**CASE SUMMARY:** A 23-year-old man presents to a surgeon as an outpatient after recent incision and drainage of a gluteal abscess 3 days before in the emergency department. He admits to intermittent pain and drainage for the past year in the soft tissue near his gluteal cleft. He does not have a history of IBD, associated diarrhea, rectal bleeding, or pain with defecation. On examination he is an obese, hirsute man. His perineum is normal, with a normal anorectal examination. A 3-cm area to the left of his gluteal cleft is erythematous and indurated, and removal of packing reveals purulent drainage from the previously incised abscess. He has a deep gluteal cleft, and small pits along the sacrococcygeal midline are appreciated.

**CLINICAL QUESTIONS**
- How does one clinically identify pilonidal disease?
- What is the difference between acute and definitive management of pilonidal disease?
- What are the principles of surgical management?

**BACKGROUND**
Pilonidal disease has a rich surgical history, with references dating back to the mid-1800s. The disease process is characterized by a continuum of severity, and professional opinion varies with regard to both etiology and management.1,2 Pilonidal (from the Latin translation for *nest of hairs*) disease is the result of an inflammatory reaction to the trapping of hair within the gluteal cleft. The hair ultimately penetrates the skin overlying the sacrum from the sacral promontory to the coccyx, creating pits in the midline of the gluteal cleft. Deep to these pits, the hair creates a chronically inflamed cavitary network wherein the hair is a nidus for infection. Acute pilonidal disease typically presents off the midline within the subcutaneous tissue as an abscess. These abscess cavities are in direct continuity with the midline pits and are retained as cysts after the acute inflammatory period has resolved.

Risk factors for the development of pilonidal disease include obesity, local hirsutism, deep gluteal clefts, long periods of sitting, increased sweating, and poor hygiene.3 The disease is thought to be acquired and is most commonly seen in men in the second, third, and fourth decades of life. It is clinically distinct from, but often confused with, hidradenitis suppurativa, anorectal abscess and fistula, and squamous cell skin cancer. Diagnosis should be made clinically using history and physical examination when there is inflammation adjacent to the gluteal cleft with associated midline pits.1,2 The associated flow chart outlines the decision-making and management of the disease.

**MANAGEMENT**
The first step in managing pilonidal disease is delineating an acute episode of inflammation from chronic and recurrent disease (see Evaluation and Treatment Algorithm). Acute pilonidal abscesses should be treated with simple incision and drainage off the midline. No attempts at definitive closure or repair should be attempted at that time. Antibiotics are typically not required unless the patient is immunosuppressed, at high risk for endocarditis or methicillin-resistant *Staphylococcus aureus*, or clinically toxic appearing without another identifiable source. If antibiotics are used they should include both a third-generation cephalosporin and metronidazole. Successful treatment of the acute infection is marked by resolution of purulent drainage and associated cellulitis.

As many as 50% of patients will not require any surgery after resolution from the initial incision and drainage.2 For these select patients, conservative management may be all that is needed. Nonoperative management and...
Preventative strategies, such as depilation and weight loss, have been suggested. Although there are little data to support these interventions, they are relatively low risk, with potentially great benefit to the patient. For patients in whom conservative management repeatedly fails, there should be a low threshold for progressing to more aggressive surgical care. In addition, in the setting of failed conservative management, any suspicion of squamous cell carcinoma should be ruled out with biopsy.

Definitive surgical management may be attempted in a variety of different ways. The technique of surgical management is largely driven by the severity of the disease and surgeon preference. Several key principles should be at the core of decision-making during definitive operative planning. First, there should be removal of debris, granulation tissue, and hair with minimal actual tissue excision. Classically, excision is taken down to the level of the sacrococcygeal fascia. Some surgeons will allow this wound to heal via secondary intention. Literature supports primary closure under minimized tension whenever possible, because this leads to improved time to healing, decreased time away from work and other activities, and decreased recurrence. Excision and closure should be oriented off the midline. Finally, and some would argue most importantly, the natal cleft should be flattened. Adherence to these tenets aids postoperative healing, which can be a significant challenge in this area, and the final principle anatomically combats predisposition to recur.

Primary excision without primary closure and healing by secondary intention is considered the classic definitive procedure and may be successful if duteous and painstaking wound care is feasible. However, this approach does not allow for closure off the midline or flattening of the natal cleft. To that end, various flap-based approaches have been developed. Commonly used procedures with relatively high success rates include the Bascom cleft lift and the Karydakis or rhomboid (Limbberg) flap. For a thorough review of these, the reader is directed to the chapter titled “The Management of Pilonidal Disease” and associated videos in the 12th edition of Current Surgical Therapy. Although there is no defined guidelines or consensus, patients with recurrence after minimal or primary excision, deep natal cleft, or relatively large areas of tissue involvement should be considered for a reconstructive operation. The cleft lift procedure is ideal for correcting these issues and is technically simple. The following is a brief review of the key operative steps as originally described by the procedure’s creator, Dr John Bascom.

The procedure begins with preoperative marking (Fig. 1A). This marking provides guidance for how far laterally to create the soft tissue flap. The initial incision is in the midline of the natal cleft, unroofing the pilonidal cysts. The chronic inflammatory tissue, hair, and debris should be removed and either excised or cauterized. Thick subcutaneous flaps are raised on either side of the cleft. The skin and subcutaneous tissue on the side containing the most disease is completely excised, including any pits (Fig. 1B). Before excision, flaps are drawn toward each other to ensure a tension-free closure. An imbricating layered closure using absorbable suture is performed, obliterating the previously involved tissue, flattening the cleft, and approximating the expected skin edges. Once this has been accomplished the disease-involved skin is excised sharply, and the skin closure is completed off the midline (Fig. 1C). A drain may be placed between the subcutaneous layer and the dermis during skin closure to prevent seroma formation. Standard sterile dressing or negative-pressure incisional vacuum-assisted dressing may be applied.

**SUMMARY**

Pilonidal disease is a commonly encountered and often challenging surgical disease. The diagnosis is clinical and has wide variability in terms of severity. The first step in the management is to treat any acute inflammation with source control and drainage. Definitive surgical management should correspond with the severity of the disease following the principles reviewed here.

**FIGURE 1.** A, Preoperative marking while standing. The vertical lines should be placed where the gluteal clefts meet in the midline. B, Resected area of diseased tissue off the midline within the preoperative markings. Flaps will be raised laterally, and the tissue within the cavity will be closed in layer to flatten the cleft. C, Completed primary closure demonstrating a flattened natal cleft and an off-midline closure. Images are courtesy of Dr Eric Johnson (Tacoma General Hospital, Tacoma, WA) and Dr Stephanie Acierno (Mary Bridge Children’s Hospital, Tacoma, WA).
Dr. Kuckelman has provided a very clear and concise review of the identification and treatment of pilonidal disease, an ailment that may be one of the more frustrating processes treated by general and colorectal surgeons. Patients affected by this process can be equally frustrated and are often burdened during the prime of their life. Although pilonidal disease is not typically dangerous, its associated symptoms can be tremendously lifestyle limiting. I have personally been involved in the care of a patient who had to drop out of college because of complications associated with a chronic wound that failed to heal after a procedure performed to treat recurrent disease.

Several tenets applicable to the basic treatment of pilonidal disease were outlined, and some deserve additional emphasis, whereas others should be added. It is important to recommend a treatment that matches the disease severity. Minor and asymptomatic disease may not require any treatment at all beyond hygiene measures and hair clipping. Major rotational flap procedures, although tremendously effective, are overkill in the setting of minor disease. Although the failure of these procedures is rare, complete dehiscence of a rotational flap will result in a complex wound that will most often make the situation worse than the original disease.