2008 Guidelines for Management of suspected Community-Acquired Methicillin-Resistant Staphylococcus aureus (CA-MRSA) Skin and Soft Tissue Infections (SSTIs)

Case Definition CA-MRSA
- Diagnosis of MRSA made in outpatient setting or by isolation of MRSA within 48 hours of hospital admission and
- No history (within past 12 months) of hospitalization, surgery, dialysis, long term care residence, indwelling catheter or percutaneous medical devices

Clinical Presentation CA-MRSA SSTI
Common:
- Often mistaken for insect or spider bite
- Pustule, furuncle (boil), carbuncle, abscess
Also seen:
- Cellulitis, impetigo
- Infected wounds: red, swollen, painful
- Pneumonia

Risk Factors Associated with CA-MRSA
- The main risk factors are prior infection or contact with someone who has CA-MRSA. Prior antimicrobial use may also increase risk
- CDC defines conditions promoting CA-MRSA spread as “the 5 C’s”: Crowding, frequent skin contact, compromised skin, sharing contaminated personal care items, lack of cleanliness
- Groups known to have elevated risk include: children, athletes, Aboriginal people, military recruits, men who have sex with men, prisoners, users of methamphetamine or injected street drugs
- Many persons with CA-MRSA are not in these risk groups

Report to and Discuss with Public Health
- Recurrent or repeat household infections
- Clusters of CA-MRSA infections in non-household groups such as sports teams or child care centres
- CA-MRSA resulting in death or severe disease: invasive (sterile site) infection, ICU care, or requiring major surgery

Incision & Drainage (I & D) of Abscess with Culture
- I & D is considered primary therapy for purulent SSTI (furuncle, abscess)
- Culture is recommended to guide individual therapy and to assess local disease trends and resistance patterns

Culture & Antimicrobial Susceptibility Testing
- If erythromycin-resistant, clindamycin-susceptible, obtain "D-test" prior to clindamycin use (see over)

Patient Education
- Counsel patients to contain infection with adequate hygiene and clean, dry dressing that completely cover lesions
- Reinforce frequent hand hygiene and safe dressing disposal
- Advise patient not to share towels, bar soap, or other personal hygiene items. Disinfect surfaces that contact bare skin
- Advise patient to return if systemic symptoms develop, or no better in 48 hours
- Provide patient MRSA information sheet

Outpatient Management of SSTI’s (mild/moderate)
- Local care, I & D may be sufficient for mild disease.
- Consider topical antimicrobials for superficial lesions (review local sensitivities)
- The decision to use systemic antimicrobials for SSTI requires clinical judgment regarding severity, size, location, and rapidity of lesion onset, presence of associated cellulitis, systemic illness, patient comorbidities, and response to drainage alone
- If oral antibiotics used for purulent SSTI, include therapy active against MRSA in region of high prevalence (i.e., > 15% of SA are MR)
- Adjust antibiotics based on results of culture & susceptibility testing – clindamycin or cephalaxin preferred for documented MSSA infection
- Monitor response to therapy

Hospital management (severe, unstable co-morbidities)
- Empiric therapy for serious staphylococcal infections should include IV antimicrobial active against MRSA (e.g. vancomycin). Some recommend additional coverage optimal for MSSA (e.g. clindamycin) in severely ill, particularly meningitis
- Adjust antibiotics based on results of culture & susceptibility testing
- Monitor response to therapy
- Consult ID specialist if no improvement and consider alternative agents
- Switch to oral therapy based on susceptibility testing if afebrile for 24 hours, clinically improved, not bacteremic, able to take po, and close follow-up is possible. If blood cultures grow MRSA prolonged IV therapy is necessary

SA: Staphylococcus aureus
MRSA: Methicillin-resistant S. aureus (MRSA is resistant to all penicillins, cephalosporins, and carbapenems)
MSSA: Methicillin-susceptible S. aureus

Antimicrobial Recommendations: See Over
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 and response. **NOTE: Before treating, clinicians should consult complete drug prescribing information in the manufacturer’s package insert or the CPS.**

**Antimicrobials Recommended FOR CA-MRSA**

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<tr>
<th>Antimicrobial</th>
<th>Adult Dose</th>
<th>Paediatric Dose</th>
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<tr>
<td>Trimethoprim-sulfamethoxazole* (TMP-SMX)</td>
<td>1-2 DS tablets (160 mg TMP/800 mg SMX) PO q 8-12h</td>
<td>Base dose on TMP: 8-12 mg TMP (&amp; 40-60 mg SMX) per kg/day in 2 doses; not to exceed adult dose</td>
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<tr>
<td>Doxycycline or minocycline*</td>
<td>100 mg PO bid</td>
<td><strong>Not recommended for children 8 years of age or under or in pregnancy.</strong></td>
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*If Group A streptococcal (GAS) infection is suspected, (e.g. rapid onset, lymphangitic streaking, regional lymphadenopathy) oral therapy should include an active clindamycin. Tetracyclines and trimethoprim-sulfamethoxazole, although active against many MRSA, are NOT RECOMMENDED treatments for suspected GAS infections. Thus if potential mixed infections consider dual therapy (for MRSA and GAS) or clindamycin.

Eradication of CA-MRSA Colonization

Efficacy of decolonization in preventing infection or transmission in the outpatient setting is not documented, and is NOT recommended except in unusual circumstances and after all hygienic measures have been completely instituted. For multiple recurrences or household transmission, reinforce infection control and hygiene measures. Consult with an infectious disease or public health specialist.


This algorithm has been modified from one originally developed by the Georgia MRSA Task Force, Georgia DHA Division of Public Health and GUARD Coalition, October 2006.