

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/13/17	NUMBER: B-14.16
	Replaces:04/14/16	Page <u>1</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

## POLICY

To standardize the clinical management and housing of offenders with skin and soft tissue infections, thereby reducing the transmission and associated morbidity for both methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-sensitive *Staphylococcus aureus* (MSSA).

## DISCUSSION

When following this policy, the clinician should keep three goals in mind: 1) proper treatment of the patient with MRSA or MSSA infection, 2) prevention of the emergence of drug resistant staphylococci, and 3) prevention of the spread of staphylococci. At times, more aggressive treatment than is indicated for the first goal will be necessary for attaining the other two goals.

## DEFINITION

*Staphylococcus aureus* has remained a major human pathogen that colonizes and infects both hospitalized patients with decreased host defenses and healthy immunologically competent people in the community.

Humans can become intermittently colonized by *Staphylococcus aureus* by harboring the organism in their nasopharynx or on their skin and clothing. From these sites, *Staphylococcus aureus* can contaminate any site on skin or mucous membranes or other individuals by interpersonal transfer by direct contact. *Staphylococcus aureus* may adhere to skin and mucous membranes. If the integrity of either is breached from causes such as trauma or underlying dermatologic disorders, *Staphylococcus aureus* may gain access to the underlying tissue and create its characteristic local lesion – an abscess.

**Methicillin-resistant *Staphylococcus aureus* (MRSA)** is usually categorized as either a nosocomial (hospital-acquired) or community-acquired pathogen. Of the two, MRSA in TDCJ most closely resembles community-acquired MRSA, as it retains susceptibility to many other antibiotics.

Individuals **colonized** with *Staphylococcus aureus* have no signs of active disease but can transmit *Staphylococcus aureus* to others.

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/13/17	NUMBER: B-14.16
	Replaces: 04/14/2016	Page <u>2</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

**PROCEDURES:**

- I. Offenders shall not be charged the Annual Health Care Services Fee if they present with a draining skin lesion or boil.**
  
- II. Education of offenders with skin conditions**
  - A. If the condition merits medical care, the offender should be educated to minimize scratching and to seek medical attention as soon as abscesses or furuncles (boils) are detected. If there is any drainage, the lesion must remain covered at all times.
  - B. Those suspected of having staphylococcal infections must be individually counseled about what causes the infections and measures that can be taken to prevent or minimize their recurrence (Attachment A). Those expected to discharge prior to completing therapy should be counseled to finish their full course of antibiotics<sup>Y</sup> and continue local measures (eg, heat and dressing changes) until resolution of the lesion.<sup>1</sup>
  
- III. Offenders presenting with skin eruptions (dry skin, eczema, seborrhea, bites, etc)**
  - A. are at increased risk for staphylococcal infections because the integrity of their skin is compromised by the underlying condition.
  - B. should be **identified promptly** and referred to the facility physician or mid-level practitioner (ie, nurse practitioner or physician assistant) for aggressive management.
  - C. should have their skin eruptions **aggressively managed** by a provider who examines them to detect early abscesses.
  - D. may need to be referred to the a **specialty clinic** if they fail to respond to management at the unit.
  
- IV. Offenders presenting with skin infections usually caused by other organisms but in which *Staphylococcus aureus* must be considered a possible cause (eg, cellulitis or impetigo)**
  - A. should be treated with an antibiotic expected to provide coverage for both streptococci and staphylococci. TMP/SMX is not recommended for streptococcal infections. Acceptable regimens include combination therapy with
    - 1. trimethoprim/sulfamethoxazole (TMP/SMX (eg, Bactrim-DS<sup>®</sup>)) **plus** amoxicillin
    - 2. minocycline **plus** amoxicillin.

---

<sup>Y</sup> They will receive up to 10 days of an oral KOP antibiotic from the pharmacy upon discharge.

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/13/17	NUMBER: B-14.16
	Replaces: 04/14/2016	Page <u>3</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

**V. Offenders presenting with abscesses or other draining skin lesions**

- A. must be promptly identified and referred to the facility physician/mid-level practitioner.
- B. should be referred for **infirmary or inpatient management if there is systemic illness.**
- C. should be assessed for trauma such as bites as well as for **underlying conditions** that may cause immunosuppression (eg, diabetes, hepatitis B and C, and HIV). If any of these conditions are known to be present,
  - 1. fluid or tissue specimens should be collected using aseptic technique via the Levine technique as follows:
    - a. clean and irrigate the wound with non bacteriostatic saline.
    - b. make sure the wound is free of necrotic material, eschar, purulence and drainage
    - c. swab the wound base in a 1 cm area of viable tissue in the center for 5 seconds with sufficient pressure to express fluid from within the wound tissue.
    - d. send for gram stain and culture
  - 2. incision and drainage (I&D) should be performed if the lesion is fluctuant; if the lesion is not yet fluctuant, it may be treated with either warm soaks or compresses for 20 minutes at a time 2 to 3 times per day until resolved.
  - 3. antibiotics should be prescribed (see section VI. Antibiotics).
- D. should be assessed to determine whether this is a **recurrence**. A patient shall be considered to have **recurrent staphylococcal skin or soft tissue infections when they have > 3 clinical or culture-proven infections in a six-month period.** If the infection is recurrent
  - 1. C&S should be obtained using aseptic technique.
  - 2. I&D should be performed if the lesion is fluctuant; if it is not, warm compresses may be used as described in V.C.2.
  - 3. Antibiotics should be prescribed (see section VI. Antibiotics).
  - 4. You may also consider
    - a. culture of the external nares to document MRSA colonization. (The laboratory request must state that the specimen is to be cultured for MRSA.)
    - b. followed by an attempt at decolonization: apply 2% mupirocin ointment generously to the inside of both nostrils with a cotton swab twice a day for five days in the medical department (obtain non-formulary approval).
    - c. followed by a test-of-cure culture two weeks after the initial culture. If the nasal culture is still positive, decolonization may be attempted one more time.
  - 5. The patient should be evaluated for underlying conditions such as diabetes, obesity, hepatitis B or C, HIV infection, and other diseases and/or drugs causing immunosuppression. Evaluation may include history and physical exam and
    - a. urine glucose, fasting blood sugar
    - b. HIV test

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/14/17	NUMBER: B-14.16
	Replaces: 04/14/2016	Page <u>4</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

- c. hepatitis panel
  - d. referral to specialty clinics as indicated
  - 6. Any underlying condition should be controlled as well as possible.
    - a. Diagnose and treat underlying skin disorders; refer to specialty clinic as indicated.
    - b. Obtain good control of blood glucose for diabetics.
    - c. Counsel obese patients to reduce their weight, ensure that they have been considered for the diet for health, and document that the counseling and diet has been offered.
    - d. Optimize therapy for patients with HIV infection/AIDS.
    - e. Use alternate drugs in place of glucocorticoids where possible.
  - 7. Patients should be evaluated for adequacy of showering and bathing; patients should generally have a **daily** bath or shower with soap and water.
  - 8. During therapy, **all** clothing including socks, underwear, towels, bath cloths and items including bedding should be replaced with clean items daily. Contact security for authorization to obtain clean linen for daily bedding change.
  - 9. Obese patients with skin folds need to keep the skin in these folds dry to prevent maceration of the skin. This may require use of powder applied after bathing.
- E. If the patient lacks signs and symptoms of systemic disease, has no underlying chronic illness likely to compromise his or her immune system, and the lesion is not recurrent,
- 1. **if the lesion is not yet fluctuant**, it may be treated with warm compresses as described in V.C.
  - 2. **if the lesion is fluctuant and the area of redness and swelling is less than 5 cm across**, it may be treated with I&D alone.
  - 3. **if the lesion is 5 cm or more across**, I&D should be performed after a C&S is obtained. Antibiotics should be prescribed (see section VI. Antibiotics).

## VI. Antibiotics for MSSA or MRSA

- A. When antibiotic treatment is indicated for suspected MSSA or MRSA
  - 1. If possible, begin antibiotics **after** reviewing the sensitivities from the lesion culture; until results are available, treat with warm compresses or dressing changes.
  - 2. The duration of antibiotic therapy is based on clinical judgment, but generally should be at least 7 days and should extend several days past clinical resolution.
  - 3. Any antibiotic regimen containing rifampin must be given non-KOP
  - 4. If waiting on culture results is not feasible and there are no contraindications to sulfa drugs, institute empiric therapy with TMP/SMX.<sup>∞</sup>
    - a. **Follow-up antibiotic therapy** should be guided by the sensitivity report

<sup>∞</sup> Most isolates from TDCJ are sensitive to TMP/SMX.

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/14/17	NUMBER: B-14.16
	Replaces: 04/14/2016	Page <u>5</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

and the clinical situation.

5. If the patient is unable to take TMP/SMX or there is a treatment failure on this drug, consider minocycline or consult an ID specialist for recommendations.
6. **Do not give**
  - a. rifampin as monotherapy.<sup>§</sup>
  - b. clindamycin as monotherapy for empiric treatment,<sup>¥</sup> Clindamycin should only be used when necessary and when susceptibility has been demonstrated by C&S. If the organism is resistant to erythromycin, ask the lab to perform a “D test” for inducible clindamycin resistance before using this drug as a single agent.
  - c. a fluoroquinolone.
  - d. a cephalosporin or erythromycin.<sup>£</sup>
  - e. oral vancomycin.<sup>¢</sup>

## VII. Transmission-Based Precautions & Housing for Offenders with MRSA

- A. Offenders with MRSA infections who are outpatients may be housed in the general population if their lesion is small, easily covered, and the offender understands and is adherent with the treatment regimen (eg, infected ingrown toenail).
- B. Offenders must be managed under **contact precautions** (see Policy B-14.21) if they have an active MRSA infection and they
  1. are being treated in a medical setting such as an infirmary or dialysis unit.
  2. are **unwilling/unable to understand follow-up** management, or are **nonadherent** with antibiotic treatment or therapy.
  3. have a large abscess or draining skin lesion that cannot be adequately covered and kept dry and clean (eg, scalp, decubitus).
  4. are immunocompromised or have cellulitis, lymphangitis, or sepsis as a complication (see V.B).
  5. meet the definition of **recurrent Staphylococcal skin and soft tissue infection** (ie > 3 infections in a six month period).
  6. fail decolonization procedures twice.
- C. Offenders managed under contact precautions should be housed in a private room (ie, **isolated**). If no private room is available, the patient may be **cohorted** with another patient

§ Resistance develops quickly when rifampin is used alone.

¥ Clindamycin resistance is common in TDCJ. This risk is increased if the organism is resistant to erythromycin.

£ Resistance is common

¢ Vancomycin is not absorbed from the GI tract.

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/14/17	NUMBER: B-14.16
	Replaces: 04/14/2016	Page <u>6</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

infected with the same organism (and same drug susceptibility pattern, if the organism is drug-resistant) but who has no other infection.

1. Do not cohort the infected patient with a patient who is immunocompromised.
  2. Special housing may be **discontinued** in either of the following circumstances:
    - a. The lesion is clinically resolved
    - b. There is no longer cellulitis, lymphangitis, or drainage from an open lesion (eg, decubitus) **and** the patient has completed at least 72 hours of their course of antibiotics.
  3. Once an offender has left special housing, that cell should be thoroughly cleaned and disinfected.
- D. Offenders under contact precautions should be assigned to medical showers rather than allowed to shower with the general population.
1. Although medical showers may occur in a specially designated place, they do not have to.
  2. Medical showers occur after other showers have taken place for the day.
  3. Medical showers and dressing areas must be cleaned with a detergent and disinfected with an antistaphylococcal disinfectant (eg, bleach or Double-D) according to TDCJ policy after the infection shower period is over and before the general population uses the shower and dressing area again.
  4. Offenders taking medical showers are issued two towels – one to dry with and one to sit on.

### **VIII. Work Assignments for Offenders with Recurrent Staphylococcal Skin and Soft Tissue Infection or Who Fail Decolonization Twice**

- A. These patients should not generally be assigned to work in the
  1. Medical department
  2. Barber shop
  3. Food handlers/processors

### **IX. Personal Protective Equipment**

- A. Gloves must be worn prior to touching any patient with abscesses or open, draining skin lesions.
- B. Upon removal, gloves must be properly discarded and hands must be washed no less than 10 seconds using proper hand washing techniques.
- C. Gowns should be worn for close contact when clothing is likely to be soiled.

CORRECTIONAL MANAGED HEALTH CARE INFECTION CONTROL MANUAL	Effective Date: 04/14/17	NUMBER: B-14.16
	Replaces: 04/14/2016	Page <u>7</u> of <u>7</u>
	Formulated: 1997	
<b>SKIN AND SOFT TISSUE INFECTION</b>		

- D. Whether dressing changes are done in the infirmary or by the offender, provisions must be made for appropriate disposal of contaminated materials.

**X. Reporting**

- E. All cases of methicillin sensitive Staphylococcus aureus (MSSA) and methicillin resistant Staphylococcus aureus (MRSA) must be reported to the Office of Public Health by the facility Infection Control Nurse (ICN) utilizing the appropriate Surveillance Form (Attachment B).
- F. Reports must be submitted within 7 days of receipt of the culture result on the facility.

Reference: Drinka, Paul, et al. Swab Culture of Purulent Skin Infection to Detect Infection or Colonization With Antibiotic- Resistant Bacteria. JAMDA 2012; 13:75-79.