Pilonidal disease "pain in the buttock area"

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Disclosures

- Received a NOAMA grant to look at our cases in our area.

Objectives

- Describe the etiology of this condition.
- Describe the pathophysiology of the disease.
- List 3 surgical options.
- Describe the differential diagnosis of this condition.

Multiple choice questions

- **1. Which of the following best describes the most widely accepted pathophysiology of pilonidal disease?**
- A) Congenital dermoid cyst remnants that become infected in adulthood B) Acquired foreign body reaction caused by hair follicle occlusion and keratin plug formation C) Chronic skin infection caused by *Staphylococcus aureus* biofilm D) Lymphatic obstruction leading to subcutaneous cyst formation

- **2. A 22-year-old male presents with a painful, fluctuant swelling 4 cm posterior to the anus in the midline. He is afebrile. What is the most appropriate initial management?**
- A) Oral antibiotics and warm compresses B) Wide excision with primary closure C) Incision and drainage D) MRI of the sacrum to rule out presacral pathology

- **3. Which anatomical landmark distinguishes a pilonidal sinus from a perianal fistula on examination?**
- A) Pilonidal sinuses always open in the midline; perianal fistulas never do B) Pilonidal sinuses are located posterior to the anus, typically >4 cm from the anal verge, without an internal opening in the anal canal C) Pilonidal sinuses are always superficial to the fascia, while perianal fistulas penetrate the sphincter complex D) Pilonidal sinuses contain gas-forming organisms, producing crepitus on palpation

- **4. When comparing surgical techniques for chronic pilonidal disease, which statement most accurately reflects the current evidence?**
- A) Midline closure after wide excision has the lowest recurrence rates and is preferred B) Off-midline closure techniques (e.g., Limberg flap, Karydakis procedure) have lower recurrence and wound complication rates compared to midline closure C) Excision with healing by secondary intention is associated with the highest cure rates but is reserved for complex recurrent disease D) Laser depilation alone is curative for chronic pilonidal disease and avoids the need for surgery

- **5. A 30-year-old woman with recurrent pilonidal disease undergoes successful flap repair. Which of the following postoperative recommendations is most evidence-based for reducing long-term recurrence?**
- A) Prophylactic oral antibiotics for 6 months B) Strict bed rest for 4 weeks to reduce wound tension C) Regular hair removal from the natal cleft region D) Application of topical steroids to prevent scar hypertrophy

- Pilonidal Disease
- Comprehensive Management for Healthcare providers

- **What is Pilonidal Disease?**
- Chronic dermatological disorder affecting the sacrococcygeal region
- Formation of follicular abscesses progressing to sinus tracts
- Results from foreign body reaction to ingrown hair
- Can present as acute abscess or chronic sinus disease

- **Epidemiology**
- Affects both pediatric and adult populations
- Male predominance (2-4:1 ratio)
- Peak incidence in 2nd and 3rd decades of life
- Self-limiting condition that often resolves by age 30

- **Etiology: Historical vs Current Understanding**
- **Historical Theory**
- Congenital origin from medullary tube vestiges or dermoid remnants
- **Current Understanding**
- Acquired disease from hair penetration causing foreign body reaction

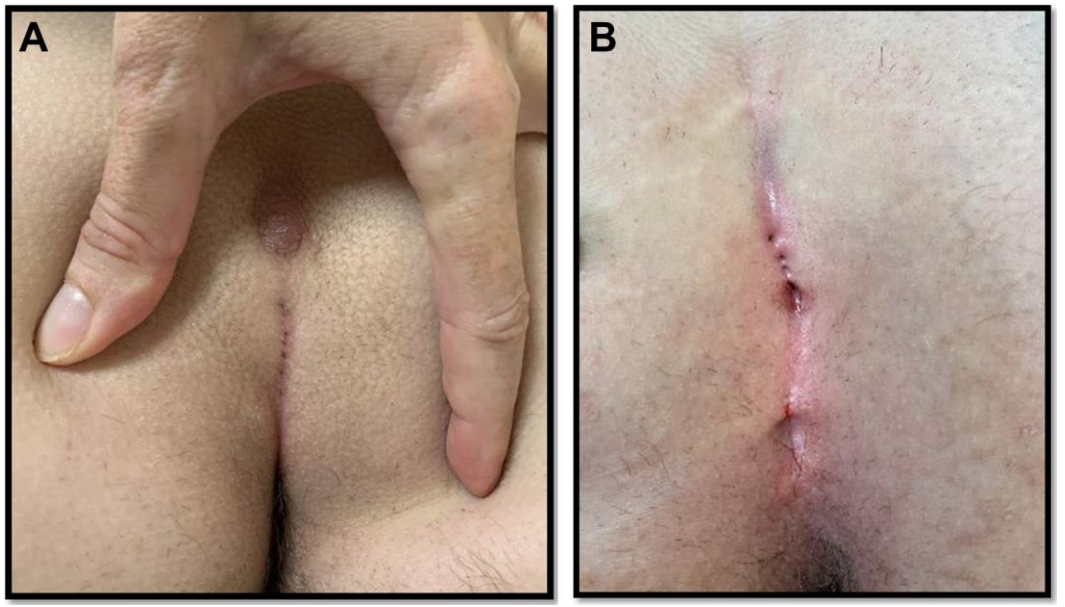
- **Risk Factors**
- Excessive body hair and dark, coarse hair
- Shallow or deep natal cleft anatomy
- Prolonged sitting (occupational risk)
- Obesity and sedentary lifestyle

- **Risk Factors**
- Poor hygiene and excessive sweating
- Local trauma and friction
- Familial clustering (hereditary component)
- Male gender and younger age

- **Pathophysiology**
- Hair follicle irritation from microtrauma and friction
- Formation of "pits" as follicles become blocked
- Hair penetration into subcutaneous tissue
- Foreign body granuloma formation and chronic inflammation

- **Role of Microbiome**
- Recent research highlights microbial involvement in disease chronicity:
- Distinct microbial signatures vs healthy skin
- Predominance of anaerobic bacteria (Prevotella, Finegoldia)
- Biofilm formation impedes wound healing

- **Clinical Presentation**
- **Acute:** Painful abscess with erythema and swelling
- **Chronic:** Draining sinus tracts with intermittent discharge
- **Location:** Sacrococcygeal region, natal cleft
- Visible "pits" or openings may be present


A
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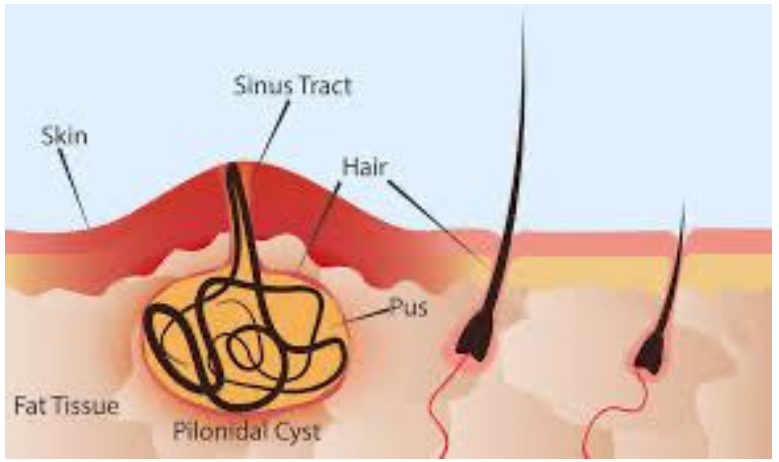

Sinus Tract
Skin
Hair
Pus
Fat Tissue
Pilonidal Cyst

- **Non-Surgical Treatment Options**
- Conservative management appropriate for selected patients:
- First-line for pediatric patients (79% healing rate)
- Cost-effective, minimal impact on daily activities
- May avoid surgical complications and scarring

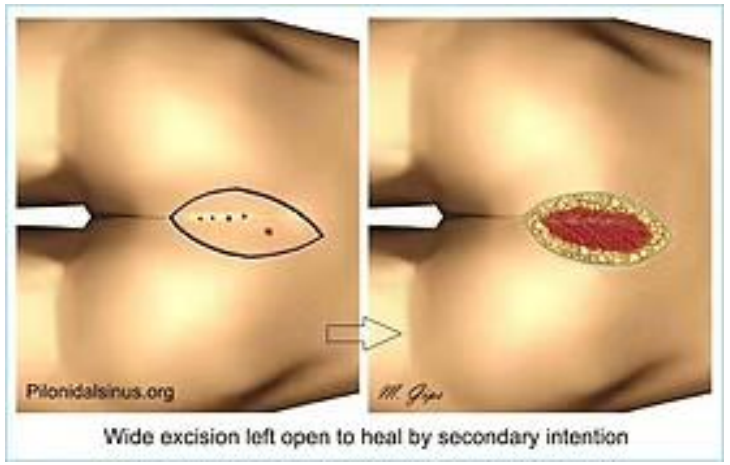
- **Conservative Management Approach**
- Antibiotics for acute infection (10 days)
- Warm sitz baths for symptom relief
- Regular hair removal (weekly shaving/waxing)
- Meticulous hygiene maintenance

- **Advanced Non-Operative Methods**
- Phenol injection (sclerosing agent)
- Fibrin glue application
- Laser or intense pulsed light epilation
- Vacuum-assisted closure (VAC) therapy

- **Indications for Surgical Treatment**
- Chronic symptomatic pilonidal sinus disease
- Failed conservative management
- Recurrent infections (≥3 episodes)
- Complex or extensive disease

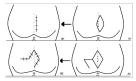
- **Acute Disease: Surgical Approach**
- **Primary Treatment:** Limited incision and drainage
- Lateral incision preferred over midline
- Combine with surgeon-performed shaving
- Repeat shaving every 1-2 weeks until healing

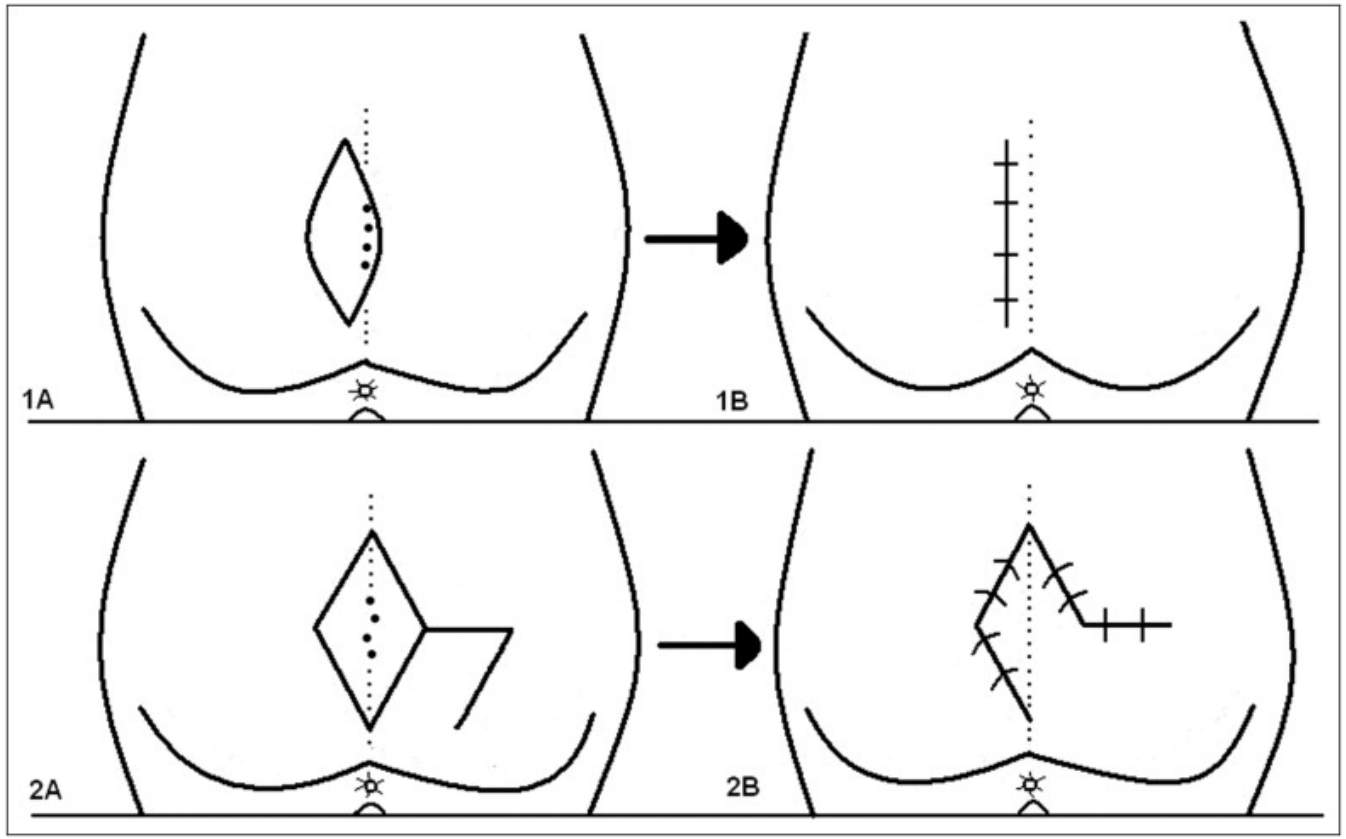
- **Chronic Disease: Surgical Categories**
- **Excision with Primary Closure**
- Faster healing (23-65 days), slightly higher recurrence
- **Excision with Secondary Intention**
- Longer healing, lower recurrence rates



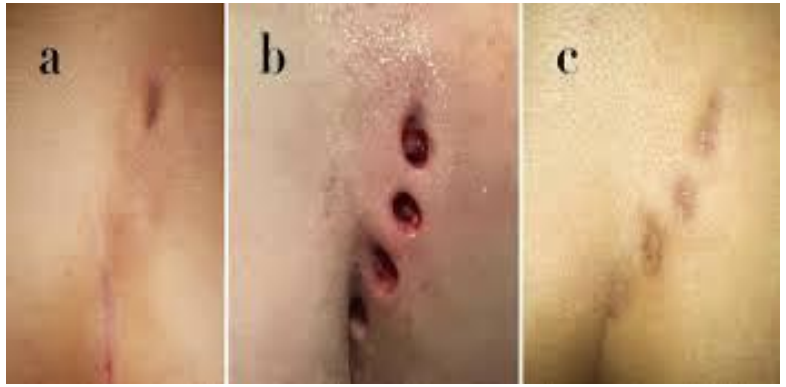
Wide excision left open to heal by secondary intention

- **Primary Closure Techniques**
- Primary midline closure (higher recurrence)
- Off-midline closure techniques (preferred)
- Karydakis flap procedure
- Limberg/rhomboid flap
- Bascom cleft lift procedure




1A
1B
2A
2B

- **Minimally Invasive Surgical Options**
- "Pit picking" or sinusectomy
- Trephination (Gips procedure)
- Endoscopic pilonidal sinus treatment (EPSiT)
- Sinus tract curettage and debridement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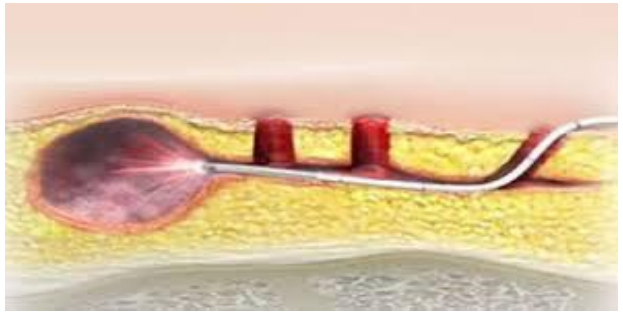


Gips procedure

- **Minimal Surgery for Pilonidal Disease Using Trephines: Description of a New Technique and Long-Term Outcomes in 1,358 Patients-2008. Dr Moseh Gips**
- Recurrence rate similar to more complicated procedure 10-12%

Ideal operation for Pilonidal disease

- Ambulatory and under local anesthesia.
- Low cost: no antibiotics, no sutures or drains, no expensive equipment or special dressings.
- Quick and easy recovery.
- Minimal post-operative complications.
- Good Aesthetic outcomes.
- No recurrence.

- Evaluation of Patient Outcomes Using Minimally Invasive Pilonidal Cyst Removal in a Small Rural Hospital

Methodology

- Retrospective (80 patients)
  - Review all PD surgery from 2016 – 2021
  - Demographic information collected (age at surgery, gender, height, weight, occupation ethnicity)
  - Surgical procedure
  - Surgical time
  - Indication of pain
  - Follow-up presentations

- Prospective (37 patients)
  - Demographics
  - Family history of PD disease
  - Recurrence of PD disease for 24 months after initial surgery
  - Complications
  - Pain

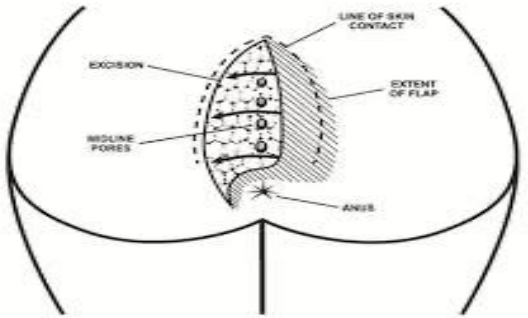
Results

- 69.8% of patients were male
- Mean age was 29.4 years
- BMI of 29 for 106 patients
  - Age and BMI represented a normal distribution
- 20% of all patients had a recurrence of PD

Gips procedure

- Less or no complications
- Less pain
- Faster recovery
- Happy patients
- Recurrence rate 2%
- Surgical time 11 minutes

- **Complex/Recurrent Disease Management**
- Flap-based approaches for wide excision:
- Rhomboid flap reconstruction
- Karydakis lateralization technique
- Bascom cleft lift (flattens natal cleft)


LINE OF SKIN CONTACT
EXCISION
EXTENT OF FLAP
MIDLINE PORES
ANUS

- **Treatment Selection Factors**
- Disease severity and chronicity
- Patient age and activity level
- Previous treatment failures
- Surgeon experience and patient preference

- **Treatment Outcomes Summary**
- Conservative: 79% healing in children, cost-effective
- Primary closure: Faster return to work, higher recurrence
- Off-midline techniques: Lower recurrence rates
- Minimally invasive: Reduced morbidity, evolving evidence

- **Prevention of Recurrence**
- Regular hair removal from natal cleft region
- Maintain excellent hygiene
- Weight management if applicable
- Avoid prolonged sitting when possible

- **Key Clinical Takeaways**
- Pilonidal disease is acquired, not congenital
- Conservative management appropriate for many patients
- Off-midline closure superior to midline techniques
- Hair removal essential for prevention and healing

- Thank you.

Questions