Guidelines for Management of S. aureus Skin & Soft Tissue Infection, December, 2007*

Infectious Diseases Society of Washington, Public Health – Seattle & King County, Tacoma-Pierce County Department of Health, and Washington State Department of Health

Clinical presentation

- Looks like insect or spider bite
- Folliculitis, pustular lesions
- Furuncle, carbuncle (boils)
- Abscess (esp. with tissue necrosis)
- Cellulitis
- Impetigo
- Infected wound

Clinical Suspicion for MRSA Infection

- History of MRSA infection, colonization
- History of (within past 12 months): hospitalization; dialysis or renal failure, diabetes; surgery; long term care residence; indwelling catheter or medical device
- High prevalence of MRSA in community or population
- Injection drug use, incarceration
- Close contact with someone known to be infected or colonized with MRSA



- CULTURE WOUNDS & OBTAIN ANTIMICROBIAL SUSCEPTIBILITY TESTING (include "D-test" for clindamycin resistance if MRSA)
- **PATIENT EDUCATION:** To decrease spread of infection, provide education on infection control measures and wound care to all patients and/or caregivers of patients with *S. aureus* infections, esp. those with MRSA per WAC 246.101.105(7).

Mild

Afebrile, healthy other than SSTI

Moderate

Febrile/appears ill, but no unstable co-morbidities OR appears well but has co-morbidities

Severe or Critically Ill

Appears toxic, unstable co-morbidity, or limbthreatening infection; sepsis syndrome or lifethreatening infection, e.g. necrotizing fasciitis

Outpatient management

- Local care, I & D, +/- topical antibiotics may be sufficient.
- If MRSA suspected: consider empiric therapy active against MRSA
- Adjust antibiotics based on results of culture & susceptibility testing: βlactam antibiotics preferred for MSSA and Group A streptocci
- Monitor response to therapy

Outpatient management

- Empiric therapy active against MRSA
- Adjust antibiotics based on results of culture & susceptibility testing: β-lactam antibiotics preferred for MSSA and Group A streptocci
- Monitor response to therapy

Hospital management

- Empiric broad-spectrum IV antibiotics including vancomycin for activity against S. aureus, including MRSA
- Adjust therapy based on results of culture & susceptibility testing
- Monitor response to therapy
- Consult ID specialist if no improvement or considering alternative agents (e.g., linezolid, daptomycin)
- Switch to oral therapy based on susceptibility testing if:
 - Afebrile for 24 hours
 - Clinically improved
 - Able to take oral therapy
 - Close follow-up possible

NOTE: If Group A streptococcal infection (GAS) is suspected, therapy should include an agent active against this organism (β-lactam or clindamycin). Tetracyclines and trimethoprim-sulfamethoxazole, although active against many MRSA, are not recommended treatments for suspected GAS infections.

Abbreviations: MSSA; Methicillin-susceptible S. aureus; MRSA: S. aureus resistant to all penicillins & cephalosporins; **B-lactam antibiotics**: includes all penicillins & cephalosporins

Adapted from: Guidelines for Evaluation & Management of Community-Associated Methicillin-Resistant *Staphylococcus aureus* Skin and Soft Tissue Infections in Outpatient Settings. Infectious Diseases Society of Washington, Public Health – Seattle & King County, Tacoma-Pierce County Department of Health, and Washington State Department of Health. **See original document for full information**. **Available at**: http://www.metrokc.gov/health/providers/epidemiology/; http://www.doh.wa.gov/ and http://www.tpchd.org/mrsa

Table 1. Guidelines for Empiric Oral Antimicrobial Treatment of Outpatients with Suspected MRSA Skin and Soft Tissue Infections (SSTI)

Selection of empiric therapy should be guided by local *S. aureus* susceptibility and modified based on results of culture and susceptibility testing. The duration of therapy for most SSTI is 7-10 days, but may vary depending on severity of infection and clinical response. *NOTE: Before treating, clinicians should consult complete drug prescribing information in the manufacturer's package insert or the PDR*.

Antimicrobial	Adult Dose	Pediatric Dose
Trimethoprim-sulfamethoxazole (TMP-SMX) DS	1-2 tablets (160 mg TMP/800 mg SMX) PO bid	Base dose on TMP: 8-12 mg TMP (& 40-60 mg SMX) per kg/day in 2 doses; not to exceed adult dose
Minocycline or doxycycline	100 mg PO bid	Not recommended for pediatric use – suggest consultation with infectious disease specialist before use
Clindamycin	300-450 mg PO qid	10-20 mg/kg/day in 3-4 doses; not to exceed adult dose

NOTE: If Group A streptococcal infection is suspected, oral therapy should include an agent active against this organism (ß-lactam or clindamycin). Tetracyclines and trimethoprim-sulfamethoxazole, although active against many MRSA, are not recommended treatments for suspected GAS infections.

NOTE: **Outpatient use of quinolones or macrolides.** Fluoroquinolones (e.g.,ciprofloxicin, levofloxacin, moxifloxacin, gatifloxacin) and macrolides (e.g., erythromycin, clarithromycin, azithromycin) are NOT recommended for treatment of MRSA because of high resistance rates. If fluoroquinolones are being considered, consult with infectious disease specialist before use.

NOTE: Outpatient use of Linezolid in SSTI. Linezolid is costly and has great potential for inappropriate use, inducing antimicrobial resistance, and toxicity. Although it is 100% bioavailable and effective in SSTI, it is not recommended for empiric treatment or routine use because of these concerns. It is strongly recommended that linezolid only be used after consultation with an infectious disease specialist to determine if alternative antimicrobials would be more appropriate.

^aIf considering clindamycin, isolates resistant to erythromycin and sensitive to clindamycin should be evaluated for inducible clindamycin resistance (MLS_B phenotype) using the "D test." Consult with your reference laboratory to determine if "D testing" is routine or must be specifically requested. If inducible resistance is present, an alternative agent to clindamycin should be considered.

Table 2: Eradication of MRSA Colonization

Efficacy of decolonization in preventing re-infection or transmission in the outpatient setting is not documented, and is NOT routinely recommended. Consultation with an infectious disease specialist is recommended before eradication of colonization is initiated. Possible regimens may include one or more of the following:

Topical intranasal 2% mupirocin may be used bid for 5 days.

Skin antiseptics (i.e. chlorhexidine or dilute baths)

Rifampin (Adult dose: 300mg PO bid x 5 days; pediatric dose: 10-20 mg/kg/day in 2 doses not to exceed 600 mg/d x 5 days) may be used in combination with TMP-SMX, OR with doxycycline, OR with minocycline, for recurrent MRSA infection despite appropriate therapy. Never use rifampin monotherapy, due to the rapid emergence of resistance. Rifampin interacts with methadone, oral hypoglycemics, hormonal contraceptives, anticoagulants, protease inhibitors, phenytoin, theophylline, cardiac glycosides and other drugs.