Skin and Soft Tissue Infections Care Guide

May 2024

CALIFORNIA CORRECTIONAL HEALTH CARE SERVICES

Information contained in the Care Guide is not a substitute for a health care professional's clinical judgment. Evaluation and treatment should be tailored to the individual patient and the clinical circumstances. Furthermore, using this information will not guarantee a specific outcome for each patient. Refer to "Disclaimer Regarding Care Guides" for further clarification.

https://cchcs.ca.gov/clinical-resources/

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CCHCS Care Guide: Skin and Soft Tissue Infections

GOALS

- ✓ **Early diagnosis and treatment based on clinical risk stratification**
- ✓ **Evidence-based antibiotic therapy with close follow-up**
- ✓ **Prompt Incision and drainage (I&D) if drainable abscess with culture/sensitivity (C&S) and close follow-up (See Attachment A)**
- ✓ **Emergent referral of severe infections or necrotizing fasciitis to higher level of care (HLOC)**
- ✓ **Referral to ISUDT for harm reduction**

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 staph infection instead when spider bite reported**

Overview of SSTIs[1-2, 4-6]

- **SSTIs are common in correctional settings**, associated with poor hygiene, unsanitary tattooing, drug use (common c/o of "spider bite" = assume MRSA)
- **Cellulitis and skin abscesses** are the **most common** SSTIs
- **Misdiagnosis** of SSTIs is common and appropriate **differential diagnoses** should be considered.
  (See page 20 for Differential Diagnoses)

- **Predisposing factors** for SSTIs
  - "Portals of Entry" = Skin barrier disruption due to trauma
    - *Abrasions*
    - *Skin popping/drug use sites*
    - *Common skin infections like tinea*
    - *Penetrating injuries*
    - *Open wounds or ulcers*
    - *Surgical incisions*
  - Skin inflammation (i.e., eczema, radiation therapy, autoimmune conditions)
  - Additional predisposing local or systemic factors: chronic venous insufficiency, lymphedema, diabetes, obesity

CLINICAL EVALUATION[1]

Skin and soft tissue infections (SSTIs) are diagnosed based on clinical features. Recognition of the physical examination findings and understanding the anatomical relationships of skin and soft tissue are crucial for establishing the correct diagnosis. Clinical evaluation of patients with SSTI aims to establish the cause and severity of infection and should consider pathogen-specific and local antibiotic resistance patterns (See page 10-11 for clinical descriptions of cellulitis, erysipelas, furuncle, carbuncle, skin abscess). Per the Infectious Disease Society of America (IDSA), the treatment of SSTIs is based on whether the infection is non-purulent (cellulitis, erysipelas) OR purulent (draining cellulitis, abscess, carbuncles, furuncles), and on clinical severity of the infection (mild, moderate, severe). Literature published after the 2014 IDSA guidelines incorporates the use of Warning Scores as decision support for appropriate stratification of clinical risk to guide management decisions.

Clinical Evaluation, cont'd

History and Physical: Obtain the following information:

- Onset: When did the skin problem start? Was the onset acute or gradual?
- Course: Has the rash/skin lesion(s) changed over time?
- Location/distribution: Where is the skin problem? Number of lesions? Is it spreading? (If available, mark area of erythema with single-use only permanent marking pen; dispose of after use due to fomite risk)[7]
- Precipitating factors: Recent trauma to skin? IV drug use (i.e., skin popping), prior antibiotic exposure, history of MRSA colonization (See General Predisposing Conditions on page 15)
- Associated features: Are there other symptoms that appear associated (e.g., fever/malaise)?
- Previous episodes: Has the patient experienced this problem previously? When? For how long?
- Previous or current treatment for this skin problem: Prescribed medication? Over-the-counter medication?
- Contact history: Has the patient been exposed to a person with an infectious skin problem?
- Physical Exam: Normal vital signs? SIRS or Signs of Deeper Infection? Tenderness to touch? Erythema, warmth, or edema? Record anatomical site, length, width, description, edges, etc. Measure at initial evaluation AND during subsequent visits.

Severity (IDSA): Mild vs. Moderate vs. Severe (see Algorithms on pages 7-8): Risk stratification is recommended using the National Early Warning Score (NEWS2) which is a system for scoring the physiological measurements that are routinely recorded during clinic visits or at the patient's bedside. Its purpose is to identify acutely ill patients, including those with sepsis and measures 6 physiological parameters: Respiration rate, Oxygen saturation, Systolic blood pressure, Pulse rate, Level of consciousness or new-onset confusion, and Temperature. It is recommended that NEWS2 be utilized as part of the clinical assessment of a patient's SSTI severity / risk stratification and illness course. Many other factors will be involved in that clinical assessment. A high NEWS2 should trigger consideration of HLOC referral as outlined in table on page 6 and algorithms on pages 7 and 8. Condition-specific observations (such as looking for signs of deep infection) should be used alongside NEWS2 that may also trigger consideration of HLOC referral. HLOC consideration trigger points are for more detailed clinical assessments because of illness severity, risk of deterioration or change in condition.

SYSTEMIC SIGNS OF INFECTION (Per IDSA)

Systemic Inflammatory Response Syndrome (SIRS) indicated by ≥2 of the following:

- T >38°C or <36°C; **OR**
- RR >20 breaths per minute; **OR**
- HR >90 beats per minute; **OR**
- WBC >12,000 or <4000 cells/µL

OR patient does not improve

OR symptoms worsen

NEWS2 score

- 0-4 - MILD
- 5-6 - MODERATE
- 7-20 – SEVERE

CLINICAL SIGNS OF DEEP INFECTION

(s/o Necrotizing process)

- Skin sloughing
- Bullae
- Hypotension
- Organ Dysfunction

MRSA Criteria

1. Presence of SIRS or NEWS2 > 4
2. Cellulitis with purulent drainage or exudate
3. Immunocompromising conditions (e.g., neutropenia, use of immunosuppressive drugs such as chemotherapy for malignancy)
4. Presence of risk factor(s) for MRSA infection (table on next page)

Risk factors for methicillin-resistant *Staphylococcus aureus* (MRSA) infection in adults

Health care exposures during the prior 12 months:
• Recent hospitalization
• Residence in a long-term facility
• Recent surgery
• Hemodialysis
Patient-specific risk factors:
• Known MRSA colonization or past infection with MRSA
• Recent close contact with a person colonized or infected with MRSA
• HIV infection
• Injection drug use
• Homelessness
• Men who have sex with men
• Antibiotic use within prior 6 months
Environmental exposures associated with outbreaks of MRSA skin abscesses*:
• Incarceration or working as a prison guard
• Military service
• Attending schools or living in communities with high colonization rates
• Living in crowded conditions
• Attending or working in childcare centers
• Playing contact sports or sharing sporting equipment
• Sharing needles, razors, or other sharp objects

MRSA: methicillin-resistant *Staphylococcus aureus*

*These exposures are generally not associated with other types of MRSA infections including cellulitis without abscess.

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Clinical Evaluation, cont'd

The NEWS2 score is part of EBMCalc in EHRS and can be accessed by searching the available medical calculators as shown

Treatment/Monitoring[2] (See Treatment Algorithms, pages 7-8)

ANTIBIOTIC AVAILABILITY ALERT

- **Check on antibiotic availability and turnaround time EARLY in your decision making**
- **If the patient is declining and antibiotics are not available in a timely manner, transfer to HLOC ASAP**
- **Select antibiotics based on minimum inhibitory concentration (MIC). In general, medications with lower MIC scores are more effective antimicrobial agents.**
- **Patients with renal disease may require dosage adjustments**.
- **(NF) = NOT on CCHCS FORMULARY**

The medications in the following algorithms reflect 2014 IDSA, 2018 UpToDate, CCHCS Pharmacy and Infectious Disease / Wound Care SME / SSTI SME inputs. Dicloxacillin is non formulary and Pen VK requires QID dosing, whereby Cephalexin can be given BID for SSTIs. Taking into consideration the larger number of patients in our correctional setting with MRSA, additional oral MRSA coverage is included if the patient progresses to a nonpurulent-moderate SSTI.

If two doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120 kg) or more severe illness.

Note: If less than 6 doses to be given, Vancomycin levels do not have to be done (See Medication page 23 for details)

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Treatment/Monitoring, cont'd **(All patients should get a Referral to ISUDT program for harm reduction)**

RISK STRATIFICATION based on clinical features	RISK STRATIFICATION based on NEWS2‡ score	TREATMENT/MONITORING NONPURULENT (Cellulitis, erysipelas) **LIKELY Organisms**: Beta-Hemolytic Streptococci (BHS), MSSA, may be MRSA if severe	TREATMENT/MONITORING PURULENT (Draining cellulitis, abscess, furuncle, carbuncle) **LIKELY Organisms**: BHS; MSSA, MRSA
Mild • **No signs of systemic infection**	**Mild** • **NEWS2 Score 0-4**	• **Can manage in the institution** • **Oral Antibiotics** • **Recheck at 48-72 hrs** (See page 12)	• **All components of Mild Non-purulent treatment AND** • **I&D if drainable abscess; send C&S (culture and sensitivity)**
Moderate • **May have fever, no other SIRS criteria met** (Systemic Inflammatory Response Syndrome)	**Moderate** • **NEWS2 Score 5-6 OR** • **NEWS2 Score with one 3-point risk item**	• **Can manage in the institution with CLOSE follow-up** • **Oral antibiotics: consider IV antibiotics** (See Algorithm page 7) • **Recheck at 12-24 hrs and again at 48-72 hrs** (See page 12)	• **All components of Moderate Non-purulent treatment** **AND** • **I&D if drainable abscess; send C&S (culture and sensitivity)**
Severe Non-purulent ▪ **Meets >= 2 SIRS criteria** ▪ **Hypotension (Sepsis / Severe Sepsis)** ▪ Immunocompromised pt ▪ **Failed oral +/- parenteral antibiotics** ▪ **Signs/symptoms of deep infection**	**Severe Non-purulent** ▪ **NEWS2 Score 7+** ▪ Immunocompromised pt ▪ **Failed oral +/- parenteral antibiotics** **Signs/symptoms of deep infection**	▪ TRANSFER emergently to HLOC If possible while awaiting transport / during transport ▪ Place IV line ▪ Obtain two sets of blood cultures prior to starting ABs, without delaying start of ABs Give dose of IV broad spectrum antibiotics (See page 12)	
Severe Purulent ▪ **Criteria of Severe Non-purulent AND/OR?** ▪ **Failed I&D**	**Severe Purulent** ▪ **Criteria of Severe Non-purulent AND/OR?** ▪ **Failed I&D**		**All components of Severe Non-purulent treatment**

‡National Early Warning Score (NEWS2)

Culture and sensitivity procedures

- Culture after incision and drainage: Tissue or pus collected from an abscess or wound. Transport refrigerated in a sterile container and keep specimen moist. Collect as much tissue or pus as possible.

If at any time a necrotizing infection or process is suspected, transfer to HLOC ASAP for further management and possible surgical exploration/debridement **OR consider immediate transfer to HLOC if the patient is unstable.

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Treatment/Monitoring, cont'd **(All patients should get a Referral to ISUDT program for harm reduction)**

Skin and Soft Tissue Infections Treatment, Algorithm 1 [1-3]

Patient presents with suspected SSTI

Classify Infection Type:
Nonpurulent: Absence of abscess and pus/discharge OR
Purulent: Associated with abscess/pus/discharge

NONPURULENT
Cellulitis or Erysipelas

PURULENT
Cellulitis with pus, abscess, carbuncle, furuncle (See Algorithm 2, page 8)

Mild
NEWS2 score 0-4

DISPOSITION
- Institution outpatient setting

TREATMENT
- Oral antibiotics (See pg 21)
  Cephalexin **OR**
  Dicloxacillin **OR**
  Clindamycin (if severe β-lactam allergy)
- Mark border of erythema with single-use permanent marker±
- Take digital picture and upload into health record

MONITORING/FOLLOW-UP
- **Reassess at 48-72 hrs** (after starting antibiotics) (Primary Care RN co-consult good option)
- Take digital picture AGAIN and upload to health record
- Erythema may initially extend 1-2 cm beyond marked border, but its intensity should start fading

Moderate
NEWS2 score 5-6 OR One 3-point risk item

DISPOSITION
- Institution outpatient setting with close monitoring (Temp OHU placement/CTC admission good option if available)

TREATMENT
- **Oral antibiotics** (If NO med adherence or GI absorption concerns)(See pg 21)

Cephalexin **OR**
Dicloxacillin **OR**
Clindamycin (if severe β-lactam allergy)
If MRSA criteria present (See pg 23)
TMP/SMX **OR** *Doxycycline* **OR**
Clindamycin (if severe β-lactam allergy)

- Mark border of erythema with single-use permanent marker±
- Take digital picture and upload into health record

MONITORING/FOLLOW-UP
- **Reassess at 12-24 hrs and at 48-72 hrs.** (after starting antibiotics) (Primary Care RN co-consult good option)
- Take digital picture AGAIN and upload to health record at all f/u visits
- Erythema may initially extend 1-2 cm beyond marked border, but its intensity should start fading

Severe
NEWS2 score 7+ OR
Failed oral =/- parenteral antibiotics
OR Signs/symptoms of deep infection

DISPOSITION
- Emergent transfer to HLOC

Treatment
(*If possible, while awaiting transfer*)
- Place IV line
- Obtain two sets of blood cultures prior to starting ABs, without delaying start of ABs.
- **Start parenteral antibiotics**
  (Cover for both Staph and Gram-negative organisms)
  Vancomycin **PLUS**
  Piperacillin/Tazobactam
  If concern for Necrotizing Fasciitis, cover for anaerobic organisms
  Vancomycin **PLUS**
  Piperacillin/Tazobactam **PLUS**
  Clindamycin
- Mark border of erythema with single-use marker±
- Take digital picture and upload to health record

MONITORING/FOLLOW-UP
- **Assess within 24 hrs** of patient's arrival from HLOC at the institution (TTA on weekends/holidays. Temp OHU/CTC good option if available)
- Take digital picture and upload to health record at every f/u visit
- Consult Wound/SSTI Central Team to address factors for recurrence.

At 48-72 hr f/u visit: Clinical improvement?

Yes → Continue therapy until resolved, generally for 5 days

No → Temp OHU/CTC good option for close monitoring if available **Repeat NEWS2 Score**

NEWS2 score 7 or more → **Treat as MODERATE**
- Consider broadening antibiotics coverage for resistant organisms
- Consider alternative diagnosis/mimics of cellulitis
- Consider HQ Wound/SSTI Team referral
- Consider Dermatology/Infectious Disease e-consult

NEWS2 score 5-6 → **Treat as MODERATE** (same as above)

NEWS2 score 0-4 → Consider trial of parenteral antibiotics and follow-up in 24 hours

± Throw away after use due to MRSA fomite risk

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Skin and Soft Tissue Infections Treatment, Algorithm 2

Patient presents with PURULENT SSTI (Purulent cellulitis, abscess, carbuncle, furuncle)

Mild NEWS2 score 0-4

DISPOSITION
- Institution outpatient setting

TREATMENT
- **Perform an I&D if Drainable Abscess** (See Attachment A) AND (Abscess size cut-off below which I&D alone may be sufficient 0.5-2 cm): Perform C&S on pus/drainage
- **Oral Antibiotics with MRSA coverage** (See page 23)
  TMP/SMX **OR**
  Doxycycline **OR**
  Clindamycin (if sulfa and /or tetracycline allergy)
- Mark border of erythema with single-use permanent marker±
- Take digital picture and upload into health record

MONITORING / FOLLOW-UP
Reassess at 48-72 hrs. (After starting antibiotics)(Primary Care RN co-consult good option)
- Perform I&D and C&S if not already done
- Take digital picture AGAIN and upload into health record
- Erythema may initially extend 1-2 cm beyond marked border but its intensity should start fading
- Follow up on culture results. Definitive therapy may be instituted after culture results final

Moderate
NEWS2 score 5-6 OR One 3-point risk item

DISPOSITION
- Institution outpatient setting with close monitoring (Temporary OHU placement /CTC admission good option if available)

TREATMENT
- **Perform an I&D if Drainable Abscess (See Attachment A) AND send C&S on pus/drainage**
- **Oral antibiotics with MRSA coverage** If NO med adherence or GI absorption concerns) (See page 8) §
  TMP/SMX **OR**
  Doxycycline **OR**
  Clindamycin (if allergy to sulfa and/or Tetracycline)
- **Parenteral IV/IM Antibiotics with MRSA coverage** (If med adherence or GI absorption concerns) (See Pg 22-23)
  Vancomycin **OR** *Clindamycin*
- Mark border of erythema with single use permanent marking pen±
- Take digital picture and upload into health record

MONITORING / FOLLOW-UP
- **Reassess at 12-24 hours and at 48-72 hrs.** (after starting antibiotics) (Primary Care RN co-consult good option; TTA on weekends/holidays)
- Perform I&D and C&S if not already Take digital picture AGAIN and upload into health record at all f/u visits done
- Erythema may initially extend 1-2 cm beyond marked border, but its intensity should start fading
- Follow up on culture results. Definitive therapy may be instituted after culture results final.

Severe
NEWS2 score 7+ OR
Immunocompromised pt OR
Failed oral =/- parenteral antibiotics
OR
Signs/symptoms of deep infection

DISPOSITION
- Emergent transfer to HLOC

TREATMENT *(if possible, while awaiting transfer)*
- Place IV line
- Obtain two sets of blood cultures prior to starting ABs, without delaying start of ABs.
- Start **parenteral antibiotics**
  Vancomycin **OR**
  Daptomycin (NF) **OR**
  Linezolid (NF)
- Mark border of erythema with single use permanent marking pen±
- Take digital picture and upload into health record

MONITORING / FOLLOW-UP
- **Assess within 24 hours** of patient's arrival from HLOC at institution (TTA on weekends/holidays; Temporary OHU/CTC good option if available)
- Take digital picture AGAIN and upload into health record at all f/u visits

At 48-72 hr f/u visit: Clinical improvement?

Yes → Continue therapy until resolved, generally for 5 days

No → Temp OHU/CTC good option for close monitoring if available **Repeat NEWS2 Score**

NEWS2 score 7 or more → Severe

NEWS2 score 5-6 → **Treat as MODERATE**
- Consider broadening antibiotics coverage for resistant organisms
- Consider alternative diagnosis/mimics of cellulitis
- Consider HQ Wound/SSTI Team referral
- Consider Dermatology/Infectious Disease e-consult

NEWS2 score 0-2 → Consider trial of parenteral antibiotics and follow-up in 24 hours

± Throw away after use due to MRSA fomite risk

SSTI Types with Clinical Description [1-2, 4-6] (All patients should get a Referral to ISUDT program for harm reduction)					
SSTI	**Epidemiology**	**Microbiology**	**Pathology/Tissue Affected**	**Presentation**	**Management Considerations**
Impetigo	Most frequently seen in children, but adults can also be affected	Usually *S. aureus or Strep*	Superficial skin infection	Usually occurs on the face and extremities. Discrete, blister-like, purulent lesions, often with honey-colored pus and golden-colored adherent scabs/crusts	Topical therapy may suffice if limited number of lesions; If extensive: oral therapy to treat both Staph and Strep
Erysipelas	Occurs most frequently in young children and older adults	Beta hemolytic Strep (BHS), Gp A Strep or Strep pyogenes, less likely Staph aureus (including MRSA - more likely if predisposition / purulent infection / penetrating injury).	Superficial dermis	Acute skin rash (usually unilateral) on legs/toes/face/arms/fingers Superficial rash with demarcated border that may be 'raised' (e.g., "butterfly" distribution on face)	May be difficult to clinically distinguish from cellulitis Facial Erysipelas needs MRSA coverage
Cellulitis Incidence ~ 200 cases/100,000 pt-yrs.	Occurs most frequently in middle-aged adults	BHS, Group A *Streptococcus* or *Streptococcus pyogenes, S. aureus* (including MRSA)	Deeper layers of dermis	Presentation: Acute non-purulent or purulent infection showing (usually unilateral) skin rash with erythema, edema, local warmth, and a diffuse indistinct border	Empiric antibiotics for cellulitis should cover beta-hemolytic streptococci and methicillin-sensitive *S. aureus* (MSSA); MRSA if criteria present per page 4-5 Facial Cellulitis needs MRSA coverage
Furuncle (Boil)		Most commonly *S. aureus* (either **MSSA** or **MRSA**	Hair follicle; May extend into subcutaneous tissue, creating an abscess	Often ruptures and drains spontaneously or following treatment with moist heat	Topical therapy may suffice
Carbuncle		Most commonly *S. aureus* (either **MSSA** or **MRSA**	Infection of multiple adjacent hair follicles. Deeper and more severe infection than furuncle and more likely to leave a scar	Often occurring on the back of the neck, shoulders, or thighs. Multiple small openings that drain pus onto the skin	May need I&D
Abscess		Most common organism is *S. aureus* (either **MSSA** or **MRSA**)	Collection of pus within the dermis and deeper skin tissues	Painful, tender, fluctuant, and erythematous nodules, frequently surmounted by a pustule; surrounded by a rim of erythema and edema	Needs I&D
Human Bite		Often polymicrobial	All layers sometimes all the way to bone	Often delayed in correctional settings, due to unwillingness to admit to altercation history	Broad spectrum antibiotics and close observation req'd: F/u in **12-24 hrs**; Ortho surgeon or Hand surgeon consult recommended

SSTI Types with Clinical Description, cont'd

SSTI	Epidemiology	Microbiology	Pathology/Tissue Affected	Presentation	Management Considerations
Human Bite, cont'd	Common precipitating mechanism is punching someone in the mouth	Often polymicrobial	All layers sometimes all the way to bone	Often delayed in correctional settings, due to unwillingness to admit to altercation history	Broad spectrum antibiotics and close observation req'd: F/u in **12-24 hrs**; Ortho surgeon or Hand surgeon consult recommended
Recurrent Cellulitis	Erysipelas and cellulitis frequently recur, especially if the predisposing condition is of chronic nature.	Similar to the initial episode of cellulitis	Similar to the initial episode of cellulitis	Similar to the initial episode of cellulitis	Evaluate for predisposing conditions (such as lymphedema and other skin conditions serving as 'portal of entry') that can be treated to reduce the risk of recurrence
Necrotizing Fasciitis		May be mono or polymicrobial	Rare deep subcutaneous infection that involves the fascia and muscle and tracks along fascial planes; Often extends from minor skin abrasion, boil, insect bite, site of IDU (injection drug use)	May start similar to cellulitis but rapidly progresses with systemic toxicity (high fever, altered level of consciousness) to become a life threatening surgical/infectious disease emergency; distinguishing clinical features include crepitus (crackling or popping sound under the skin) due to gas in tissues, skin necrosis or ecchymosis, edema, gangrene, pain out of proportion to exam, poor response to therapy	High index of suspicion for necrotizing infections should be kept for all patients presenting with signs/symptoms of soft tissue infection. Patients with suspect necrotizing infections should be emergently transferred to HLOC, with antibiotics started prior to transfer
Methicillin resistant *Staphylococcus aureus* (MRSA)	• MRSA is resistant to many antibiotics. • Primary mode of its transmission is person-to-person via infected wounds and contaminated hands • Other modes of transmission: sharing of towels/personal hygiene items athletic equipment, tattooing, injection drug use, close-contact sports, cough secondary to MRSA pneumonia, or symptomatic viral URI in patient with asymptomatic MRSA nasal carriage • Contact precautions require temporary isolation if large, open wound is present that cannot be covered				
MRSA Colonization	• 10–30% of general population is colonized with *S. aureus* in their nares, mucous membranes, or breaks in their skin; a smaller percentage is colonized with MRSA • Colonized persons are more likely to develop staphylococcal infections. However, many colonized persons remain asymptomatic • MRSA colonization occurs more commonly in injection drug users, patients with diabetes, AIDS, hemodialysis patients, surgical patients, and previously hospitalized patients • Consider possible nares colonization in patients with recurrent infections and consult an Infectious Disease (ID) specialist prior to attempting decolonization or prophylaxis				

Nonpurulent Infections [1-4] (All patients should get a Referral to ISUDT program for harm reduction)

Cellulitis/Erysipelas

SSTI	Erysipelas	Cellulitis
EPIDEMIOLOGY	Most frequent in young children and older adults	Most frequent in middle-aged adults. Incidence: 200 cases/100,000 pt-yrs
PATHOLOGY/TISSUE AFFECTED	Superficial dermis	Deep layers of dermis
MICROBIOLOGY	Beta hemolytic Strep (BHS), Gp A *Strep* or *Strep pyogenes*, less likely *Staph aureus* (including MRSA - more likely if predisposition/purulent infection/penetrating injury).	
PRESENTATION	Acute skin rash (usually unilateral) on legs/toes/face/arms/fingers; Superficial rash with demarcated border that may be 'raised' (e.g., "butterfly" distribution on face)	Acute Non-purulent or purulent skin rash (usually unilateral) with erythema, edema, local warmth, and a diffuse indistinct border

	MILD	MODERATE	SEVERE
RISK STRATIFICATION based on clinical features	**No signs of systemic infection**	▪ **May have fever, no other SIRS criteria met** (Systemic Inflammatory Response Syndrome)	▪ **Meets >= 2 SIRS criteria** ▪ **Hypotension / Sepsis** ▪ Immunocompromised pt ▪ **Failed oral +/- parenteral antibiotics** ▪ **Signs/symptoms of deep infection**
RISK STRATIFICATION based on NEWS2 score	NEWS2 Score 0-4	NEWS2 Score 5-6 or <u>one</u> 3-point risk item in NEWS2	▪ NEWS2 Score 7+ ▪ Immunocompromised pt ▪ **Failed oral +/- parenteral antibiotics** ▪ **Signs/symptoms of deep infections**
DISPOSITION & ADJUNCTIVE MEASURES	▪ **Institution outpatient setting** ▪ Mark border of erythema with single-use permanent marker ▪ Elevate affected area ▪ Take digital picture and upload into health record	▪ **Institution outpatient setting with CLOSE monitoring*** ▪ **Temporary OHU placement or CTC admission is a good option if available** ▪ Mark border of erythema with single-use permanent marker ▪ Elevate affected area ▪ Take digital picture and upload into health record	▪ **Emergent Transfer to HLOC** ▪ **If possible while awaiting HLOC transfer** ▪ Place IV line ▪ Obtain two sets of blood cultures prior to starting ABs, without delaying start of ABs ▪ Mark border of erythema with single-use permanent marker ▪ Take digital picture and upload into health record

*If at any time a necrotizing infection or process is suspected, transfer to HLOC ASAP for further management and possible surgical exploration/debridement OR consider immediate transfer to HLOC if the patient is unstable.

Nonpurulent Infections, Cellulitis/Erysipelas, cont'd

	MILD	MODERATE	SEVERE
TREATMENT*	**Oral Antibiotics for 5 days:** ▪ Cephalexin **OR** ▪ Dicloxacillin 500 mg QID (NF) **OR** ▪ Clindamycin (if severe beta-lactam allergy) **OR** ▪ TMP/SMX 1 double-strength (DS) tablet or 2 tablets (for serious infections)	**Oral Antibiotics for 5 days (if no med adherence or GI absorption issues)** ▪ Cephalexin **OR** ▪ *Dicloxacillin (NF*) **OR** ▪ Clindamycin (if severe beta-lactam allergy) **If MRSA criteria present** ▪ TMP/SMX double-strength (DS) tablets **OR** ▪ Clindamycin (if severe beta-lactam allergy) ▪ Doxycycline ▪ **(Combine with cephalexin or amoxicillin if concomitant BHS coverage is needed)** **If med adherence or GI absorption issues IV Antibiotics for 5 days:** ▪ Cefazolin IV every 8 hrs	**If possible while awaiting HLOC transfer** ▪ Start IV antibiotics to cover both staph and gram-negative organisms ▪ Vancomycin **Loading dose** (for patients with known or suspected severe *Staphylococcus aureus* infection **PLUS** *Piperacillin/Tazobactam* **If Severe beta–lactam allergy—one dose of IV antibiotics from 'moderate box'**
MONITORING & PREVENTION OF RECURRENCE	▪ **Recheck at 48-72 hours after starting antibiotics (Primary Care RN co-consult is a good option; TTA on weekends/holidays)** ▪ If not improving consider alternate diagnosis, additional pathogens ▪ Take digital picture AGAIN and upload into health record ▪ Erythema may initially extend 1-2 cm beyond marked border ▪ Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers) ▪ Consult ISUDT Central Team	▪ Recheck at 12-24 hours after starting antibiotics and at 48-72 hours (Primary Care RN co-consult is a good option; TTA on weekends/holidays) ▪ Take digital picture AGAIN and upload into health record ▪ Erythema may initially extend 1-2 cm beyond marked border ▪ Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers) ▪ Consult ISUDT Central Team	▪ **Assess patient within 24 hours of return from HLOC** ▪ Take digital picture AGAIN and upload into health record ▪ Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers) ▪ Consult Wound/SSTI Central Team to address factors for recurrence ▪ Consult ISUDT Central Team

*See medication tables on pages 21-24 for dosages.

Nonpurulent Infections, cont'd

Necrotizing Fasciitis	
EPIDEMIOLOGY	Often extends from minor skin abrasion, boil, insect bite, site of IDU (injection drug use)
PATHOLOGY/TISSUE AFFECTED	Rare deep subcutaneous infection tracking along fascial planes and involving the epidermis, dermis, subcutaneous tissue, and muscles. Characterized by fulminant tissue destruction and high mortality.
MICROBIOLOGY	May be mono or polymicrobial and may include anaerobes and gram-negative organisms. Can involve single or multiple organisms, most commonly S. pyogenes, *S. aureus* including MRSA, and anaerobic streptococci
PRESENTATION	May start similar to cellulitis but rapidly progresses with systemic toxicity (high fever, altered level of consciousness) to become a life threatening surgical/infectious emergency with poor response to treatment. Salient clinical features include Erythema (without sharp margins), Edema (extends beyond visible erythema), Crepitus (crackling or popping sound under the skin due to gas in tissues), skin necrosis or ecchymosis, gangrene, severe pain (out of proportion to exam findings).
RISK STRATIFICATION	**Based on Clinical Features** **Severe** ▪ **Meets >= 2 SIRS criteria** ▪ **Hypotension / Sepsis** ▪ Immunocompromised pt ▪ **Failed oral +/- parenteral antibiotics** ▪ **Signs/symptoms of deep infection** **Based on NEWS2 Score** **Severe** ▪ NEWS2 Score 7+ ▪ Immunocompromised pt ▪ **Failed oral +/- parenteral antibiotics** ▪ **Signs/symptoms of deep infections**
DISPOSITION & ADJUNCTIVE MEASURES	**Emergent Transfer to HLOC -** do not delay transfer for lab draws or results ▪ **If possible while awaiting HLOC transfer** ▪ Place IV line ▪ Obtain two sets of blood cultures prior to starting ABs, without delaying start of ABs ▪ **Lab draw for** CBC with diff, CMP, coags, CK, lactate, CRP, ESR ▪ Mark border of erythema with single-use permanent marker ▪ Take digital picture and upload into health record
TREATMENT*	**If possible while awaiting HLOC transfer** • Start IV antibiotics to cover both staph and gram-negative organisms Vancomycin **Loading dose** (for patients with known or suspected severe *Staphylococcus aureus* infection). **PLUS** *Piperacillin/Tazobactam IV* **If Severe beta–lactam allergy—one dose of IV antibiotics from 'moderate box' on page 13**
MONITORING & PREVENTION OF RECURRENCE	• **Assess patient within 24 hours of return from HLOC** • Take digital picture AGAIN and upload into health record • Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers) • Consult Wound/SSTI Central Team to address factors for recurrence

*See medication tables on pages 21-24 for dosages.

Nonpurulent Infections, cont'd

RECURRENT Cellulitis	
EPIDEMIOLOGY	• Recurrences occur in ~14% cases within 1 year and 45% cases within 3 years
PATHOLOGY/TISSUE AFFECTED/MICROBIOLOGY/ PRESENTATION/RISK STRATIFICATION/DISPOSITION & ADJUNCTIVE MEASURES	• Similar to initial episode
TREATMENT	• Antibiotics similar to initial episode. • If recurrent S. aureus, decolonization may be reasonable • Perform careful assessment to rule out an alternative diagnosis.
MONITORING & PREVENTION OF RECURRENCE	• Manage Predisposing conditions and factors of recurrence per chart below • Consult Wound/SSTI Central Team to address factors for recurrence • Consider prophylactic antibiotics for patients who have had 3-4 episodes of cellulitis after attempts to control predisposing factors • Consider ID consult
General Predisposing Conditions	**Recommended Management/Referral**
Drug use (skin popping-check arms, neck, feet)	• MAT by PCP/ISUDT Team • Referral to Mental Health
Obesity	• Weight loss • Medical management
Immunosuppression	• Medical Management
Diabetes mellitus–Diabetic foot Ulcers	• Management considerations different than empiric treatments above • Referral to Wound/SSTI Central Team
Chronic non-healing wounds and ulcers (Surgical/Venous/Arterial)	• See CCHCS Chronic-Wound-Management-Care-Guide • Referral to Wound/SSTI Central Team
Lower extremity edema due to Lymphedema, Peripheral Vascular Disease, or ipsilateral venous/skeletal surgery, ipsilateral DVT in the past (> 6 months prior)	• See CCHCS Chronic-Wound-Management-Care-Guide - Compression Therapy Section (contraindicated in Acute DVT) • Referral to Wound/SSTI Central Team • Referral to Vascular Surgery as indicated
Foot conditions (including toe web abnormalities, tinea)	• Treatment of Tinea (topical antifungal therapy, systemic antifungal agents if patient fails topical therapy)

Purulent Infections [1-3] (All patients should get a Referral to ISUDT program for harm reduction)				
MILD, MODERATE, SEVERE: Cellulitis/Furuncle/Carbuncle/Abscess				
SSTI	**Purulent Cellulitis**	**Furuncle**	**Carbuncle**	**Abscess**
EPIDEMIOLOGY	Most frequent in middle-aged adults. Incidence: 200 cases/100,000 pt-yrs			
PATHOLOGY/TISSUE AFFECTED	Deep layers of dermis/ subcutaneous tissue	Hair follicle infection; May extend into subcutaneous tissue, creating an abscess	Infection of Multiple adjacent hair follicles; Deeper and more severe than furuncle; More likely to leave a scar	Pus collection within dermis and deeper skin tissues
MICROBIOLOGY	More likely *Staph aureus* (including MRSA - if predisposition/ purulent infection/ penetrating injury); less likely Beta hemolytic Strep (BHS), Gp A *Strep* or *Strep pyogenes*,	Most commonly S. aureus (either MSSA or MRSA)	Most commonly S. aureus (either MSSA or MRSA)	Most commonly S. aureus (either MSSA or MRSA)
PRESENTATION	Purulent skin rash (usually unilateral) with erythema, edema, local warmth, and a diffuse indistinct border	Often ruptures and drains spontaneously or following treatment with moist heat	Often on the back of neck, shoulders, or thighs Multiple small openings draining pus onto skin	Painful, tender, fluctuant, and erythematous nodules, frequently surmounted by a pustule; surrounded by a rim of erythema and edema

Purulent Infections, Cellulitis/Furuncle/Carbuncle/Abscess, cont'd

MILD, MODERATE, SEVERE: Cellulitis/Furuncle/Carbuncle/Abscess			
	MILD	**MODERATE**	**SEVERE**
RISK STRATIFICATION based on clinical features	• **No signs of systemic infection**	• **May have fever, no other SIRS criteria met** (Systemic Inflammatory Response Syndrome)	• **Failed I&D** • **Meets >= 2 SIRS criteria** • **Hypotension / Sepsis** • Immunocompromised pt • **Failed oral +/- parenteral antibiotics** • **Signs/symptoms of deep infection**
RISK STRATIFICATION based on NEWS2 score	• NEWS2 Score 0-4	• NEWS2 Score 5-6 or • One 3-point risk item in NEWS2	• **Failed I&D** • **NEWS2 Score 7+** • Immunocompromised pt • **Failed oral +/- parenteral antibiotics** • **Signs/symptoms of deep infection**
DISPOSITION & ADJUNCTIVE MEASURES	• **Institution outpatient setting** • Mark border of erythema with single-use permanent marker • Elevate affected area • Take digital picture and upload into health record	• **Institution outpatient setting with CLOSE monitoring (**Recheck at 12-24 hours after starting antibiotics and at 48-72 hours) • **Temporary OHU placement/CTC admission is a good option if available**. • Mark border of erythema with single-use permanent marker • Elevate affected area • Take digital picture and upload into health record	• **Emergent Transfer to HLOC** • **If possible while awaiting HLOC transfer** ▪ Place IV line ▪ Obtain two sets of blood cultures prior to starting ABs, without delaying start of ABs • Mark the border of erythema with single-use permanent marker • Take digital picture and upload into health record
TREATMENT*	• **If drainable abscess, perform I&D** (See I&D Procedure Attachment A) and send pus for C&S. • **Oral Antibiotics for 5-7 days:** ▪ TMP/SMX double-strength (DS) tablet (for serious infections) **OR** ▪ Doxycycline	• **If drainable abscess, perform I&D** (See I&D Procedure Attachment A) and send pus for C&S. • **Oral Antibiotics for 5 –7 days (if no med adherence or GI absorption issues)** • TMP/SMX double-strength (DS) tablets **OR** • Clindamycin (if severe beta-lactam allergy) • Doxycycline **(Combine with cephalexin or amoxicillin if concomitant BHS coverage is needed)**	• Begin IV antibiotics therapy with Vancomycin **Loading dose** (for patients with known or suspected severe *Staphylococcus aureus* infection *and gram-negative organisms (e.g., piperacillin-tazobactam*). (See IV Antibiotics on pages 22-23) • **IV Antibiotics:** ▪ Vancomycin IV loading dose *every 8-12 hours, max 2 grams/dose for 7-14 days*

*See medication tables on pages 21-24 for dosages.

Purulent Infections, Cellulitis/Furuncle/Carbuncle/Abscess, cont'd

MILD, MODERATE, SEVERE: Cellulitis/Furuncle/Carbuncle/Abscess			
	MILD	**MODERATE**	**SEVERE**
TREATMENT* Cont'd	▪ Clindamycin (if severe beta-lactam allergy) (combine with cephalexin or amoxicillin, if concomitant BHS coverage is needed)	amoxicillin if concomitant BHS coverage is needed) • **If med adherence or GI absorption issues** • **IV Antibiotics for 5-7 days:** ▪ Vancomycin 30 mg/kg/day IV in 2 divided doses every 12 hours, max (monitoring trough levels not needed if using ≤ 6 doses; if patient not improved with 6 doses of IV Vancomycin, treat as severe, and transfer to HLOC-See medication pages 22-23 for details)	▪ *Daptomycin* (NF) OR ▪ *Linezolid (NF)* • Treat underlying conditions; elevation of affected area
MONITORING & PREVENTION OF RECURRENCE	• **Recheck at 48-72 hours after I&D and starting antibiotics** (Primary Care RN co-consult is a good option. TTA on weekends/holidays) • Take digital picture AGAIN and upload into health record • Erythema may initially extend 1-2 cm beyond marked border • Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers)	• **Recheck at 12-24 hours** (after I&D and starting antibiotics) **and at 48-72 hours** (Primary Care RN co-consult is a good option; TTA on weekends/holidays) • Take digital picture AGAIN and upload into health record • Erythema may initially extend 1-2 cm beyond marked border • Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers)	• **Assess patient within 24 hours of return from HLOC** • Take digital picture AGAIN and upload into health record • Treat underlying conditions (e.g., tinea pedis, lymphedema, xerosis, open wounds/ulcers) • Consult Wound/SSTI Central Team to address factors for recurrence

*See medication tables on pages 21-24 for dosages.

Other Infections [5-6]

(All patients should get a Referral to ISUDT program for harm reduction)

Impetigo
Diagnostic Criteria/Evaluation
• Clinical Manifestations: Impetigo is a common superficial skin infection. • Likely Organisms: group A **Streptococcus** and Staphylococcus aureus

Other Infections, cont'd

Treatment - Impetigo		
ANTIBIOTIC OPTIONS* For Impetigo-Limited and Extensive	**TREATMENT DURATION**	**COMMENTS**
Topical (Limited Impetigo) • Mupirocin topical ointment: Apply to local area TID	5 days (typically)	If indicated, **topical antibiotic** treatment is usually sufficient if lesions are few and small (<10 mm)
ORAL (Extensive Impetigo) • Cephalexin 250 to 500 mg** **PO QID**	7 days (typically)	Preferred if **NOT suspecting MRSA** Alternative- Dicloxacillin (NF)
ORAL (Extensive Impetigo) • TMP/SMX double-strength (DS) tablet **OR** • Doxycycline **OR** • Clindamycin (if severe beta-lactam allergy)	7 days (typically)	Preferred oral antibiotics **if MRSA** is suspected or confirmed

*See medication tables on pages 21-24 for dosages.

**If two doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120 kg) or more severe illness.

Human Bite (All patients should get a Referral to ISUDT program for harm reduction)
Diagnostic Criteria/Evaluation
• Clinical Manifestations: ▪ Clenched-fist injuries occur when the closed fist strikes the teeth of another person. ▪ Injury usually occurs over the dorsal surface of the 3rd and 4th MCP or PIP joints of the dominant hand. Can involve extensor tendons. • In the correctional setting, patients often present late after injury and may be unwilling to admit to a history of altercation. • Likely Organisms: Risk for serious bacterial infection; often polymicrobic; oral flora include: Gram Negative Rods and anaerobes • Labs: Perform culture and sensitivity on purulent material.

Treatment – Human Bites

- Recommend antibiotics if wound is deeper than the epidermis; involves the hands, feet, or face and/or involves the skin overlying a cartilaginous surface

ANTIBIOTIC OPTIONS* for Human Bites	TREATMENT DURATION	COMMENTS
Amoxicillin/Clavulanate (Augmentin®)	5 days for prophylaxis 7 days for treatment	• Caution if significant renal or hepatic impairment • Nausea, emesis, diarrhea, rash are common
Clindamycin and TMP-SMX 1 DS	5 days for prophylaxis 10 days for treatment	• Option for those with beta-lactam allergy
Clindamycin and Ciprofloxacin	5 days for prophylaxis 10 days for treatment	• Option for those with beta-lactam allergy

*See medication tables on pages 21-24 for dosages.

- NEWS 2 Score 0-4 MILD, 5-6 MODERATE, 7-20 SEVERE
- Complications are frequent (tendon or nerve damage, septic arthritis, and osteomyelitis)

Other Infections, Human Bites, cont'd

- Consult Centers for Disease Control and Prevention for Tetanus vaccination recommendations
- May require consultation with hand specialist
- Close monitoring is essential
- Evaluate individuals involved in the altercation for possible blood borne pathogen

CONSIDERATIONS FOR PATIENTS WHO INJECT DRUGS

- Referral to ISUDT/MAT
- Counseling on risks of IDU
- Testing for HIV, HBV, HCV, and referrals as indicated
- Vaccination (hepatitis A/B, tetanus, HPV, pneumovax

Differential Diagnoses [2] (All patients should get a Referral to ISUDT program for harm reduction)	
If Patient Is Not Getting Better, Consider Mimics	
Rapidly progressive erythema with signs of systemic toxicity? Think severe infection, such as:	
Toxic shock syndrome: Pain typically presents before physical findings	Local swelling and erythema, ecchymoses, sloughing of skin, fever, progression to hypotension
Gas gangrene: Suspected in the setting of fever and severe pain in an extremity (recent surgery or trauma)	Crepitus favors clostridial infection; can also be detected radiographically
Distinguishing cellulitis from other infections, such as:	
Septic arthritis: Cellulitis over a joint that may indicate the presence of a septic joint	Look for joint pain, swelling, warmth, and limited range of motion. Diagnosis of septic arthritis is based on examination of synovial fluid
Osteomyelitis: Cellulitis may reveal a bone infection below	Be sure to order imaging to assess bone involvement—when a chronic SSTI fails to improve (with appropriate antibiotic therapy)
Mycotic aneurysm: Suspect in the setting of erythema, swelling, and tenderness at an intravenous drug injection site (i.e., antecubital fossa)	Diagnosis is established by ultrasound
Noninfectious mimics of cellulitis (unilateral), such as:	
Contact dermatitis: Lesions are pruritic	Look for erythema, edema, vesicles, bullae, and oozing. Reaction is usually limited to site of contact and is associated with burning, stinging, or pain
Insect bite: Initiates an inflammatory reaction at the site of the skin puncture, which appears within minutes and consists of pruritic local erythema and edema	Local reaction can be followed by a delayed skin reaction consisting of local swelling, itching, and erythema
Deep Vein Thrombosis (DVT): Condition in which a blood clot develops in the deep veins, most commonly in the lower extremities	Common symptoms are swelling, pain, and redness. Some patients are asymptomatic
Panniculitis: Inflammation of subcutaneous fat (may have infectious and noninfectious origins)	Panniculitis: Inflammation of subcutaneous fat (may have infectious and noninfectious origins)
Noninfectious mimics of cellulitis (bilateral), such as:	
Stasis Dermatitis: Common inflammatory skin disease that occurs on the lower extremities; early manifestation of chronic venous insufficiency	See CCHCS Care Guide: Chronic Wound Management, Venous Ulcers Section
Lipodermatosclerosis: Fibrosing panniculitis of the subcutaneous tissue that can be seen in the setting of chronic venous insufficiency, deep venous thrombosis or with lymphatic compromise.	Usually, the overlying skin is heavily pigmented and bound down to subcutaneous tissues. See CCHCS Care Guide: Chronic Wound Management, Venous Ulcers Section
Lymphedema: Abnormal accumulation of interstitial fluid resulting from injury or anatomic abnormality of the lymphatic system	Diagnosis is usually established clinically

Adapted from: 2.Spelman D, Baddour LM. Cellulitis and skin abscess: Clinical manifestations and diagnosis. August 14, 2018 ed: UpToDate; 2018.

ORAL ANTIBIOTICS

DRUG CLASS / MEDICATION (A-Z)	DOSING	ADVERSE EFFECTS / INTERACTIONS*	COMMENTS
Cephalexin CAP: 250 mg, 500 mg $	Typical dose: 500 mg po QID/1 gm TID for 5 days Hepatic Impairment: not defined Renal Dosing: CrCl 30-59: No adjustment necessary; do not exceed 1 g/day; CrCl 15-29: 250 mg q8-12h; CrCl 5-14 and not on dialysis: 250 mg q24h; CrCl 1-4 and not on dialysis: 250 mg q48-60h. HD: dose after dialysis, no supplement needed; PD: 250-500 mg q12-24h	▪ Common Adverse Reactions: diarrhea, nausea, vomiting, rash, headache, dizziness, ↑ALT/AST, eosinophilia	▪ Indications: Mild, nonpurulent SSTIs; Extensive Impetigo (obtain culture) ▪ Spectrum of Activity: ß hemolytic streptococci, (BHS); MSSA
Clindamycin CAP: 150mg $	Typical dose: 450 mg po TID** for 5-7 days Hepatic Dosing: no adjustment Renal Dosing: no adjustment; HD/PD: no supplement needed	▪ Common Adverse Reactions: rash, diarrhea, nausea, vomiting, abdominal pain, pruritus, jaundice, urticaria, hypotension, metallic taste	▪ Indications: Mild nonpurulent; mild, moderate purulent SSTIs (if severe beta-lactam allergy) ▪ Spectrum of Activity: BHS, MSSA, MRSA ▪ Increasing clindamycin resistance is a concern ▪ Can be used in penicillin-allergic patients ▪ Black Box Warning: C difficile-associated diarrhea ranges in severity from mild diarrhea to fatal colitis consider D/C clindamycin if C. difficile-assoc. diarrhea suspected or confirmed; provide appropriate fluids, electrolytes, protein supplementation, abx, and surgical eval. as clinically indicated
Doxycycline CAP: 100 mg; $ TAB: 100 mg $	Typical dose: 100 mg po BID for 5-7 days Hepatic Dosing: caution advised Renal Dosing: no adjustment. HD/PD: no supplement needed	▪ Common Adverse Reactions: headache, nausea, rash, arthralgia, diarrhea, URI symptoms, photosensitivity, vulvovaginal candidiasis, skin/tissue discoloration, BUN elevated, HTN, tooth discoloration (reversible in adult pts), enamel hypoplasia, vomiting, anorexia	▪ Indications: Mild, moderate purulent SSTIs, Extensive Impetigo ▪ Spectrum of Activity: MRSA, MSSA
Trimethoprim/Sulfamethoxazole TAB: single strength 400 mg/80 mg; double strength 800 mg/160 mg $ SUSP: 200 mg/40 mg per 5 mL $$$$	Typical dose:1 double-strength (DS) tablet po BID or TID (for serious infections) for 5-7 days Hepatic Impairment: mild-moderate impairment: caution advised; significant impairment: contraindicated Renal Dosing: CrCl 15-30: decrease dose 50%; CrCl <15: avoid use. HD: supplement with 50% of maintenance dose after dialysis; PD: no supplement needed	▪ Common Adverse Reactions: nausea, vomiting, anorexia, rash, urticarial, hypersensitivity reaction, photosensitivity, diarrhea, dizziness, dyspepsia, headache, lethargy	▪ Indications: Mild, moderate purulent SSTIs, Extensive Impetigo ▪ Spectrum of Activity: MRSA, MSSA

BOLD = Formulary The cost scale $-$$$$$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.
*See prescribing information for complete description of dosing, adverse effects, and drug interactions. Patients with renal disease may require dosage adjustments.
**If two doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120 kg) or more severe illness.

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ADDITIONAL ORAL ANTIBIOTICS for Human Bites

Drug Class / Medication (A-Z)	Dosing	Adverse Effects / Interactions*	Comments
Amoxicillin/Clavulanate TAB: 875 mg/125 mg $	Typical dose: 875/125 mg po BID (5 days for prophylaxis; 7 days for treatment) Hepatic Dosing: Use caution and monitor liver function during therapy; Hx amoxicillin/clavulanate associated hepatic impairment: Contraindicated Renal Dosing: [immediate-release form] CrCl 10-30: 250-500/125 mg q12h; CrCl < 10: 250-500/125 mg q24h; HD: 250-500 /125 mg q24h with supplemental dose during and after dialysis. Do not use 875 mg/125 mg tab for CrCl < 30 or patients on HD.	▪ Common Adverse Reactions: diarrhea, nausea, rash, urticaria, pruritus, epigastric discomfort, vomiting, glossitis, stomatitis, black hairy tongue, candidiasis (oral or vulvovaginal), LFTs elevated	▪ Indications: Human Bite ▪ Spectrum of Activity: Polymicrobial (streptococcus spp., staphylococcus spp., including MRSA, anaerobes, and gram-negative rods) ▪ 5 days for prophylaxis ▪ 7 days for treatment ▪ Formulary recommended use criteria: Bite wounds and hand lacerations from teeth. Recommended dose 875 mg BID for 5-7 days.
Ciprofloxacin TAB: 250 mg, 500 mg $	Typical dose: 500-750 mg** PO BID; dose, duration varies w/ infection type, severity (see Human Bite on page 18) Hepatic Dosing: Use with caution in severe impairment Renal Dosing: CrCl 30-50: 250-500mg q12h; CrCl 5-29: 250-500 mg q18h; HD/PD: 250-500 mg q24h, dose after dialysis, no supplement needed	▪ Common Adverse effects: nausea, diarrhea, vomiting, abdominal pain, headache, dyspepsia, dizziness, restlessness, lightheadedness, vaginitis, insomnia, photosensitivity, pruritus, rash, anxiety, agitation, confusion, tendonitis, myalgia, impaired memory, delirium	▪ Indications: Human Bite ▪ Spectrum of Activity: Dual Therapy required ▪ Black Box Warnings: *Disabling, Potentially Irreversible Serious* Reactions—Fluoroquinolones assoc. with tendinitis/tendon rupture, peripheral neuropathy, and CNS effects that may occur together; tendinitis/tendon rupture may occur during treatment or months after treatment D/C; incr. tendinitis/tendon rupture risk in all ages; risk further incr. in older pts > 60 years old, pts taking corticosteroids, and pts with kidney, heart, or lung transplant. *Avoid in Myasthenia Gravis*—Fluoroquinolones may exacerbate muscle weakness in pts w/ myasthenia gravis ▪ OPTION: For those with beta-lactam allergy. Use DUAL therapy, ADD clindamycin (see Human Bite on page 18) ▪ 5 days for prophylaxis ▪ 10 days for treatment

TOPICAL ANTIBIOTICS – for Limited Impetigo

Drug Class / Medication (A-Z)	Dosing	Adverse Effects / Interactions*	Comments
Mupirocin Topical Ointment OINT: 2% $	Typical dose: Apply ointment to affected area(s) TID x 5 days Hepatic Dosing: N/A Renal Dosing: N/A	▪ Common Adverse Reactions: localized burning, headache, pruritus, pain, stinging sensation, nausea	▪ Indications: Limited Impetigo ▪ Spectrum of Activity: BHS, MSSA, MRSA

BOLD = Formulary The cost scale $-$$$$$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.
*See prescribing information for complete description of dosing, adverse effects, and drug interactions. Patients with renal disease may require dosage adjustments.
**If two doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120 kg) or more severe illness.

IV ANTIBIOTICS

DRUG CLASS / MEDICATION (A-Z)	DOSING	ADVERSE EFFECTS / INTERACTIONS*	COMMENTS
Cefazolin **INJ: 1 gm vial** **$$ - $$$**	Typical dose: 1-2 g** IV every 8 hours Hepatic Dosing: not defined Renal Dosing: CrCl 35-54: give q8h; CrCl 11-34: give usual dose x1, then decr. dose 50%, give q12h; CrCl ≤10: give usual dose x1, then decr. dose 50%, give q18-24h. HD: 0.5-1 g q24h give dose after dialysis, on dialysis days; PD: 500 mg q12h	▪ Common Adverse Reactions: diarrhea, rash, vomiting, nausea, abdominal pain, anorexia, ↑ALT/AST; urticaria, thrombophlebitis	▪ Indications: Moderate, nonpurulent SSTIs ▪ Spectrum of Activity: BHS; MSSA
Ceftriaxone **INJ: 250 mg vial, 1 gm vial** **$$ - $$$**	Typical dose: 1-2 g** IM/IV q24h Hepatic Dosing: hepatic impairment w/ significant renal dz: max 2 g/day Renal Dosing: renal failure: no initial adjustment, monitor serum levels; hepatic impairment w/ significant renal dz: max 2 g/day. HD/PD: Poorly dialyzed; no supplemental dose or dose adjustment needed	▪ Common Adverse Reactions: local injection site reaction, eosinophilia, thrombocytosis, ↑ALT/AST, diarrhea, leukopenia	▪ Indications: Moderate, non-purulent SSTIs ▪ Spectrum of Activity: Many aerobic gram neg bacilli and, in addition, *Strep. Pneumoniae*, *N. meningitidis*; MSSA ▪ Recommended use criteria: Treatment of STDs. (Not indicated for use as initial dose or empiric treatment prior to oral therapy for non-STD indications)
Clindamycin **INJ: 150 mg/mL, 6 mL vial** **$$$**	Typical dose: 600 to 900 mg** IV every 8 hours Hepatic Dosing: no adjustment Renal Dosing: no adjustment HD/PD: no supplement	▪ Common Adverse Reactions: rash, diarrhea, nausea, vomiting, abdominal pain, pruritus, jaundice, urticaria, hypotension, esophagitis, thrombophlebitis (IV), metallic taste	▪ Indications: Moderate, nonpurulent SSTIs (if severe beta-lactam allergy) ▪ Spectrum of Activity: BHS, MSSA, MRSA ▪ Increasing clindamycin resistance is a concern ▪ Can be used in penicillin-allergic patients ▪ Black Box Warning: C difficile-associated diarrhea ranges in severity from mild diarrhea to fatal colitis consider D/C clindamycin if C. difficile-assoc. diarrhea suspected or confirmed; provide appropriate fluids, electrolytes, protein supplementation, abx, and surgical evaluation as clinically indicated
Piperacillin-tazobactam INJ: 2.25 gm vial, 3.375 gm vial, 4.5 gm vial **$$$$**	Typical dose: 3.375 g IV q6h x7-10 days Hepatic Impairment: no adjustment Renal Impairment: CrCl 20-40: 2.25 g q6h; CrCl < 20: 2.25 g q8h. HD: 2.25 g q12h, give 0.75 g after each dialysis session; PD: 2.25 g q12h	▪ Common Adverse Reactions: diarrhea, headache, constipation, nausea, insomnia, rash, vomiting, dyspepsia, pruritus, fever, agitation, electrolyte abnormalities, LFTs elevated	▪ Indications: Severe, nonpurulent AND purulent SSTIs ▪ Spectrum of Activity: MSSA

BOLD = Formulary The cost scale $-$$$$$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.
*See prescribing information for complete description of dosing, adverse effects, and drug interactions. Patients with renal disease may require dosage adjustments.
**If two doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120 kg) or more severe illness.

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IV ANTIBIOTICS

Drug Class / Medication (A-Z)	Dosing	Adverse Effects / Interactions*	Comments
Vancomycin **INJ: 500 mg, 750 mg, 1 gm, 5 gm, 10 gm** **$$$$$**	Typical dose: 15-20 mg/kg/dose IV every 8-12 hours, max 2 grams/dose for 7-14 d Hepatic Dosing: not defined Renal Dosing: CrCl 50-90: 15 mg/kg x1, then usual dose q12-24h; CrCl 10-50: 15 mg/kg x1, then usual dose q24-96h; CrCl < 10: 15 mg/kg x1, then usual dose q4-7 days. HD: supplement only if high-flux dialyzer used; PD: no supplement needed Serum vancomycin levels should be monitored, and the dose adjusted accordingly **Loading dose IV** (for patients with known or suspected severe *Staphylococcus aureus* infection) Load 20 to 35 mg/kg (based on actual body weight, rounded to the nearest 250 mg increment; not to exceed 3000 mg)	▪ Common Adverse Reactions: red-man syndrome (rapid IV use-causing upper body flushing, erythema and pruritus, etc.), hypokalemia, hypotension (rapid IV use), fever, nausea, rigors, eosinophilia, rash, urticarial, phlebitis, tinnitus, dizziness/vertigo, ↑SCr	▪ Indications: Severe, nonpurulent AND purulent SSTIs ▪ Spectrum of Activity: BHS, MSSA, MRSA ▪ Use only for serious infections ▪ Refer to www.CDC.gov for recommendations on appropriate use and preventing/controlling spread of Vancomycin resistance ▪ Infuse over 1 hour to decrease risk for red man syndrome (RMS)** ▪ No monitoring of Vancomycin trough levels required for up to 6 doses of Vancomycin 1g q12 hr IV. ▪ Ensure normal baseline Cr/GFR done within past 60 days; if no baseline Cr/GFR may start IV Vancomycin, but CBC and BMP (for Cr/GFR) need to be ordered stat. If Cr/GFR comes back normal: continue Vancomycin up to 6 doses as above. If Cr/GFR abnormal, stop Vancomycin. ▪ If patient not improved with 6 doses of IV Vancomycin, treat as severe, and transfer to HLOC

IV ANTIBIOTICS (MRSA Alternatives)

Drug Class / Medication (A-Z)	Dosing	Adverse Effects / Interactions*	Comments
Daptomycin INJ: 350 mg vial; 500 mg vial $$$$$	Typical dose: 4 mg/kg IV q24h x 7-14 days Hepatic Dosing: Child-Pugh Class A or B: no adjustment; Child-Pugh Class C: not defined Renal Dosing: CrCl < 30: 4 mg/kg q48h; HD: 4 mg/kg q48h, give dose after dialysis, on dialysis days, no supplement needed; PD: 4 mg/kg q48h no supplement needed	▪ Common Adverse Reactions: insomnia, pharyngolaryngeal pain, ↑CK , chest pain, edema, abd pain, pruritus, ↑BP, headache, diarrhea, diaphoresis, rash, abnormal LFTs, UTI, hypotension, dizziness, dyspnea, fungal infection	▪ Indications: Severe, purulent SSTIs ▪ Spectrum of Activity: BHS, MSSA, MRSA
Linezolid INJ: 600 mg/300 mL bag $$$$$	Typical dose: 600 mg PO/IV q12h x 10-14 days. Hepatic Dosing: Child-Pugh Class A or B: no adjustment; Child-Pugh Class C: not defined Renal Dosing: renal impairment-caution advised; HD: give dose after dialysis, no supplement; PD: no supplement; Info: metabolite accumulation possible	▪ Common Adverse Reactions: diarrhea, headache, N/V, anemia, thrombocytopenia, rash, hypertension	▪ Indications: Severe, purulent SSTIs ▪ Spectrum of Activity: BHS, MSSA, MRSA ▪ Avoid high tyramine-content foods < 100 mg/meal

BOLD = Formulary The cost scale $-$$$$$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.
*See prescribing information for complete description of dosing, adverse effects, and drug interactions. Patients with renal disease may require dosage adjustments.
**If two doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120 kg) or more severe illness.

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ATTACHMENT A

INCISION AND DRAINAGE (I&D) PROCEDURE [1-3, 8-10]

INDICATIONS

- Fluctuant abscess that is palpable

CONTRAINDICATIONS

- Patients with an underlying bleeding disorder should undergo correction of their coagulopathy prior to the procedure.
- Ensure the patient is NOT allergic to lidocaine, epinephrine, or latex and avoid exposure during the procedure.
- Review allergies in the EHRS prior to procedure.
- The following abscesses should be referred that day to a higher level of care (HLOC) for definitive treatment and possible operating room management:
  - Extremely large abscesses that require extensive incision, debridement, or irrigation
  - Deep abscesses in very sensitive areas (labial, supralevator, ischiorectal, perirectal)—require general anesthesia to obtain proper exposure
  - Abscess in the hands or feet or overlying any joint
  - Abscesses located on the face
- 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 need to be differentiated from aneurysms before an I&D is performed, to avoid fatal hemorrhage. The distinction is made through aspiration with a large bore needle.
- Use caution if patient is immunocompromised and/or diabetic since these populations may require more aggressive measures and follow-up.

MATERIALS

- Sterile gloves, drapes, and 4x4 inch gauze squares
- Mask/eye protection and gown
- Local Anesthetic (1% or 2% lidocaine with or without epinephrine for local anesthesia)
- 3-10 cc mL syringe and 25-27 or 30 gauge needle for infiltration. (Use safety needles, if available)
  Note: Epinephrine is contraindicated in areas such as the fingers, nose, toes, and penis
- Alcohol or povidone-iodine wipes
- #11 scalpel blade with handle or disposable retractable #11 blade scalpel, if available
- Hemostat or sterile cotton-tipped applicator
- Saline and syringe with 18-gauge angiocatheter or splash shield
- Scissors
- Packing material (plain or iodoform, ½" or ¼") if packing is indicated, i.e., larger wounds
- Dressing of choice and tape (if needed)
- Culture swab (aerobic and anaerobic)

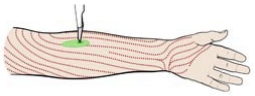
ATTACHMENT A, Continued

CONSENT/PRE-PROCEDURE EDUCATION

1. Obtain informed consent per CCHCS policies and guidelines (including risks/complications, benefits, alternatives, etc.)
2. Possible Risks:
   A. General Risks Common To Surgical Procedures: bleeding, infection, and damage to surrounding tissues, vessels, nerves, or organs; risks of anesthesia, or death
   B. Procedure-Specific Risks: pain, bleeding, scarring, bruising, hematoma, infection spread, swelling, possible fistula formation, nerve injury and possible inability to drain abscess
   C. Possible Medication Risks: allergic reactions; side effects, such as nausea, vomiting, diarrhea, etc.
3. Explain the steps of the procedure, including the pain associated with anesthetic infiltration.
4. Emphasize the following important features of incision and drainage:
   A. An abscess may be much larger than it appears on the surface. Thus, it may require a longer incision than the patient expects.
   B. Scarring should be expected, including the possibility of keloid formation.
   C. Recurrence is relatively common, particularly in patients with hidradenitis suppurativa or an infected sebaceous cyst.

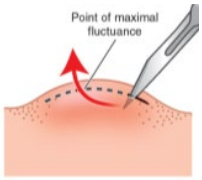
PROCEDURE ***Use standard precautions***

1. **Put on** gown, mask, eye protection, and gloves.
2. **Cleanse** site over abscess with skin preparation of choice.

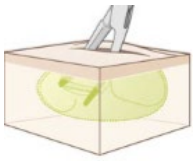


3. **Drape** to create a sterile field.
4. **Plan Your Incision** by considering the direction of the natural skin fold lines.
5. **Anesthesia:** Infiltrate local anesthetic, allowing 2–3 minutes for anesthetic to take effect.

6. **Incision:**
   § Make a linear incision across the diameter of the fluctuate area.
   § Ensure appropriate depth to reach the abscess cavity and adequate drainage.
7. **Drain out the pus:** Allow the pus to drain, using the gauzes to soak up drainage and blood.



8. **Obtain a culture:** Use the culture swab to take culture of abscess contents, swabbing inside the abscess cavity—not from skin over the abscess.
9. **Explore the abscess cavity** using hemostat or sterile cotton-tipped applicator gently and break up any loculations.



10. **If packing is indicated,** loosely pack the abscess cavity with the packing. Packing may not be indicated for simple abscesses <5cm in all dimensions[11].
11. **Place dressing over the wound**, and tape in place if needed.
12. **Remove gloves, eye protection, gown and mask and then wash hands.** Properly dispose of contaminated articles.

13. Discuss post-procedure follow-up with the patient.
14. **Re-evaluation of the I&D wound site** should occur in 24–48 hours

Attachment A, Continued

POST-PROCEDURE/PATIENT EDUCATION

- The patient should return to clinic within 24 - 48 hours for wound check
- If packing material used, change every 24 - 48 hours as needed as purulent drainage persists
- Pain from the site may require acetaminophen or nonsteroidal anti-inflammatory drugs
- Patients should be instructed to watch for any of the following:
  -Re-accumulation of pus in the abscess,
  -Fever and chills,
  -Increased pain and redness,
  -Red streaks near the abscess,
  -Increased swelling.

POTENTIAL COMPLICATIONS

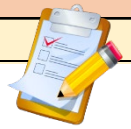
▪ Prevention and management of complications associated with I&D are outlined below.

Complication	Prevention/Cause	Management
Insufficient anesthesia	Tissue around an abscess is acidotic and that local anesthetic loses effectiveness in acidotic tissues	• Do a field block • Use sufficient quantity of anesthetic • Allow time for anesthetic effect
No drainage	Localize site of incision by palpation	• Extend incision deeper or wider as needed
Drainage is sebaceous material	Abscess was an inflamed sebaceous cyst	• Express all material • Break up sac with hemostat • Pack open, as with an abscess
Re-accumulation of pus	Re-culture; consider ultrasound with or without re-exploration; R/O other causes	• After drainage, observe site for re-accumulation of pus, development of cellulitis; ID consult; Surgery consult

CCHCS Care Guide: Skin and Soft Tissue Infections

Patient Education

Cellulitis: What you Should Know



WHAT IS CELLULITIS? (SELL-U-LIE-TIS)

- Cellulitis is an infection of the skin that can cause redness, pain, and swelling.
- It can happen when germs get into the skin.
- We all have different types of germs that live on our 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.

WHAT CAUSES CELLULITIS?

- Many germs (bacteria) are known to cause skin infections, 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.

WHAT ARE THE SYMPTOMS OF CELLULITIS?

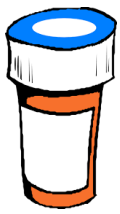
- An area of cellulitis is usually:
  - Painful
  - Red
  - Swollen
  - Warm
- Most of the time, cellulitis is on the legs or arms.
- It can also be on the belly, in the mouth, on the buttocks, or around eyes.

IS THERE A TEST FOR CELLULITIS?

- 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 health care provider or nurse might need to do a test (culture) to figure out the exact germ that 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 your whole body and become serious if it is not treated.

HOW IS CELLULITIS TREATED?

- 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 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").
- If the wound is draining, you may be quarantined to housing to prevent spreading infection to others.



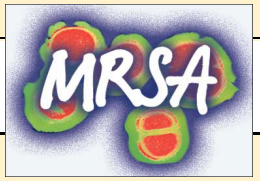
CAN CELLULITIS BE PREVENTED?

- 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

Patient Education

MRSA: What you Should Know

WHAT IS MRSA (METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS) "MURSA"?



- MRSA is a type of germ (bacteria) that causes many types of infections including skin infections (cellulitis), and many more.

HOW DO YOU CATCH MRSA?

- 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 get MRSA 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.

HOW DO I KNOW IF I HAVE A MRSA INFECTION?

- 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.

CAN MRSA BE TREATED?

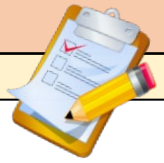
- Your doctor can give you antibiotics — germ-killing medicine — to treat your infection.
- It is VERY important that you follow the directions on how to take the antibiotics.
- Take ALL the pills you are given, even if you feel better before you finish the pills.
- If you do not take them all, the germ 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.

IS THERE A WAY TO PREVENT MRSA?

- **Wash your hands** with soap and water for at least 15 seconds many times a day.
- **Don't scratch** skin rashes.
- **Shower and keep clothes clean.**
- **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, tattoo, or injection drug equipment, etc.
- 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. Re-bandage your wound or contact medical as instructed.

EDUCACIÓN PARA EL PACIENTE/CONTROL PERSONAL DEL CASO

LA CELULITIS: LO QUE DEBE SABER



¿QUÉ ES LA CELULITIS?

- La celulitis es una infección de la piel que puede causar enrojecimiento, dolor e inflamación.
- Puede ocurrir cuando los gérmenes se meten a la piel.
- Todos tenemos diferentes tipos de gérmenes que viven en nuestra piel. La mayor parte del tiempo, estos gérmenes no causan ningún problema. Pero si se corta o se rompe la piel, los gérmenes pueden meterse a su piel y causar una infección.

¿QUÉ OCASIONA LA CELLULITIS?

- Muchos gérmenes (bacterias) son conocidos por causar infecciones en la piel, pero los más comunes se llaman "estreptococos" y "estafilococos".
- En los Estados Unidos, los antibióticos comunes ya no matan a muchos gérmenes estafilococos; se dice que son resistentes.
- En la prisión, un germen común que se ha vuelto resistente a muchos antibióticos se llama "Estafilococos aureus resistente a la meticilina," también.

¿CUÁLES SON LOS SÍNTOMAS DE LA CELLULITIS?

- Un área con celulitis normalmente:
  - Duele.
  - Tiene enrojecimiento.
  - Está inflamada.
  - Está caliente.
- La mayor parte del tiempo, la celulitis aparece en las piernas o los brazos.
- También puede aparecer en el vientre, la boca, las nalgas o alrededor de los ojos.

¿EXISTE UNA PRUEBA PARA LA CELLULITIS?

- Su médico o enfermera llevará a cabo un examen para revisar su piel.
- La celulitis es un tipo de infección de la piel, pero hay otras.
- El tratamiento adecuado depende de la infección que tenga y los gérmenes que la causen.
- En algunos casos, es posible que su proveedor de atención médica o enfermera tenga que hacer una prueba (de cultivo) para averiguar el germen específico que le está causando la infección y los medicamentos que pueden tratarla.
- Si tiene celulitis, es importante que se trate lo antes posible, porque la infección puede propagarse a todo su cuerpo y volverse grave si no se trata.

¿CÓMO SE TRATA LA CELLULITIS?

- Normalmente, la celulitis se trata con píldoras antibióticas (que son medicamentos que matan a los gérmenes) o drenando los abscesos de pus.
- Si su proveedor médico le receta un medicamento para que tome, es importante que siga las instrucciones al pie de la letra.
- Tome TODAS las píldoras que le dé, aunque se sienta mejor antes de terminárselas.
- Si no toma todas las píldoras, la infección puede regresar y ser más difícil de tratar.
- Es posible que las personas que tienen celulitis grave sean tratadas en el hospital con antibióticos que entren a las venas (por vía intravenosa).
- Si la herida se está drenando, pueden tenerlo en cuarentena para prevenir que la infección se propague a otros.

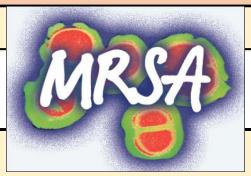
¿SE PUEDE PREVENIR LA CELLULITIS?

- Sí, en algunos casos.
- Si se corta, lave bien el área con agua y jabón, y lave todas las heridas de la piel con agua y jabón frecuentemente. Esto puede ayudar a prevenir que el área se infecte.
- Si tiene una afección en la piel a largo plazo, pregunte a su proveedor médico o enfermera lo que puede hacer para ayudar a prevenir la celulitis.

EDUCACIÓN PARA EL PACIENTE/CONTROL PERSONAL DEL CASO

SARM: LO QUE DEBE SABER

¿QUÉ ES EL ASTA STAPHYLOCOCCUS AUREUS RESISTENTE A LA METICILINA "SARM"?



- El SARM es un tipo de germen (bacteria) que causa muchos tipos de infecciones, incluidas las infecciones en la piel (celiulitis) y muchas otras.

¿CÓMO SE CONTAGIA EL SARM?

- Muchas personas tienen SARM en la piel y no lo saben.
- Si el germen está en su piel y se corta o tiene otra lesión, puede infectarse.
- Puede contagiarse de SARM si:
  - Toca a una persona que tiene SARM en la piel.
  - Toca una mesa, manija u otra superficie que días no mejora o si empeora al tomar los antibióticos, debe comunicarse con su médico de inmediato tiene el germen.

¿CÓMO SE SI TENGO UNA INFECCIÓN POR SARM?

- Si se contagia de una infección por SARM, puede tener un grano rojizo que posiblemente tenga pus.
- Es posible que tenga un grupo de granos que se vean como espinillas o picaduras de insecto.
- Muchas personas creen que tienen "picaduras de araña" cuando desarrollan una infección por SARM.
- Si la infección llega a la sangre, puede provocar fiebre o que se sienta cansado.

¿SE PUEDE TRATAR EL SARM?

- Su médico puede darle antibióticos (un medicamento que mata a los gérmenes) para tratar su infección.
- Es MUY importante que siga las instrucciones para tomar los antibióticos.
- Tome TODAS las píldoras que le dé, aunque se sienta mejor antes de terminárselas.
- Si no las toma todas, el germen puede regresar más fuerte y hacerse más resistente a los antibióticos que normalmente usamos para las infecciones.
- Si en un plazo de 1 a 2 días no mejora o si empeora al tomar los antibióticos, debe comunicarse con su médico de inmediato.

¿HAY ALGUNA MANERA DE PREVENIR EL SARM?

- **Lávese las manos** con agua y jabón durante mínimo 15 segundos varias veces al día.
- **No se rasque** el sarpullido en la piel.
- **Báñese** y mantenga limpia la ropa.
- **Cambie de ropa** si se mancha con el líquido que drena de la herida.
- **Cambie la ropa de la cama y las toallas** con frecuencia, y cuando se manchen con el líquido que drena de la herida.
- **No comparta artículos personales** como rastrillos, toallas, toallitas, jabón, etc. (equipo para tatuar o drogas inyectables).
- Si tiene una herida aubrieta, debe estar cubierta todo el tiempo con una venda.
- Nunca toque la herida o la piel infectada de otra persona ni una venda sucia.
- Si su vends se desprende, tírela en un contenders de basura según lo indicado por el personal de los servicers de salud. Lávese las manos. Vuelta a colocar una venta en la herida o comuníquese con su médico según lo que le indiquen.