

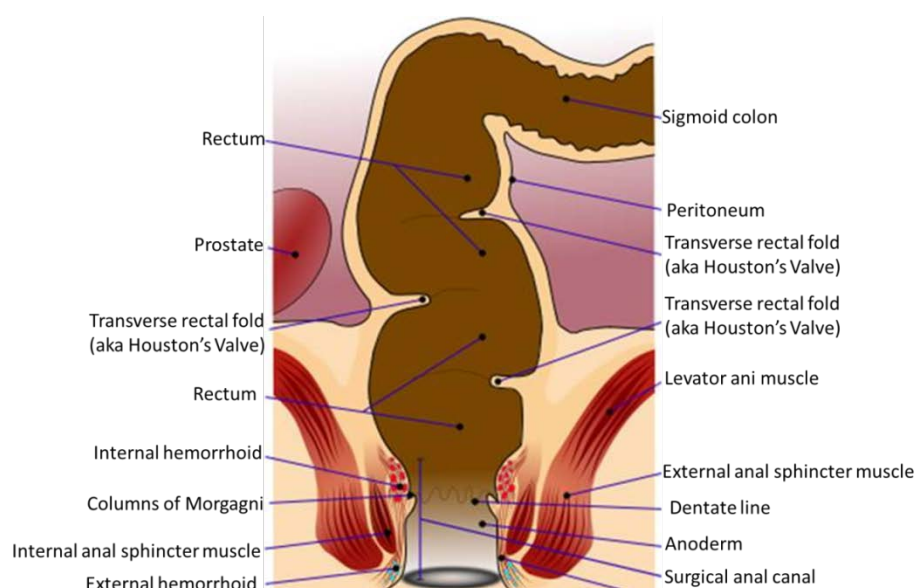
## PERIANAL PROBLEMS

### INTRODUCTION

Understanding the perianal anatomy and histology can help a physician to understand how patients presenting with perianal symptoms can generate a list of differentiate diagnoses. Combined with a careful exam, the anatomy can guide one to the correct diagnosis and then proper treatment. In this module, you will learn the basics of anatomy and anorectal physiology, the various diagnostic modalities, how to do a careful anorectal exam, and the management of basic benign and malignant disorders of the anus. Acquiring this knowledge will help to lead you to the correct diagnosis or at least to an accurate list of differential diagnoses.

### ANATOMY AND PHYSIOLOGY

The dentate line separates the anatomic anal canal from the rectum and forms a natural histologic boundary. The anal canal is lined by stratified squamous epithelium and, therefore, appears similar to the surrounding perianal skin. It receives its innervation from the inferior hemorrhoidal nerve and, therefore, is quite sensitive to trauma and stretch. The rectum is lined by columnar epithelium and appearance is of any intestinal mucosa. This area above the dentate line is essentially insensate. Surrounding the anal canal is the internal sphincter muscle, which is a smooth muscle and maintains the anal resting tone. It extends 1-2 cm on each side of the dentate line and as it travels cranially, it becomes a continuum of the circular layer of the rectum. External to the internal sphincter is the external sphincter. This is a striated voluntary muscle. While it easily fatigues, it plays a key role in the squeeze pressure and is key for continence. The levator ani muscle is also striated muscle and composed of pubococcygeus, puborectalis and iliococcygeus. It essentially gives the main pelvic floor support and is also instrumental for fecal continence. Another way to define the anal canal is by its function, with the boundary between the anus and rectum located at the superior aspect of the sphincter muscle. (See Anal Anatomy in **Figure 1** below.)



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Defecation is a coordinated effort with conscious and unconscious mechanisms along with sensory and mechanical efforts. Initially, as stool enters and distends the rectum, there is a sampling mechanism that triggers awareness of the need to defecate. If unable to empty the rectum, the individual consciously contracts the external sphincter until there is an appropriate time and location for defecation. The rectum relaxes to accommodate the increased volume for a time. When evacuation is appropriate, there is a conscious contraction of the abdominal musculature through a Valsalva mechanism, and the levator muscles relax. This allows the pelvic floor to descend slightly, straightening the angle of the anal canal. The external sphincter is consciously relaxed and defecation becomes possible. The pudendal nerve is key to appropriate defacatory function.

**SIGNS AND SYMPTOMS**

In everyday, non-medical conversations, “hemorrhoids” is a general term used by patients to refer to many different perianal problems they are having. Therefore, it is up to us as physicians to attempt to understand in more detail what the problem is, make an accurate medical diagnosis, and treat it properly. This can be a challenging thing to do, as patients are often uncomfortable talking about this part of the body and bowel function. This anxiety results in delays in seeking care, and when patients do come in, they often use euphemisms to discuss the anal region which can make it difficult to know exactly what is going on. The physician should really seek to clarify what is meant, using direct and clear language, and minimizing the use of euphemisms to demonstrate to patients that talking about these issues is normal, which can help minimize discomfort. When a patient presents with perianal problems, a careful history should be taken and a short differential diagnosis list can be generated based upon the prominent symptoms, as presented in **Table 1**.

	<b>Pain</b>	<b>Mass</b>	<b>Blood</b>	<b>Drainage</b>
<b>Internal Hemorrhoids</b>	no	when prolapsed	yes	no
<b>Thrombosed External Hemorrhoids</b>	yes	yes	no	no
<b>Incarcerated Hemorrhoids</b>	yes	yes	some	no
<b>Anal Fissure</b>	yes	no	some	no
<b>Perianal Abscess</b>	yes	yes	no	when ruptures
<b>Perianal Fistula</b>	no	no	no	yes
<b>Anal Cancer</b>	yes	yes	yes	no
<b>Anal Condyloma</b>	no	yes	no	no
<b>Proctitis</b>	no	no	yes	no

**Table 1 – Perianal symptoms and correlating diagnoses**

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The main questions to ask, in addition to a review of personal and family history, are as follows:

1. Presence of pain?

How long has it been present? Is it constant? What makes it better or worse? Is the pain increasing or decreasing? What is the quality of the pain?

Patients with thrombosed or incarcerated (non-reducible prolapsed) hemorrhoids usually present with severe, constant pain that has come on suddenly. Often, patients will recall an episode of severe constipation or lifting heavy objects that preceded the pain. Another diagnosis that has a characteristic pain quality is an anal fissure. These symptoms also often present after an episode of severe constipation or anal trauma, and are characterized as a very sharp, cutting or tearing pain, often described as “passing glass” during defecation or having “a sharp knife poking” the anus. They may also complain of burning for hours after. Often, patients with a fissure note that prior to their bowel movement, they did not have pain. Pain that is constant but comes on gradually over the course of several days is characteristic of a perianal or perirectal abscess or an anal sexually transmitted disease (i.e., syphilis or herpes). Pain that worsens over many weeks or months is typical of proctitis and malignancies. In general, moderate or mild hemorrhoidal disease is not associated with significant pain, though patients may report some discomfort or itching in the area.

2. Presence of mass?

Is there a mass or swelling noted by the patient? Is it new? Is it enlarging? Is it always present or does it at times disappear? Is there more than one mass?

Patients with the most common types of perirectal abscess, pilonidal abscess, and thrombosed external or incarcerated hemorrhoids will appreciate a new mass or swelling which is tender to touch. Anal fissures can be associated with an anal skin tag (also known as a sentinel pile) that patients may notice. Patients with intermittent grade II or grade III hemorrhoids can have protrusion of tissue. (**Table 2**) Patients with anal condyloma can also note new masses, which tend to be small and multiple. Other more concerning things can also present as a new mass, including anal cancers. Less commonly, rectal prolapse can also present as a new large mass that can be confused with hemorrhoids.

Internal Hemorrhoid	Symptoms
Grade 1	Bleeding, no prolapse
Grade 2	Prolapse, reduces spontaneously
Grade 3	Prolapses, manual reduction required

**Table 2 – Internal Hemorrhoid Grading and Correlating Symptoms**

3. Presence of bleeding?

How much? What is the location of the blood: on the toilet paper? In the toilet water? On top of the stool, or mixed in with the stool? Are there symptoms of anemia?

Internal hemorrhoids classically bleed with bowel movements, resulting in blood on the tissue or in the toilet water and coating the stools. Sometimes, the bleeding can be severe enough to cause anemia, though generally, it is mild. Anal fissures also have a similar bleeding pattern, though these are often associated with pain. Proctitis patients classically will have urgency and frequency and often have frequent, small, bloody bowel movements. The bleeding can be bright or darker red. Bleeding can occur with pilonidal disease if there is a break in the skin, though the bleeding is mild and usually the patient can appreciate the bleeding is not near the anus but at the top of the gluteal crease, not related to bowel movements and frequently just located on the underwear. Thrombosed external hemorrhoids may have mild bleeding seen on the toilet paper or in the underwear. Malignancies often bleed with even gentle touch or manipulation. Occasionally, if a perianal abscess has developed into a perianal fistula, the external opening of the fistula can also have mild bleeding.

4. Presence of drainage?

How much? What is the character?

The classic draining lesion in the perianal region is a perianal fistula, which produces scant, thick yellow or greenish-tinged discharge. Abscesses that have spontaneously opened can produce some drainage, which is usually copious at first and rapidly decreases in volume. Prolapsed internal hemorrhoids or rectal prolapse can also produce some drainage, though this tends to be thin, white or clear drainage and occasionally pink-tinged.

5. Other questions?

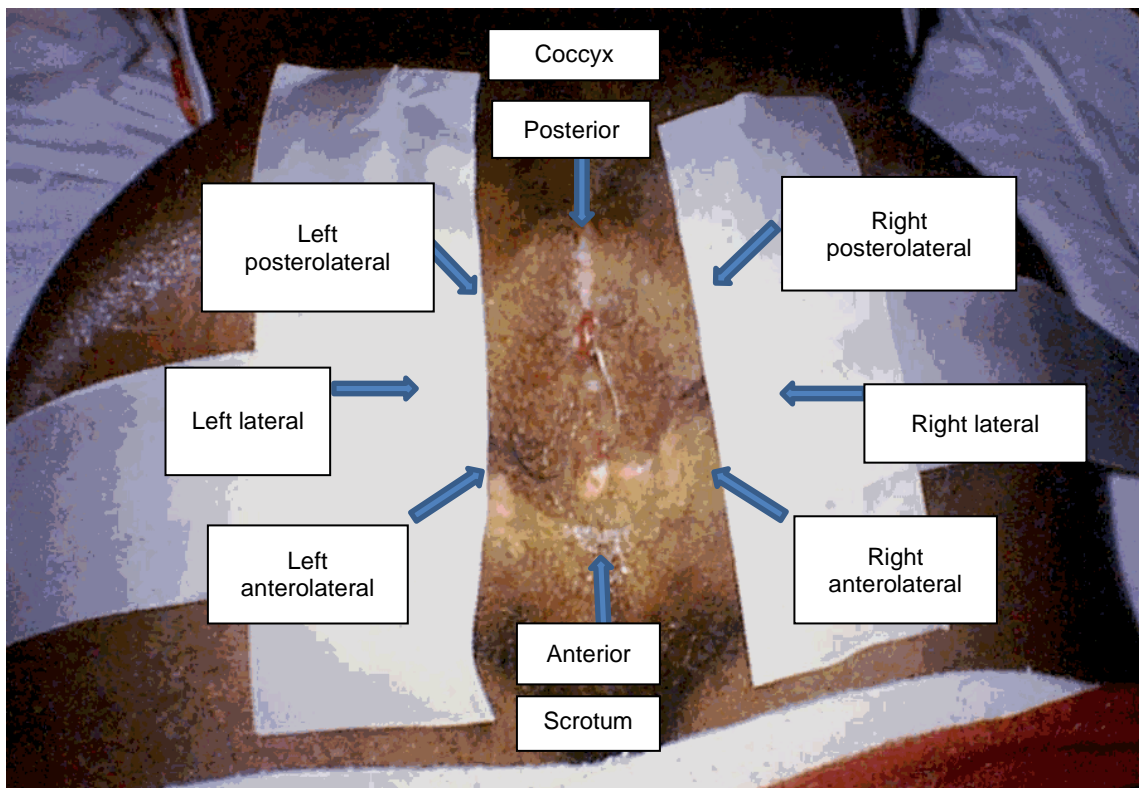
There are other important questions to ask for patients with any perianal problem, including inquiring about abdominal pain and any change in their bowel habits, including what they consider normal and regular. For some, a bowel movement every day that is hard is considered “constipation,” while others may note a bowel movement every three days that is soft and considers this “constipation.” The same is also true of “diarrhea.” In general, a range of three bowel movements per day to once every three is considered normal. Additionally, soft but formed stool is the ideal, which should require little to no straining to evacuate. It is also important to inquire about the patients’ control of their bowels and any accidents and leakage they may have, as fecal incontinence is a frequent problem in older women due to previous obstetrical injuries during vaginal deliveries. Weight loss in an older patient may raise concerns of anorectal cancer, especially if associated with change in bowel habits. If a patient had a

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recent endoscopy within the last few months, this more worrisome diagnosis may be placed lower on the differential; however, for patients without one, a lower endoscopy (flexible sigmoidoscopy or colonoscopy) should be considered as part of the workup, especially for any bleeding or change in bowel habits.

### PERFORMING AN ANAL EXAM

This is best done after performing other aspects of the physical exam as it allows the patient to get used to you and become more comfortable. When describing your exam, it is best to be standardized. Do NOT use “o’clock” in your description as it is variable and depends on where people place their 12 o’clock, which can be difficult to interpret in the future. Always describe your findings based upon anatomic directions; therefore, towards the coccyx is posterior and towards the vagina or scrotum is anterior. The patient’s left is described as left lateral. The patient’s right is described as right lateral. (**Figure 2**) While the prone position can make it easy to perform the procedures described below, most patients find it more comfortable to be examined in the left decubiti position. It is also best to talk to the patient during the exam and let them know what you are doing and what to expect. They will not be able to see you, and this can be a sensitive exam for many people, so offsetting these anxieties can go a long way. Talking aloud describing what you see and what is coming next in the exam can be a useful strategy so patients know what to expect.



**Figure 2**

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First, inspect the perineal region. Do you see thickening of the skin? Erythema? Drainage from the skin? Drainage from the anus? Is the drainage clear? Pus? Blood? Is there swelling or asymmetry? Is there tissue prolapsing out of the anal canal? Is there redundant tissue around the anus? Is there a mass or extra skin?

After inspection, you can palpate the area. Start where the skin looks normal about 2-3 cm away from the anal verge, circumferentially. If this is unremarkable, then you can gently palpate right at the anal verge. Do you feel induration? Is there tenderness? Is the patient tender in the posterior midline? Anterior midline? Left lateral? Right lateral? If you press on an indurated area, do you see drainage come out from the anal os? You can also try to spread the anal verge open with gentle traction; this may give you some idea of the strength of the anal sphincter muscles. You can use a broken wooden cotton tip applicator to test sensation of the area and check for an anal wink reflex, though be sure to warn patients they may feel something “sharp” so they aren’t surprised. You can also ask the patient to Valsalva as this helps to efface some of the anus. This can be especially helpful if a patient is tender in the anterior or posterior midline, and you are concerned they may have an anal fissure; this maneuver may help you see the fissure. If you do see an anal fissure and there is tenderness at that location, you can stop the examination there as any further exam will be excruciatingly painful.

If the patient does not have a fissure, then you can perform your digital rectal exam. Again, asking the patient to bear down while inserting your finger helps them to relax their sphincter. During the rectum exam, you should be able to feel the prostate or cervix anteriorly. You can also feel a shelf on the sides at the top of the anal canal, which is the insertion of the levator ani muscles. Posteriorly, you should be able to feel the coccyx. Be sure to pay attention for any masses or laxity in sphincter tone. You should also have the patient contract their sphincter muscle and squeeze as if holding in a bowel movement. This will give you a general idea of the strength of the external sphincter muscle and their underlying continence.

It is after this, depending on the working diagnosis, patient’s presentation, and the equipment available in the office, a physician may perform an anoscopy, proctoscopy, or even flexible sigmoidoscopy, which are described in detail in the next section.

### DIAGNOSTIC STUDIES

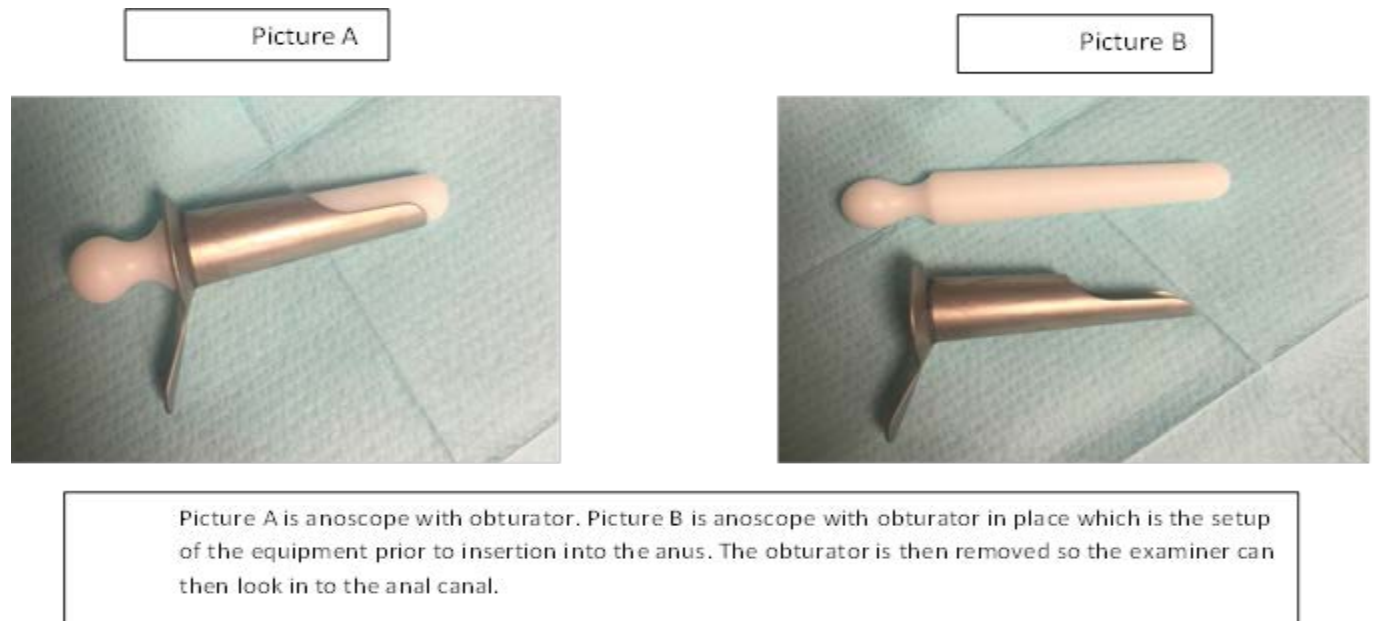
As a student, you will not be expected to perform any of the following endoscopies unsupervised, yet you should be familiar with the different options available, what area they cover, and how they are done in the context of whether it requires a bowel prep or sedation.

**ANOSCOPY:** An anoscope is approximately 7cm long. It comes in various sizes and shapes. To the left is a picture of one example. This does not require bowel prep, nor does it require sedation, as this can be easily done in the office for most patients. If a patient has significant pain on exam, and a cause for the pain cannot be determined in the office, then an exam with sedation can be done in the GI lab or in the operating room, if needed. The anoscope allows one to see the whole anal canal and, depending on patient habitus and type of anoscope used, it can also allow one to see the distal rectum for 2- 4cm above the dentate line. It is helpful to



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evaluate internal hemorrhoids, the extent of a small anal cancer or anal condyloma within the anal canal, as well as to look for internal fistula openings. The patient can be placed in a kneeling position on a table, or in the lateral decubitus position. The examiner also uses a lamp to shine within the scope, though most commonly used anosscopes now have a small light built into the handle. **(Figure 3)**



**Figure 3**

*PROCTOSCOPY:* A proctoscope may also be referred to as a rigid sigmoidoscope or rigid proctoscope and is 25cm long. As the average rectum is 15cm long, it is obvious that with full insertion, the lower part of the sigmoid can be seen. This does not require a bowel prep, but for best evaluation, a patient will perform one or two enemas prior to the procedure to allow the rectum to be free from stool. This also does not require sedation if the patient does not have severe pain or anxiety, and can be routinely done in the office. Patients may be positioned in the knee-chest position but more frequently, they are either positioned in a lateral decubitus position or on a procto table. This is frequently performed to evaluate malignancies that may be extending more proximal than what can be seen by an anoscope. This is the standard technique used to measure the distal edge of a higher tumor from the anal verge, as is done for rectal cancers, to determine the location in the rectum. The rigid scope allows a straight measurement to be taken, unlike a flexible scope that can lead to inaccuracies due to looping or flexing of the scope. Since the entire rectum can be visualized, this is an ideal scope to evaluate for proctitis and to perform biopsies of any lesions in the rectum. **(Figure 4)**

Rigid Proctoscope



Arrow depicts approximately the upper limit of the proctoscope's reach

Procto Table



Figure 4

**FLEXIBLE SIGMOIDOSCOPY:** This is 60 cm long flexible endoscopic scope. Therefore, it is quite easy to reach the splenic flexure and even the transverse colon using this technique. This can be done in the office in unprepped patients for similar reasons as the rigid proctoscope, though it is often difficult to get beyond the sigmoid colon in the office due to the tortuosity of the colon and the discomfort to the patient. This can also be performed with sedation and a small prep of enemas and oral laxatives. If performed in a Gastroenterology or Endoscopy lab, sedation is often used which makes examining the descending and transverse colon more comfortable for the patient. In combination with a stool test of occult blood, a flexible sigmoidoscopy can be used for colorectal cancer screening since more cancers affect the left colon than the right. It is also frequently used for younger patients without significant family history to assess them for rectal bleeding that does not have other concerning signs, such as anemia. **(Figure 5)** Patients can be positioned on the procto table or lateral decubitus position in the office; in the GI lab, the patients are placed in the lateral decubiti position.



Figure 5 – Flexible Endoscope



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Biopsies can be performed through the scope along with tattoo and injections for locating the lesion, and bleeding control, when needed. While polypectomy snares can technically be introduced through the scopes, unless the patient is fully bowel prepped, snare polypectomy with electrocautery is avoided due to combustible gas that may be present in an unprepped patient.

**COLONOSCOPY:** The colonoscope is like the flexible scope but longer, about 165-180cm, depending on brand and model. This scope can reach to the cecum and even intubate into the terminal ileum. This is the scope that is used for screening for colon cancer, and for surveillance. The patients are fully bowel prepped and, therefore, biopsies of larger masses and snare polypectomy can be performed. This is performed in the GI lab with IV sedation as scoping the transverse and ascending colon can be uncomfortable. Patients are positioned in the lateral decubitus position.

### CLINICAL SCENARIOS

Several clinical scenarios are presented below. They are typical for patients with various perianal problems. Unfortunately, in the office, patients do not come with a title diagnosis up front, so I encourage the student reader to try and approach each scenario as if the diagnosis is unknown to gain an understanding of how the complete picture fits together.

#### ***Scenario One: Proctitis***

**CLINICAL VIGNETTE:** A 33-year-old female comes to see you in the office complaining of perirectal pain and bleeding.

**SIGNS & SYMPTOMS:** Her pain tends to be achy and is exacerbated with defecation and has been present for the last 2 months. She denies any new masses in the area. She notes some bleeding that is bright red on stool and also occurs when she has mucus-y bowel movements, which she reports happens a few times a week. She does not endorse any abdominal pain and denies any fevers or significant weight loss. She does note that she does have a significant sensation that she needs to go to the bathroom frequently, but once she is sitting on the commode, nothing but mucus comes out. She does have a cousin who has some kind of colitis, but she doesn't know any details. She is married in a monogamous relationship and denies any trauma to the area.

**PHYSICAL EXAM FINDINGS:** She is a well-developed, healthy, alert adult woman in no acute distress with unremarkable cardiac, respiratory, and neurologic exams. The abdominal exam is benign with no tenderness or bloating. Inspection of the perineum externally is unremarkable, and there is no tenderness in the area. Digital exam is uncomfortable for the patient, and when you remove your finger, there is blood on the glove. No palpable masses.

**ADDITIONAL DIAGNOSTICS:** You initially perform an anoscopy, which that patient tolerates reasonably well, though does have more discomfort than usual with insertion of the scope. The distal rectal mucosa appears inflamed, indurated and friable. You cannot see the proximal extent. The patient should be referred onwards for colonoscopy to evaluate the extent of the inflammation. If skip lesions are present, or ileal inflammation is seen, Crohn's disease should

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be considered. If the inflammation is continuous and limited to the colon, then ulcerative colitis is considered after ruling out other infectious etiologies of colitis. Given her age and history, ischemic etiologies would be unlikely. Biopsies of the inflamed areas should be performed and can differentiate Crohn's disease and ulcerative colitis.

**TREATMENT OPTIONS:** For mild proctitis with inflammation limited to the rectum only, steroid foam or mesalamine enemas can be prescribed. If further inflammation is found, the patient should be referred to a specialist for management of her colitis. Smoking can precipitate acute flares in Crohn's disease and patient who continues to smoke should be strongly encouraged to quit. Non-steroidal anti-inflammatory medication use is also associated with flares in both Crohn's disease and ulcerative colitis, so these medications should be stopped, and patients should be instructed not to take the over-the-counter medications as well. Optimal medical management is the best strategy for prevention of complications from colitis, such as bleeding, perforation, stricture, or fistulas.

### ***Scenario Two: Anal Condyloma***

**CLINICAL VIGNETTE:** A 33-year-old male is referred to you for care for ongoing perirectal pain and itching.

**SIGNS & SYMPTOMS:** The patient reports his pain is constant, but causes relatively mild discomfort. He does report that he has noticed multiple anal masses that were small and are now growing in number and size. They have been present for several months. He has never had issues like this before. He does not report any bleeding, though they are more irritated when he vigorously wipes the area. He does not have any abdominal pain and has had no fevers or recent illnesses. He denies any weight loss and doesn't have any difficulty with his bowel control, nor does he have to strain when defecating. He does report that he is engaged in anoreceptive intercourse with men and is not always careful with protection. He has not been tested for HIV in 1 year, though this was previously negative.

**PHYSICAL EXAM FINDINGS:** He is a thin, African-American male, in no acute distress, who appears healthy. Other exam findings are unremarkable. On inspection of the perineum, there are multiple, cauliflower-appearing lesions circumferentially around the anus. They are not tender to palpation. (**Figure 6**)



Condylomatous lesions in a patient. Lesions that are concerning for malignancy are those that are ulcerated or hard and lack the “cauliflower” appearance.

**Figure 6 – Anal Condyloma**

**ADDITIONAL DIAGNOSTICS:** On anoscopy, there are several small lesions ~4mm in size located at the dentate line. The patient agrees to a small biopsy, which you perform in the office after a small injection of local anesthetic is given for comfort.

**TREATMENT OPTIONS:** You should spend some time discussing the possible differential diagnosis with the patient. The appearance of the lesions is typical for anal condyloma, and you should discuss the relationship with the Human Papilloma Virus and the association with developing future malignancies. You should also discuss that this is a sexually transmitted disease and counsel about safe sex practices in the future. You should also recommend testing for other possible sexually transmitted diseases, especially HIV and syphilis, which has been on the rise in this population of patients.

The patient should also be referred to a surgeon for removal of the lesions to prevent the ultimate progression to invasive malignant cancer. Anal condyloma is a low grade anal dysplasia, also known as Anal Intraepithelial Neoplasia I (AIN I) with a pathophysiology of progressing from low to high grade dysplasia to invasive carcinoma in a process that is similar to cervical cancer. The true incidence of progression to high grade dysplasia or invasive carcinoma is not entirely understood but is thought to be more common in patients with immunosuppression, such as those with HIV as well as transplant patients and those with inflammatory bowel disease.

Anal condyloma lesions should be removed when found using several different treatment options, including Imiquimod ointment, cryotherapy, fulguration, or surgical excision. The appropriate treatment will depend on the extent and location of the condyloma. In high risk patients such as these who have previously demonstrated anal dysplasia, close surveillance of the anal cancer with routine anoscopy should be performed after the lesions are removed, and

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any recurrences should be removed promptly. There is ongoing research into the preventive potential of anal PAP smears, as is currently recommended for cervical cancer.

There are several other things to consider when treating these patients. Had this patient been a woman, cervical cancer screening should also be recommended as nearly all patients with anal HPV infections will also have cervical infections. Furthermore, should this patient have been a child, the physician should be immediately concerned of the possibility of sexual abuse, and an assessment should be performed and reported. Anal condyloma can be prevented with vaccination for the HPV virus, which is recommended starting at age 11 through age 26. This vaccine can be given even if condyloma is present as it may help reduce the risk of recurrence.

#### **Scenario Three: Anal Fissure**

CLINICAL VIGNETTE: A 27-year-old female is seeing you for hemorrhoid problem.

SIGNS & SYMPTOMS: She reports that this is very sharp pain that occurs with each defecation and lasts minutes to hours. She notes that there is a new little bump by her anus, and this spot is very tender when she wipes. She also notices some blood on the tissue and dripping in the bowel when she wipes. This started about two months ago after a particularly hard bowel movement. After you inquire, she reports this pain is like a tearing pain where she is passing glass bowel movements and feels very sharp. After the bowel movement, it is a dull throbbing ache. She denies any weight loss or significant family history. She is married, has no children, and denies anal trauma. She does report a history of constipation with hard pebbly-appearing stools and straining when she defecates.

PHYSICAL EXAM FINDINGS: She is a healthy, thin woman in no acute distress. Her exam is otherwise unremarkable. On perineal exam, you note a small fold of skin in the posterior midline that is tender to touch. On gentle traction of the perianal skin, when you separate the anal verge, you can see a small disruption in the anal epithelium in the posterior midline and even this small exam is painful for the patient. You do not perform any further examination.

ADDITIONAL DIAGNOSTICS: None are needed at this time, as anoscopy or any procedure will be incredibly painful.

TREATMENT OPTIONS: You should discuss with the patient the diagnosis of anal fissure, which was confirmed on her exam. The first-line treatment option includes correction of constipation with fiber supplementation and consideration of nitroglycerine 0.2% and diltiazem 2% ointments (compounded in petroleum jelly). The recommended dose of daily fiber is 30 grams per day, which is considerably more than the average American eats in their diet. Some products can increase the daily intake of fiber but are often not enjoyed by patients and compliance may be poor. A fiber supplement can alleviate this.

There are several over-the-counter options to choose from, and patients should be encouraged to take a powder, if possible, with a large glass of water, as fiber works as an osmotic laxative and is ineffective if there is little water in the intestinal lumen. Patients should also be recommended to take fiber in the morning to encourage good oral intake and hydration that will also help the fiber to be most effective. If fiber alone does not improve symptoms, or symptoms

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are severe at presentation, then diltiazem or nitroglycerin should be considered. Both are equally effective at relaxing the sphincter muscle and of a similar cost, but nitroglycerin does have more frequent side effects (headaches) that limit its use. Regardless, patients should be instructed to use a pea-sized amount applied to the outside of the anus two to three times daily. They do not need to insert the ointment inside the anal canal. This should be continued for one month after improvement in symptoms.

When these steps fail to improve symptoms, patient can consider surgical treatments. Currently, there are two options: botulism toxin injection and lateral internal sphincterotomy. The patient should be referred to a surgeon for evaluation and discussion. If bleeding fails to resolve after initial treatment, then referral for colonoscopy should be placed to ensure no other reason for bleeding is present. Fissures which occur off the midline on the lateral aspect of the anus, which are wide and flat, or are not tender to palpation, should raise concerns for other etiologies, including Crohn's disease, HIV infection, or infections such as syphilis. (**Figure 7**)



**Figure 7 – Anal Fissure**

### ***Scenario Four: Perianal Abscess***

**CLINICAL VIGNETTE:** A 27-year-old male presents to your office with anorectal pain (abscess).

**SIGNS & SYMPTOMS:** The patient reports to you that the pain tends to be dull and has slowly increased over the last several days. There is tenderness and it is difficult sitting due to pain. It isn't any worse with defecation and he hasn't noticed any bleeding. The painful area is located on the right side and it is now quite swollen. He denies any weight loss and his bowels are regular. He has never had any issues such as this before.

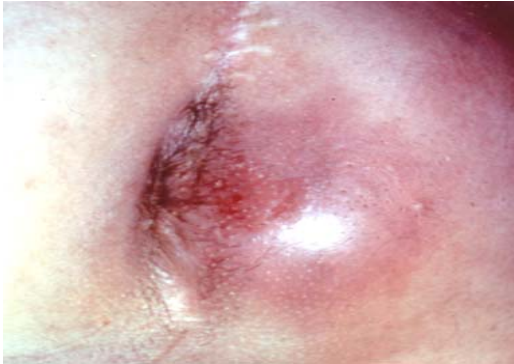
**PHYSICAL EXAM FINDINGS:** He is an overweight otherwise healthy appearing man. No other exam abnormalities. On perineal exam, you note a swollen, tender, erythematous area in the



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right lateral aspect about 3cm from the anal verge. When palpated, the surrounding area feels indurated and the area at the center feels fluctuant. (**Figure 8**)

Picture A



Picture B



Picture A shows an acute abscess, which is erythematous, tender, and swollen. When an abscess cavity maintains its tract to the dentate line from which it originated, it forms a fistula. The external opening of a perianal abscess can be seen on the patient's left gluteus in Picture B (arrow).

**Figure 8 – Perianal Abscess**

**ADDITIONAL DIAGNOSTICS:** None needed for this scenario. If no exam findings and patient unable to tolerate a digital exam or anoscopy due to pain, consider an MRI of the pelvis to evaluate for intersphincteric or deep post-anal abscesses, which often lack physical exam findings. Alternatively, the patient can be referred to surgery for an exam under anesthesia, which can be diagnostic and therapeutic if the offending lesion is found.

**TREATMENT OPTIONS:** The treatment for superficial lesions that are readily palpable and fluctuant is incision and drainage of the abscess. This can often be accomplished in the office, or with an urgent referral to a surgeon, especially in cases like the scenario presented above. The physician should inject some local anesthetic over the fluctuant area and create a cruciate incision of at least 1 cm width. I have often found that removing the four “dog-ears” of the cruciate incision facilitates drainage and optimizes healing without the need for ongoing packing or drain placement. Antibiotics alone are nearly always ineffective as the medications cannot penetrate the abscess due to lack of perfusion and changes in the pH of the tissue. Post-drainage antibiotics should only be given to immunocompromised patients or those with a mechanical cardiac valve. You may consider short term antibiotics if significant induration or perineal cellulitis is seen in the perineum. If left untreated, these infections can escalate into a gangrenous perineal infection (Fournier’s gangrene) that can be life-threatening. Patients should perform daily Sitz baths and should change any external dressings on an as needed basis.

There are several things to counsel patients about regarding these abscesses. Patients should be counseled that about one-third will go on to develop a fistula – an abnormal communication – from the external opening where the abscess was drained to the internal opening originating in

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the anal canal. This will need to be addressed surgically, with the goals of performing a procedure to remove the fistula while preserving the sphincter muscles. Several options are available, and these are best treated by a surgeon. Another third of patients will develop another abscess in the future resulting from persistent internal infections. Again, these should be referred to a surgeon for treatment if they recur. The other third of patients will heal without issue. Furthermore, for those with recurrent or complex abscesses or fistulas, screening or treatment for diabetes or Crohn's disease is appropriate.

**Scenario Five: Thrombosed External Hemorrhoid**

CLINICAL VIGNETTE: A 48-year-old male presents to your office with anorectal pain.

SIGNS & SYMPTOMS: The patient reports that he has a long-standing history of hemorrhoids, but this last flare has been particularly painful to him. It started 2 days ago, and he notices that there is a new "lump" that wasn't there before that is very tender. He does have a history of constipation and routinely strains to have bowel movement. He notes that he was traveling prior to this pain starting and his bowels have been particularly hard. He is not taking any fiber or laxatives. He is otherwise healthy.

PHYSICAL EXAM FINDINGS: The patient is well-dressed, thin, healthy appearing man. He is sitting crooked in the chair and putting his weight only on one side of his pelvis. On perineal exam, you see a purple-colored lesion at the anal verge that is exquisitely tender to the touch. The remainder of the perianal skin is normal. You defer any digital exam due to patient discomfort. **(Figure 9)**



**Figure 9 – Thrombosed External Hemorrhage**

ADDITIONAL DIAGNOSTICS: None are needed.

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**TREATMENT OPTIONS:** The appearance of a thrombosed external hemorrhoid is all that is needed for diagnosis. The purple color is due to a blood clot that accumulates in the dilated external hemorrhoidal vessels, usually due to some local trauma induced with constipation or increased intra-abdominal pressure (such as heavy lifting). The patient should be counseled that there are two treatment options for the acute thrombosis: excision or observation. Excision should be offered when the onset of symptoms has been 72 hours or less and the hemorrhoid has limited edema. To perform this, local anesthetic injection should be performed in the office to numb the area. The skin overlying the thrombosed hemorrhoid should be excised in an ellipse and the clot evacuated. Hemostasis with silver nitrate or topical agent is appropriate. Patients should be instructed to avoid constipation with fiber supplementation (see Anal Fissure scenario), perform daily sitz baths, and keep dry dressing on the area to absorb any scant bleeding or drainage that may occur. This will usually heal completely in several weeks, and the pain is significantly resolved after excision, allowing patients to return to work in a day or so.

If patients elect for observation, or the symptoms have been present for more than 72 hours and the hemorrhoid is edematous, conservative measures should be employed. The natural history of such lesions is the blood will reabsorb and improve in about 3 weeks' time. NSAIDs for pain management (opioids should be avoided due to the side effects of constipation), sitz baths, and topical lidocaine can be used for pain control. Patients should also be counseled about fiber supplementation (see Anal Fissure scenario). Recurrent thrombosis should warrant a referral to a surgeon for consideration of an excisional hemorrhoidectomy on an elective basis.

### ***Scenario Six: Prolapsing Hemorrhoids***

**CLINICAL VIGNETTE:** 67 year-old male who is seeing you in the office with complaints of hemorrhoids

**SIGNS & SYMPTOMS:** The patient reports that he has a long-standing history of hemorrhoid problems, though has never seen anyone regarding this. He describes his "hemorrhoids" as a swelling on his anus, and notes some bleeding with bright red blood when he wipes. Pain is usually minimal, except when the hemorrhoid comes out. Then it is more intense. This has become more frequent, which is why he is here to see you. He denies any changes in his weight and has no abdominal pain. He is otherwise healthy with some hypercholesterolemia for which he takes medications. He has had a colonoscopy for colon cancer screening several years ago that was negative but did note large internal hemorrhoids. He is not taking any fiber supplement and notes that his stools are usually somewhat hard. He likes to read the news on his phone while on the commode as his "quiet time."

**PHYSICAL EXAM FINDINGS:** He is an older but healthy appearing man in no acute distress. No cardiac, respirator, or abdominal findings. His perineal exam is remarkable for extra folds of epithelialized tissue at the anal verge and protrusion of tissue containing mucosa. You perform a digital exam that is unremarkable. These lesions are not tender to the touch. (**Figure 10A**)

Picture A



**Figure 10A – Mixed Hemorrhoids**

Picture A is an example of mixed hemorrhoids where the internal component is prolapsing (Internal hemorrhoid with mucosa=blue arrow, external component with squamous epithelium= tan arrow). These are not painful, nor tender, and can be easily reduced.

**ADDITIONAL DIAGNOSTICS:** You perform an anoscopy in the office, and discover grade 3 internal hemorrhoids, which are prolapsing but easily reducible, yet prolapse immediately when removing the anoscope.

**TREATMENT OPTIONS:** Based on exam, he has both internal and external hemorrhoids, known as mixed hemorrhoids. The patient should be counseled about the role of fiber supplementation in improving symptoms of hemorrhoid disease and preventing recurrence after surgical treatment. The patient should also be counseled about toileting habits and avoiding prolonged sitting on a circular commode along with straining and avoiding constipation, which promotes gravitational movement of pelvic blood to the dependent area (hemorrhoidal veins). Medical management alone can be successful in improving symptoms in patients with Grade 1 or 2 hemorrhoids, but is less likely successful in those with larger hemorrhoids. If he has not had a recent colonoscopy, this should be recognized and recommended to ensure that the bleeding described is not related to colorectal polyp or malignancy.

There are several surgical options that are available, including rubber band ligation and excisional hemorrhoidectomy. The patient should be referred to a surgeon for further treatment and to discuss these options. Furthermore, the patient should be counseled that prolapsing hemorrhoids can occasionally become incarcerated, and will be unable to be reduced. When this occurs, the blood supply to the hemorrhoidal tissue and skin is compromised and the anoderm can become necrotic. This is incredibly painful and is an indication for an emergent, same-day excisional hemorrhoidectomy. (**Figure 10B**)



Picture B



**Figure 10B –  
Incarcerated Hemorrhoids**

Picture B is an example of incarcerated hemorrhoids where the prolapsing internal component becomes dusky and ischemic. These are exquisitely painful and tender and require emergency

### **Scenario Seven: Hidradenitis Suppurativa**

CLINICAL VIGNETTE: A 42-year-old male is seeing you in the office for anorectal pain.

SIGNS & SYMPTOMS: The patient tells you that he has had considerable pain in the anorectal region for some time, which becomes intermittently worse, and resolves with the drainage of a “boil.” This drainage is mucoid, purulent, and sometimes has some blood mixed in. This has happened many times. Most of the lesions are in the perineum, but some also occur in his groin, and he once had something similar in his axilla. He notes that right before it drains there is a lump that is very painful. He denies fevers or chills. He does not report any family members with the same issues. He does not have other medical problems but is obese.

PHYSICAL EXAM FINDINGS: On exam, other than the obesity, you note that the patient has changes in the skin in the perianal region with small openings in several locations near the anal verge. Some are red with scant granulation tissue at the opening and draining thick, mucopurulent fluid. The skin surrounding this feels thick and woody. You gently insert a probe and note that the openings track to other areas in the perianal skin, but do not seem to extend deep to the anal canal. Elsewhere, you notice similar lesions in the groin on both sides but nothing in the axilla. There are no fluctuant areas of acute inflammation.

ADDITIONAL DIAGNOSTICS: None needed

TREATMENT OPTIONS: Patients are to be counseled about Hidradenitis Suppurativa, which is the likely diagnosis based on the appearance of the lesions. Patients should avoid powders and cream in the affected area. Antibiotics (topical clindamycin or oral clindamycin or rifampin) and



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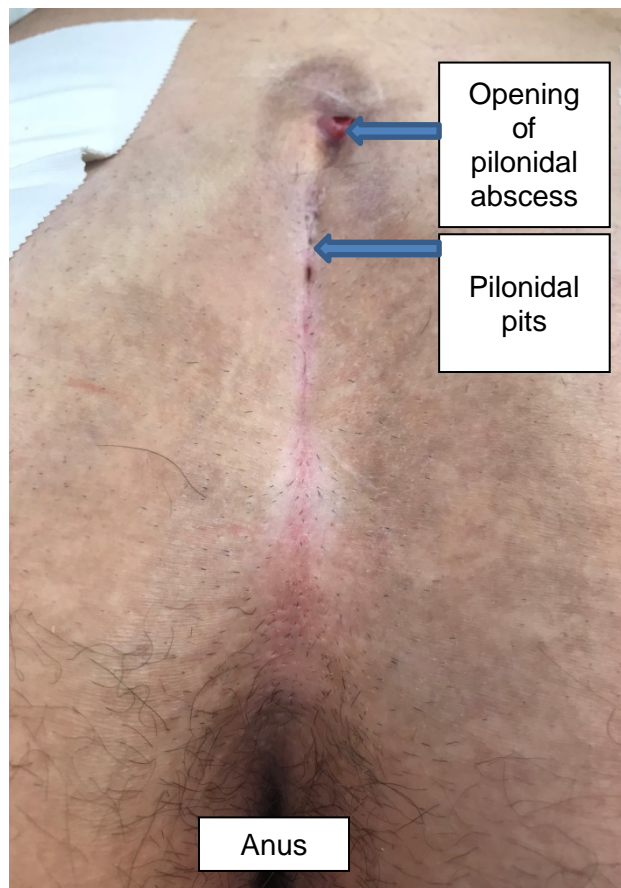
anti-TNF agents (such as infliximab) may settle down some of the inflammation and infection, though it is not curative, and many patients fail and have recurrence. Incision and drainage that can be done in the office for predominant abscesses in the setting of acute infections is helpful, but more severe disease is best treated with wide excision and skin grafting. These patients should be referred to a surgeon and often a dermatologist.

### **Scenario Eight: Pilonidal Abscess & Cyst**

CLINICAL VIGNETTE: A 20-year-old male with anorectal pain is seeing you in the office.

SIGNS & SYMPTOMS: The patient reports that he has noticed some pain just above his anus by his tailbone that is usually minimal but sometimes severe. When it's severe, there's a little swollen area which then breaks open and some thick "gunk" comes out and things feel better. But usually it gets swollen again in a few months. This has been going on for several years. It's sometimes painful to touch the area, and there is sometimes a drop or two of blood from the area that gets swollen. He denies any other symptoms and is in good health otherwise. He does note that his father had something similar years ago and had to have a surgery for it.

PHYSICAL EXAM FINDINGS: He is a young, healthy, thin male with dark hair that is cut short. On perineal exam, you notice a small area to the right of the midline at the top of the gluteal cleft that is slightly more indurated. When palpated, a drop of purulent fluid can be expressed from a small opening here. There are also several small pits and depressions along the midline in the same area. (**Figure 11**)



**Figure 11 –  
Pilonidal  
Abscess and Pits**

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ADDITIONAL DIAGNOSTICS: None needed.

TREATMENT OPTIONS: The patient should be counseled regarding pilonidal cysts and abscesses, which is the diagnosis based upon the appearance of the pits and abscess cavities. The pits occur when hair, typically dark, coarse hair, burrows into the gluteal fold creating a pit and “cyst” that can then become secondarily infected. The source of the hair can be from two locations: the head or the gluteal cleft. When patients have their hair cut, small shards of hair can fall into the gluteal cleft from the head and burrow into the area. Coarse gluteal hair can also do the same thing due to the friction created with movement in the area. If the cysts and pits become acutely infected, these can often be drained in the office using a technique similar to that described for perianal abscesses above. Definitive treatment is excision of the pits and cystic abscess cavities, thus, patients should be referred to a surgeon for further treatment when these are identified. Hair removal with shaving or laser therapy can be helpful in preventing recurrence, and patients should also be counseled to shower immediately after haircuts and cleanse the area as well.

### ***Scenario Nine: Anal Cancer***

CLINICAL VIGNETTE: A 63-year-old woman presents to the office for evaluation of a painful anal mass.

SIGNS & SYMPTOMS: She reports that this mass has been present for several months and is getting larger. It is very painful and sensitive to the touch, and bleeds easily with bowel movements and wiping. She has never had problems like this before. She has not had any issues with hemorrhoids in the past. She has 3 children, all delivered vaginally with no complications. Her bowel control is good and she reports no accidents or leakage of stool, though she has had some urinary leakage when she coughs or laughs. She reports her stools are soft and she seldom has to strain. She is otherwise healthy with only some mild hypertension, which is well controlled on an oral medication. She has not had any surgery in the past, though she does recall several decades ago, she had a procedure in the office where they burned her cervix after an abnormal Pap smear.

PHYSICAL EXAM FINDINGS: She is an overweight, alert, and well-groomed older woman in no acute distress. She has no other cardiac, respiratory or abdominal findings, though you do note some large lymph nodes in the right inguinal region that are not tender. On perianal exam, there is a firm, tender, ulcerated lesion just protruding from the anal os. There is scant blood on the perianal skin and no other abnormalities. On digital exam, you can feel the mass that is firm and fixed to the underlying sphincter muscle in the right lateral position. It extends about 3cm deeper into the anal canal.

ADDITIONAL DIAGNOSTICS: You perform a gentle anoscopy and confirm that the mass extends from the anal verge to 3cm proximally, about 1cm above the dentate line. After consenting, you perform a small incisional biopsy under local anesthetic.

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TREATMENT OPTIONS: Her findings on exam are very concerning for the presence of malignancy, and several factors suggest an anal squamous carcinoma, rather than a rectal adenocarcinoma, which would arise higher from the rectum and has a different pathophysiology. Her history of an abnormal Pap test suggests an underlying HPV infection, and the presence of the lesion in the anal canal only, is also typical. Anal squamous cell cancer is caused by the Human Papilloma Virus, in a similar fashion to cervical cancer in women. Thus, prevention is possible with safer sex practices, though in most cases the HPV infection was acquired many decades prior to the cancer presenting. Patients with a poorly functioning immune system (transplant recipients, HIV co-infection, on immunosuppressive medications for IBD) are thought to have an accelerated course of oncogenic development and may present at a younger age. In patients with high-risk behavior, such as multiple sexual partners or unprotected intercourse, HIV testing should be considered. Currently, the only way to prevent anal cancer is with vaccination for the HPV virus, which is recommended for all children starting at age 11 and through age 26, ideally before sexual activity occurs.

After confirming the diagnosis with the biopsy, the patient should be referred to a surgeon who specializes in the treatment of anal cancer, such as a colorectal surgeon. Treatment is primarily with a combination of chemotherapy and radiation, known as the Nigro Protocol. This is effective in nearly 80% of patients with excellent long-term outcomes. Surgery is reserved for those patients whose primary tumor does not respond to chemotherapy and radiation or that develop recurrence after treatment.