

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
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GOALS

- ✓ Early diagnosis and treatment
- ✓ Incision and drainage if abscess present
- ✓ Evidence based use of antibiotics
- ✓ Prompt referral of severe infections or necrotizing fasciitis to higher level of care

ALERTS

- Methicillin-resistant *Staphylococcus aureus* (MRSA) is resistant to ALL penicillins, and most cephalosporins, macrolides, and quinolones
→ Methicillin-sensitive *Staphylococcus aureus* (MSSA) and MRSA resistance to clindamycin is increasing
→ Consider local and institutional susceptibilities in antibiotic selection
- Closely monitor response to antibiotic therapy
- Human bites have high infection risk
- Spider bites rarely cause skin infections, think staphylococcus

Skin and Soft Tissue Infections (SSTIs)

DIAGNOSTIC CRITERIA/EVALUATION

Impetigo

Definition	Description	Comments
Common superficial skin infection	Discrete, purulent lesions, blister-like, often with honey-colored pus and golden-colored scabs	<ul style="list-style-type: none"> ▪ Usually on exposed areas such as face or extremities ▪ Frequent in children; also seen in adults ▪ Usually due to <i>Staphylococcus aureus</i>, can be <i>Streptococcus pyogenes</i>

Cellulitis, Erysipelas, and Abscesses

Cellulitis and erysipelas refer to diffuse spreading skin infections; terms often used interchangeably	<p>Both have rapidly spreading redness, warmth, and edema; may see lymphangitis and/or regional lymphadenopathy</p> <p>Erysipelas involves upper dermis, is often raised, and has a well demarcated border</p> <p>Cellulitis extends more deeply to involve subcutaneous tissues; borders usually less distinct than erysipelas</p> <p>Furuncles (boils) and carbuncles: furuncles are infections of hair follicles. Pus extends into subcutaneous tissue, creating an abscess. Involvement of multiple adjacent follicles is called a carbuncle</p> <p>Abscesses: Painful, tender, fluctuant pus-filled nodules within dermis and deeper skin tissues</p>	<ul style="list-style-type: none"> ▪ May see fever, tachycardia, leukocytosis, hypotension, mental status changes ▪ Can be due to both β hemolytic streptococcal species or staphylococcus ▪ Carbuncles often found on nape of neck in diabetics and HIV infected persons ▪ Usually due to <i>Staphylococcus aureus</i> ▪ Abscesses usually due to <i>Staphylococcus aureus</i>
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Necrotizing Fasciitis

Rare subcutaneous infection that tracks along fascial planes	<p>Presentation similar to cellulitis but progressive with systemic toxicity (high fever, altered level of consciousness)</p> <p>Distinguishing clinical features include “wood hard” feel of subcutaneous tissues, skin necrosis or ecchymoses, edema, gangrene, gas in tissues, pain out of proportion to examination, poor response to therapy</p>	<ul style="list-style-type: none"> ▪ Often extends from minor skin abrasion, insect bite, illicit injection drug use (IDU) site, or boil ▪ Most infections occur in the limbs (2/3rds of them in the lower extremity) ▪ High risk among IDUs, diabetics, obese ▪ If necrotizing fasciitis suspected refer emergently to a higher level of care, urgent surgery often indicated ▪ Can involve single or multiple organisms, most commonly <i>S. pyogenes</i>, <i>S. aureus</i> including MRSA, and anaerobic streptococci
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Human Bite

Human bites and injuries that occur when a clenched-fist strikes the teeth of another person	<p>Antibiotics recommended if wound is deeper than epidermis; involves the hands, feet, or face; and/or involves skin overlying a cartilaginous surface</p> <p>High risk for serious bacterial infection, often polymicrobial</p>	<ul style="list-style-type: none"> ▪ In correctional setting, patients often present late after injury, may be unwilling to admit to a history of altercation ▪ Evaluate both individuals for possible blood borne pathogen transmission
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Adapted from: IDSA Practice Guidelines for the Diagnosis of Skin and Soft Tissue Infections 2014; UpToDate: Necrotizing Infections of the Skin and Fascia, Stevens et al, December 2014; UpToDate: Cellulitis and Erysipelas, Baddour, December 2015; Federal Bureau of Prisons Clinical Practice Guidelines for Management of MRSA Infections, April 2012.

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TREATMENT OPTIONS

Impetigo

Treatment Overview

- Wash skin several times daily with soap to remove crusts and drainage
- This treatment may be sufficient without antibiotics

Medication

- If medication is indicated in addition to regular cleansing of the affected area, topical antibiotic treatment is usually sufficient [especially if lesions are few and small (<10 mm)]
- Topical mupirocin 2% ointment bid for 5 days (nonformulary)
- Oral antibiotics can be used for larger or more numerous lesions or in outbreak settings
 - Amoxicillin or cephalexin for 7 days
 - Clindamycin may be used for penicillin allergic patients, rising clindamycin resistance is a concern

Cellulitis, Erysipelas, and Abscesses

Erysipelas and Cellulitis:

- Elevate the affected area to reduce edema.
- Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis)
- Discuss avoidance of dry skin

- Oral antibiotics are usually sufficient unless the patient is unstable, severely immunocompromised, and/or the infection involves the face
- Empiric therapy for 5-7 days to cover both β hemolytic streptococcal species and staphylococcus
- Appropriate antibiotics include amoxicillin or cephalexin
- In institutions with a high prevalence of MRSA, or with immunocompromised patients, those with extensive disease, or worsening disease not responding to initial empiric therapy (after 48 hours), add coverage for MRSA: trimethoprim-sulfamethoxazole (TMP-SMX) or doxycycline for 7-10 days.
- For severely ill patients or those with systemic toxicity (e.g., systemic inflammatory response syndrome, such as temperature > 38° C or <36° C, respiratory rate > 24, heart rate > 90, or WBC >12,000 or <400 cells/ μ L) treat with IV vancomycin

Furuncles (boils), carbuncles, abscesses:

- Drainage without antibiotics is usually sufficient
- Treatment for MRSA and MSSA with trimethoprim-sulfamethoxazole (TMP-SMX) or doxycycline for 7-10 days is recommended for patients with surrounding cellulitis, systemic toxicity, rapid progression, immunocompromise, and/or infection of hand, face, or genitals

- Diabetic patients with lower extremity cellulitis or infected ulcers:
 - Typically have polymicrobial infections and require broad spectrum antibiotics to cover streptococcus and staphylococcus, anaerobes and gram-negative pathogens
 - Options for superficial wounds include amoxicillin/clavulanate (Augmentin®) PLUS trimethoprim-sulfamethoxazole (TMP-SMX) or doxycycline
 - Deep wounds/ulcers may require debridement, evaluation for underlying osteomyelitis with imaging, and biopsy of tissue or bone for culture
 - Treatment options include intravenous vancomycin AND piperacillin-tazobactam or intravenous vancomycin AND a carbapenem
 - Diabetic osteomyelitis may require prolonged antibiotic therapy for several weeks and can be associated with poor healing due to inadequate circulation and antibiotic penetration
 - Amputation of the affected area may be needed

Necrotizing Fasciitis

- Refer for immediate surgical evaluation for every suspect case
- Surgical intervention is required unless caught very early
- Multiple surgeries often needed.
- Refer early
- Early empiric therapy with one of the following intravenous antibiotic choices:
 - Vancomycin and piperacillin-tazobactam
 - Vancomycin and a carbapenem (imipenem or meropenem)
- If vancomycin not tolerated, may substitute linezolid
- If S pyogenes or clostridial spp are isolated from blood or tissue culture, switch to penicillin and clindamycin

Human Bites

- Complications are frequent (tendon or nerve damage, septic arthritis, and osteomyelitis)
- May require consultation with hand specialist
- Oral flora include staphylococcal species, streptococcal species, gram negative rods, and numerous anaerobes
- Empiric treatment recommendations below

ANTIBIOTIC OPTIONS for Human Bites	DOSING	Tx DURATION	COMMENTS
Amoxicillin/Clavulanate (Augmentin®)	875/125 mg po TID	5 days for prophylaxis 7 days for treatment	<ul style="list-style-type: none"> Caution if significant renal or hepatic impairment Nausea, emesis, diarrhea, rash are common
Clindamycin and TMP-SMX	300-450 mg po TID 1 DS po BID	5 days for prophylaxis 10 days for treatment	<ul style="list-style-type: none"> Option for those with beta lactam allergy
Clindamycin and Ciprofloxacin	300-450 mg po TID 500-750 mg po BID	5 days for prophylaxis 10 days for treatment	<ul style="list-style-type: none"> Option for those with beta lactam allergy

MONITORING

- Follow patients closely until full resolution, especially patients with diabetes, immunosuppression, or vascular compromise (venous insufficiency, PVD), especially in human bites and clenched-fist injuries.
- Each institution should:
 - Track any hospital readmissions for cellulitis or other SSTI.
 - Be familiar with the common pathogens found in patients from your institution (based on culture results) and their antibiotic sensitivities.

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EMPIRIC TREATMENT OF SKIN AND SOFT TISSUE INFECTIONS			
CELLULITIS - MILD			
ANTIBIOTIC OPTIONS	DOSING	SPECTRUM OF ACTIVITY	COMMENTS
Amoxicillin	500 mg po TID for 5-7 days	β hemolytic streptococci, MSSA	
Cephalexin	500 mg po QID for 5-7 days	β hemolytic streptococci, MSSA	
Clindamycin	300-450 mg po TID for 5-7 days	MRSA, MSSA, β hemolytic streptococci, increasing clindamycin resistance is a concern	<ul style="list-style-type: none"> ▪ Can be used in penicillin-allergic patients ▪ Risk for Clostridium difficile colitis ▪ GI upset common ▪ Caution if renal or hepatic impairment
PURULENT CELLULITIS OR ABSCESS			
Trimethoprim/sulfamethoxazole (TMP-SMX)	1 double-strength (DS) tablet (800mg SMX/160mg TMP) po BID or TID (for serious infections) for 7-10 days	MRSA, MSSA	<ul style="list-style-type: none"> ▪ Caution if G6PD deficient, significant renal or hepatic impairment ▪ Not recommended during 3rd trimester of pregnancy
Doxycycline	100 mg po BID for 7-10 days	MRSA, MSSA	<ul style="list-style-type: none"> ▪ Caution if significant hepatic impairment and in patients with lupus ▪ Avoid during pregnancy
CELLULITIS MODERATELY SEVERE, EXTENSIVE, OR PROGRESSING ON EMPIRIC THERAPY, OR IN IMMUNOCOMPROMISED PATIENT (COVER MRSA WITH TWO ANTIBIOTICS)			
Amoxicillin or Cephalexin	As above (Cellulitis-Mild) for 7-10 days	β hemolytic streptococci, MSSA	
PLUS			
Trimethoprim/sulfamethoxazole (TMP-SMX)	1 double-strength (DS) tablet po TID 7-10 days. Consider 2 DS po TID for serious infections	MRSA, MSSA	<ul style="list-style-type: none"> ▪ Caution if G6PD deficient, significant renal or hepatic impairment ▪ Not recommended during 3rd trimester of pregnancy
CELLULITIS SEVERE, RAPIDLY PROGRESSIVE, WITH SYSTEMIC TOXICITY (HOSPITALIZE PATIENT)			
Vancomycin	15-20 mg/kg/dose IV every 8-12 hours, max 2 grams/dose for 7-14 days	MRSA, MSSA, β hemolytic streptococci	<ul style="list-style-type: none"> ▪ Use only for serious infections ▪ Infuse over 1 hour to decrease risk for red man syndrome (RMS)* ▪ Monitor trough levels in obese patients and those with renal impairment ▪ Target trough level is 15-20 mcg/ml ▪ Sample for trough level should be drawn not more than 1 hour prior to next dose
Linezolid	600 mg po or IV BID for 7-14 days	MRSA, MSSA, β hemolytic streptococci	<ul style="list-style-type: none"> ▪ Use only for serious infections and in consultation with an infectious diseases specialist ▪ Can cause anemia, neutropenia, thrombocytopenia, peripheral and optic neuropathy, vision loss ▪ Monitor CBC weekly

* Red man syndrome (RMS) is an administration rate related vancomycin infusion reaction which causes upper body flushing, erythema and pruritus. Other RMS symptoms, including pain and muscle spasms in the back and chest, dyspnea, and hypotension may occur. To avoid RMS the infusion rate of vancomycin should not exceed 10 mg/ minute.

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EMPIRIC TREATMENT OF SKIN AND SOFT TISSUE INFECTIONS			
NECROTIZING FASCIITIS			
ANTIBIOTIC OPTIONS	DOSING	SPECTRUM OF ACTIVITY	COMMENTS
Vancomycin and Piperacillin-tazobactam	30 mg/kg/day IV in 2 divided doses q 12, 4.5 g IV q 6h Duration: Until clinically improved/stable	Group A streptococcus, clostridia spp, MSSA and MRSA, anaerobes, gram negative rods	<ul style="list-style-type: none"> Vancomycin: check trough after 3rd dose, goal is 15-20 ug/ml Adjust dose in patients with renal insufficiency or on hemodialysis Monitor for red man syndrome*, phlebitis, or renal toxicity
Vancomycin and Meropenem or Imipenem	30 mg/kg/day IV in 2 divided doses q 12. Meropenem: 1-2 gm IV q 8h Imipenem: 1 gm IV q 6-8h Duration: Until clinically improved/stable	Group A streptococcus, clostridia spp, MSSA and MRSA, anaerobes, gram negative rods	<ul style="list-style-type: none"> Vancomycin: see above Meropenem: Occasional GI upset Imipenem: Adverse events include phlebitis, GI upset, LFT elevation, eosinophilia and seizures (more common in elderly, higher doses, renal insufficiency and in patients with seizure history) For all carbapenems: 50% cross-reactivity with penicillin (PCN); for patients with known severe PCN allergy, skin testing may be useful
PCN and Clindamycin	2-4 million units IV q 4-6 h 600-900mg IV q 8h Duration: Until clinically improved/stable	Culture-confirmed Group A streptococci and clostridia spp	<ul style="list-style-type: none"> Clindamycin has limited data supporting benefit due to anti-toxin properties.
DIABETIC LOWER EXTREMITY/FOOT ULCERS			
Amoxicillin/clavulanate (Augmentin®) PLUS Trimethoprim/sulfamethoxazole DS OR Doxycycline	875/125 mg po bid 1-2 DS po bid 100 mg po bid Duration: 2 weeks or longer as clinically indicated	Polymicrobial (streptococcus spp, staphylococcus spp including MRSA, anaerobes and gram-negative rods)	<ul style="list-style-type: none"> Ulcers often chronic. In patients with poor peripheral circulation, oral antibiotic therapy may be insufficient
Deep infected wound or ulcers: IV vancomycin and piperacillin-tazobactam OR IV vancomycin and a carbapenem (meropenem or imipenem)	Vancomycin: 30mg/kg/day IV in 2 divided doses q 12, and Piperacillin-tazobactam: 4.5g iV q 6h Vancomycin: 30mg/kg/day IV in 2 divided doses q 12, and Meropenem: 1-2 gm IV q 8h or Imipenem-cilastatin: 1 gm IV Q 6-8h Duration: 6-8 weeks or as clinically indicated	Polymicrobial (streptococcus spp, staphylococcus spp including MRSA, anaerobes and gram-negative rods)	<ul style="list-style-type: none"> Vancomycin and carbapenems: see necrotizing fasciitis comments above IV antibiotics indicated with concern for deep tissue infection or osteomyelitis (e.g., able to probe to bone on exam) Deep wounds/ulcers require debridement and evaluation for underlying osteomyelitis with imaging, and biopsy of tissue or bone for culture Diabetic osteomyelitis may require prolonged antibiotic therapy for several weeks and can be associated with poor healing due to inadequate circulation and poor antibiotic penetration. Referral for surgical revascularization of affected area should be considered Amputation of the affected area may be needed

* Red man syndrome (RMS) is an administration rate related vancomycin infusion reaction which causes upper body flushing, erythema and pruritus. Other RMS symptoms, including pain and muscle spasms in the back and chest, dyspnea, and hypotension may occur. To avoid RMS the infusion rate of vancomycin should not exceed 10 mg/ minute.

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METHICILLIN RESISTANT STAPH AUREUS (MRSA)

Epidemiology	<ul style="list-style-type: none"> ▪ MRSA infections were traditionally associated with exposure to an inpatient health care environment [HA-MRSA (Healthcare Associated-MRSA)]. ▪ MRSA now commonly affects persons in the community [Community-Associated MRSA (CA-MRSA)]. ▪ Infections are seen in a variety of populations, including: military recruits, intravenous drug users, men who have sex with men, tattoo recipients, and inmate populations.
Transmission	Primary mode of MRSA transmission is person-to-person via contaminated hands. MRSA can also be transmitted by: sharing towels, sharing personal hygiene items, sharing athletic equipment, tattooing, injection drug use, close-contact sports, cough in patients with MRSA pneumonia, persons with asymptomatic MRSA nasal carriage especially when symptomatic from a viral URI.
Empiric Diagnosis	<p>Diagnosis of a probable MRSA SSTI can be made —without culture confirmation—in patients who present with an SSTI: especially if there is a known MRSA outbreak in a facility or if surveillance of SSTIs confirms that CA-MRSA is the predominant circulating pathogen within a given correctional setting. In the CCHCS setting, providers should assume MRSA and provide antibiotic coverage empirically if purulence is present.</p> <p>The appearance or severity of most abscesses is <i>not clinically useful</i> in identifying the offending pathogen.</p>
Culture Diagnosis	<ul style="list-style-type: none"> ▪ MRSA infection is diagnosed by <i>routine</i> aerobic bacterial cultures (taken from appropriate sites). ▪ Oxacillin-resistance (lab susceptibility testing) indicates methicillin-resistance. ▪ Positive MRSA cultures from blood and sterile body fluids (e.g., joint or pleural fluid, cerebrospinal fluid) are considered diagnostic. ▪ Positive cultures of drainage from non-sterile sites (e.g., wounds) may indicate either bacterial colonization or infection. <ul style="list-style-type: none"> – Wound cultures obtained from expressed pus (avoiding skin contamination) or aspirated abscesses are diagnostically meaningful; – Positive cultures obtained directly from the surface of a wound are of <u>no value</u> in detecting true infection
Empiric Treatment	<ul style="list-style-type: none"> ▪ See page 3 for initial empiric antibiotic recommendations. ▪ Tailor antibiotic regimen to culture results if available. ▪ Empiric antibiotic treatment for MRSA is indicated when: <ul style="list-style-type: none"> – Institutional prevalence of MRSA is high – Patient is immunocompromised – Purulence or abscess present – Extensive or rapidly progressive cellulitis – No improvement on initial antibiotic therapy after 48 hours – Patient is systemically toxic. <p>Rifampin is not recommended as a single agent or adjunctive therapy for SSTI.</p>
Colonization	<ul style="list-style-type: none"> ▪ 10–30% of persons are colonized with <i>S. aureus</i> in their nares, mucous membranes, or breaks in their skin; a smaller percentage are colonized with MRSA. ▪ Colonized persons are more likely to develop staphylococcal infections; however, many colonized persons remain asymptomatic and never become ill. ▪ Staphylococcal colonization occurs more commonly in injection drug users, persons with DM, AIDS, hemodialysis patients, surgical patients, and previously hospitalized patients.
Decolonization	<ul style="list-style-type: none"> ▪ Treatment to reduce colonization with MRSA (decolonization) is not routinely recommended as efficacy is not established. Decolonization regimens should not be used in patients with active infection. ▪ May consider decolonization on a case-by-case basis in two circumstances: (1) for patients with recurrent MRSA infections (e.g., three or more infections in less than six months); and (2) in outbreak situations in which ongoing MRSA transmission is occurring among a well defined cohort with close contact. ▪ Consult with CCHCS Public Health Branch before initiating decolonization treatment. ▪ Regimen: <ul style="list-style-type: none"> – Apply 2% mupirocin ointment generously throughout the inside of both nostrils with a cotton swab, twice daily for 5–10 days; and – Topically administer chlorhexidine gluconate solution 4% (118 ml) for 5 days. Patient to bathe daily, washing entire body (avoid eyes, ears, mouth) with chlorhexidine soaked cloth, scrub 3 minutes, rinse thoroughly.

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MANAGEMENT OF ABSCESSSES

- Small (less than 3 cm) furuncles, carbuncles, and abscesses may be managed with warm compresses and antibiotics that cover MRSA, with close follow up for non-response, or incision and drainage (I and D).
- When an I and D is done for an abscess 5 cm or smaller, packing is not required. Packing of abscesses after I and D or same day referral for definitive treatment of the abscess is recommended for an abscess cavity that meets any of the following criteria:
 - Abscess > 5 cm
 - Pilonidal Abscess
 - Abscesses in an immunocompromised or diabetic patient
- Reevaluation of the I and D wound site should occur in 24 – 48 hours. If the wound has been packed, the packing should be exchanged every 24 – 48 hours as long as purulent drainage persists.
- If an I and D is done on an abscess of any size, a culture of the exudate will help in understanding bacterial prevalence and susceptibility in the institution.
- If the abscess has extensive surrounding cellulitis, systemic toxicity, rapid progression, occurs in an immunocompromised patient, and/or the infection is in the hand, face, or genitals, antibiotics are recommended whether or not an I and D is done.
- If an antibiotic is prescribed for an abscess, an antibiotic that is effective against MRSA should be selected whether or not an I and D is done.

Contraindications for performing I and D in the institution

- The following abscesses should be referred that day to a higher level of care for definitive treatment and possible operating room management:
 - Extremely large (>10 cm) abscesses or abscesses requiring extensive incision, debridement, or irrigation
 - Deep abscesses in very sensitive areas (labial, supralelevator, ischioanal, perirectal)
 - Abscess in the hands or feet when management with antibiotics is not considered indicated
- Abscesses in the triangle formed by the bridge of the nose and the corners of the mouth should generally be treated with warm compresses and aggressive antibiotic therapy.
- Abscesses located near major vessels must be differentiated from aneurysms before I and D are performed to avoid fatal hemorrhage. The distinction is made through aspiration.

Materials

- Sterile gloves
- Mask/eye protection and gown
- 1% or 2% lidocaine with epinephrine for local anesthesia; 3-10 cc syringe and 25-27 gauge needle for infiltration. (*Note: Epinephrine is contraindicated in areas such as the fingers, nose, toes, and penis*)
- Alcohol or povidone-iodine wipes
- #11 scalpel blade with handle
- Draping
- Hemostat or sterile cotton-tipped applicator
- Plain or iodoform, ½" or ¼" packing material if packing is indicated
- Scissors
- Gauze and tape
- Culture swab (aerobic and anaerobic)

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MANAGEMENT OF ABSCESSES CONTINUED**Consent/Pre-Procedure Education**

1. Obtain informed consent. Inform the patient of potential severe complications and their treatment (bleeding, scarring, hematoma, infection spread, swelling, possible fistula formation, nerve injury and possible inability to drain abscess).
2. Explain the steps of the procedure, including the pain associated with anesthetic infiltration.

Procedure *Use standard precautions*

1. Cleanse site over abscess with skin preparation of choice.
2. Drape to create a sterile field.
3. Infiltrate local anesthetic, allowing 2–3 minutes for anesthetic to take effect.
4. Incise over abscess with the #11 blade, cutting through the skin into the abscess cavity. Follow skin fold lines whenever possible while making the incision. The incision should be sufficiently wide (generally 1-3 cm) to allow the abscess to drain and to prevent premature closure of the incision.
5. For smaller abscesses requiring incisions, a “stab” or “cruciate” incision should be adequate. Some refer to this as a puncture or stab technique since the operator inserts the tip of the scalpel directly into the center of the abscessed tissue without making a linear incision.
6. Allow the pus to drain, using the gauzes to soak up drainage and blood. If a culture is being obtained, use the culture swab to take culture of abscess contents, swabbing inside the abscess cavity—not from skin over the abscess.
7. Use hemostat or sterile cotton-tipped applicator to gently explore the abscess cavity and break up any loculations.
8. If packing is indicated, loosely pack the abscess cavity with the packing.
9. Place gauze dressing over the wound, and tape in place (without placing tape over the incision site).
10. Remove gloves and wash hands. Properly dispose of contaminated articles.

Post-Procedure/ Patient Education

- Patient should return to clinic within 24–48 hours for wound check
- If packing material used, change every 24-48 hours as needed as healing occurs
- Pain from the site may require acetaminophen or nonsteroidal anti-inflammatory drugs
- Patients should be instructed to watch for reaccumulation of pus in the abscess, fever and chills, increased pain and redness, red streaks near the abscess, increased swelling
- Some patients can be taught to change dressings
- In addition to showing these patients how to change the packing and replace the dressings, they should be educated on:
 - Disposal of dressing material
 - Hand-washing techniques

Complications

- Insufficient anesthesia: tissue around abscess is acidotic and local anesthetic loses effectiveness in acidotic tissue
 - Use sufficient quantity of anesthetic, allow time for anesthetic effect, (use field block if appropriate)
- No drainage: may need to extend the incision
- Drainage is sebaceous material because “abscess” was actually inflamed sebaceous cyst
 - Express all material, break up sac with hemostat, pack open as with abscess
- Reaccumulation of pus: after drainage observe site for reaccumulation of pus, development of cellulitis
- Perianal abscess can result in chronic anal fistula that requires fistulectomy by surgeon

CELLULITIS: WHAT YOU SHOULD KNOW



Q. What is cellulitis?

A. Cellulitis is an infection of the skin that can cause redness, pain, and swelling. It can happen when germs get into the skin. Normally, different types of germs live on your skin. Most of the time, these germs do not cause any problems. But if you get a cut or a break in the skin, the germs can get into your skin and cause an infection.

Certain conditions can increase your chance of getting cellulitis. These include:

- Having a cut (even a tiny one)
- Having another type of skin infection or a long-term skin condition (such as psoriasis)
- Having swelling of the skin or swelling in the body (especially swelling in the legs)
- Being overweight
- Diabetes, especially poorly controlled diabetes

Q. What causes cellulitis?

A. Several bacteria (germs) are known to cause skin infection but the most common are called “strep” and “staph.” In the United States many “staph” germs are no longer killed by common antibiotics, they are said to be “resistant.” A common germ in the prison setting that has become resistant to many antibiotics is called “Methicillin-resistant staph aureus” also known as MRSA. See next page.

Q. What are the symptoms of cellulitis?

A. An area of cellulitis is usually:

- Painful
- Red
- Swollen
- Warm

Most of the time, cellulitis happens on the legs or arms. It can also be on the belly, in the mouth, on the buttocks, or around eyes or anus.

Q. Is there a test for cellulitis?

A. Most people do not need any tests. Your doctor or nurse will do an exam and look at your skin. Cellulitis is one type of skin infection, but there are others. The right treatment depends on the type of infection you have and the germs causing it. In some cases your healthcare provider or nurse might need to do a test (culture) to figure out the exact germ which is causing your infection and find out which antibiotics can treat it. If you have cellulitis, it's important to get treated as soon as possible, because the infection can spread to the whole body and become serious if it is not treated.

Q. How is cellulitis treated?

A. If you think you have cellulitis contact Medical right away. Cellulitis is usually treated with antibiotic pills (which are germ-killing medicines) and/or draining any pus pockets. If your medical provider prescribes medicine for you to take, it is important to follow the directions exactly. Take all of the pills/tablets you are given, even if you feel better before you finish them. If you do not take all the pills, the infection can come back and be harder to treat. People who have severe cellulitis might be treated in the hospital with antibiotics that go into the vein (called “IV”).

Q. Can cellulitis be prevented?

A. Yes, in some cases. If you cut your skin, wash the area well with soap and water and regularly clean all skin wounds with soap and water. This can help prevent the area from getting infected. If you have a long-term skin condition, ask your medical provider or nurse what you can do to help prevent cellulitis.

CELLULITIS/MRSA: WHAT YOU SHOULD KNOW (CONT.)

Q. What is methicillin-resistant *Staphylococcus aureus* (MRSA)?

- A. Methicillin-resistant *Staphylococcus aureus* is a type of germ (bacteria) that causes many types of infections including skin infections (cellulitis), joint infections, lung infections, and many more. It is sometimes called MRSA or "Mursa."
- People normally carry all sorts of germs inside their body and on their skin. The body usually controls these germs, so they do no harm. About 1 in 3 people have a germ on their skin called "staph." In these people, staph usually causes no problems. But if they get a cut or a scrape, the germ can cause an infection. Some of those with staph on their skin have MRSA. Most people with MRSA don't get sick. Serious infections with staph tend to happen in older adults, and people who cannot fight infection well, such as people with diabetes or kidney trouble.
 - MRSA is a type of staph germ that has learned to outsmart the antibiotic drugs normally used to kill staph. They have become "resistant" to the antibiotic medications we usually use to treat infections. There are some antibiotics that can kill MRSA, but doctors need to use them carefully so the staph does not learn to outsmart all our antibiotics.

Q. How do you catch MRSA?

- A. Many people carry MRSA on their skin without knowing it. If the germ is on your skin and you cut yourself or have another injury, you can get infected. You can become a MRSA carrier by:
- Touching a person who has MRSA on his or her skin
 - Touching a table, handle or other surface that has the germ on it

Q. How do I know if I have a MRSA infection?

- A. If you get a MRSA infection, you may have a red tender lump and it might ooze pus. You may have a group of bumps that look like pimples or insect bites. Many people think they have "spider bites" when they develop a MRSA infection. If the infection gets into the blood, it can give you a fever or make you feel tired.

Q. Can MRSA be treated?

- A. Your doctor can give you antibiotics — germ-killing medicines — to treat your infection. It is very important that you follow the directions on how to take the antibiotics. Take **ALL** the pills you are given, even if you feel better before you finish the pills. If you do not take them all, the germ could come back even stronger and become resistant to the antibiotics we usually use to treat infections. If you are not definitely improving within 1-2 days, or if you are getting worse while taking antibiotics, you need to contact medical right away.

Q. Is there any way to prevent MRSA? —

- A. Yes.
- Regularly wash your hands with soap and water for at least 15 seconds, especially before and after using the toilet, before eating, and after touching any wounds you may have.
 - Don't scratch skin rashes.
 - Shower and keep clothes clean. Use institution laundry as the water temperature is hot enough to kill MRSA. Change your clothing if they become soiled with wound drainage.
 - Change bed linens and towels regularly and whenever they become soiled with wound drainage.
 - Do not share personal items such as razors, towels, wash cloths, soap, etc. (tattoo or injection drug equipment).
 - If you have an open wound, it should be covered at all times with a bandage.
 - Never touch another person's wound, infected skin, or dirty bandage.
 - If your bandage comes off, dispose of it in trash container as instructed by health services staff. Wash your hands. Rebandage your wound or contact medical as instructed.

RESUMEN

APOYO PARA TOMAR
DECISIONESEDUCACIÓN PARA EL PACIENTE/CONTROL
PERSONAL DEL CASO

LA CELULITIS: LO QUE DEBE SABER

**P. ¿Qué es la celulitis?**

R. La celulitis es una infección de la piel que puede causar enrojecimiento, dolor e inflamación y puede presentarse cuando los gérmenes entran en la piel. Por lo general, en su piel viven varios tipos de gérmenes y, la mayoría de las veces, estos gérmenes no causan ningún problema. Sin embargo, si se corta o tiene alguna lesión en la piel, los gérmenes pueden entrar en la piel y causar una infección.

Ciertas condiciones pueden aumentar su probabilidad de contraer la celulitis. Éstas incluyen:

- tener una cortada (incluso una pequeña);
- tener otro tipo de infección en la piel o una enfermedad crónica de la piel como la psoriasis;
- tener una inflamación de la piel o en el cuerpo, especialmente en las piernas;
- tener sobrepeso;
- tener diabetes, especialmente si está mal controlada.

P. ¿Qué causa la celulitis?

R. Existen varias bacterias (gérmenes) que son conocidas por causar infecciones en la piel, pero las más comunes se llaman estreptococos «strep» y estafilococos «staph». En los Estados Unidos, los antibióticos comunes ya no pueden eliminar muchos gérmenes «staph»; se dice que son «resistentes». Un germen común en el medio penitenciario que se ha vuelto resistente a muchos antibióticos se llama “Staphylococcus aureus resistente a la meticilina” conocido con el acrónimo SARM en español o MRSA en inglés. Vea la página siguiente.

P. ¿Cuáles son los síntomas de la celulitis?

R. Un área donde se encuentra la celulitis por lo general:

- causa dolor;
- está roja;
- está inflamada;
- está caliente.

La mayoría de las veces, la celulitis se presenta en las piernas o en los brazos. También, puede aparecer en la barriga, la boca, en los glúteos, alrededor de los ojos o del ano.

P. ¿Hay alguna prueba para detectar la celulitis?

R. La mayoría de las personas no necesita ninguna prueba. Su médico o enfermera le realizará un examen y verá su piel. La celulitis es un tipo de infección de la piel, pero existen otras. El tratamiento correcto depende del tipo de infección que tenga y los gérmenes que la ocasionan. En algunos casos, es posible que el profesional médico o la enfermera tengan que realizarle una prueba (cultivo) para determinar el germen exacto que causa la infección y encontrar los antibióticos que puedan combatirla.

Si tiene celulitis, es importante que la trate lo más pronto posible, puesto que la infección puede expandirse a todo el cuerpo y agravarse si no se trata.

P. ¿Cómo se trata la celulitis?

R. Si cree que tiene celulitis, póngase en contacto con el departamento médico inmediatamente. Por lo general, la celulitis se trata con píldoras antibióticas (medicamentos que matan a los gérmenes) y/o drenado cualquier absceso de pus. Si su médico le receta los medicamentos que debe tomar, es importante que siga sus instrucciones al pie de la letra. Tome todas las píldoras/tabletas que se le recetaron, incluso si se siente mejor antes de terminar el tratamiento. Si no se toma todas las píldoras, la infección puede regresar y será más difícil de tratar. Las personas que tiene celulitis severa podrían tratarse en el hospital con antibióticos a través de una vía intravenosa («IV»).

P. ¿Se puede prevenir la celulitis?

R. Sí, en algunos casos. Si se corta la piel, lave bien el área con agua y jabón y limpie regularmente todas las heridas en su piel con agua y jabón. Esto puede ayudar a evitar que el área se infecte. Si tiene una enfermedad crónica de la piel, pregúntele a su médico o enfermera qué puede hacer para prevenir la aparición de celulitis.

RESUMEN

APOYO PARA TOMAR
DECISIONESEDUCACIÓN PARA EL PACIENTE/CONTROL
PERSONAL DEL CASO**LA CELULITIS/MRSA: LO QUE DEBE SABER (CONTINUACIÓN)****P. ¿Qué es el staphylococcus aureus resistente a la meticilina (MRSA)?**

- R. El staphylococcus aureus resistente a la meticilina es un tipo de germen (bacteria) que causa muchos tipos de infecciones, incluidas las infecciones de la piel (celulitis), infecciones de las articulaciones, infecciones pulmonares y muchas otras. Se denomina en algunos casos MRSA o «Mursa».
- Por lo general, las personas tienen todo tipo de gérmenes en su cuerpo y en su piel. Normalmente, el cuerpo controla estos gérmenes, de manera que no causen daño. Aproximadamente 1 de cada 3 personas tiene gérmenes en su piel que se denominan «staph». Pero, estos gérmenes «staph», por lo general, no causan problemas a estas personas. Sin embargo, si hay una cortada o una raspadura, el germen puede causar una infección. Algunas de las personas con gérmenes «staph» en su piel tienen MRSA y la mayoría de las personas con MRSA no se enferman. Las infecciones graves con «staph» tienden a presentarse en los adultos mayores y en las personas que no pueden luchar bien contra las infecciones, tales como personas con diabetes o con problemas renales.
 - El MRSA es un tipo de germen «staph» que ha aprendido a engañar a los antibióticos que se utilizan normalmente para eliminar dichos gérmenes. Se han vuelto «resistentes» a los antibióticos que utilizamos normalmente para tratar las infecciones. Existen algunos antibióticos que pueden eliminar al MRSA, pero los médicos deben utilizarlos cuidadosamente de manera que los gérmenes «staph» no aprendan a engañar a todos nuestros antibióticos.

P. ¿Cómo se puede contraer el MRSA?

- R. Muchas personas tienen el MRSA en su piel sin saberlo. Si el germen se encuentra en su piel y usted se corta o tiene otra lesión, puede infectarse. Puede convertirse en portador del MRSA si:
- toca a una persona que tiene el MRSA en la piel;
 - toca una mesa, manilla u otra superficie que tenga gérmenes

P. ¿Cómo puedo saber si tengo una infección MRSA?

- R. Si contrae una infección MRSA, puede tener una protuberancia blanda y roja y podría exudar pus. Es posible que tenga un grupo de protuberancias que parezcan granos o picaduras de insectos. Muchas personas creen que les «picó una araña» cuando desarrollan una infección MRSA. Si la infección pasa a la sangre, puede producirle fiebre o causarle cansancio.

P. ¿Se puede tratar el MRSA?

- R. Su médico puede darle antibióticos—medicamentos que matan a los gérmenes—para tratar la infección. Es muy importante que siga las indicaciones sobre cómo tomar los antibióticos. Tome **TODAS** las píldoras que se le recetaron, incluso si se siente mejor antes de terminar el tratamiento. Si no se toma todas las píldoras, el germen podría regresar incluso más fuerte y hacerse resistente a los antibióticos que normalmente utilizamos para tratar las infecciones. Si no observa ninguna mejoría dentro de 1-2 días o si empeora mientras toma los antibióticos, debe ponerse en contacto con el departamento médico inmediatamente.

P. ¿Existe alguna forma de prevenir el MRSA?

- R. Sí.
- Lave sus manos regularmente con agua y jabón durante, por lo menos, 15 segundos, especialmente antes y después de ir al baño, antes de comer y después de tocar cualquier herida que tenga.
 - No se rasque las erupciones de la piel.
 - Tome un baño y mantenga su ropa limpia. Utilice la lavandería de la institución, dado que la temperatura del agua es lo suficientemente alta para matar el MRSA. Cambie su ropa si se ensucia durante el drenaje de la herida.
 - Cambie regularmente la ropa de la cama y las toallas y cuando se ensucien con el drenaje de la herida.
 - No comparta artículos personales, tales como rasuradoras, toallas, toallas de baño (o paños), jabón, agujas de inyección o de tatuaje, entre otros.
 - Si tiene una herida abierta, debería cubrirla siempre con una venda.
 - Nunca toque la herida, la piel infectada o la venda sucia de otra persona.
 - Si se sale su venda, colóquela en la papelera, según le indique el personal de asistencia médica. Lave sus manos. Vuelva a vendar su herida o contacte al departamento médico, según lo indicado.