

COLON AND RECTAL SURGICAL ASSOCIATES

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The Rhomboid Flap for Pilonidal Disease.

What is a Rhomboid Anyway?

THE BASICS.

Pilonidal disease represents several forms of a single abnormality. Pilonidal disease may consist of nothing more than asymptomatic midline skin pits overlying the sacrococcygeal area. At the other extreme, the disease may be a large complex abscess associated with sepsis. In between these extremes are sinuses which occasionally cause discomfort and erythema, or sinuses which periodically drain and then return to an asymptomatic state (Figure 1).

Whether pilonidal disease is a developmental disorder or is acquired during growth is unknown. In the developmental theory, there is a failure of midline fusion, with epidermal rests located deep to the dermis. These epidermal rests can mature, grow and lead to symptoms. In the acquired scenario, after the onset of puberty, sex hormones act on the pilosebaceous glands causing the hair follicles to become distended with keratin. As a result, a folliculitis is created which produces edema and follicle occlusion. The infected follicle ruptures and extends into the subcutaneous tissue. This results in a sinus tract that leads to a deep



Fig. 1.
Pilonidal Anatomy.



Fig. 2.
Pilonidal Disease.
Proposed Area
of Excision.

subcutaneous cavity. By friction or movement of the buttocks with standing or sitting, the distal ends of loose hair from around the perineum may enter these sinuses. The sinuses can then become infected by skin organisms and begin to suppurate, leading to an abscess. Staphylococci and streptococci are the most common organisms found in the culture of infected abscesses.

The incidence of pilonidal disease is approximately 0.7% in the general population.

The condition most commonly affects post-pubertal young adults, with males affected two to four times more frequently than females. The onset of the disease occurs earlier in women, which may be due to an earlier onset of puberty. Other factors affecting the incidence are: increased sweating associated with sitting and buttock friction, poor personal hygiene, obesity, and local trauma. Interestingly, barbers and animal groomers have a higher incidence of the disease than other occupations.

The location of the disease process is the easiest way to confirm the diagnosis. There are few disease entities which present in the skin of the sacrococcygeal region. Oftentimes, small asymptomatic midline openings or pits are seen in the

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base of the natal cleft during a routine office exam. Patients are frequently unaware of this finding.

Pilonidal disease, fistula-in-ano, and hidradenitis suppurativa may present similarly. Also included in the differential diagnosis are skin furuncle, syphilitic granuloma, tubercular granuloma, and osteomyelitis of the underlying sacrum with a draining sinus. However, these are extremely rare.

WHEN TO OPERATE.

In its simplest form, pilonidal disease is asymptomatic and no therapy needs to be instituted. It may remain permanently asymptomatic.

Fifty per cent of patients present with early signs of local disease. Pain, erythema and induration may be the only presenting symptoms. Treatment with broad spectrum antibiotics such as cephalexin, 500 mg. by mouth four times daily for up to two weeks may control and reverse the process. Patients should be reevaluated early, so as to prevent disease progression through early operative intervention.

Should a frank abscess with fluctuance be found, a simple incision and drainage may suffice and relieve symptoms. At this point, the process should resolve and pain should abate. However, this remedy is not curative and thought must be given to definitive treatment once the inflammatory process has resolved. This is not to imply that elective treatment must be undertaken. Many patients will not experience a second abscess. In fact, active disease is rare after the age of forty, and consideration should be given to watchful waiting to see if the disease process spontaneously abates.

With recurrent disease or in cases of disease progression, most patients request elective, and hopefully definitive treatment. Patients must be advised that pilonidal disease is a stubborn problem and prone to recurrences, even after treatment by the most experienced surgeons. Recurrence rates have been reported as high as 38% after primary wound closure. With slow healing or with non-healing, the treatment may cause more morbidity than the underlying disease. Non-healing wounds may continue to discharge for months or years, at great emotional and physical cost to the patient. Operative therapy is not to be undertaken lightly and patients should be informed of possible future morbidity.

OPERATIVE OPTIONS.

In its most simple form, operative treatment involves removing hair from the midline pits, constant shaving of the natal area and close attention to personal hygiene. This should be thought of as control rather than cure. When the disease process is advanced or chronic, excisional therapy is needed (Figure 2). However, traditional procedures using a midline inci-

sion are associated with a lack of adequate healing, or with multiple recurrences in an area that seemingly had been completely excised. High shearing forces on the midline excision site often lead to wound dehiscence, infection and slow healing. In order to avoid wound breakdown, the wound may be left open and allowed to heal over time. However, frequent dressing changes and slow wound healing over six or more weeks are major inconveniences to the patient. As such, many surgeons have begun to use plastic surgical flap techniques to rotate adjacent skin and subcutaneous tissue over the operative site, thus allowing for tension-free healing.

THE RHOMBOID FLAP.

The Rhomboid flap was used originally as flap coverage for chronic wounds in the gluteal cleft that had failed to heal. Over the last decade, significant data has been accumulated and published regarding its efficacy as a primary treatment modality for pilonidal disease. A rhomboid is a parallelogram in which adjacent sides are of unequal lengths, and the angles are oblique (Figure 3). After outlining the rhomboid flap over the operative area, the excision is performed. The defect is covered by the rhomboid flap, rather than closed primarily under tension (Figure 4).

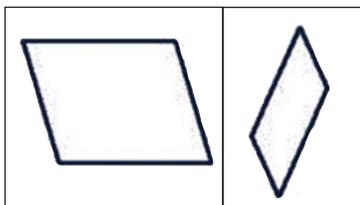


Fig. 3. Rhomboids.

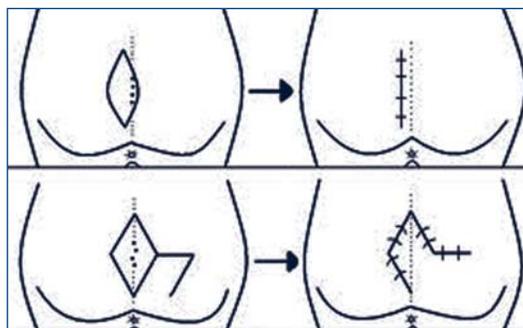


Fig. 4. Mid-line incision (top). Rhomboid incision (bottom).

This procedure addresses many of the concerns which plague a traditional wound closure. Tension on the wound is reduced, which mitigates the heretofore inordinate amount of wound failures. The entire gluteal cleft is not only removed, but also obliterated. This helps to limit the recurrence rate. Recurrence rates are the lowest in the literature, ranging from 2% to 7%, and the infections rates are equally low, between 2% and 10%. Patients may undergo same day procedures and experience more rapid healing.

Wound care and dressing changes are easier, and the return to work and activities of daily life is more rapid. Compared with traditional operative interventions, the rhomboid flap closure of the pilonidal excision site has been a boon to patients. Patients may experience numbness over the flap or rare, non-healing of the wound edges. There will be a cosmetic flattening of the natal cleft.

There are variations of the flap modality, including the Karydak procedure, a Z plasty, or a V-Y plasty. However the data supporting their use is not as robust.

A STUBBORN DISEASE.

A seemingly simple problem such as pilonidal disease can have far reaching consequences, even when treated in an optimal fashion. Treated by an experienced surgeon, a well informed patient will hopefully experience an ideal outcome. However tenacity and perseverance are often required in treating this potentially stubborn affliction. The rhomboid flap has helped to treat this difficult problem using a simple solution.