



County of Sonoma
DEPARTMENT OF HEALTH SERVICES
Infectious Disease Task Force

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CA-MRSA Treatment Guidelines

Epidemiology of MRSA

Over 50% of all staph isolates from skin infections cultured at local hospital laboratories in 2007 were MRSA. Nationally, 75% of purulent skin lesions are staph and 78% of those are MRSA¹

Healthcare associated MRSA strains (HA-MRSA) appear to have different pathogenic characteristics and sensitivity profiles than community associated MRSA (CA-MRSA) strains. Outpatients with CA-MRSA often have no known risk factors and are healthy. The sensitivity pattern is often helpful in distinguishing CA-MRSA from nosocomial/HA-MRSA.

Infections caused by CA-MRSA [Community Associated MRSA]

| <u>Common</u> | <u>Uncommon</u> | <u>Rare</u> |
|---------------|-----------------------|------------------|
| Abscesses | Necrotizing pneumonia | Cellulitis alone |
| Boils | Secondary bacteremia | |
| Carbuncles | | |
| Furuncles | | |
| Folliculitis | | |

- Culture results: oxacillin/methicillin resistant, but usually sensitive to TMP-SMX, Doxy, Clinda, Gent, Rifampin

Infections caused by HA-MRSA [Healthcare Associated (nosocomial) MRSA]

- Systemic infections
- Culture results: oxacillin/methicillin resistant, near pan-resistant (except for vancomycin, linezolid, synergid). Sometimes sensitive to gentamicin, rifampin, or doxycycline.

Diagnosis of CA-MRSA

- **CULTURE PUS!** – critical to diagnose CA-MRSA
- Blood cultures if fever or other systemic symptoms – especially important if patient has prosthetic hardware.

Principles of Therapy

- **DRAIN ABCESES EARLY!**
- Always culture and check sensitivities
- Follow standard infection control precautions
- Good skin and wound care is the first line of treatment for patient and household contacts.

Wash with any soap.

- Wash whole body (from scalp to toes) daily x 5 days. Skin moisturizer may be applied after bathing.
- Scrub fingernails for one minute with nail brush twice daily
- Better success if artificial nails and fingernail polish is removed.

Cover the wound.

- Keep wounds that are draining or have pus covered with clean, dry bandages.
- Bandages or tape can be discarded with the regular trash.

Keep hands clean.

- Patient, family, and others in close contact should wash their hands frequently with soap and warm water or use an alcohol-based hand sanitizer, especially after changing the bandage or touching the infected wound.

Do not share personal items.

- Avoid sharing personal items such as towels, washcloths, razors, clothing, or uniforms that may have had contact with the infected wound or bandage.
- Wash sheets, towels, and clothes that become soiled with water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes.

Criteria for Empiric Use of Antibiotics for MRSA - Use Antibiotics if:

- Systemic symptoms
- Severe local reaction
- Immunosuppression
- Recurrent or multiple lesions

- Multi-loculated or large (>5 cms) abscesses²
- Failure to respond to I&D
- Follow-up within hours is uncertain

Close follow-up at 48 – 72 hours is crucial

Some ID specialists recommend empiric therapy for suspected MRSA no matter what.

CDC-AMA-IDSA recommendations are in an algorithm at:

www.ama-assn.org/ama1/pub/upload/mm/36/ca_mrsa_desk_102007.pdf

Antibiotic Treatment Choices for outpatient CA-MRSA

- Guided by sensitivities
- Not for bacteremia or deep-seated infections
- Consider ID consult for immuno-compromised patients and treatment failures

| Antibiotic | Dosage | Consider |
|--------------------------|---|---|
| TMP/SMX DS* | 1 PO bid for 10 days | Consider higher dose (2 bid) for relapses, more severe infections – consider ID consult. Consider adding Rifampin (300 mg. bid po) for synergy with TMP/SMX |
| Doxycycline* | Loading 200 mg po bid x 2 days, 100 mg po bid for 10 day | Consider adding Rifampin (300 mg. bid po) for synergy with doxycycline. |
| Rifampin | 300 mg bid po to add to TMP/SMX or doxy for synergy | Do NOT use Rifampin as monotherapy! - resistance will occur. Antagonism with doxycycline and TMP/SMX may exist, though clinical relevance is not clear. Multiple drug interactions possible (e.g., coumadin, oral hypoglycemics, oral contraceptives) Consider ID consult |
| Clindamycin | 450 mg tid po x 10 days | Not in erythromycin-resistant organism (inducible resistance may occur) Consider probiotic such as live-culture yogurt (1 – 2 containers per day) to prevent c.difficile-associated disease |
| Linezolid (Zyvox) | 600mg po bid for 10 days | Very expensive (approx. \$1200 for 10 day course) Consider for refractory disease or intolerance to other antibiotics 15% risk reversible thrombocytopenia. FDA approved for only 2 weeks at a time. Drug interaction with SSRIs. Consider ID consult before using |

Disinfection of Exam Rooms

- Follow standard infection control precautions
- Safely dispose of any drainage material using standard precautions (Red bag is not required)
- Inspect room for visible contamination of any surfaces
- Using standard EPA-registered germicidal disinfectant, wipe down exam table, counter top, any visibly contaminated surface and any equipment shared between patients (e.g., stethoscope, BP cuff).

Web sites for more information

- www.sonoma-county.org/health/ph/diseasecontrol/mrsa/index.htm
- www.cdc.gov/ncidod/dhqp/ar_mrsa_ca.html

References

1. Methicillin-Resistant S. aureus Infections among Patients in the Emergency Department, Moran et al, NEJM 355;7, August 17, 2006
2. Management and Outcome of Children With Skin and Soft Tissue Abscesses Caused by Community-Acquired Methicillin-Resistant Staphylococcus Aureus, Lee et al, Pediatr Infect Dis J 23(2):123-127, 2004