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Incision and Drainage of Abscesses

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Incision and Drainage for the Internal Medicine Physician

Competency: This clinical skills workshop is designed to enable the Internal Medicine physician to learn practical and common skills for the management of an abscess in an office or ambulatory care setting with a standard set of supplies and equipment.

Objectives: Upon completion of this workshop, participants will have a better understanding on how to:

- Recognize and identify cutaneous abscesses.
- Understand wound/skin preparation for procedures.
- Understand and identify potential contraindications for I&D.
- Differentiate abscess appropriate for bedside drainage vs referral to specialist or OR.
- Identify the common equipment needed for abscess drainage and management.
- Practice incising and managing an abscess.
- Understand aftercare of abscess management.

Indications for Abscess Drainage:

- Anatomy – Cutaneous abscesses can be found on any area of the body but most commonly occur on the extremities, buttocks and in the axilla. Abscesses on areas that are more anatomically challenging such as the face, hands and anal area may represent areas that require more specific expertise to manage.
- Diagnosis – A localized area that is erythematous, tender, fluctuant and indurated likely represents a cutaneous abscess and may be a candidate for I&D. If after physical examination, it remains unclear as to whether or not the presenting mass is an abscess, clinicians can further delineate the problem using other tools.
 - Needle aspiration – This should never be done or thought of as a definitive treatment for a cutaneous abscess; rather it can be performed to confirm the presence of pus in a wound prior to a formal I&D
 - Ultrasound can be used as an adjunct to aid in the diagnosis of an abscess that is not completely clinically apparent.
 - CT or MR are also adjuncts for imaging in select cases where size, location, or other clinical questions may warrant advanced imaging.

Ultrasound Image of Abscess Cavity:



Contraindications to Abscess Drainage:

- **Size** – If an abscess is identified and thought to be too large, too deep or crosses concerning or vital structures, I&D should be performed in a more appropriate setting such as in the Emergency Department or in an in an operative setting by a surgeon. Abscesses larger than 5cm are generally more difficult to achieve adequate local anesthesia for bedside I&D unless in the hands of an experienced proceduralist.
- **Location** – It can be difficult to estimate the size and depth of a peri-rectal or perianal abscess. Additionally, given the sensitive location of these along with potential anatomic challenges and complications associated with these, they should be managed in a controlled environment by a specialist very familiar with the anatomy of this area.
- **Systemic risks** – Given that an abscess is a walled off area of infection, opening these may lead to introduction of bacteria systemically. Those with artificial valves or damaged valves might benefit from receiving prophylactic antibiotics.
- **Cosmesis** – Abscess drainage will leave a scar. Abscess formation on cosmetic areas such as the face and breasts may be considered for incision and drainage by someone trained in limiting cosmetic defects. Patient preference and local availability will contribute to the decision.

Equipment: If commercially available incision and drainage kits are not available, often suture kits or laceration trays will contain most of the basic equipment to aid in the performance of an I&D. Below is a list of materials needed.

- Universal precaution items
- Skin cleansing agent
- Needle and syringe for local anesthesia (small gauge needle 25g)
- Lidocaine (or other local anesthetic) with or without epinephrine
- Scalpel blade (11 preferable)
- Syringe with NSS and 18g angiocath (if irrigation desired)*
 - **Irrigation not necessary in most office I&D, it creates a splash-risk and has not been demonstrated to be superior for small abscesses.*
- Culture swab, if desired
- Curved Hemostats
- Gauze for Packing (plain or iodoform), if desired
- Plain scissors

Preparation:

- **Informed consent:** Since this is a procedure with risks and benefits, informed consent should be obtained prior to the procedure. Patient should be informed that the procedure will leave a scar and that repeat I&D or need for further surgery may be necessary.
- **Patient Comfort:** this procedure requires the use of a scalpel, blunt dissection and manipulation of an inflamed area of your patient's body. Analgesia is important. Abscess location, size, and the patient's pain tolerance will determine which of the following are needed:
 - Local anesthesia over the area to be incised (top of the abscess)
 - Local field block placing lidocaine around the periphery of the entire wound (to be demonstrated in workshop). This can involve multiple injections which can be painful, so attention to minimizing needlesticks while administering enough local anesthetic is essential.
 - Oral or parenteral pain medication or anxiolytics
- **Wound cleansing:** Although this is not a classically 'sterile' procedure entering a pus and bacteria filled area, it is prudent to prepare the wound with a commercially available skin preparation to limit the introduction of bacteria: some examples being alcohol, chlorhexidine or betadine

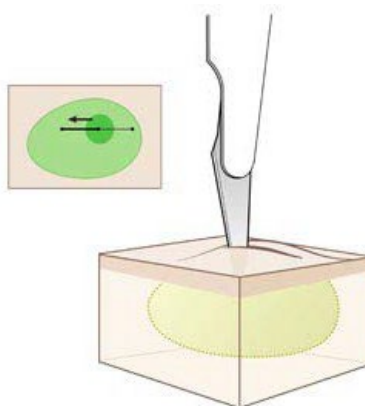
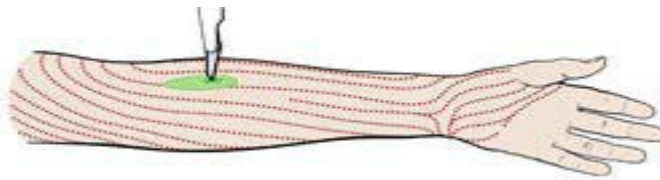
Incision and Drainage Procedure:

- Make a stab incision at the center of the abscess (where the abscess is “pointing”) and to the depth estimated or measure by ultrasound.

Make the incision along existing skin-tension lines

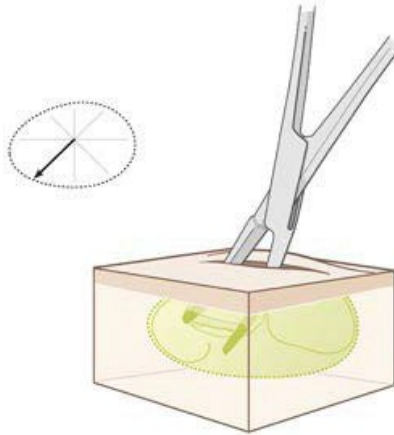
- Extend the incision in both directions allowing adequate drainage and access for packing ($\frac{1}{2}$ to $\frac{3}{4}$ the length of the abscess)

Extend the incision



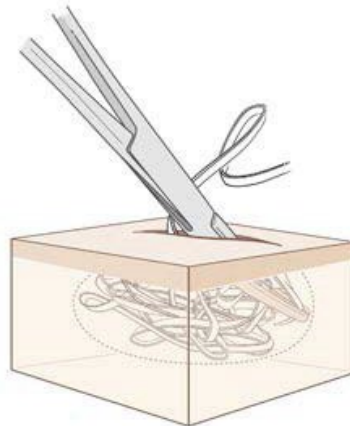
- If cultures are desired, at this point obtain cultures of the interior of the wound.
- After spontaneous drainage, gently express additional contents with pressure on all sides of the wound.
- Gently disrupt any loculations with the curved hemostats. For larger abscesses, be sure to gently explore all 4 quadrants of the wound.

Perform blunt dissection of the abscess cavity



- If desired, gently irrigate if wound using a syringe, NSS and a soft angiocath
-as detailed above irrigation is not required for most small abscess I&D done at bedside
- If deemed warranted, gently pack all 4 quadrants of the wound using sterile gauze (¼ inch packing is adequate for most small abscess)
- Cover wound with a clean dressing.

Place packing material



Aftercare:

- Simple abscesses usually do not require antibiotics (see section below “decision to treat with antibiotics”)
 - NOTE: **MRSA (Community Acquired)**
 - Prevalent microbe in many communities in the US
 - Culture of wounds can assist, if desired
 - Consider antibiotic coverage (TMP/SMX or Clindamycin) if MRSA infections are common in your community and abscess meets criteria for antibiotics.
- Pain Management
 - With adequate drainage, patients will be dramatically improved at their 2 day follow-up visit.
 - Consider pain management for 2 days; this is a painful condition and may warrant brief course of pain management with shared decision-making.
 - At their 2 day wound check, if your patient still remains in significant pain, this may be an indication of inadequate drainage
- Have patients keep their wound covered with clean gauze.
- Instruct patients on infection control principles for home care.
- Showering is OK, avoid soaking the wound.
- Wound Check
 - 2 days post procedure
 - Remove packing
 - If patient feels better and wound has minimal to no pus drainage, do not repack
 - If still draining, consider change in packing and revisit in 2 days
 - Once packing is deemed appropriate to be removed, let wound heal by secondary intention and instruct patient on wound care and return precautions.

Complications:

- Progression of abscess or to a cellulitis
 - Consider additional drainage
 - Consider antibiotics
 - Consider hospitalization if systemically ill

Decision to treat with antibiotics.

At the time of this syllabus, for immunocompetent hosts, IDSA guidelines still advise I&D alone without antibiotics for small (mild) uncomplicated abscesses. Those with moderate to severe abscesses along with mild immunocompromised hosts, systemic symptoms or failed drainage are some factors where antibiotics would be favored.

Various studies over recent years have demonstrated various levels of improved outcomes, reduced recurrence with antibiotics even for small (mild) abscesses. Clinicians must weigh the risk of antibiotic adverse events and antimicrobial resistance against the degree of improved outcomes sought.

Sources for further reading:

- IDSA Guidelines; Clinical Infectious Diseases ; 2014 ; 59 : 10 -52, with updates/corrections in *Clinical Infectious Diseases*, Volume 60, Issue 9, 1 May 2015, Page 1448,
- *JAMA* 2017; 317:2088
- *NEJM* 2017; 376(26):2545
- *NEJM* 2016; 37(9):823
- *Ann Emerg Med* 2010;56(3): 283

Example of a Procedure Note for an Abscess Incision and Drainage

“I&D of Right Forearm Abscess”

The skin surrounding the 5 cm circumferential, fluctuant wound on the posterior aspect of the mid forearm was cleansed with_____. A total of 4cc 1% lidocaine with epinephrine was first injected across the top of the wound and then surrounding the wound (local field block). The wound was prepped and draped in the normal fashion. A stab incision with a #11 blade scalpel was made with pus noticed immediately. The incision was extended to a length of 3.5cm. Additional pus was expressed using gentle pressure. Loculations were disrupted with a curved homeostat and 50 cc NSS was used to gently irrigate the wound. ¼ sterile gauze packing was gently placed in all quadrants of the wound and a dressing was placed.

Reference:

Fitch M, et al. Abscess Incision and Drainage. N Engl J Med 357;19

Coding Information

Typical coding

Decision for Surgery: Evaluation and management services on the day before major surgery or on the day of major surgery that result in the initial decision to perform the surgery are not included in the global surgery payment for the major surgery and, therefore, may be billed and paid separately. In addition to the CPT evaluation and management code, modifier “-57” (decision for surgery) is used to identify the prior visit which resulted in the initial decision to perform surgery.

Evaluation & Management: select most appropriate Evaluation and Management code, determined by treatment setting, severity, time. E&M code includes typical service, such as narcotic management. If evaluation and management services occur on the day of major surgery, the physician bills using modifier “-57,” not “-25.” The “-57” modifier is not used with minor surgeries because the global period for minor surgeries does not include the day prior to the surgery.

Incision and drainage procedure: CPT 10060 (*Incision and drainage of abscess (eg, carbuncle, suppurative hidradenitis, cutaneous or subcutaneous abscess, cyst, furuncle, or paronychia); simple or single*). If the abscess incision and drainage is deemed **complex** CPT Code 10061 would instead be utilized (examples of complex: multiple abscesses, those requiring extensive loculation disruption or packing) The code value for CPT 10060 or 10061 includes surgical supplies, so no separate coding for supplies is needed. This is a 10-day global period code. Do not bill separately for visits within the 10 day post-op period.

Diagnosis: For Medicare patients, CPT 10060 is often frequently billed with ICD-10 codes listed below, among others:

- [L03.019](#) Cellulitis of unspecified finger
- [L03.029](#) Acute lymphangitis of unspecified finger
- [L03.811](#) - Cellulitis of head [any part, except face]
- [L03.818](#) - Cellulitis of other sites
- [L03.891](#) - Acute lymphangitis of head [any part, except face]
- [L03.898](#) - Acute lymphangitis of other sites
- [L73.9](#) - Follicular disorder, unspecified
- [L60.9](#) - Nail disorder, unspecified
- [L02.439](#) - Carbuncle of limb
- [L02.429](#) - Furuncle of limb,

Patient Education Handout

ABSCESS CARE

1. Observe/check the wound 3-4 x's daily for signs of worsening infection such as increased redness and swelling
2. Keep the wound covered except when showering and observing the wound
3. Showering is permitted, avoid bathing and swimming.
4. If you have been prescribed antibiotics, take them as instructed
5. Contact the office at _____ if signs of infection appear. These include:
 - Red, painful, swollen and warm
 - Red streaks around wound
 - Chills or fever
6. Do not remove the packing (the string coming out of the wound). If this falls out, call the office immediately
7. This wound needs to be checked in 2 days and evaluated for packing removal