



## **Anorectal Emergencies**

Like it or not, patients will come to you with anorectal problems. They are common, and some are serious. Some may seem serious only to the patient. Many may be diagnosed on clinical grounds alone. The lecturer will review the spectrum of illnesses focusing in diagnosis and emergency department management. Criteria for specialty consultation are also discussed.

- Recognize the broad range of anorectal problems.
- Discuss the emergency management of hemorrhoids and abscesses.
- List indications for specialty consultation.

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## **FACULTY**

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# ANORECTAL EMERGENCIES

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## Introduction

History and Physical should elucidate diagnosis. Perform in a private area with attention to patient's modesty.

Position in left lateral decubitus position or prone-jack-knife position.

- Inspect buttocks for dermatologic disease and perianal area for hygiene or anatomic disruptions.
- Insert well-lubricated finger into anus. Assess sphincter tone by asking patient to squeeze. Check for masses, tone, cervix or prostate, prolapse during straining.

<b><u>THE MEDICAL HISTORY</u></b>
<b>Anorectal History</b>
<ul style="list-style-type: none"><li>-Pain</li><li>-Bleeding</li><li>-Swelling</li><li>-Itching</li><li>-Discharge</li></ul>
<b>Gastrointestinal History</b>
<ul style="list-style-type: none"><li>-Change in Bowel Habits (straining, flatus, color, consistency, frequency)</li><li>-Nausea or Vomiting</li><li>-Incontinence of Stool</li><li>-Underlying GI disease (Crohn's, Cancer, Polyps)</li></ul>
<b>Systemic Disease History</b>
<ul style="list-style-type: none"><li>-Diabetes mellitus</li><li>-Coagulopathy</li><li>-Cancer</li><li>-HIV</li></ul>
<b>Sexual History of the Anus</b>
<ul style="list-style-type: none"><li>-Penetration</li><li>-Known STD's</li></ul>

## **Anatomy and Physiology**

### **Vasculature:**

Superior hemorrhoidal artery (from inferior mesenteric artery)

Middle hemorrhoidal artery (from internal iliac artery)

Inferior hemorrhoidal artery (from internal pudendal artery)

### **Nerves:**

Sympathetic/parasympathetic

Sympathetic L1-L3 and presacral nerves maintain continence by smooth muscle inhibition.  
S2-S4 parasympathetic fibers enable elimination.

Voluntary sphincter control: Motor branches of S2-4

## **Hemorrhoids**

First described in I Samuel as a plague bestowed on the Philistines for defeating the Israelites.  
Later, Napoleon's defeat is attributed to a hemorrhoidal flare-up.

### **CLASSIFICATION OF INTERNAL HEMORRHOIDS BY SEVERITY**

<u>Type</u>	<u>Prolapse</u>	<u>Mode of Reduction</u>	<u>Treatment</u>
1st Degree	None	N/A	Medical management
2nd Degree	During Defecation	Spontaneous	Medical management Optional surgical repair
3rd Degree	May be spontaneous or during defecation	Manual	Medical management Optional surgical repair
4th Degree	Permanently	Irreducible	Surgical repair

### **TYPES OF HEMORRHOIDS**

<u>Type</u>	<u>Origin</u>	<u>Epithelium</u>
External	-Inferior hemorrhoidal plexus -External to dentate line	-Modified squamous epithelium-anoderm
Internal	-Superior hemorrhoidal plexus -Distal to dentate line	-Transitional or columnar epithelium (mucosa)
Mixed	-Superior and inferior hemorrhoidal plexi -Proximal and/or distal to dentate line	-Transitional, columnar, or modified squamous epithelium (mucosa and anoderm)

### **The WASH Regimen**

- W** Warm Water
- A** Analgesics
- S** Stool Softeners
- H** High Fiber Diet

### **SURGICAL MANAGEMENT OF HEMORRHOIDS**

Thrombosed External Hemorrhoids	Excision in Emergency Department
2nd & 3rd Degree Internal Hemorrhoids	Elective Surgical Repair <ul style="list-style-type: none"><li>-Banding</li><li>-Sclerotherapy</li><li>-Hemorrhoidectomy</li></ul>
4th Degree Hemorrhoids (Non-Thrombosed)	Non-Emergent Hemorrhoidectomy
Thrombosed or Gangrenous 4th Degree Internal Hemorrhoids	Emergent Hemorrhoidectomy

## **ANAL FISSURES**

Sudden onset of intensely painful rectal bleeding. Superficial tear in anoderm with passage of hard piece of feces.

Most common in 30-50 year olds. Is the most common pediatric anorectal complaint, especially in infants.

Most benign fissures (90-95%) are found in midline,, especially posteriorly

Ectopic fissures should alert physician to Crohn's disease, HIV, tuberculosis, leukemia, syphilis.

Fissures that are not treated promptly may develop into chronic fissures with inflammation and a "sentinel pile."

Patients are reluctant to defecate as it is painful. They should get analgesics and use the WASH regimen.

Most fissures heal in 2-4 weeks.

## **ABSCESES AND FISTULAS**

First documented by Hippocrates in 5th century B.C. King Louis XIV was first famous sufferer.

Incidence: Men>Women (7:1)

Abscesses form when glands in the anal crypts become clogged and bacteria grow. (90% of abscesses)

The other 10% result from IBD, CA, trauma, radiation, infection (bacteria, TB, LGV, actinomycosis).

## **FISTULAS**

The chronic manifestation of a continuum of anorectal soft tissue infections

Do not probe in ED since a fistulous tract could be created.

Definitive management of fistulae is surgical.

34% of AIDS patients have abscesses or fistulae, many are infected with opportunistic agents.

This complaint may be their first presentation to a doctor, so consider HIV testing.

## TYPES OF ABSCESES

	Perianal	Ischiorectal	Intersphincteric	Supralelevator	Postanal
<b>Incidence</b>	40 - 45%	20 - 25%	20 - 25%	<5%	5 – 10%
<b>Location</b>	Outside anal verge	Buttocks	Lower Rectum	Above levator ani	Deep to external sphincter
<b>Symptoms</b>	Painful perianal mass	Buttock pain	Rectal fullness	Perianal and buttock pain	Rectal fullness Pain near coccyx
<b>Fever, ↑WBC</b>	-	+/-	+/-	+	+
<b>Associated fistula</b>	++	+	+++	+++	-
<b>ED I&amp;D</b>	+	+/-	-	-	-

## PILONIDAL DISEASE

First described in 1847 *pilus* = hair, *nidus* = nest. Made famous in WWII as "Jeep driver's disease."

### Incidence

Male>female (4:1)

Worst in hirsute, obese people.

Rare in people >40 yrs old, *even if previously afflicted!*

May be more common in people with hair in other midline areas (check eyebrows)

### Origin

Arise in **midline** of sacrum.

There is a great debate as to the origin: congenital vs. acquired. Most arguments favor the acquired etiology.

Acquired Etiology of Pilonidal cysts: Bacteria enter hair follicles in sweaty environment and multiply and produce inflammation and edema. Then the follicles rupture and bacteria spread to other follicles.

#### Differential diagnosis

Abscess, hidradenitis, granulomatous disease (TB, syphilis).

#### ED Treatment

I&D in a longitudinal fashion **OFF THE MIDLINE**. Remove hairs and cellular debris.

Stress the importance of hygiene.

Some people recommend shaving the entire area every three weeks to prevent recurrence.

### **HIDRADENITIS SUPPURATIVA**

First described in 1839 - *hydros* = sweat (water); *aden* = gland.

#### Incidence

It is most common in young adults who are obese and have poor hygiene.

#### Origin

May be related to DM and smoking.

The cause is occluded apocrine ducts.

Usually present with multiple lesions and have local lymphadenopathy.

#### Treatment

High recurrence rate.

Antibiotics to cover skin flora are helpful if surrounding cellulitis is noted.

Surgical treatment is definitive for advanced cases

### **PROCTALGIA FUGAX**

Intensely painful spasm in rectum of "type A" personality people.

Begins abruptly during sleep, intercourse, or defecation.

Lasts < 30 minutes and may radiate to coccyx.

Treatment is unrewarding, but includes benzodiazepines, manual pressure on anus, NTG.



## **PRURITIS ANI**

Definition – Perianal Itching

Etiology – Dermatitis, Systemic Disease, Infection

### Dermatitis

#### Fecal Irritation

Poor hygiene

Anorectal conditions – e.g., fissure, fistula, hemorrhoids, skin tags, perianal clefts

#### Systemic Irritation

Foods – e.g., caffeine, tea, beer, spicy foods, citrus fruits

Medications – e.g., quinidine, IV hydrocortisone, colchicine, tetracycline

#### Contact Dermatitis

Anesthetic agents, topical corticosteroids, perfumed soap

### Systemic Diseases

Dermatologic - Psoriasis, seborrhea, lichen simplex, lichen sclerosis

Non-dermatologic - Chronic renal failure, myxedema, diabetes mellitus, thyrotoxicosis, polycythemia vera

Vitamin A or D deficiency, Iron deficiency

Cancer – Bowen's, Paget's, Hodgkin's diseases

### Infectious Agents

Sexually transmitted diseases – e.g., syphilis, herpes simplex virus, human papilloma virus

Other – e.g., scabies, pinworm, bacterial infection, fungal infection

Treatment of Pruritis ani is to stress the importance of hygiene and to modify habits which exacerbate symptoms.

-Pinworms - Diagnose with scotch tape. Treat with mebendazole 1 gm po or pyrantel pamoate (Vermox) 1 gm po (11mg/kg in children)

-Scabies and pediculosis pubis may be treated with lindane topically.

-Fungal infections can be treated with clotrimazole

Underlying anatomic problems can be corrected to improve symptoms (fissures, skin tags, etc.)

## **PROCIDENTIA**

Rectal prolapse may be complete (all layers of bowel) or partial and is common in the extremes of age. It is more common in females and may be associated with cystocele and prolapsed vaginal contents. Treatment is surgical, although temporary relief may be derived by manual

reduction in the ED.

**SEXUALLY TRANSMITTED DISEASES OF THE ANORECTUM**

<b><u>TYPE</u></b>	<b><u>FINDINGS</u></b>	<b><u>TREATMENT</u></b>
<b><u>Ulcerative</u></b>		
Lymphogranuloma venereum (LGV)	-Unilateral inguinal adenopathy -Fever, malaise -Mucoid or bloody discharge	-Doxycycline 100 mg PO BID x 21 days -If pregnant or allergic to tetracyclines: Erythromycin 500 mg PO QID x 21 days
Herpes simplex virus (HSV)	-Rectal pain, tenesmus, constipation -Bloody, mucoid discharge -Vesicles and ulcerations -Fever, malaise, myalgias, paresthesias	-First episode: Perianal: Acyclovir 400 mg PO TIDx7-10 d Proctitis: Acyclovir 800 mg PO TIDx7-10 d -Recurrent: Acyclovir 400 mg PO TID x 5 days
Early (primary) syphilis	-Chancre -Tenesmus, pain, mucoid discharge -Inguinal lymphadenopathy	-Benzathine Penicillin G: 2.4MU IM x 1 -Alternatives:- Doxycycline, Erythromycin
Chancroid ( <i>H. ducreyi</i> )	-Inflammatory lesion progresses to ulcer -Inguinal adenitis – bubo	-Erythromycin 500 mg PO QID x 7 days <i>or</i> -Ceftriaxone 250 mg IM x 1 <i>or</i> -Azithromycin 1 gram PO once
Cytomegalovirus (CMV)	-Tenesmus, diarrhea, weight loss	-Gangcyclovir with appropriate disposition
Idiopathic (usually HIV+)	-Eccentric, deep, poor healing, multiple	-Symptomatic relief or surgical referral
<b><u>Non-ulcerative</u></b>		
Condyloma acuminata	-Keratinized vegetative growths in anus or skin -Asymptomatic or pruritis ani and/or bleeding	-Podophyllin topically for limited involvement
Gonorrhea ( <i>N. gonorrhoea</i> )	-Pruritis ani -Tenesmus -Purulent yellow discharge	-Ceftriaxone 250 mg IM once -Alternatives: cefixime, ofloxacin, ciprofloxacin - Pregnant – spectinomycin 2 g IM <i>plus</i> erythromycin 500 mg PO QID x 7 days
Chlamydia ( <i>C. trachomatis</i> )	-Mucoid or bloody discharge -Tenesmus	-Doxycycline 100 mg PO x 7 days <i>or</i> -Azithromycin 1 gram PO once -Pregnant-Erythromycin 500 mg PO QID x 7d
Syphilis (secondary)	-Maculopapular rash -Condyloma latum	-Benzathine Penicillin G 2.4 MU IM x 1 -Alternatives: Doxycycline or Erythromycin



## **ANORECTAL LESIONS IN THE HIV PATIENT**

Common conditions	Anal fissure Abscess and fistula Hemorrhoids Pruritis ani Pilonidal disease
Common STD's	G/C, Chlamydia Herpes Chancroid Syphilis Condyloma acuminata
Atypical Conditions Infectious Neoplastic Other	TB, CMV, Actinomycosis, Cryptococcus Lymphoma, Kaposi's sarcoma, Squamous Cell CA Idiopathic Anal Ulcer

## **ANORECTAL FOREIGN BODIES**

May be ingested orally (toothpicks, fish bones) or anally: Accidental e.g. pediatric rectal thermometer

For erotic purposes - could be any type of item from household objects to pets. Most of these patients come in with a creative story. Try to be professional and sensitive to their plight.

By assault - Always consider the possibility of assault and refer to police as necessary.

Removal may be attempted in cases where a grasp can be made on object. Do not remove broken glass or objects beyond the rectum. If the patient tolerates it, use benzodiazepines and foley or clamp and ask patient to Valsalva. (i.e. patient must be awake and cooperative.)

Bassford, T, Treatment of common anorectal disorders, *Am Fam Phys*, 45(4):1787-1794, 1992.  
Brem H, Guttman FM, Laberge JM, et al: Congenital anal fistula with normal anus, *J Pediatr Surg*, 24:183-185, 1989.  
Brenner BE, Simon RR: Anorectal emergencies, *Ann Emerg Med*, 12(6):367-376, 1983.  
Burnstein M, Managing anorectal emergencies, *Can Fam Phys*, 39(8):1782-1785, 1993.  
Cataldo PA, Senagore A, Luchtefeld MA: Intrarectal ultrasound in the evaluation of perirectal abscess, *Dis Colon Rectum*, 36:554-558, 1993.  
Corfitsen MT, Hansen CP, Christensen TH, et al: Anorectal abscesses in immunocompromised patients, *Eur J Surg*, 158:51-53, 1992.  
Duhamel J: Anal fistulae in childhood, *Am J Proctol*, 26:40-43, 1975.  
Halvorson GD, Halvorson JE, Iserson KV: Abscess incision and drainage in the emergency department, part 2, *J Emerg Med*, 3:295-305, 1985.  
Hancock BD, Anal fissures and fistulas, *BMJ*, 304(4):904-907, 1992.  
Ramanujam PS, Prasad ML, Abcarian H, et al: Perianal abscesses and fistulas, *Dis Colon Rectum*, 27:593-597, 1984.  
Seow-Choen F, Nicholls RJ: Anal fistula, *Br J Surg*, 79(3):197-205, 1992.  
Stahl TJ: Office management of common anorectal problems, *Postgrad Med*, 92(2):141-154, 1992.  
Vasilevsky CA: Fistula in ano and abscess, in Beck DE, Wexner SD, editors, *Fundamentals of anorectal surgery*, New York, 1992, McGraw Hill.

#### Anatomy and Physiology

Moore KL: *Clinically oriented anatomy*, Baltimore, 1981, Williams & Wilkins.  
Pemberton JH: Anatomy and physiology of the anus and rectum. In Beck DE, Wexner SE, editors: *Fundamentals of anorectal surgery*, New York, 1992, McGraw-Hill.

#### Foreign Bodies

Busch DB, Starling JR: Rectal foreign bodies: case reports and a comprehensive review of the world's literature. *Surgery*, 100:512-519, 1986.  
Campbell JK: Case report: a case of rectal perforation by foreign body presenting as pyrexia of unknown origin, *J R Nav Med Serv*, 78(1):13-15, 1992.  
Clarkston WK: Gastrointestinal foreign bodies. When to remove them, when to watch and wait, *Postgrad Med*, 92(5):46-48, 1992.  
Fletcher EC, Varon J: Intestinal obstruction: the marble effect, *Am J Emerg Med*, 11(3):317, 1993.  
Fry RD: Anorectal trauma and foreign bodies, *Surg Clin North Am*, 74(12):1491-1505, 1994.  
Lyons MF, Tsuchida AM: Foreign bodies of the gastrointestinal tract, *Med Clin North Am*, 77(5):1101-1114, 1993.  
Stokes M, Jones DJ: Colorectal trauma, *BMJ*, 305(12):649, 1992.  
Thomson SR, et al: Iatrogenic and accidental colon injuries - what to do? *Dis Colon Rectum*, 37(5):496-502, 1994.  
Yaman M, et al: Foreign bodies in the rectum, *Can J Surg*, 36(2):91, 1993.

#### Fissures

Bassford T: Treatment of common anorectal disorders, *Am Fam Phys*, 45(4):1787-1794, 1992.  
Brenner BE, Simon RR: Anorectal emergencies, *Ann Emerg Med*, 12(6):367-376, 1983.  
Fleshman JW: Fissure in ano and anal stenosis. In Beck DE, Wexner SD, editors: *Fundamentals of anorectal surgery*, New York, 1992, McGraw Hill.  
Hancock BD: Anal fissures and fistulas, *BMJ*, 304(4):904-907, 1992.  
Jensen SL: Treatment of first episodes of acute anal fissure: prospective randomized study of lignocaine ointment versus hydrocortisone ointment or warm sitz bath plus bran, *BMJ*, 292:1167-1169, 1986.  
Matt JG: Proctologic problems in infants and children: an analysis of 308 cases, *Dis Colon Rectum*, 3:511-522, 1960.  
Petros JG, Rimm EB, Robillard RJ: Clinical presentation of chronic anal fissures, *American Surgeon*, 59(10):666-668, 1993.  
Recamier JCA. Quoted in Goodsall OH, Miles WE: *Diseases of the anus and rectum*, London, 1900, Langmans.  
Rosen L, Abel ME, et al: Practice parameters for the management of anal fissure, *Dis Colon Rectum*, 35(2):206-208, 1992.  
Stahl TJ: Office management of common anorectal problems, *Postgrad Med*, 92(2):141-154, 1992.  
Whalen TV, Lieutenant MC, Kovalcik PJ et al: Tuberculous anal ulcer, *Dis Colon Rectum*, 23:54-55, 1980.

#### History and Physical

Jones DJ, Irving MH: ABC of colorectal diseases, *BMJ* 304(6832):974-977, 1992.  
Bassford T: Treatment of common anorectal disorders, *Am Fam Phys*, 45(4):1787-1794, 1992.  
Jones R, Farthing M: The management of rectal bleeding, *BJCP*, 47(3):155-158, 1993.  
Levine DS: Colonic and anorectal disorders: diagnosis and treatment, *Geriatrics*, 47(10):22-36, 1992.  
Stahl TJ: Office management of common anorectal problems, *Postgrad Med*, 92(2):141-154, 1992.

#### Hemorrhoids

Bassford T: Treatment of common anorectal disorders, *Am Fam Phys*, 45(4):1787-1794, 1992.  
Brenner BE, Simon RR: Anorectal emergencies, *Ann Emerg Med*, 12(6):367-376, 1983.  
Burnstein M: Managing anorectal emergencies, *Can Fam Phys*, 39:1782, 1993.  
Corman ML: *Colon and rectal surgery*, ed 3, Philadelphia, 1993, Lippincott.  
Hancock BD: Haemorrhoids, *BMJ*, 304:1042-1044, 1992.  
Heaton ND, Davenport M, Howard ER: Incidence of haemorrhoids and anorectal varices in children with portal hypertension, *Br J Surg*, 80:616-618, 1993.  
Heaton ND, Davenport M, Howard ER: Symptomatic hemorrhoids and anorectal varices in children with portal hypertension, *J Pediatr Surg*, 27(7):833-835, 1992.  
Hosking SW et al.: Anorectal varices, haemorrhoids, and portal hypertension, *Lancet*, 1:349, 1989.  
Johanson JF, Sonnenberg A: The prevalence of hemorrhoids and chronic constipation. An epidemiologic study, *Gastroenterology*, 98:380-386, 1990.  
Jones R, Farthing M: The management of rectal bleeding, *BJCP*, 47(3):155-158, 1993.

Loder PB, et al.: Haemorrhoids: pathology pathophysiology and aetiology, *Br J Surg*, 81:946-954, 1994.  
Nelson RL: Temporal changes in the occurrence of hemorrhoids in the United States and England, *Dis Colon Rectum*, 34:591-593, 1991.  
Parks AG: De haemorrhoids: study in surgical history. In Loder PB, et al.: Haemorrhoids: pathology pathophysiology and aetiology, *Br J Surg*, 81:946-954, 1994.  
Stahl TJ: Office management of common anorectal problems, *Postgrad Med*, 92(2):141-154, 1992.  
Thomson WHF: The nature of haemorrhoids, *Br J Surg*, 62:542, 1975.  
Welling DR, Wolff BG, Dozois RR: Piles of defeat: Napoleon at Waterloo, *Dis Colon Rectum*, 31:303-305, 1988.

#### Incontinence

Henry MM, Parks AG, Swash M: The anal reflex in idiopathic faecal incontinence: an electrophysiological study, *Br J Surg*, 67: 781-783, 1980.  
Matt JG: Proctologic problems in infants and children: an analysis of 308 cases, *Dis Colon Rectum*, 3:511-522, 1960.  
Schaarschmidt K, Willital GH: Intraanal ultrasound: A new aid in the diagnosis of pelvic processes and their relation to the sphincter complex, *J Pediatr Surg*, 27(5):604-608, 1992.

#### Pilonidal Disease and Hidradenitis Suppurativa

Allen-Mersch TG: Pilonidal sinus: finding the right track for treatment, *Br J Surg*, 77:123, 1990.  
Anderson AW: Hair extracted from an ulcer, *Boston Med Surg J*, 37:74, 1847.  
Armstrong JH, Barcia PJ: Pilonidal sinus disease. The conservative approach, *Arch Surg*, 129(9):914-919, 1994.  
Bascom J: Pilonidal disease: long term results of follicle removal, *Dis Colon Rectum*, 26:800, 1983.  
Bascom J: Pilonidal disease: origin from follicles of hairs and results of follicle removal as treatment, *Surgery*, 87:567, 1980.  
Fuzun M, Bakir H, Soylu M, et al: Which technique for treatment of pilonidal sinus - open or closed? *Eur J Surg*, 158(6-7):351-355, 1992.  
Haworth JC, Zachary RB: Congenital dermal sinuses in children-their relation to pilonidal sinus, *Lancet*, 2:10-14, 1955.  
Paletta C, Jurkiewicz MJ: Hidradenitis suppurativa, *Clin Plast Surg*, 14:383-390, 1987.  
Patey DH, Scarff RW: Pathology of postanal pilonidal sinus. Its bearing on treatment, *Lancet*, 2:484-486, 1946.  
Purkiss SF: Decision making in surgery: A pilonidal sinus, *Eur J Surg*, 159(10):555-558, 1993.  
Standards Task Force of the American Society of Colon and Rectal Surgeons: Practice Parameters for ambulatory anorectal surgery, *Dis Colon Rectum*, 34:285, 1991.  
Velpieu A, Verneuil A. Quoted by Paletta C, Jurkiewicz MJ: Hidradenitis suppurativa, *Clin Plast Surg*, 14:383-390, 1987.  
Zimmerman CE: Outpatient excision and primary closure of pilonidal cysts and sinuses, *Am J Surg*, 136:640, 1978.

#### PROCIDENTIA

Corman ML: Rectal prolapse in children, *Dis Colon Rectum*, 28:535-539, 1985.  
Levine DS: Colonic and anorectal disorders: diagnosis and treatment, *Geriatrics*, 47(10):22-36, 1992.  
Matt JG: Proctologic problems in infants and children: an analysis of 308 cases, *Dis Colon Rectum*, 3:511-522, 1960.

#### Proctalgia

Brenner BE, Simon RR: Anorectal emergencies, *Ann Emerg Med*, 12(6):367-376, 1983.  
Harvey RF: Colonic motility in proctalgia fugax, *Lancet*, 2:713-714, 1979.  
Karras JD, Angelo G: Proctalgia fugax, *Am J Surg*, 82:618-622, 1951.  
Pilling LF, Swensen WM, Hill JR: The psychologic aspects of proctalgia fugax, *Dis Colon Rectum*, 8:372-376, 1965.

#### Pruritis Ani

Brassford TS: Treatment of common anorectal disorders, *Am Fam Physician* 45(4):1787-94, 1992.  
Brenner BE, Simon RR: Anorectal emergencies, *Ann Emerg Med* 12(6):367-376. Caplan RM: The irritant role of feces in the genesis of perianal itch, *Gastroenterology* 50:19-23, 1966.  
Hanno R, Murphy P: Pruritis Ani, *Derm Clinics* 5:(4) 811-816, 1987.  
Jones DJ: Pruritis ani, *BMJ* 305(9):575-577, 1992.  
Levshin LL: Anorectal symptoms of emotional origin, *Dis Colon Rectum* 4:399-402, 1961.  
Marks MM: The influence of intestinal pH on anal pruritis, *South Med J* 61:1005-1006, 1968.  
Smith LE, Henrichs D, McCullah RD: Prospective studies on the etiology and treatment of pruritis ani. *Dis Colon Rectum* 25:358-363, 1982.  
Stoltz E, Vuzevski VD, van der Stek J: Gen perianal skin problems, *Neth J Med* 37(suppl 1):S43-46.  
Sullivan ES, Garnjobst WM: Pruritis ani: a practical approach, *Surg Clin North Am* 58:505-512, 1978.

#### STD's

Abramowitz M, editor, Drugs for sexually transmitted diseases, *The medical letter*, 36(913):1-6, 1994.  
Bassi O, et al, Primary syphilis of the rectum - endoscopic and clinical features, *Dis Colon Rectum*, 34(11):1024-1026, 1991.  
Beck DE, Jaso RG, Zajac RA: Proctologic management of the HIV-positive patient. *South Med J*, 83:900-903, 1990.  
Corfitsen MT et al: Anorectal abscesses in immunocompromised patients, *Eur J Surg*, 158:51, 1992.  
Dennis BJ, May T, Bigard M, et al: Anal and perianal diseases in symptomatic HIV infections. A prospective study in 190 patients, *Gastroenterol Clin Biol*, 16:148-

154, 1992.

Holmes KK, Mårdh PA, Sparling PF, et al, editors, *Sexually transmitted diseases*, ed. 2, New York, McGraw Hill, 1990.

Jones DJ, Goorney BP: Sexually transmitted diseases and anal papillomas, *BMJ*, 305(10):820-823, 1992.

Kazal HL, Sohn N, Carrasco JL, et al: The gay bowel syndrome: clinicopathologic correlation in 260 cases, *Am Clin Lab Sci*, 6:184-192, 1976.

Law CLH, Qassin M, Cunningham AL, et al: Nonspecific proctitis: Association with human immunodeficiency virus infection in homosexual men, *J Infect Dis*, 165:150-154, 1992.

Miles AJG, Connolly GM, Barton SE, et al: Persistent ulceration of the anal margin in homosexuals with HIV infection, *J R Soc Med*, 84:87-88, 1991.  
*MMWR*, 42(10):806, 1993.

Orkin BA, Smith LE: Perineal manifestations of HIV infection, *Dis Colon Rectum*, 35(4):310-314, 1992.

Revision of the CDC surveillance case definition for acquired immunodeficiency syndrome, *MMWR*, 36(supp):15-15s, 1987.

Viamonte M, Dailey TH, Gottesman L: Ulcerative disease of the anorectum in the HIV+ patient, *Dis Col Rectum*, 36(9): 801-805.

Wexner SD: Sexually transmitted diseases of the colon, rectum, and anus. The challenge of the nineties, *Dis Colon Rectum*, 33:1048-1062, 1990.

Wilcox CM, Schwartz DA: Idiopathic anorectal ulceration in patients with human immunodeficiency virus infection, *Am J Gastroent*, 89(4):599-604.