CCHMC Pilonidal Disease Non-Operative Management Guideline

All new patients with pilonidal disease should undergo a complete evaluation including:

History: Make note of

- Onset of symptoms
- Presence of drainage, character
- Pain (0-10 scale; Wong-Baker or similar)
- Prior Incision/drainages, or definitive pilonidal surgeries of any type
- Personal or family history of IBD

Physical exam: Make note of

- Body habitus
- Skin tone (use Fitzpatrick scale- see Glossary; this is probably only important when we start performing and evaluating for Laser epilation, but if possible try to gather the data now)
- Degree of hirsutism
- Any midline pits: number, size, presence of hair sticking out of any
- Any off-midline sinuses
- Wounds (size, location)
- Note any pits or wounds close to the anal verge
- Degree of soiling, any unpleasant odors

Clinic equipment required for all routine visits (all supplies should be unopened and only opened if needed, based on examining the patient):

- Surgical Clipper and clipper blade attachment (Don't open clipper blade until needed). Clipper should be kept in its charging cradle and ready for use.
- 2-3" tape for hair removal
- Suture removal kit (contains forceps/tweezers for picking hairs from pits)
- Gauze, 4x4" clean (not individually sterile 4x4; when you need gauze you frequently need a large amount of it, and pilonidal wounds are not sterile).
- Dressings (gauze and paper tape or Mepilex border 4x4, Mepilex Sacrum for large wounds)
- Saline 500 ml bottle.

Clinic supplies available during clinic for complex cases:

-Aquacel AG

-Therahoney/Medihoney

-Hydrofera blue

-Dakins Solution 1/4 strength or 1/2 strength

-Hypochlorus wound wash (Vashe, Minocyn)

Interventions at visits:

HAIR REMOVAL

Natal cleft clipping: All patients with any hair present in the natal cleft should have the area completely clipped. Remove all hair in an area 10-15 cm. from the cleft in all directions, and include as much as possible from the posterior hemi-circumference of the anus. Patients with natal cleft hair should be clipped at every visit. Avoid clipping hairs protruding from midline pits until those pits have been plucked free of hair. If patients have large open midline wounds, it may be useful to roll a gauze and tuck it into the natal cleft, to keep hair from getting into the wound while clipping the bulk of the hair. Once the area down to the gauze has been clipped and cleared of hair, you remove the gauze and carefully clip to the edges of the wound.

Pit hair removal: Midline pits often become receptacles for loose hairs. When hairs are seen protruding from any pits those particular hairs should be grasped with a forceps and pulled out. These hairs are not attached to the patient and will easily slide out, but if they do not slide out it most likely indicates the hair is not a pit hair but is still attached to its follicle. Once all pits have been plucked clean of hair, you may clip the region completely. Take care not to clip prior to looking for these pit hairs, because once clipped there is very little hair sticking up to be able to grasp for removal.

Wound or sinus hair removal: patients with chronic pilonidal wounds or sinuses may have visible hair protruding from these locations. Do your best to remove as much hair as possible from these areas, but doing so may be limited by patient discomfort and bleeding. If completely removing the hair is impossible, do as much as is reasonable and schedule a wound cleanout under anesthesia to complete the evaluation, hair removal and wound cleaning.

ABSCESS DRAINAGE (See Appendix A for Supply List)

Off-midline drainage: Any patient who presents with a fluctuant abscess, should undergo drainage. Some abscess may be amenable to simple needle aspiration, while others benefit from an incision to drain them more completely. When an incision is necessary, attempt to keep it off of the midline to the greatest extent possible. Placing wounds in the midline may simplify drainage, but the base of the natal cleft is the most challenging area for wound healing, and should be avoided if possible. Wound packing after drainage is at the discretion of the surgeon, but in general is discouraged as the practice can be painful, labor intensive for patients and families, and not associated with improved outcome.[1,2] Packing the external opening for hemostasis may be required at times, and should be done in such a way as to make it easy for the patient or caregiver to remove the packed gauze at the first shower or soak. Culturing an abscess remains

[1] O'Malley GF, Dominici P, Giraldo P, Aguilera E, Verma M, Lares C, Burger P, Williams E. Routine packing of simple cutaneous abscesses is painful and probably unnecessary. *Acad Emerg Med*. 2009 May; 16(5):470-3. doi: 10.1111/j.1553-2712.2009.00409.x. Epub 2009 Apr 10.

[2] Kessler DO, Krantz A, Mojica M. Randomized trial comparing wound packing to no wound packing following incision and drainage of superficial skin abscesses in the pediatric emergency department. *Pediatr Emerg Care*. 2012 Jun; 28(6):514-7. PMID 22653459 doi: 10.1097/PEC.0b013e3182587b20.

controversial and very rarely alters care.[3] The culture result proves useful in the event a patient has been placed on antibiotics, is not improving, and the culture shows an organism that is resistant to the selected antibiotic course. If the patient is clinically improving, the culture result is useful only for epidemiologic purposes.

ANTIBIOTICS

If a patient has significant cellulitis, antibiotics may be beneficial, but outside the setting of acute infection there is no clear medical evidence to support routine use of antibiotics for pilonidal patients.[4] If a patient has an abscess, minimal surrounding cellulitis, and the drainage procedure was felt to be effective, post-procedure antibiotics are optional. Antibiotics should be given to any patient with Diabetes or any immune dysfunction. If using antibiotics, broad spectrum coverage (commonly Ciprofloxacin or Trimethoprim/Sulfamethoxazole for Gram +/- and Metronidazole or Clindamycin for anaerobes) is necessary as the flora is general mixed with high concentration of gram negative and anaerobic organisms. Sometimes a course of antibiotics can be tried in a patient with a non-healing wound, as a means to decrease bacterial burden and help wound healing, but that's not an evidence-based practice. Topical antibiotics have not been traditionally beneficial, although there has been some recent anecdotal experience that Metronidazole 10% ointment may be beneficial in getting pilonidal wounds to heal. It is compounded from powder, or available in the U.K. under trade name Ortem. Approximately 1 inch of the paste contains about 700 mg of ointment or 70 mg of

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[3] Shaughnessy MP, Park CJ, Zhang L, Cowles RA. The Limited Utility of Routine Culture in Pediatric Pilonidal, Gluteal, and Perianal Abscesses. J Surg Res. 2019 Mar 6;239:208-215. doi: 10.1016/j.jss.2019.02.017. [Epub ahead of print]

[4] Steele SR, Perry WB, Mills S, Buie WD. Practice Parameters for the Management of Pilonidal Disease. Dis Colon Rectum 2013; 56: 1021–1027.

metronidazole and is applied once daily to the affected area. *(**NOTE**: In Cincinnati this is available from Biomed Pharmacy in West Chester and is their Compound #59F)*

ROUTINE CARE PLAN:

- *Surgical Intervention:* Recommending a surgical procedure is always at the discretion of the treating surgeon. Our center's surgical approach focuses on a graduated approach starting with minimally invasive excision (Gips procedure) and reserving off-midline excision with lateral transfer flap (Bascom/Karydakis Cleft Lift) for patients who recur, or have such extensive disease on initial presentation that Gips would not be an option. Surgery may be discussed at the initial visit, or deferred for subsequent visits if the initial focus is placed on non-surgical measures of hair removal, hygiene improvement, and local wound healing. Patients presenting with acute infections sometimes have significant edema at the cleft and in some situations it can be hard to visualize midline pits that could be the root cause. In those situations discussion of a definitive procedure is premature. The physical exam, and discussion of definitive procedure, becomes clearer once the infection has been treated and midline pits have become apparent.
- *Activity Restriction:* Full activities are allowed in routine care. Patients are encouraged to avoid sitting for long periods of time.
- *Antibiotic Regimen:* Antibiotics are not required unless a patient has significant cellulitis, is diabetic, or immunocompromised.
- *Analgesia Regimen*: Analgesia usually isn't required if all infections are treated appropriately. If patients are in pain, and appropriate measures are put in place

to handle infection (drainage +/- antibiotic) then a course of NSAID like Ibuprofen may be helpful if no allergy or renal impairment.

- *Wound care regimen:* A top dressing is required until the openings stop draining and all wounds are healed. Gauze, or a silicone dressing (Mepilex, Allevyn) may be used. Open wounds that appear clean should be washed and all hair removed from the area. Wounds may be washed with water or in cases where bacterial overgrowth is a concern may be washed with Hypochlorus acid solution (such as Microcyn, Vashe). These solutions appear to have greater antimicrobial effects than Dakins (hypochlorite solutions) but don't appear to be cytotoxic.[5]

  Dress larger or deep wounds with a suitable packing material to promote a favorable wound environment and prohibit the formation of biofilm. Options include, but are not limited to:

  - **Hydrofera blue**, which is a polyvinyl alcohol foam sponge impregnated with methylene blue and gentian violet for antimicrobial effect and natural wicking.

  - **Aquacel/Aquacel Ag** - a hydrofiber dressing designed to wick away exudate. The Ag form includes Silver for antimicrobial effect.

  - **Dakins soaked gauze** in either 1/4 or 1/2 strength. Dakins formulated a hypochlorite solution that can be useful in wounds with significant bacterial burden, once necrotic tissue has been sufficiently debrided.

[5] Totoraitis K, Cohen JL, Friedman A. Topical Approaches to Improve Surgical Outcomes and Wound Healing: A Review of Efficacy and Safety. *J Drugs Dermatol.* 2017 Mar 1;16(3):209-212.

-**Saline soaked gauze** - such dressings preserve a moist environment, prevent material from getting lodged in the wound, and are simple and inexpensive.

- **Medical-grade Honey (Medihoney, Therahoney)** dressings are useful for small wounds not amenable to packing ra blue, as the honey is very easy to apply and has both antimicrobial as well as debriding properties.

- Negative pressure (vacuum or vac) dressings - Large wounds in general are well treated with negative pressure therapy. In the natal cleft area it may be very difficult to maintain a seal at the inferior wound edge. If attempting vac dressings in this context, consider inpatient hospitalization to ensure the dressing maintains integrity.

Dressings should not interfere with frequent showering/bathing and aggressive post-defecation cleansing. The dressing may be removed before bathing and a fresh dressing may be applied after. With a daily to twice daily shower/bath recommendation, this drives dressing changes to a minimum of once to twice daily.

- *Hygiene Regimen:* If trying to get a pilonidal wound to heal, cleaning the area vigorously with either a hand-shower or soak a minimum of twice daily is recommended. Cleaning the area with a hand shower after any bowel movement is highly recommended. For patients with stable healed bottoms, once daily hand shower and good toilet (post-defecation) hygiene should be sufficient. Chlorhexidine or povidone Iodine washes are to be avoided due to the cytotoxic effect on keratinocytes which may impede wound healing. Chlorhexidine washes, which have become common as a preoperative home

preparation for adults undergoing surgical procedures, have not been evaluated as part of a long-term strategy in the healed patient to prevent recurrence, or in the mild disease patient electing non-surgical therapy.

- *Hair removal regimen:* Continue to clip the hair in the area weekly. Return to clinic if unable to clip effectively at home.
- *Follow-up:* If actively trying to get wounds to heal, follow up weekly to biweekly. For patients who you think may have trouble clipping and caring for the area at home, they should be seen weekly and clipped in the office. Patients who are doing well with good hygiene and clipping ability, can be followed up less frequently.

Appendix A - Supply List for Incision and Drainage Procedures

- Ambulatory Procedure Consent form
- Topical anesthetic cream
- Tegaderm or Opsite
- Local anesthesia (Lidocaine), Syringe and 25 gauge needle (or Tuberculin syringes with attached 27 gauge needle)
- 10 ml Syringe and 18 gauge needle (for aspirating)
- Culture swab for aerobic and anaerobic
- Scalpel (11 or 15 blade)
- Small instrument set (sometimes a clamp, forceps can be helpful)
- Saline for washing out (syringe and angiocath to make irrigation easier)
- Dry gauze to dress (useful to pack with if bleedy)
- Some providers will want gauze packing. Plain packing preferable to iodoform.
- Bandage tape for gauze

Glossary

Fitzpatrick scale - a skin classification system, developed in 1975 by Thomas Fitzpatrick, based on pigment, originally intended to predict response of skin exposure to UV light. The scale numbers 1 through 6, 1 being the fairest light skin that easily sunburns, and 6 being the darkest brown-black skin tone that does not sunburn. This scale is used commonly by Laser epilation providers in determining which laser is best suited for the skin.

Pit - A visible pore that occurs exclusively in the midline of the natal cleft. Pits can be tiny but are never more than a few mm in diameter. Pits are lined with skin, as opposed to wounds.

Sinus - A small opening, often with (but not requiring) active drainage between an underlying pilonidal cavity and the gluteal skin. Sinus, when a result of natural necessitation, usually (but not always) open off of the midline and frequently at the upper aspect of the natal cleft. They are often hallmarked by granulation tissue and/or scar tissue around their opening. The opening may scab over from time to time but fails to resolve without intervention.

Secondary opening - an opening off of the midline where a pilonidal spontaneously drained. These areas are often covered by a thin skin of inflammatory material and may protrude from the skin in inflammatory fashion.

Wound - An opening larger than a sinus in the midline of the natal cleft lined with subcutaneous tissue, fat, and granulation tissue. Pilonidal wounds are always midline and can occur naturally as the result of spontaneous abscess drainage, or can be the result of surgical intervention.