County of Sonoma
DEPARTMENT OF HEALTH SERVICES

Outpatient MRSA Treatment Guidelines

Epidemiology of MRSA

Over 50% of all staph isolates from skin infections cultured at local hospital laboratories in 2007 were MRSA. In persons hospitalized in Sonoma County in 2009, 59% of staph-related diagnoses were MRSA. [1] Among those seen in emergency rooms, 72% of staph-related diagnoses were MRSA. [2] Nationally, 75% of purulent skin lesions are staph and 78% of those are MRSA.[3]

Infections caused by MRSA

Common	Uncommon	Rare
Abscesses	Necrotizing pneumonia	Cellulitis alone
Boils	Secondary bacteremia	
Carbuncles		
Furuncles		
Folliculitis		

Diagnosis of Outpatient MRSA

- CULTURE PUS – critical to diagnose MRSA
  Necrotizing pneumonia and secondary bacteremia should be managed in the hospital setting with an ID consult.
- Blood cultures if fever or other systemic symptoms – especially important if patient has prosthetic hardware.

Principles of Therapy for Skin and Soft Tissue Infections

1. DRAIN ABSCESSES EARLY and always culture.
2. Check sensitivities.
3. Criteria for Empiric Use of Antibiotics for MRSA - Use Antibiotics if:
   - Systemic symptoms
   - Rapid progression with associated cellulitis
   - Immunosupression
   - Recurrent or multiple lesions
   - Multi-loculated or large (>5 cms) abscesses[4]
   - Failure to respond to I&D
   - Abscess is in a difficult to drain location
   - Concomitant prosthetic material (e.g. heart valve, pacemaker, prosthetic joint)

   Close follow-up at 48 – 72 hours is crucial.
4. Cover the wound.
   - Good skin and wound care is the first line of treatment for patient and household contacts.
   - Keep wounds that are draining or have pus covered with clean, dry bandages.
   - Bandages or tape can be discarded with the regular trash.
5. Follow standard infection control precautions (gloves for I&D, wash hands before/after procedure).

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Antibiotic Treatment Choices for Outpatient MRSA

- Guided by sensitivities
- Not for bacteremia or deep-seated infections (require hospital care)
- Consider ID consult for immuno-compomised patients and treatment failures

Antibiotic	Dosage	Consider
TMP/SMX DS (*Septra, Bactrim*)	**1 PO bid for 10 days**	Consider higher dose (2 bid) for relapses, more severe infections – consider ID consult. Use with caution in infants
Doxycycline	**Loading 200 mg po bid x 2 days, 100 mg po bid for 10 day**	Not recommended for use in patients under age 12.
Clindamycin	**450 mg tid po x 10 days**	Not in erythromycin-resistant organism (inducible resistance may occur) Consider probiotics *such as live-culture yogurt (1 – 2 containers per day) to prevent *C.difficile*-associated disease
Linezolid (*Zyvox*)	**600mg po bid for 10 days**	**Caution: Multiple drug/drug interactions**. Consult with pharmacy or ID physician. Consider ID consult. 15% risk reversible thrombocytopenia. Very expensive (approx. $1200 for 10 day course)

**Use of probiotics is not evidence based, but some specialists suggest use as a possible preventative measure for C. difficile-associated disease.*

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

- http://www.sonoma-county.org/health/topics/mrsa.asp
- http://www.cdc.gov/ncidod/dhqp/ar mrsa ca.html

References

1. Office of Statewide Planning and Development, Sacramento. Patient Discharge Data, 2009.
2. California Office of Statewide Planning and Development, Sacramento. Emergency Department Data, 2009.
3. Methicillin-Resistant *S. aureus* Infections among Patients in the Emergency Department, Moran et al, NEJM 355;7, August 17, 2006
4. 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
5. Liu C et al. Clinical Practice Guidelines by the Infectious Diseases Society of America for the Treatment of Methicillin-Resistant *Staphylococcus aureus* Infections in Adults and Children. Clin Infect Dis. 2011;52[3]:285-322.

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Outpatient MRSA Carrier Decolonization Guidelines

Decolonization may be considered if:

- Recurrent skin or soft tissue infections (SSTI) despite optimizing wound care and hygiene measures[3]
- Ongoing transmission among household/close contacts despite optimizing wound care and hygiene measures [3]

Important:

- All skin infection sites should be healed before decolonizing, otherwise decolonization will likely fail.
- Use these guidelines for the patient and all household members at the same time, when possible.
- Delay decolonization if other family or household members have active infection.

Decolonization Regimen

1. Wash Body with chlorhexidine (Hibiclens) antiseptic soap:
    - Wash whole body (from scalp to toes) daily for 7days.
    - 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.
2. Apply mupirocin 2% (Bactroban) nasal topical antimicrobial cream (better) or ointment:
    - Apply inside the front of each nostril three times a day for 7 days.
3. Be sure to use chlorhexidine and mupirocin at the same time.
4. Oral antibiotics are NOT indicated for carriage decolonization, but may be indicated for active infections.

Household and Personal Suggestions

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.
- Thoroughly clean all toys and counters (kitchen, bathrooms).
- Toys and food Items may be shared.

Follow-Up

Success is good when directions are followed carefully, but some patients/families may relapse. If relapse occurs, consider evaluation of personal hygiene habits.

For More Information

http://www.sonoma-county.org/health/ph/diseasecontrol/mrsa/index.htm

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