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## LOOP DRAINAGE OF CUTANEOUS ABSCESSES USING A MODIFIED STERILE GLOVE: A PROMISING TECHNIQUE

David O. Thompson, MD, MPH

Department of Emergency Medicine, San Francisco General Hospital, University of California, San Francisco, San Francisco, California Reprint Address: David O. Thompson, MD, MPH, Department of Emergency Medicine, San Francisco General Hospital, 1001 Potrero Avenue, Room 1E21, San Francisco, CA 94110

□ Abstract—Background: Cutaneous abscesses are a common clinical condition treated effectively with incision and drainage. Objective: Placement of subcutaneous loop drains to facilitate healing of these infections has been described, but has yet to gain widespread adoption in clinical practice. Discussion: This article includes instructions for how to perform this technique using materials available in the emergency setting, as well as a discussion of the potential advantages and disadvantages of this method. Conclusions: This technique of abscess management is effective and easy to perform. It offers potential benefits, such as decreased pain from packing material, no need for packing changes, and decreased need for follow-up visits. Published by Elsevier Inc.

□ Keywords—abscess; cellulitis; infection; skin; soft tissue

#### **INTRODUCTION**

Incision and drainage (I&D) is the standard treatment for cutaneous abscesses (1-6). There remains controversy about whether abscesses should be packed, left open, or have drains left in place (7,8). Concerns have been raised about the need for packing due to pain of packing material placement, need to change the packing, whether patients can change the packing independently, need to return to a medical facility for dressing changes, and whether packing provides any benefit in outcomes. Proponents of packing abscesses voice concerns that an unpacked abscess incision can heal with infected material retained inside. Placement of subcutaneous loop drains has been suggested and demonstrated to be an effective and safe technique for cutaneous abscess drainage (9-13). However, this technique has not been adopted into widespread practice due to real or perceived barriers to implementation. Here we describe and illustrate drainage of abscesses with subcutaneous loop drains using modification of a non-Latex, powder-free, sterile glove. We will also discuss the advantages and disadvantages of this technique.

#### Technique

The patient's skin is cleansed with antiseptic solution, and the skin overlying the abscess is infiltrated with lidocaine solution. A 1-cm incision is made overlying the perimeter of the fluctuant area. The abscess cavity is explored with a metal clamp and any loculations are broken. A second 1-cm incision is made on the opposite side of the fluctuant area, cutting down to the metal clamp left inside the abscess cavity. The cuff is removed from a sterile, non-Latex, powder-free glove using sterile scissors (Figures 1-3). The rubber ring is then cut to create an improvised "vessel loop" drain. This drain is inserted into one of the incisions and passed out the opposite incision using the instruments. The two ends of the drain are tied in knots to secure the drain, leaving slack in the loop to allow free movement (Figures 4-6). An absorbent dressing is applied. The patient is

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Figure 1. The cuff is removed from sterile glove.

instructed to wash their skin and change the absorbent dressing daily. The drain should remain in place until there is no further pus draining from the wound and until the erythema of cellulitis has nearly disappeared. To remove it, one clips the rubber loop with scissors and removes the drain.

### DISCUSSION

Abscess I&D is a common procedure performed in the emergency department and a variety of other clinical settings. Despite agreement that drainage is the appropriate treatment for an abscess, there is widespread practice variation in a variety of adjunctive practices, such as packing, irrigation, antibiotics, analgesia, primary closure, and more (14–18). Placement of subcutaneous loop drains has been proposed as a method to avoid premature closure of overlying skin with retained infection inside, while avoiding the



Figure 3. Cuff is cut, leaving an improvised drain.

pain from packing and simplifying the need for follow-up medical care (9-13).

Tsoraides et al. performed a retrospective review of 115 pediatric patients who had loop drainage of cutaneous abscesses. The findings were a 5.5% need for repeat procedures, which were effective. They concluded that this technique was safe, effective, and the standard of care at their institution (9). Similarly, Ladd et al. performed a retrospective review of 128 pediatric patients treated with loop drains for cutaneous abscesses. They found no recurrences and no significant morbidity related to the procedure. They concluded loop drains are a successful technique for the drainage and treatment of complex abscesses in children with limited postoperative wound care (10). McNamara et al. performed a retrospective review of 219 pediatric patients with cutaneous abscesses treated with open I&D (n = 134) or loop drain



Figure 2. Sterile glove cuff.



Figure 4. Drain is inserted through abscess cavity.

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