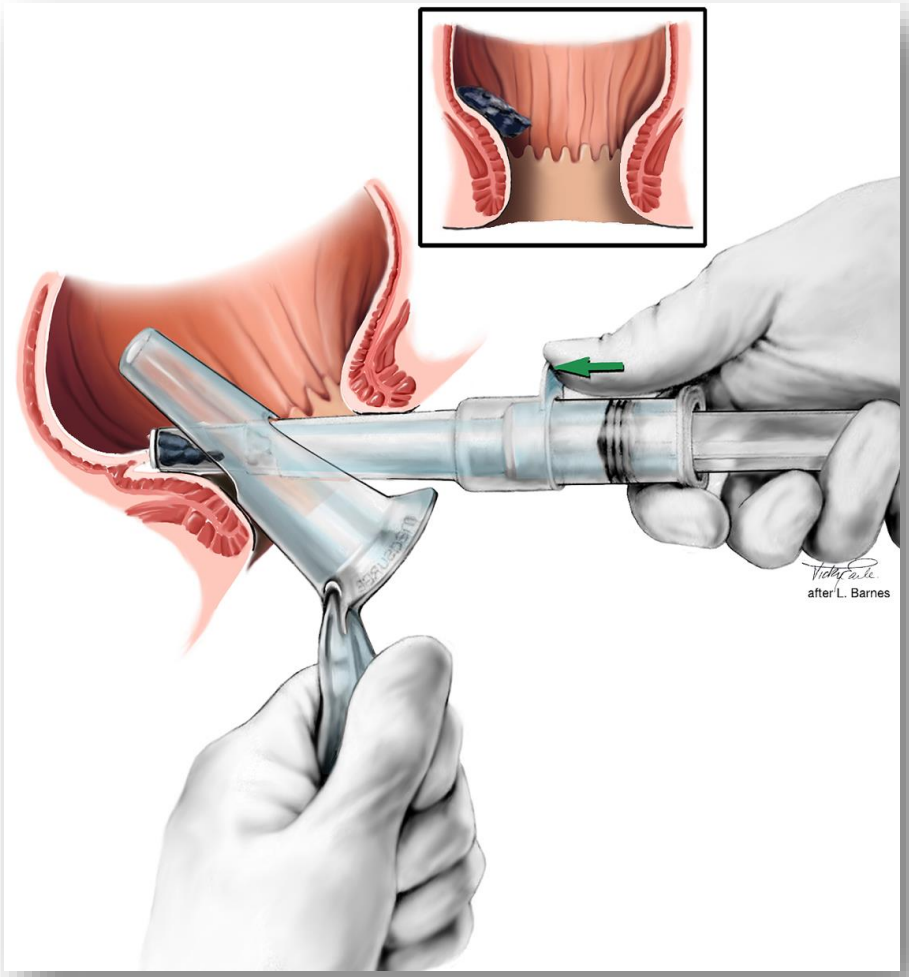

RBL – CRH O'Regan System

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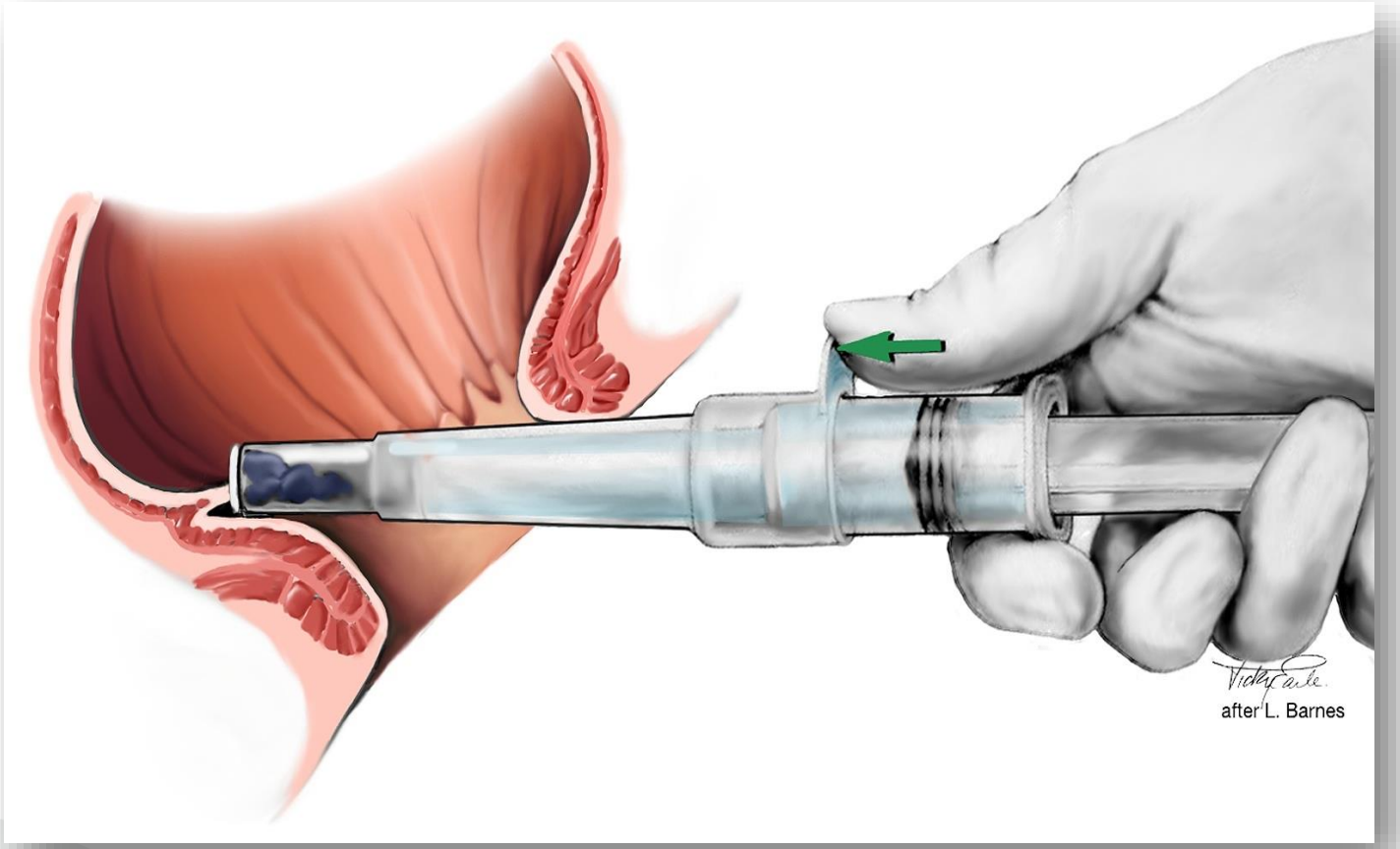

Indications for Banding

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- Recurrent mild to severe disease
- Itching, Bleeding, Prolapse
- Grades I – III, with some grade IV's.
- Patients with External Symptoms (90% of symptoms will resolve after internal banding).
- Complaints of "incontinence" when sphincter function intact (often not true incontinence, but rather prolapsing mucosa is the issue)

Rubber Band Ligation

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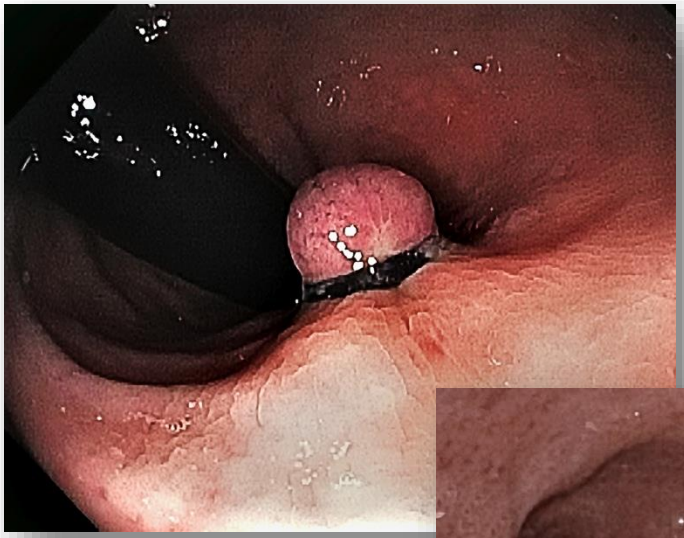
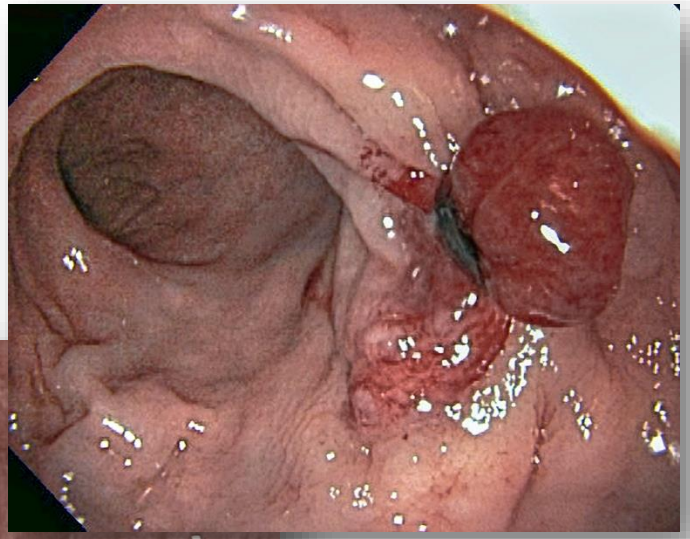
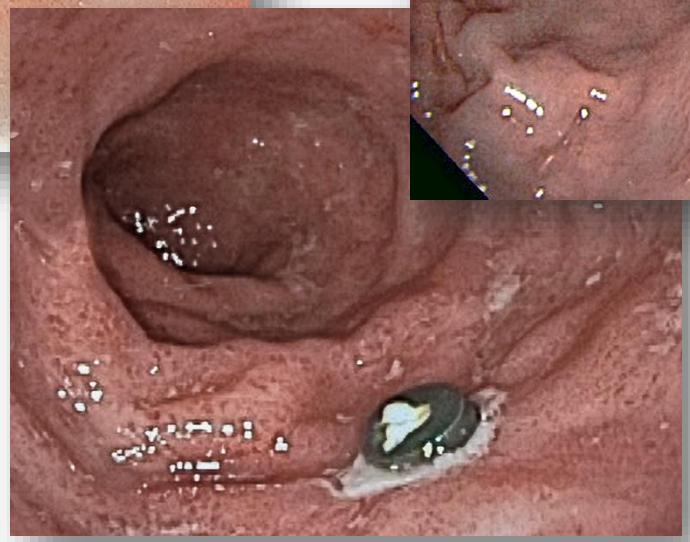
Initial appearance



Rapidly becomes ischemic





Tissue sloughs

Photos courtesy of Neal Osborn, MD, MSc

CRH vs. RBL vs. Surgery

(PPH / Open)

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	CRH	RBL	Surgery
Major Bleeding	0.36%	1-2%	1-2%
Significant Pain	0.15%	5-60%	3-80%
Thrombosis	0.09%	5-12%	1%
Urinary Retention	0%	<5%	1-16%
Pelvic Sepsis	0%	0-0.1%	0.5%
Perianal Infection	0%	<5%	1%
Rectal Stenosis	0%	0%	1.6-3%
Incontinence/Soiling	0%	0%	7-21%
Reoperation	0%	0%	4-8%
Total Complications	0.9%	1-6%	20-40%
Effectiveness	99%	44-95%	85-97%
Recurrence	13%	11-66%	10-20%
Death	0%	0-1%	0-2%

Rubber Band Ligation

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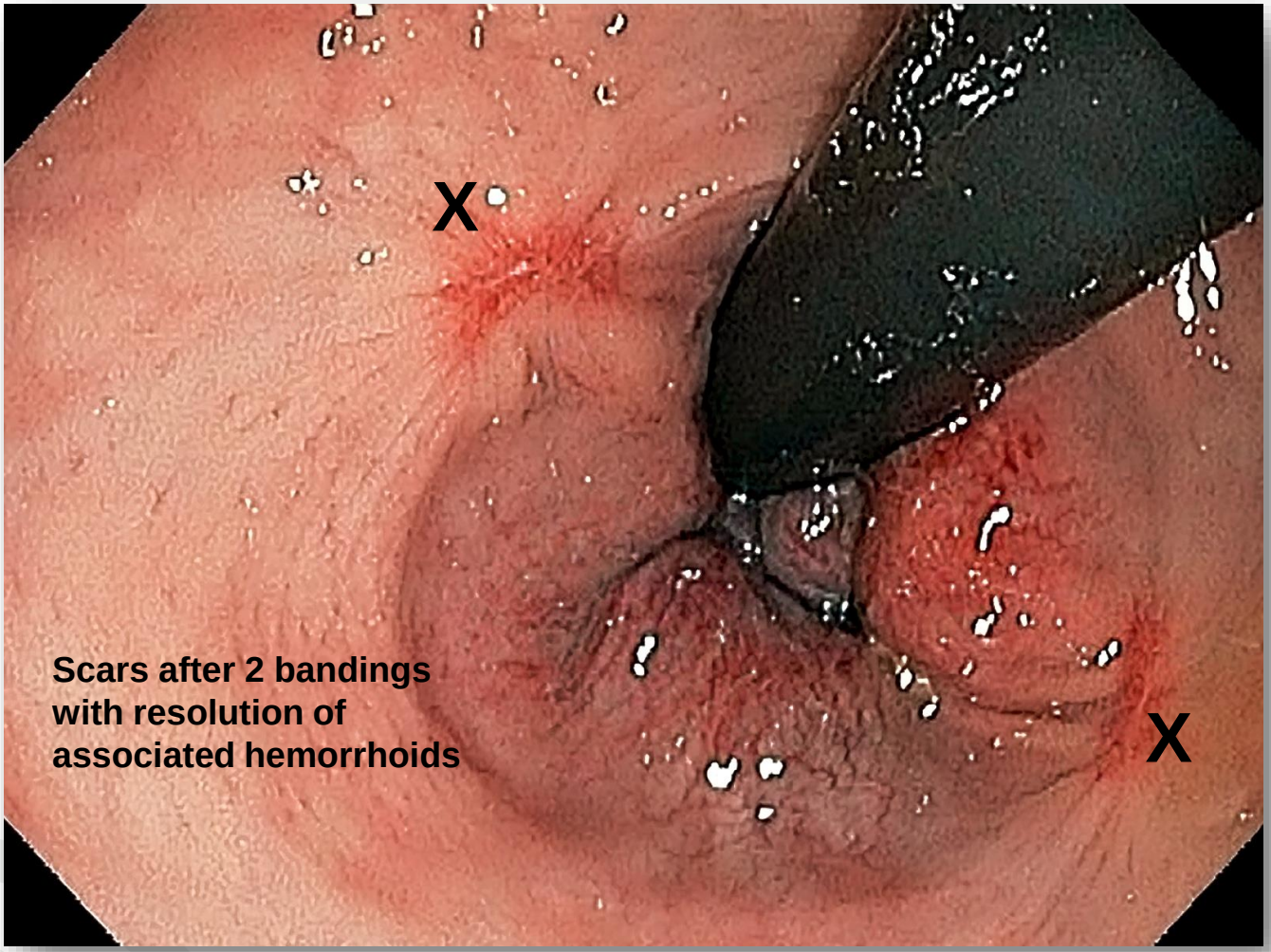

Scars after 2 bandings with resolution of associated hemorrhoids

Does It Really Work?

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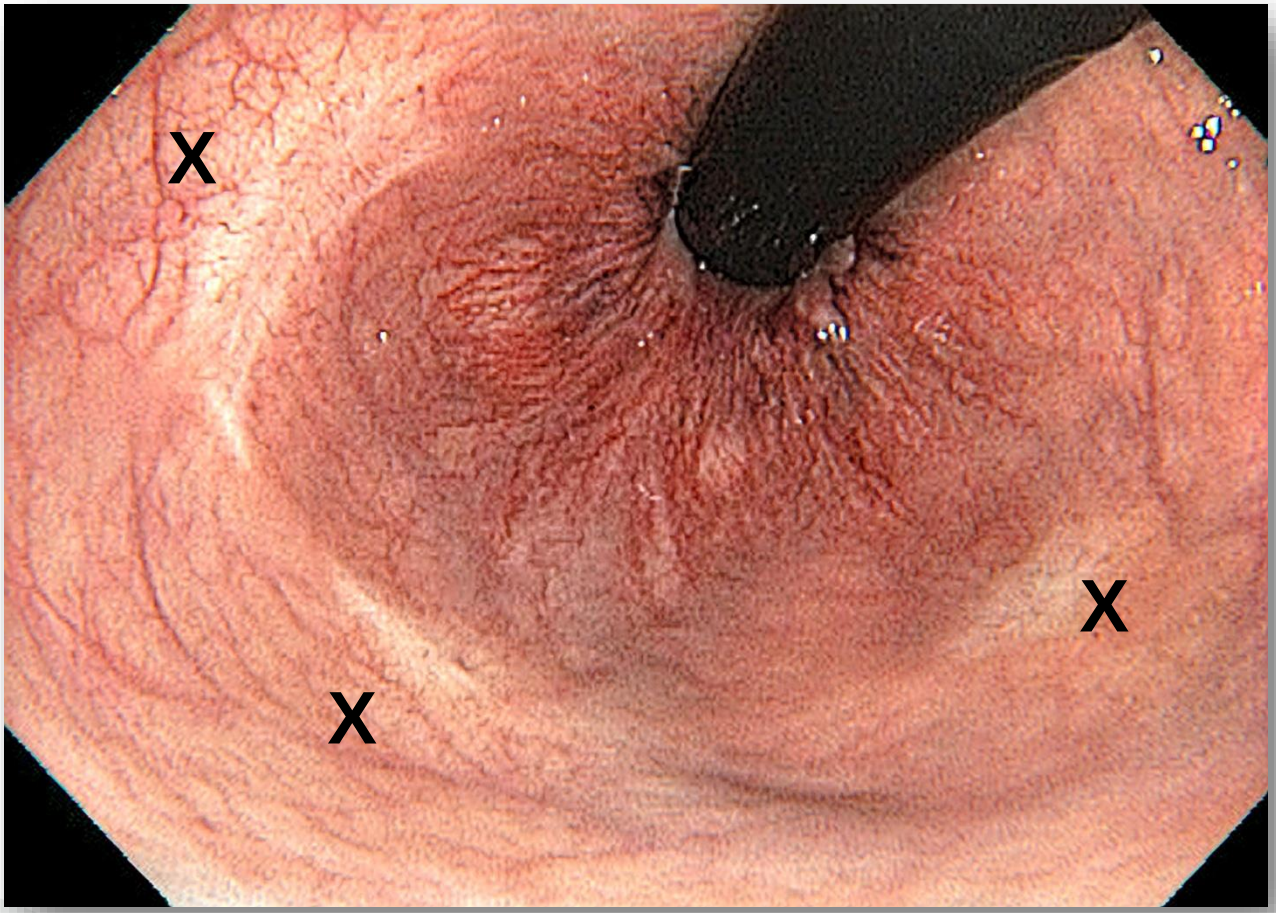

Results after 3 bandings – resolution of hemorrhoids

Photos courtesy of Neal Osborn, MD, MSc

Pre & Post-Banding Instructions

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- No laxatives, bowel preparation, enemas are needed
- Prophylactic antibiotics rarely indicated. Amoxicillin or Biaxin plus Flagyl if neutropenic.
- Stop anticoagulants if possible for 5 days before banding. ASA OK
- Three hemorrhoids will require three bandings in most patients.
- No vigorous exercise on day of banding, o/w normal activities

Contraindications to Banding

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- Anticoagulants such as Coumadin or Plavix are a relative contraindication to hemorrhoid treatment. ASA use with minimal increased risk of bleeding
- Dr. Cleator has banded patients on coumadin (151 times in 61 patients) and had only one moderate bleed which required Rx.
- In portal hypertension the rectal varices are treated by treating the portal hypertension. Rx fissures with NTG.
- In pregnancy try to avoid rectal procedures to avoid the rare complication of pelvic sepsis or the liability of abortion. Anal fissures may be treated with NTG.
- Avoid in cases with other rectal processes (Crohn's, ischemic or radiation proctitis, etc.)

Hemorrhoidectomy Indications

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- Failed Banding
- Not capable of tolerating office procedure
- Large external hemorrhoidal disease
- Some Grade IV hemorrhoids

In practice, only patients requiring surgery are Grade IV patients that cannot be reduced, and patients with severe external disease (1%)

Non-Surgical Treatments

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- Rubber Band Ligation – most frequently utilized
- Infrared Coagulation

Infrared Coagulation (IRC)

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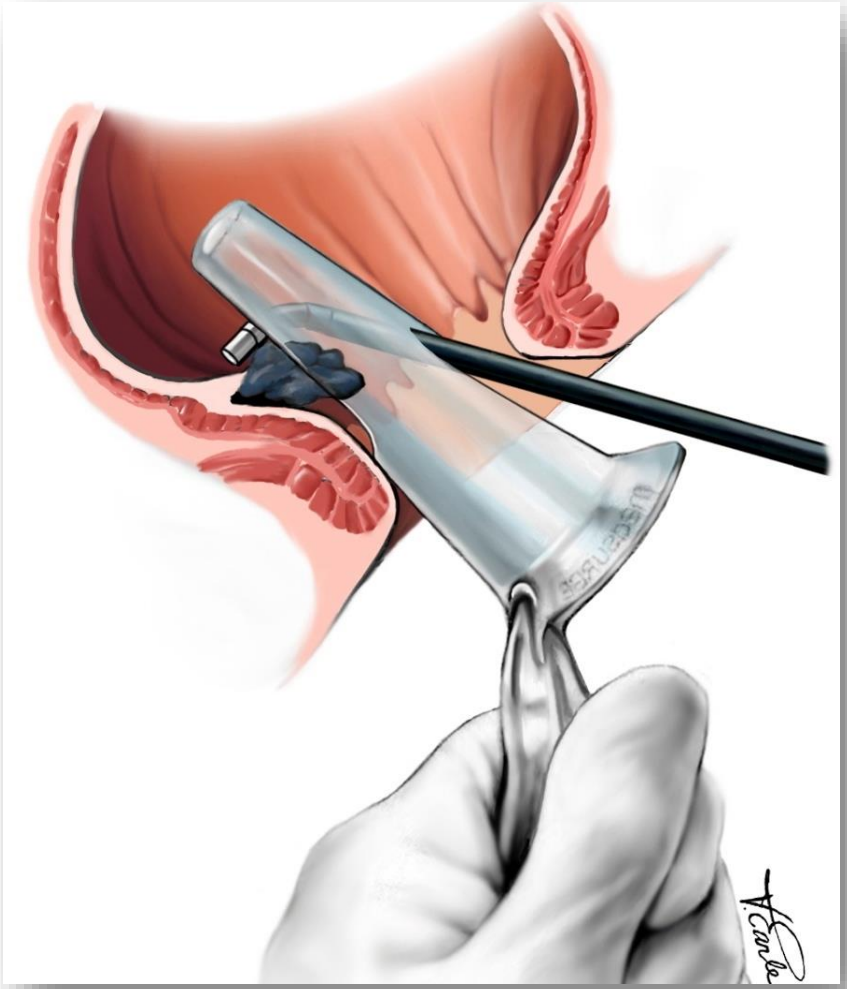

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Non-Surgical Treatments

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- Rubber Band Ligation – most frequently utilized
- Infrared Coagulation
- Direct Current Destruction of Tissue (Ultroid)

Ultroid

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Ultroid

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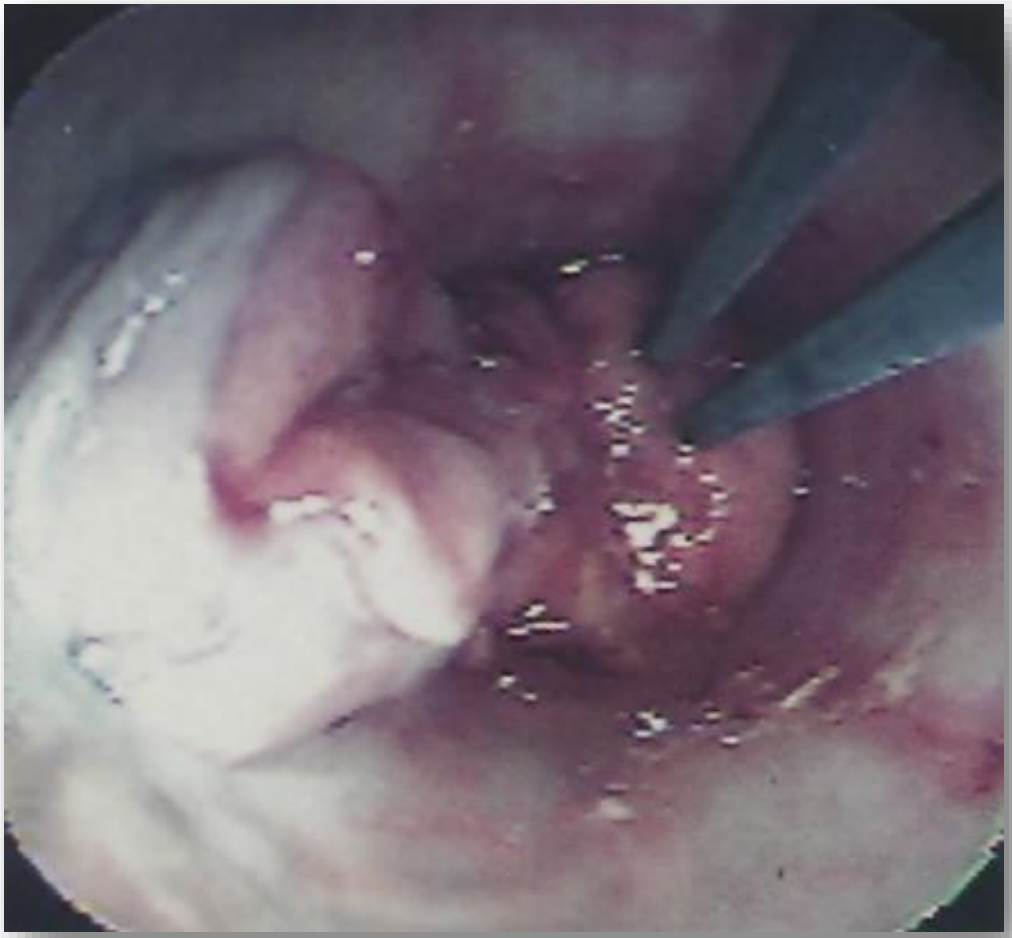

Differential Diagnoses

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Conditions with similar Sx's

1. Anal Fissure, Skin tags, pruritus ani, candidiasis
2. Fistula +/- Abscess, Pilonidal Disease, IBD
3. Rectal Prolapse, Incontinence
4. Tumors - Adenocarcinoma, Squamous Cell, Lymphoma, Melanoma
5. Levator Syndrome, Proctalgia Fugax, Foreign Bodies
6. STD's - Condyloma (HPV), Syphilis, Gonorrhea, Herpes, Chlamydia-LGV, Molluscum Contagiosum, Pediculosis Pubis, Trichomoniasis, Chancroid, CMV, and Scabies
7. Traumatic proctitis
8. Rectal varices
9. Prostatitis.

Anal Fissure

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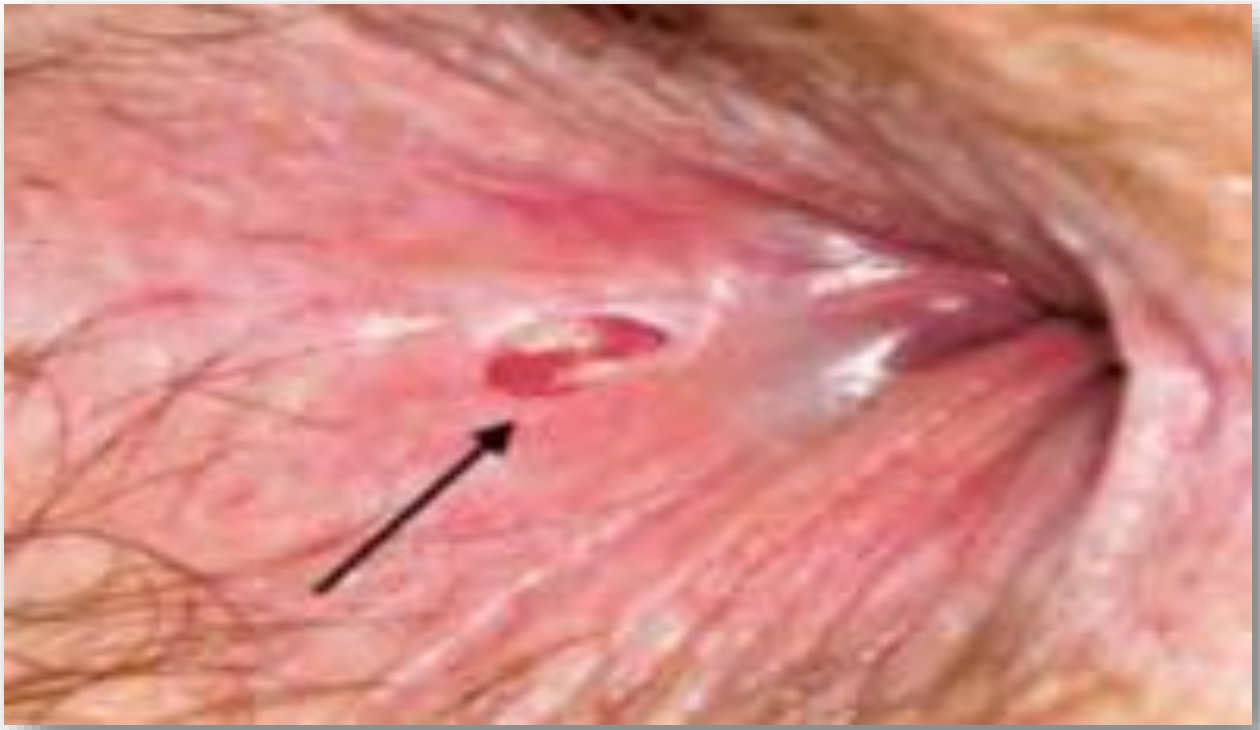

Fissure

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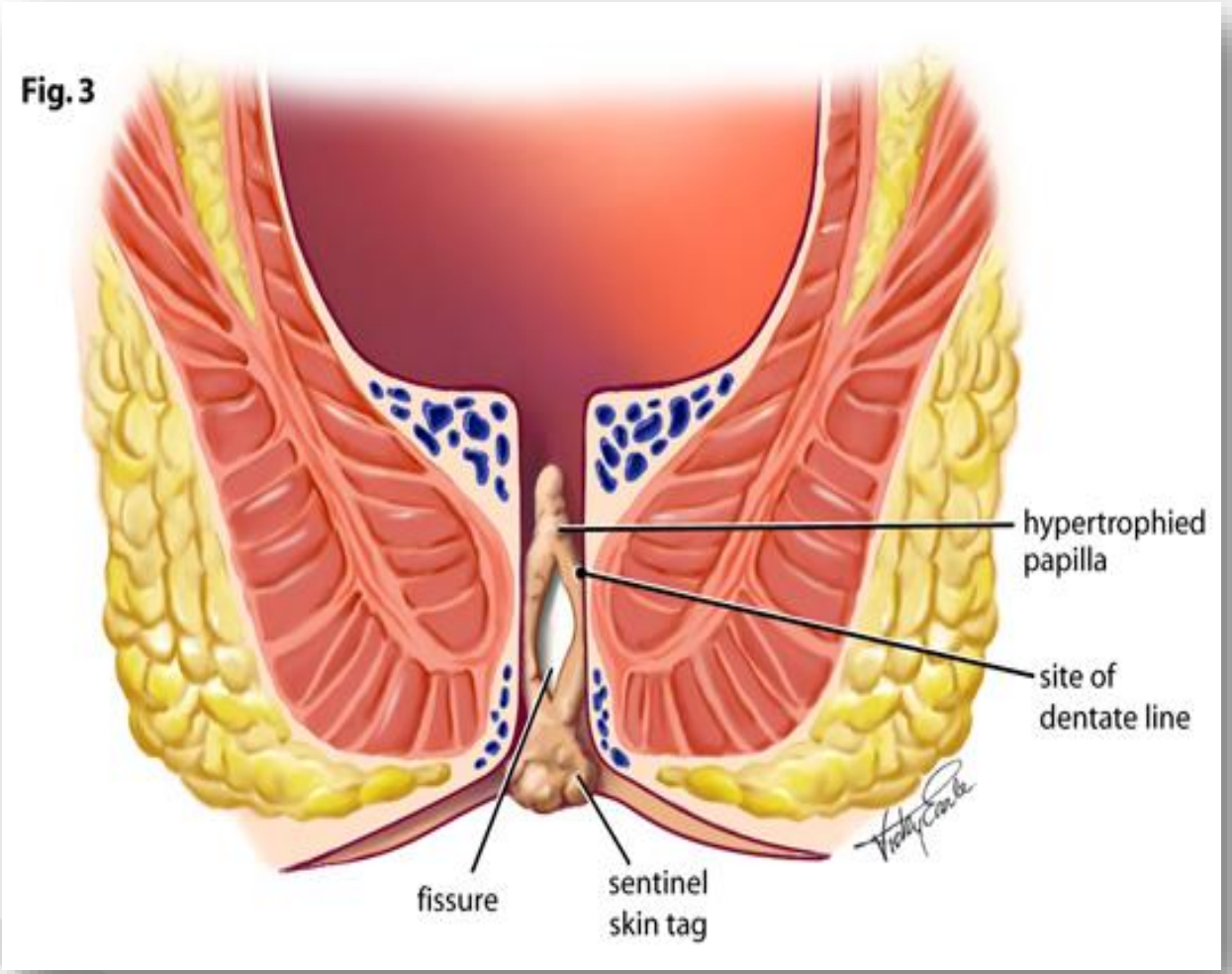

Anal Fissures

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- A linear tear in the anoderm caused by passage of a hard stool, diarrhea, straining, sitting too long.
- Most often found in posterior midline, less commonly anterior midline.
- Ischemic component – poor blood supply to posterior midline, worsened by sphincter spasm.
- Deep fissures expose underlying internal sphincter.
- "Passing razor blades" – c/o pain on defecation +/- bleeding.
- Associated hemorrhoids are very common.

Expand Your Definition of a Fissure!

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You will NOT see every anal fissure! The Dx of a fissure should be a clinical one!! For practical purposes, after infection ruled out, signs of an active fissure include:

- Tenderness in midline (posterior >>>> anterior)
- Presence of inflammatory tissue or healing scar
- A "rough" area surrounded by smooth tissue in midline
- Sentinel tag

If patients have multiple fissures including those not in midline, rule out other processes (Crohn's? AIDS?)

Fissure

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Non-Surgical Hemorrhoid Treatment
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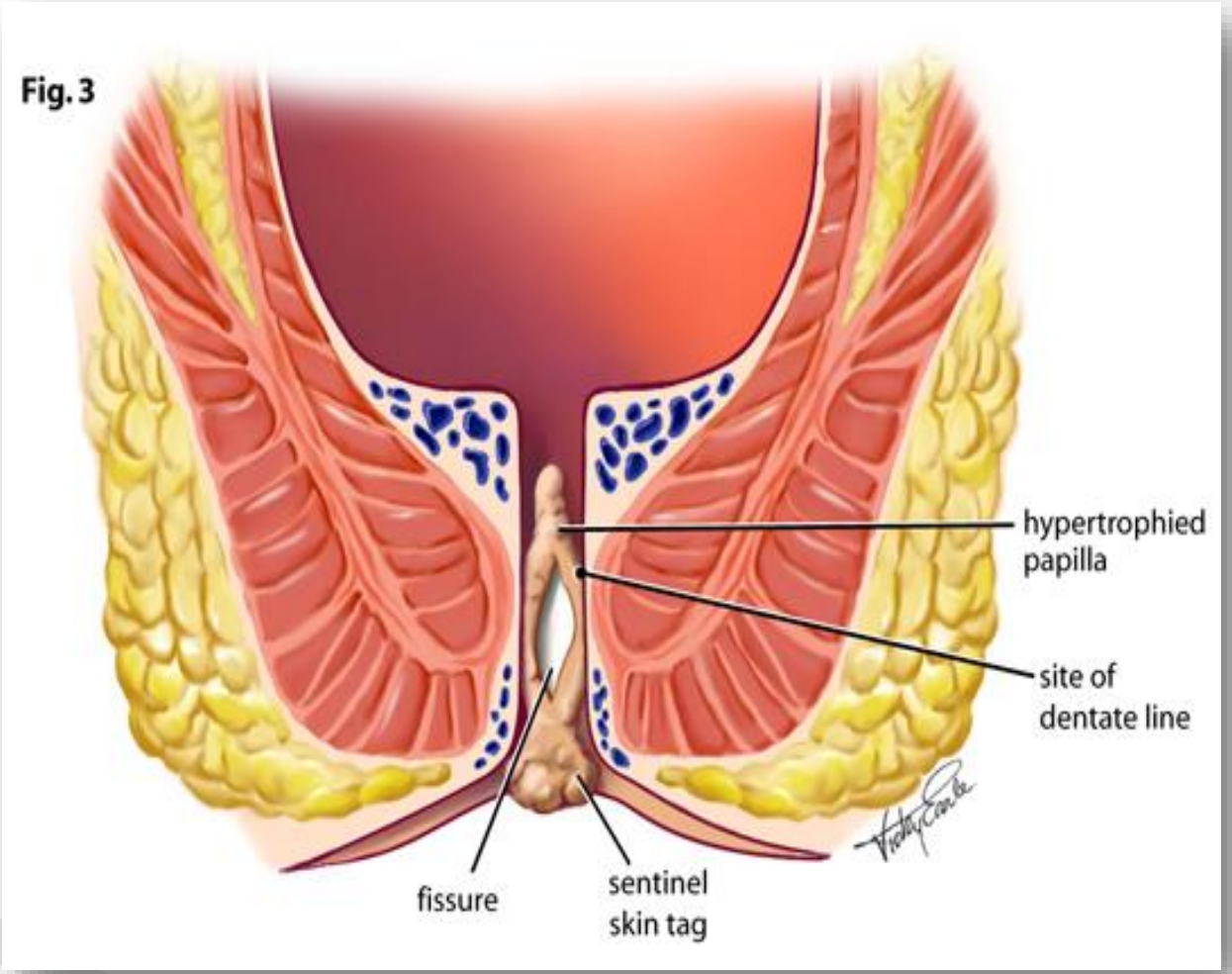

Anal Fissure Rx.

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- Fiber (15 – 20 gm/day), increase fluid intake, limit time on commode, no straining, sitz baths.
- NTG ointment, 0.125%. Typically takes 4-6 weeks to heal, continue Rx 2-3 more months!
- 2% Diltiazem*, 0.5% Nifedipine* are alternatives.
- Botox* effective but expensive. Continue patient on NTG.
- Surgery is effective but has up to a 10% incontinence rate (most studies report 2 – 4%).
- Pudendal block may be rarely required for pain relief.

* Off Label Usage

NTG

- Nitroglycerin relaxes smooth muscle, decreases resting pressure, and improves blood supply. Local effect approx. 3 hours.
- Side effects: hypotension, bradycardia, tachycardia, headache, rash, dizziness, dyspepsia, flushing, blurred vision, dry mouth, fainting.
- Be aware with congestive heart failure, calcium channel blockers, beta blockers. Avoid with Viagra, Cialis.
- Has been used in pregnancy without difficulty but no studies on safety performed.

Other Uses for NTG*

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- "Tight" internal sphincter on physical exam
- "Double-sphincter sign"
- Incomplete evacuation symptoms

NTG will treat the above symptoms

NTG will minimize post-banding problems

* Off label use of NTG

Rules for Hemorrhoids

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1. Internal hemorrhoids don't hurt!
2. External hemorrhoids don't bleed!
3. Patients don't know what is going on "back there"!
4. External doesn't mean "outside"!

Rules for Hemorrhoids

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1. Internal hemorrhoids don't hurt!
2. External hemorrhoids don't bleed!
3. Patients don't know what is going on "back there"!
4. External doesn't mean "outside"!
5. When in doubt – NTG!

Thrombosed External Hemorrhoids

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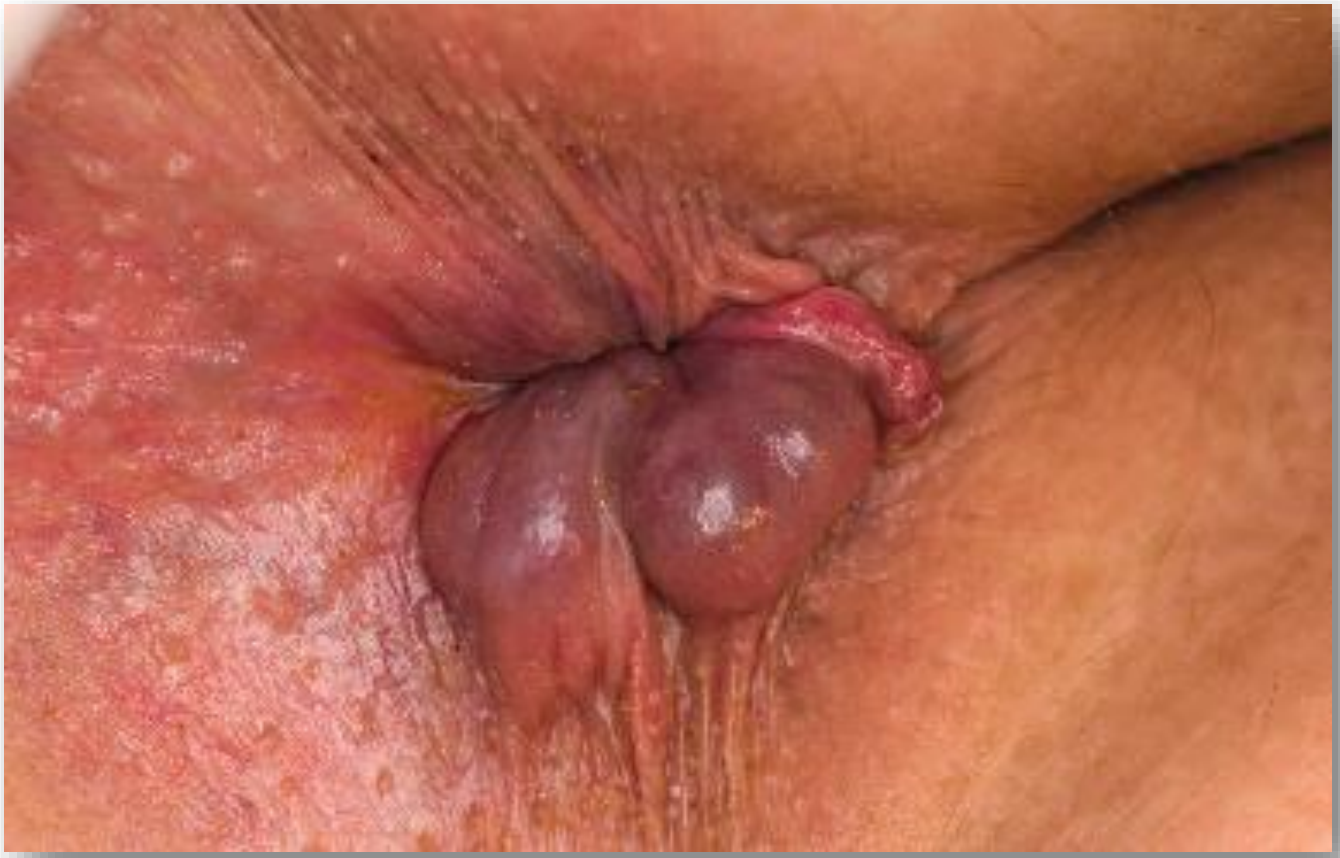

Thrombosed External Hemorrhoids

- Typical presentation is acute rectal pain and mass.
- Associated with heavy lifting, straining, sitting, diarrhea.
- Typically associated with anal sphincter spasm.
- Rx warm baths, stool softeners, anesthetic cream, analgesics, supine position, NTG, or calcium channel blocker for spasm.
- I & D best done within first 48 - 72 hrs. for severe pain.
- When associated with 3-4th degree hemorrhoids may require pudendal block and reduction of prolapse.
- Up to 50% will experience further hemorrhoid problems. After acute episode resolves proceed with anoscopy and banding.
- Look for associated fissure.

Levator Syndrome

- Episodic intense pain in the high rectum, sacrum, and coccyx due to spasms of the pelvic floor muscles.
- Coccydynia, proctalgia fugax (night), proctodynia.
- Tender levator muscle on digital exam.
- Normal work up other than abnormal EMG. Pain relieved by blocking the area between the rectum and coccyx with marcaine and steroids.
- Muscle relaxants, warm baths, biofeedback, NTG, calcium channel blockers, Botox, salbutamol.
- Variant is neuralgia of the pudendal nerve.

Anal Skin Tag

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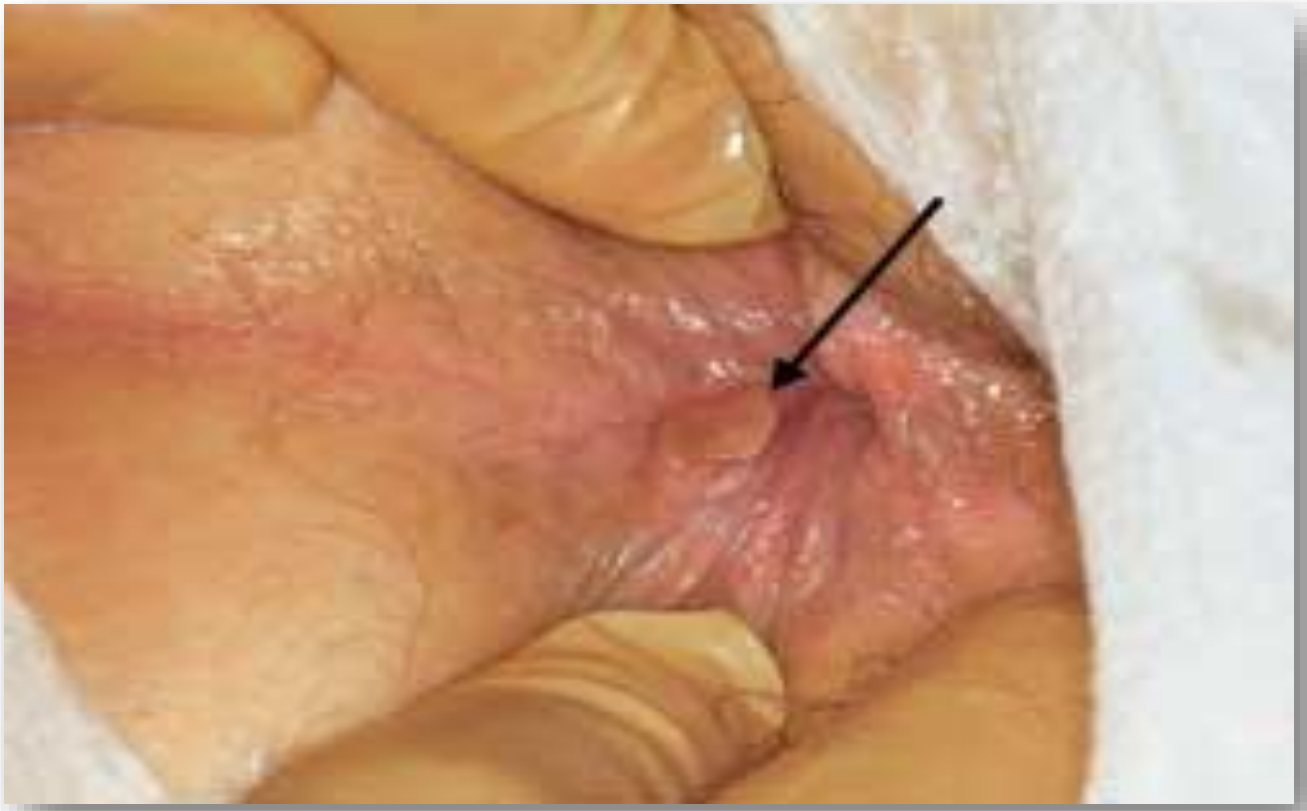

Pruritus Ani

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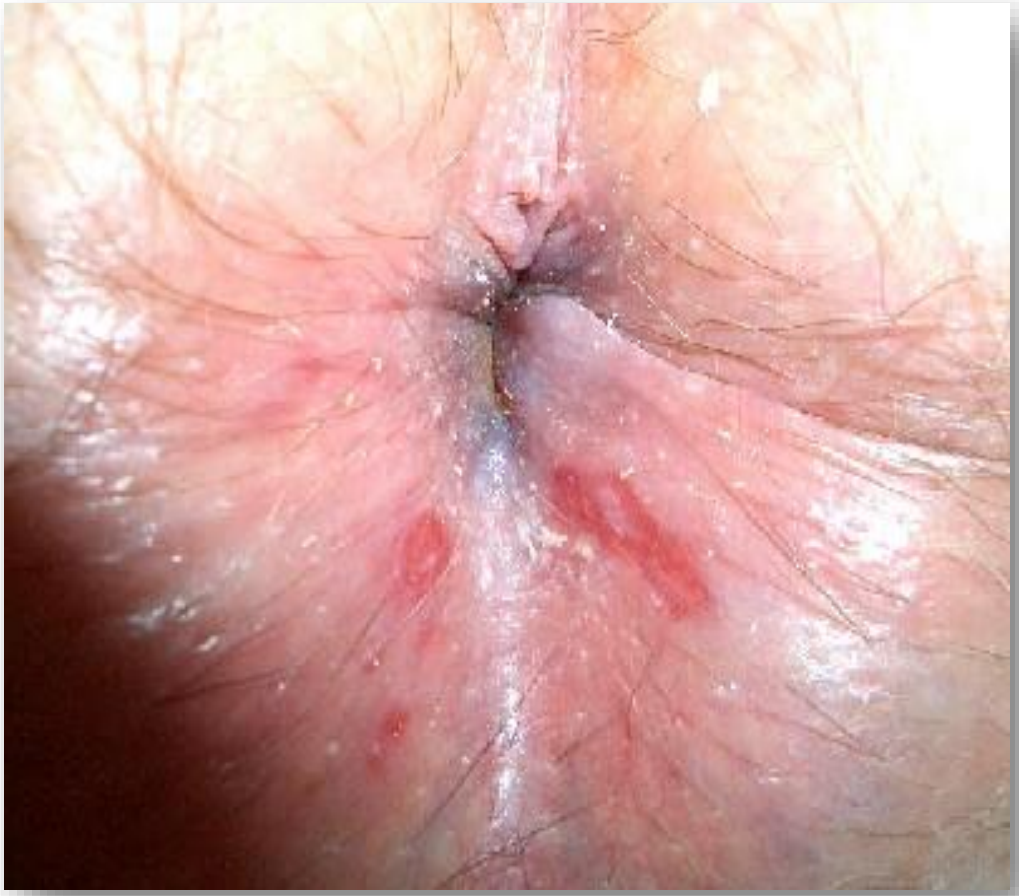

Perirectal Abscess

1. Perianal, Ischiorectal, Intersphincteric, supralevator.
2. Caused by infection of mucus-secreting anal glands.
3. Tender mass at anal verge or on rectal exam.
4. Fistula in ano may develop. Re-examine in 2-3 weeks.
5. Incision and drainage may be done under local anesthesia. Limit packing but keep skin edges open.
6. Antibiotics are of unproven value but should be used in immunocompromised patients, sepsis, or who have valvular heart disease or prosthesis.

Perirectal Abscess

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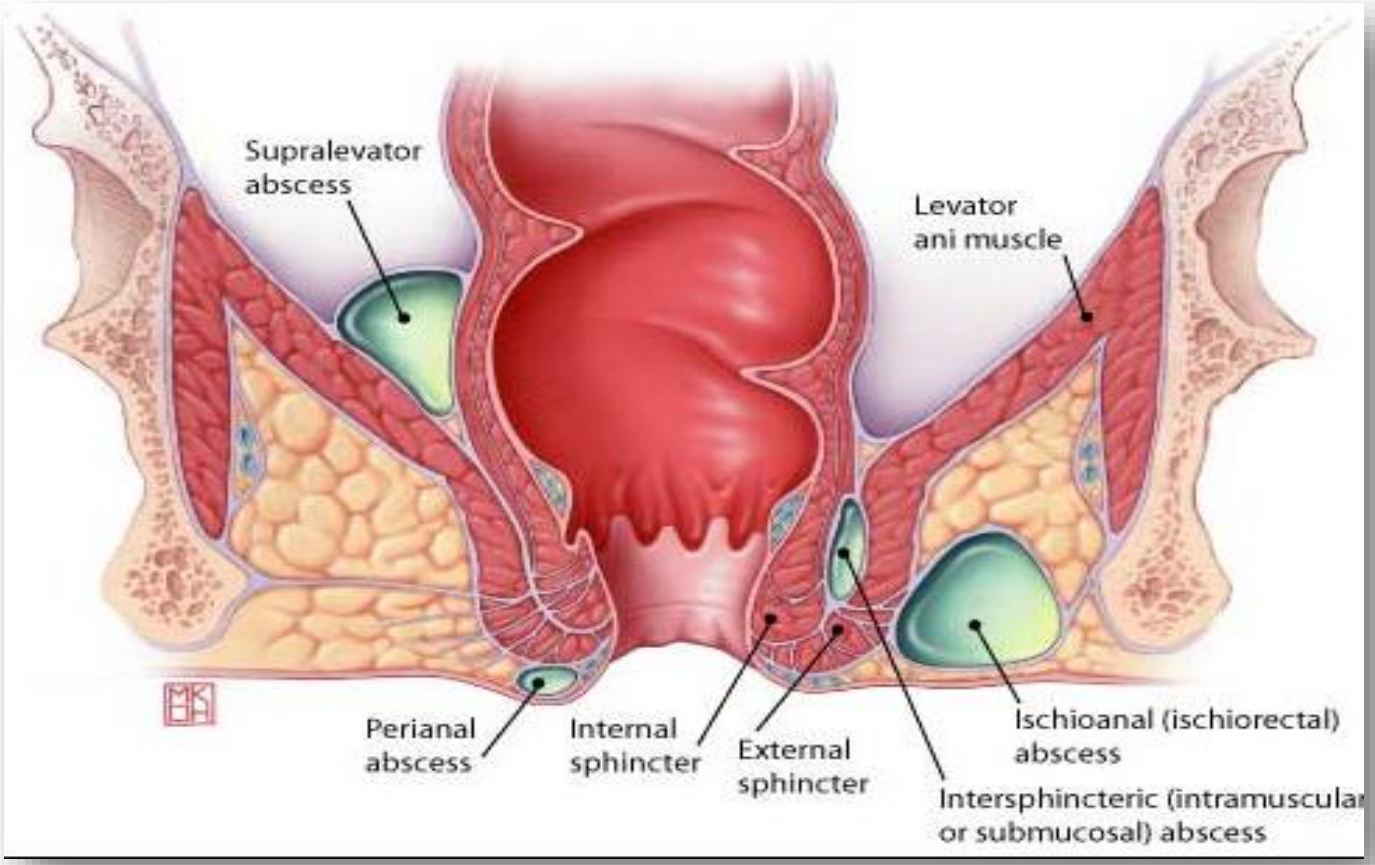

Perianal Abscess

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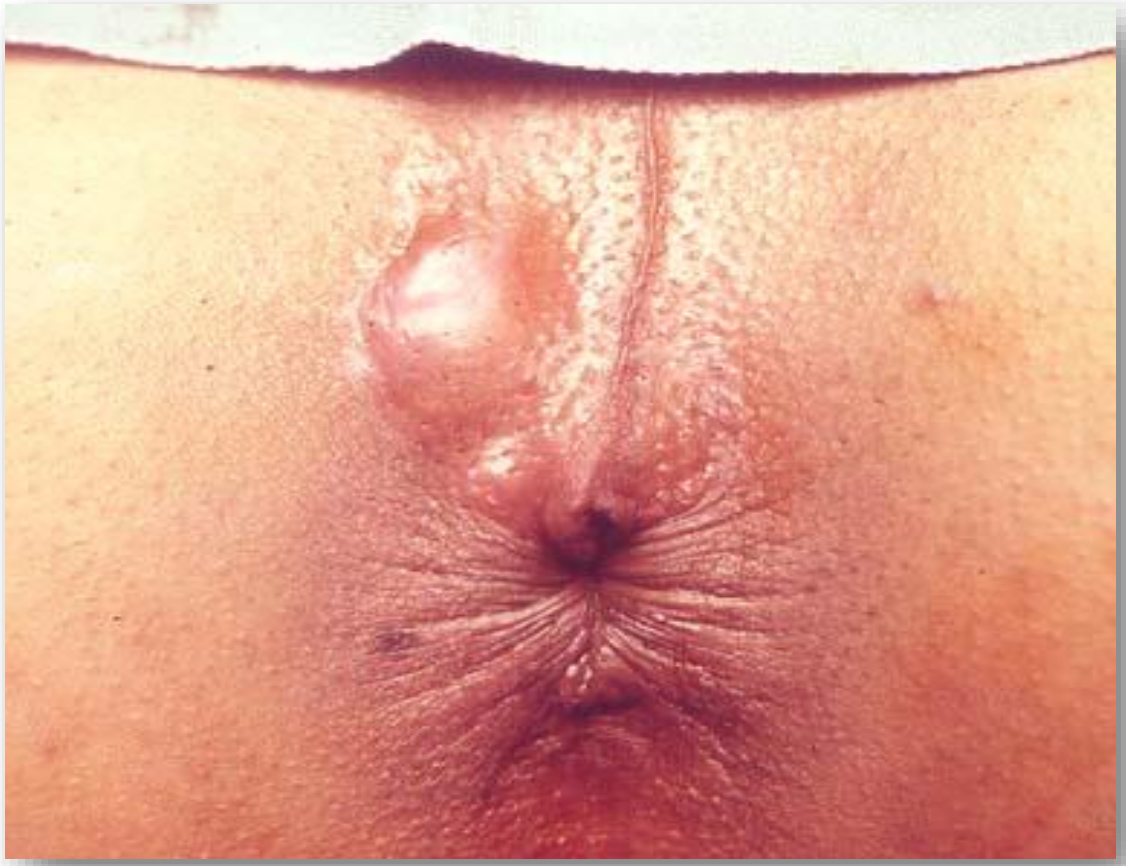

Ischiorectal Abscess

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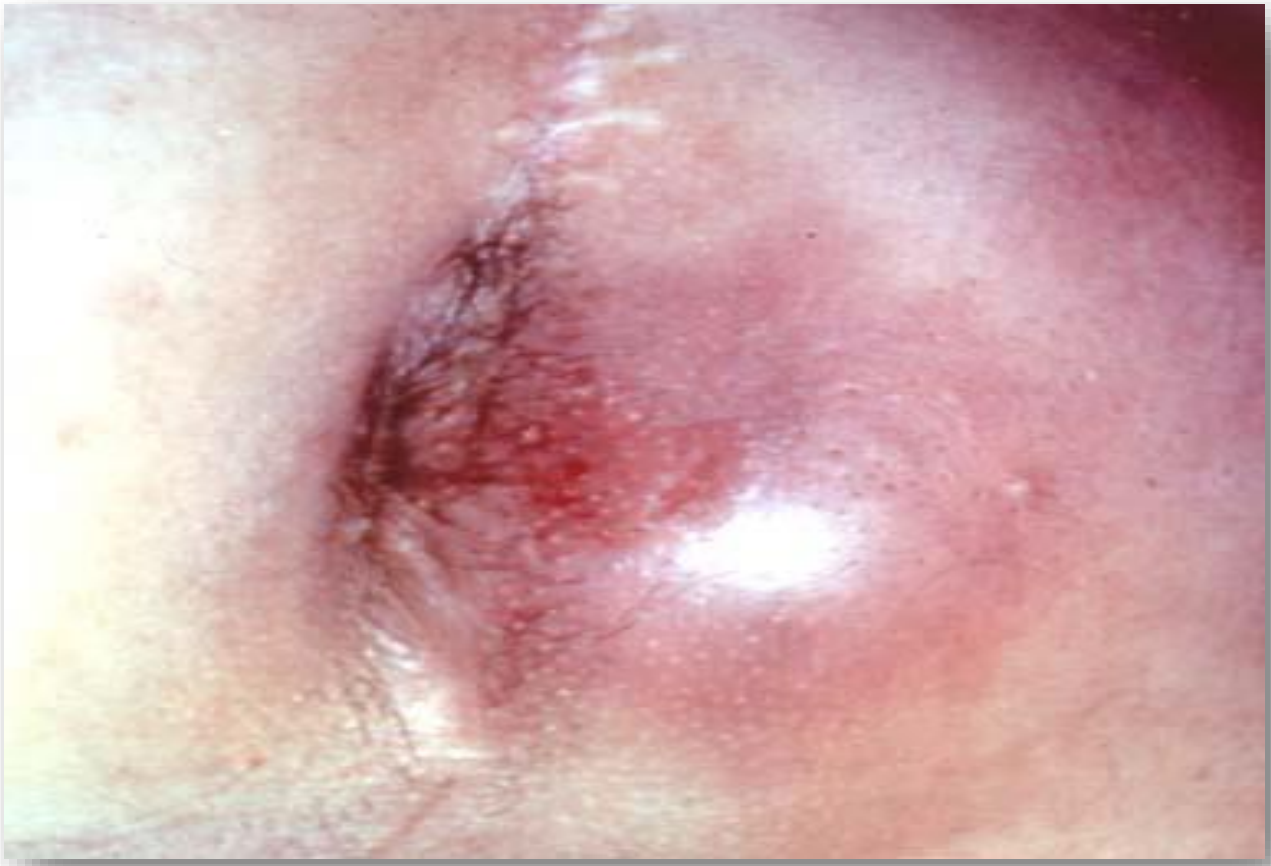

Fistula in Ano

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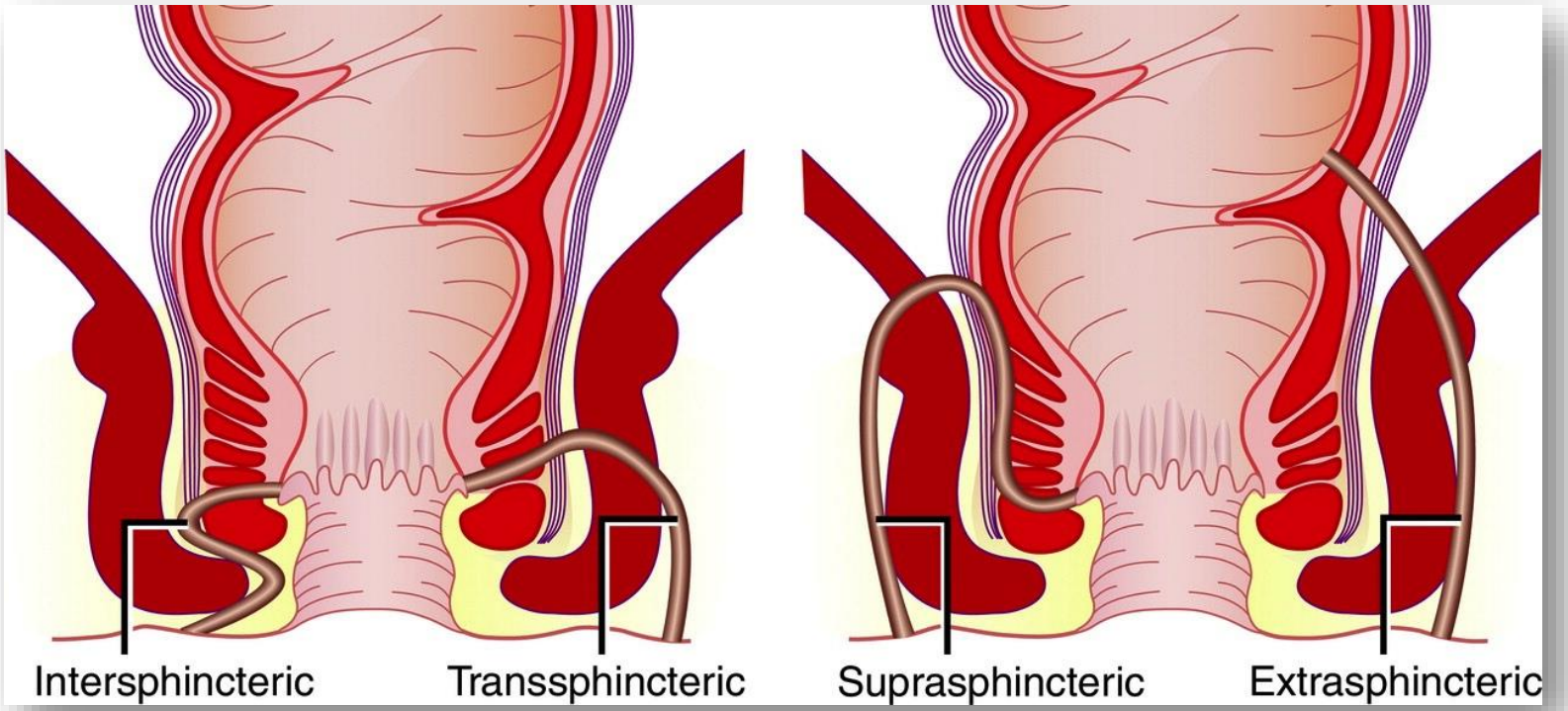

Condyloma

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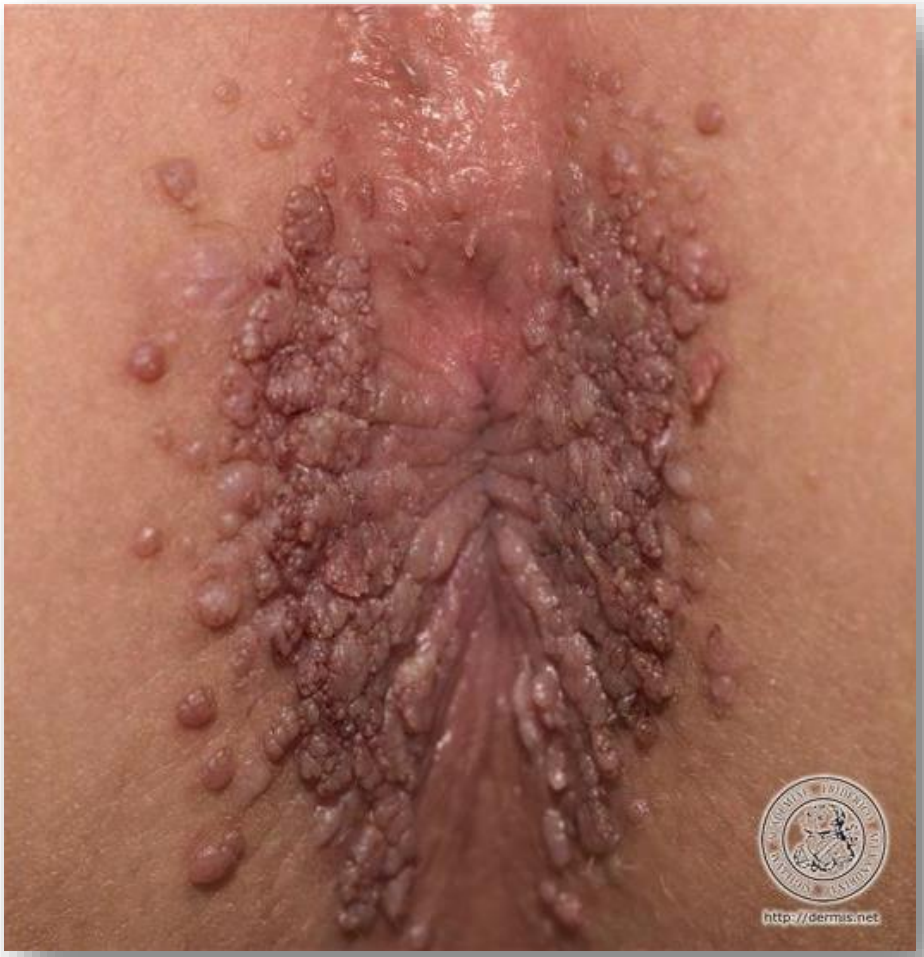

Rectal Prolapse

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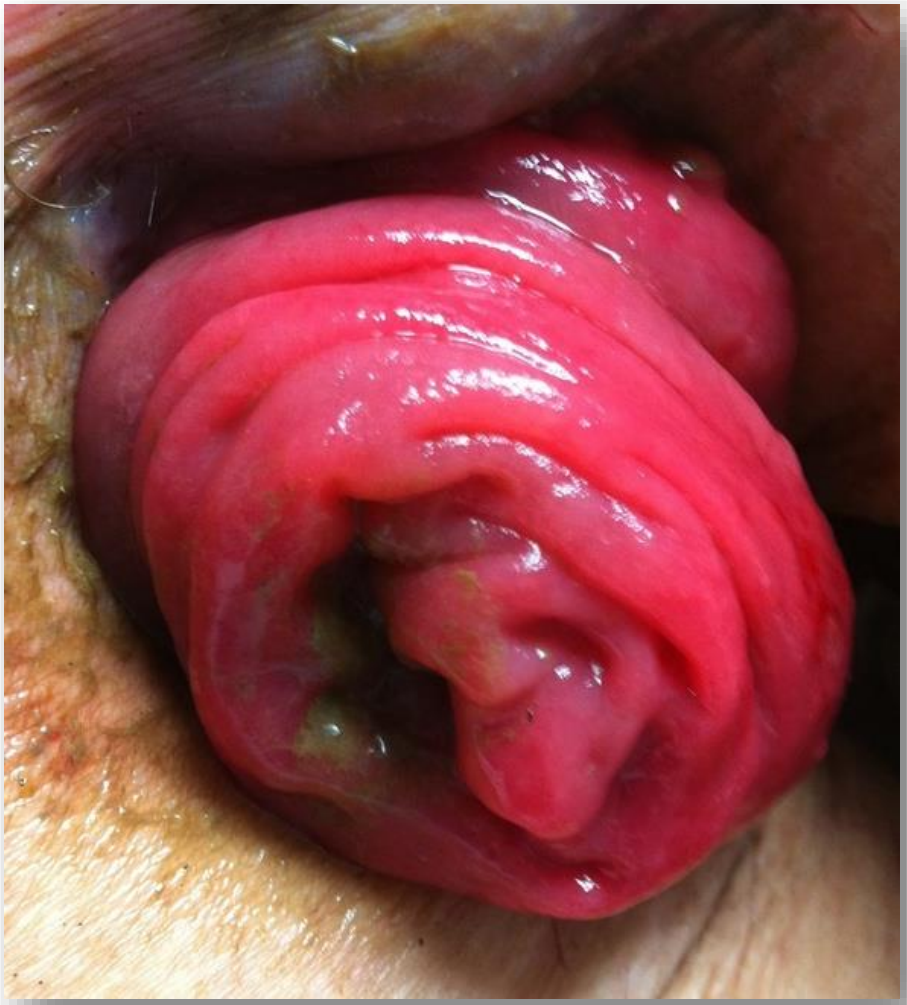

Summary

- In-office treatment of hemorrhoids safe and effective. Very few patients actually need surgical intervention.
- "Hemorrhoids don't hurt". When patient has pain, look for and treat accompanying issues in order to optimize clinical outcomes.
- Perform an ANO-rectal examination in order to properly evaluate patient and to identify associated issues.
- "Expand your definition of a fissure" – make this a clinical diagnosis.
- Aggressively treat fissures and other spastic conditions (diet, behavior, NTG)
- Ligate one hemorrhoidal column at a setting to minimize complications.

Conclusion

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Non-Surgical Hemorrhoid Treatment
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"Why are hemorrhoids called hemorrhoids and asteroids called asteroids? Wouldn't it make more sense if it was the other way around? But if that was true, then a proctologist would be an astronaut."

-- Robert Schimmel (1950 – 2010)