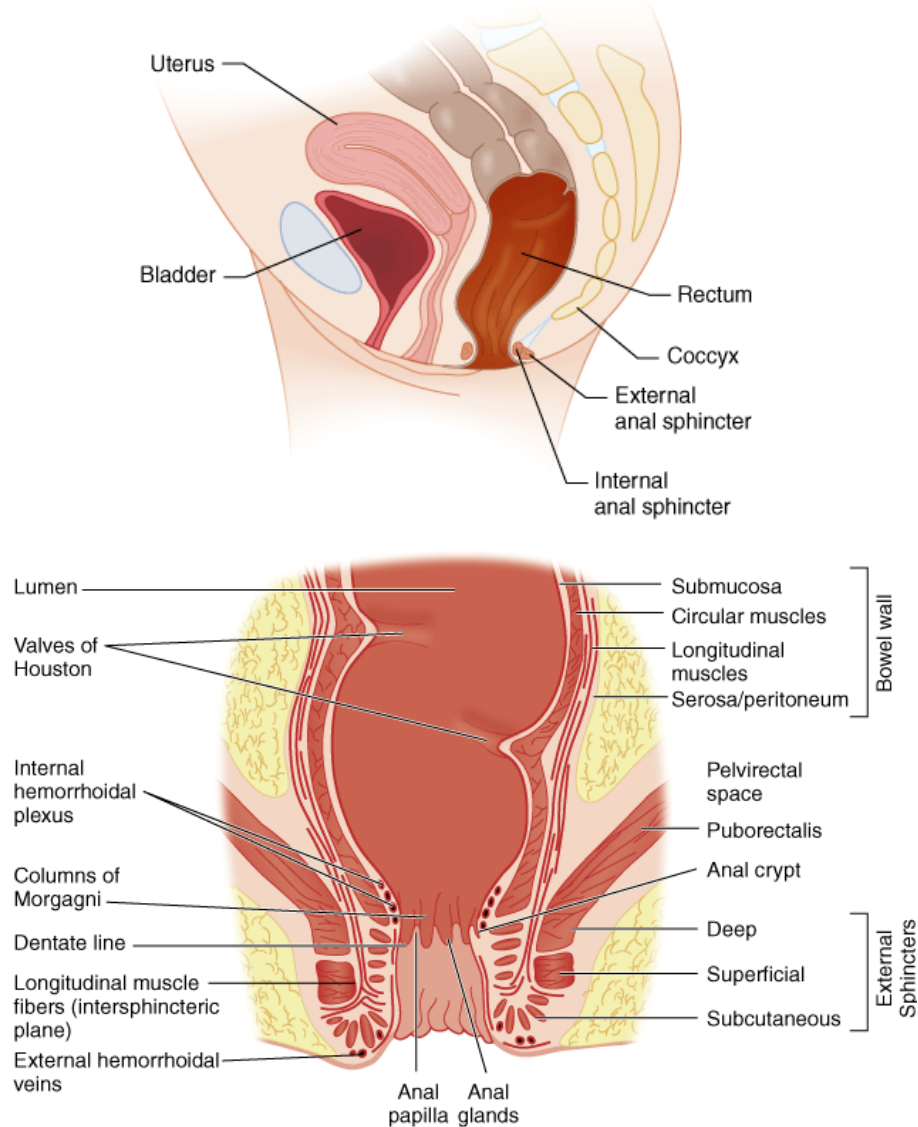


ANORECTAL DISORDERS

ANATOMY:

- The rectum is an anatomic structure that begins at S3 and descends for 13-15cm and then opens into the ANAL CANAL (~4cm long)
- The junction of these two embryonic structures is the dentate line



- Anal sepsis, cryptitis, perianal abscesses and fistula all result from inflammation, obstruction and infection of the crypts and glands
- Haemorrhoidal arteries supply the anorectum, whereas the venous network in this area is the internal haemorrhoidal plexus
 - The superior (internal) haemorrhoidal veins drain into the portal system
 - The inferior (External) haemorrhoidal haemorrhoidal veins drain into the IVC
- The external sphincters, voluntary skeletal muscles, are actually a caudal extension of the puborectalis muscle (forming part of the pelvic floor)

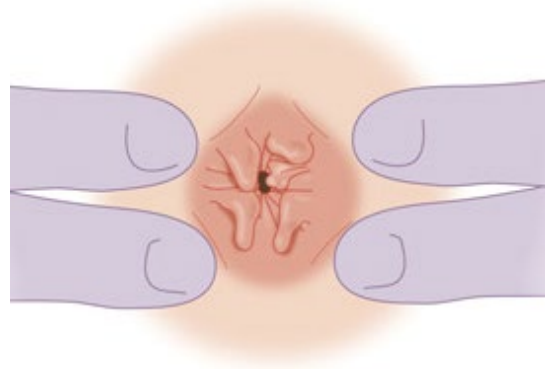
- Lateral to the external sphincters is the ISCHIORECTAL SPACE and superior to the levator ani is the supralevator space → deep infections can occur
- Inferior mesenteric nodes drain the proximal two thirds of the rectum, whereas the lower one third of the rectum and proximal anal canal are drained by both the inferior mesenteric nodes and the internal iliac nodes

EXAMINATION:

- Regardless of history → no definitive diagnosis can be made without careful examination of the anus and rectum → lateral position most common
- Tintinalli advocates for regular use of ANOSCOPY → I have never done it personally
- Thorough inspection of the perianal area
- A digital exam of the entire inner wall
 - In men palpate the prostate
 - In women, palpate the posterior vaginal wall for masses, rectocele or rectovaginal fistula
- Note anal tone and sensation

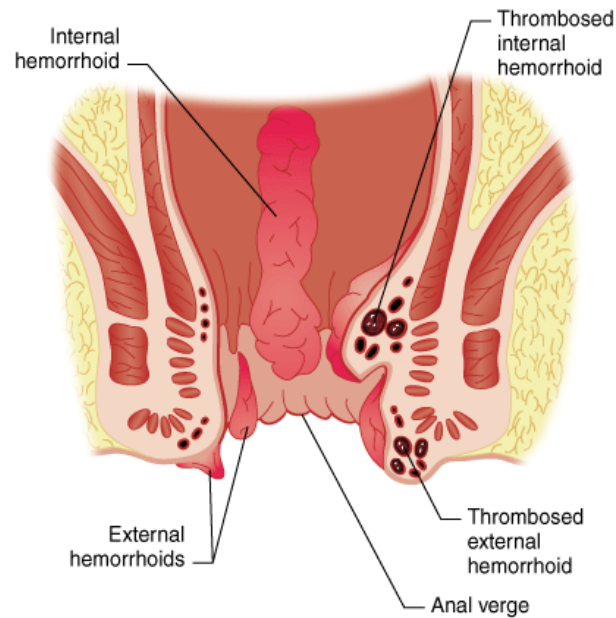
ANAL SKIN TAGS:

- Skin tags are minor projections of skin at the anal verge → sometime projections of prior haemorrhoids. Usually asymptomatic
- IBD may be associated



HAEMORRHOIDS:

- When the internal and external haemorrhoidal plexuses become excessively engorged, prolapsed or thrombosed → they are referred to as HAEMORRHOIDS
- INTERNAL HAEMORRHOIDS → proximal to the dentate line, course along the terminal branches of the superior rectal artery, constant in location longitudinally
- EXTERNAL HAEMORRHOIDS → located distal to the dentate line, form as a result of dilatation of veins at the anal verge and can be seen at external inspection



- There is an association between constipation and staining at stool, older age and frequent diarrhoea and the formation of haemorrhoids
- Haemorrhoidal veins can have high resting pressures, are devoid of valves and, with age, lose the supportive connective tissues
 - Pregnancy, portal hypertension can also produce marked dilatation
 - CONSIDER TUMOURS AS A CAUSE OF RECTAL BLEEDING IN PATIENTS >40

CLINICAL FEATURES:

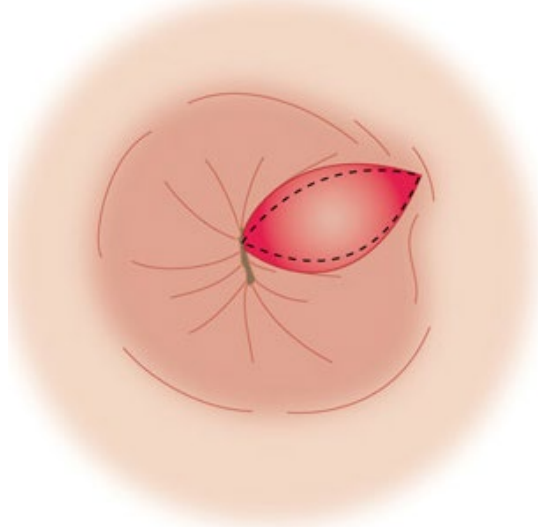
- **Bleeding is usually limited** → USUALLY JUST ON TISSUE WHEN WIPING.
- If patient describes passage of blood clots, colonic lesions should be suspected and investigated
- Unthrombosed external haemorrhoids are usually painless → if the patient complains of pain but haemorrhoids are NOT THROMBOSED → think perianal, intersphincteric abscesses or anal fissures
- Thrombosed external haemorrhoids are distal to the dentate line and pain can be quite severe at the time of defecation



- Uncomplicated internal haemorrhoids are painless due to visceral innervation and lack of sensory innervation → chief complaint is therefore PAINLESS, BRIGHT RED RECTAL BLEEDING WITH DEFEICATION

TREATMENT:

- Most treatment is local and non-surgical unless a complication such as acute thrombosis or gangrene is present
- REGULAR SITZ BATHS (15 minutes tds and after each bowel movement) → dry anus well after each bath.
- Topical analgesia
- Bulk laxatives and stool softeners → be careful as liquid stool can cause irritation, cryptitis and anal sepsis
- External haemorrhoidal haematoma formation is usually self-limiting, with resolution in 1 week
 - If thrombosis has been present >48 hours, is starting to shrink, the pain is tolerable → treat with sitz baths and laxative
 - If thrombosis is acute, lasted <48 hours and is extremely painful, then significant relief can be achieved by CLOT EXCISION (contraindicated in immunocompromised patients, children, pregnant women, those with portal HT or those with acquired/congenital coagulopathy)



- Complications of excision include continued bleeding, recurrence, infection, fistula and abscess formation → arrange follow up and referral for definitive haemorrhoidectomy
- Emergency surgery needed for continued and severe bleeding, incarceration and/strangulation and intractable pain

CRYPTITIS:

- Constipation/diarrhoea causes breakdown in the mucosal lining of crypts, which permits organisms to enter pockets and inflammation to extend into the lymphoid tissue

CLINICAL FEATURES:

- The locally inflamed crypts, initially produce a bead-like spot of pus with no symptoms → eventually oedematous swelling of the anoderm results with anal pain, spasm, itching with/without bleeding are the cardinal signs and symptoms of cryptitis

TREATMENT:

- Conservative goal of treatment is to control the trauma of abnormal bowel movements → bulk laxatives for soft stools and hot sitz baths to enhance healing by keeping anus clean and crypts empty

ANAL FISSURES:

- Result of a superficial linear tear of the anal canal beginning at or below the dentate line and extending to the anal verge
- Innervated by rich somatic sensory nerve fibres and hence fissures are the most common cause of painful rectal bleeding
- The fissure may become inflamed and form a perianal or intersphincteric abscess that drains into the anal canal
- In >90% cases, anal fissures occur in the midline posteriorly (anterior fissures much more common in women, up 10-40% cases)



- A nonhealing fissure, or one not located in the midline should arouse suspicion that another, potentially serious cause may be involved → Crohn, UC, anal SCC or adenocarcinoma → needs colonoscopy/anoscopy and biopsy
- Most often, the traditional midline anal fissure is caused by the trauma produced by passage of a particularly hard and large faecal mass

CLINICAL FEATURES:

- Acute, sharp and cutting pain is the most common symptom
- Typically the pain is most severe during and immediately after a bowel movement and subsides between movements
- Bleeding is bright red and small in quantity
- Patients may retain stool and avoid defecation
- Sphincter spasm may be so severe that the patient will not permit digital examination → use topical LA

TREATMENT:

- Aimed at providing symptomatic relief, relieving anal sphincter spasm and preventing stricture formation
- Sitz baths and bulk laxative
- Local analgesic ointments (+/- hydrocortisone)

glyceryl trinitrate 0.2% ointment 1 to 1.5 cm topically using a gloved finger inserted gently into the anal canal, 3 to 4 times daily.

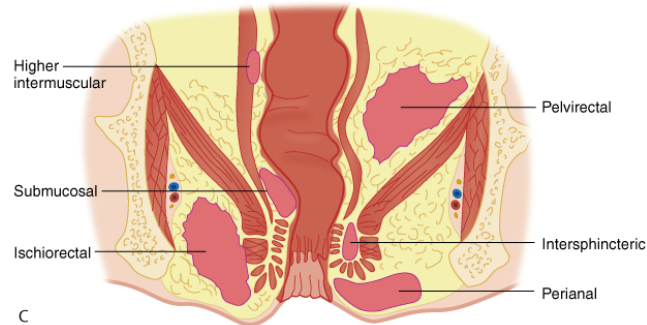
- Meticulous anal hygiene

FISTULA IN ANO:

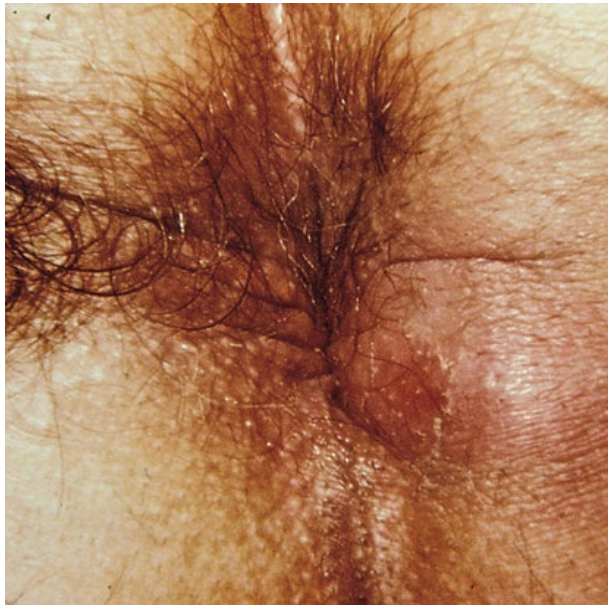
- An abnormal inflammatory tract, primarily originating from an infected anal gland at the dentate region → often connects anal canal with the skin and can result from perianal or ischiorectal abscess
 - Can also be associated with IBD, colonic malignancies, leukaemia or STD
- CLINICAL FEATURES:
 - As long as the fistulous tract remains open, there can be a persistent, painless, blood-stained, mucous, malodorous discharge → more commonly it becomes blocked, producing bouts of inflammation that are relieved by spontaneous rupture
- TREATMENT:
 - Analgesia, IV fluids and appropriate antibiotics, antipyretics with surgical consultation for eventual excision for those who are ill-appearing → discharge if well on ciprofloxacin and flagyl

ANORECTAL ABSCESS:

- Symptoms are pain and purulent discharge and almost all begin with involvement of the anal crypt
- Polymicrobial in origin → spread easily due to loose fatty areolar tissue.



- Perianal is most common and supralelevator abscess occurs least often
- Perianal abscess occurs close to anal verge, posterior midline and as a superficial tender mass (see below):
 - Isolated perianal abscess are not associated with deeper, perirectal abscesses and are generally the only form that may be safely/adequately treated in the ED



- Ischiorectal abscesses are second most common and tend to be larger, indurated, well circumscribed and are present MORE LATERALLY ON THE MEDIAL ASPECT OF THE BUTTOCKS
 - Usually the patient will exhibit swelling, fever and anorexia
 - Deeper perirectal abscesses may not manifest cutaneous but rectal pain and tenderness are invariably present
 - These deeper abscesses invariably require surgical consultation as they can be insidious and extensive
- CLINICAL FEATURES:
 - Anorectal abscesses are more common in early middle-aged males
 - Perianal abscesses are easily palpable at the anal verge, whereas deeper perirectal abscesses may be palpated through the rectal wall or more lateral to the anal verge, on the buttocks
 - Initially the patient notices a dull, aching or throbbing pain that becomes worse immediately before defecation

- Exacerbated by movement and sitting
- Perianal abscesses are not usually accompanied by fever, leukocytosis and sepsis in the immunocompetent patient
- As the abscess spreads, increases in size and comes nearer to the surface, the pain becomes more intense
- Ischiorectal abscesses are painful and may express fewer outward signs → as they become indurated and erythematous they are found more lateral to the anal verge compared with perianal abscess
- Intersphincteric abscesses exhibit pain with defecation associated with rectal discharge and fever and a tender mass on PR
- Supralelevator abscesses, in contrast, often present with few outward signs as the patient complains of buttock or perirectal pain → fever, leukocytosis and urinary retention with tender inguinal adenopathy often a clue to these deeper abscesses
- TREATMENT:
 - Treatment of perirectal abscesses is incision and drainage → all but perianal should be drained in OT
 - To ensure adequate drainage, a cruciate incision can be made over the fluctuant part of the abscess to prevent closure
 - As a rule, in healthy patients, antibiotics are not necessary after adequate drainage → but elderly, patients with fevers, ↑WCC, valvular heart diseases, cellulitis or immunosuppression should receive broad spectrum antibiotics

PROCTITIS:

- Inflammation of the rectal mucosa that can develop from multiple causes → radiation, autoimmune disorders, vasculitis, ischaemia, infectious diseases (STD)
- CLINICAL FEATURES:
 - Depends on the cause → anorectal pain, itching, discharge, diarrhoea, PR bleeding or lower abdominal pain
 - CONDYLOMATA ACUMINATA → HPV, anal warts → pain, itching, bleeding, discharge. Screen for other STD (including HIV). Need surgical excision in many cases and recurrence is high.
 - GONORRHOEA → severe rectal pain with profuse yellow discharge. Treat with IM ceftriaxone plus azithromycin or doxycycline 100mg bd for 7 days.
 - CHLAMYDIA → can be Lymphogranuloma venereum or Chlamydia trachomatis → can manifest as abscess or fistulas.. Treat as per gonorrhoea.
 - SYPHILIS → anal chancres difficult to diagnose → often passed off as simple fissure → treat with IM penicillin for one dose or doxycycline 100mg bd.
 - HERPES → almost always caused by HSV type 2 → itching/soreness then vesicles that rupture and cause exquisitely tender ulcers on anal mucosa → constipation/impaction common. Treat with stool softeners, analgesia and acyclovir.

- TREATMENT → STOOL SOFTENERS, SITZ BATHS, ANALGESIA AND CAREFUL ANAL HYGIENE → empiric therapy aimed at eradicating gonorrhoea, Chlamydia, syphilis

RECTAL PROLAPSE:

- Circumferential protrusion of part or all layers of the rectum through the anal canal → painless, maroon-coloured protruding mass
 - Complete rectal prolapse most common in the extremes of life → particularly elderly women with pelvic floor disorders
- CLINICAL FEATURES:
 - Most patients are able to detect the presence of a mass, especially after defecation
 - If more advanced cases → develop on standing or walking
 - Mucous discharge and bleeding common and associated with faecal incontinence



- TREATMENT:
 - In young kids, after appropriate sedation → attempt manual reduction by spreading the buttocks and then replacing the protruding mucosa proximal to the anorectal ring
 - Ensure prevention of constipation
 - Ensure follow up of kids to rule out cystic fibrosis, polyps, diarrhoea, malnutrition
 - Refer for outpatient colonoscopy
 - Reduction much more difficult after rectal walls become oedematous and prolonged prolapse may lead to venous engorgement, thrombosis, superficial ulcerations, rectal incarceration, strangulation and ischaemia
 - Can use granulated sugar to decrease oedema and aid reduction
 - If prolapse cannot be reduced, is severe, recurs after reduction or if ischaemia or gangrene is suspected → emergency surgical consultation for consideration of RECTOPEXY

ANORECTAL TUMOURS:

- Carcinoma of the anal areas is UNCOMMON → RF include smoking anal intercourse, HIV, HPV exposure
- Broken down into anal margin vs anal canal
 - Anal canal more virulent and metastasise to perirectal nodes and mesenteric/paravertebral LN via portal circulation
 - Anal margin metastasise to femoral and inguinal lymph nodes
- CLINICAL FEATURES → pruritus, pain and bleeding admixed with stool but may be asymptomatic → PROGRESION HERALDED BY ANOREXIA, BLOATING, WEIGHT LOSS, DIARRHOEA, CONSTIPATION, AND EVENTUALLY TENESMUS.
 - Any ulcer that fails to heal within 30 days or any discrete skin lesion that fails to improve must be biopsied to rule out presence of malignancy
- TREATMENT → surgical consultation for biopsy/excision as appropriate

RECTAL FOREIGN BODIES:

- Patients may not initially be forthcoming with accurate historical information → most foreign bodies are in the rectal ampulla and palpable on PR
- Injuries may result with prolonged FB placement → haematoma, lacerations, perforation, ischaemia
- Perforation of the rectum or colon is a serious complication → if below the peritoneal reflection often causes retroperitoneal injuries. If it occurs above the peritoneal reflection → intraperitoneal free air on x-ray or CCT.
 - Both can cause life-threatening sepsis, although perforation below the peritoneal reflection may be managed more conservatively
- TREATMENT:
 - Many require surgical intervention → especially if they are sharp or made of glass
 - After anal lubrication with the aid of obstetric forceps ask the patient to assist extraction by bearing down → if successful observe for at least 12 hours → laceration may require repair
 - Emergency colonoscopy may be required if unable to remove FB
 - Surgical consultation is a last resort after all attempts have failed
 - If there is a risk of ischaemia, perforation or if excess manipulation will be needed to removed the FB → emergency surgery required

PRURITUS ANI:

- A symptom complex that occurs secondary to a variety of anal and systemic problems

Table 88-4 Some Causes of Pruritus Ani

Anorectal disease
Dietary factors
Local infection
Local irritants
Dermatologic conditions
Systemic illness
Psychogenic factors



- Superinfection with staph or strep
- Local irritants can worsen pruritus → faecal contamination and poor anal hygiene
- CLINICAL FEATURES:
 - Perianal skin will appear reddened, oedematous, excoriated and moist
- TREATMENT:
 - Treat underlying cause
 - Add fibre to diet (Metamucil)
 - Hydrocortisone cream (1%)

PILONIDAL SINUS:

- Occur in the midline in the upper part of the natal cleft, which overlies the lower sacrum and coccyx → superimposed infection common and leads to pilonidal abscess



- Pilonidal sinus is an acquired problem that usually forms by penetration of the skin by ingrowing hair which causes a foreign body granuloma
- Treatment is I&D → extent of abscess is often much larger than appreciated
- Antibiotics only needed if cellulitis is present

RECTOVAGINAL FISTULA:

- Symptoms of malodorous vaginal discharge or frank faeces from vagina
- Many causes → lower rectal and anal canal abuts along posterior vagina

Table 88-5 Causes of Rectovaginal Fistulas
Gynecologic or surgical trauma or foreign body
Pelvic irradiation
Local infection
Congenital
Gynecologic malignancies
Leukemia
Inflammatory bowel disease

- Surgical consult required after diagnosis (usually by CT)