BC Centre for Disease Control
Provincial Health Services Authority

Guidelines for the Management of Community-Associated Methicillin-Resistant *Staphylococcus aureus* (CA-MRSA) related Skin and Soft Tissue Infections in Community and Primary Care Settings

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1. Background

Staphylococcus aureus is a bacterium that can be found on the skin and nasal mucosa and it can spread through skin to skin contact or contact with contaminated objects or surfaces. Some people are more at risk of developing infections with *S. aureus*, especially those whose circumstances make regular washing a challenge. *S. aureus* can cause skin and soft tissue infection (SSTI), and invasive infection in the blood, lungs, or other tissue. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of the bacteria that is resistant to common first line antibiotics used to treat these infections. Community-associated Methicillin-resistant *Staphylococcus aureus* (CA-MRSA) were historically referred to as MRSA strains acquired in the community.[1] They are genetically distinct and thought to have evolved separately from the healthcare-associated strain (HA-MRSA). However, currently, CA-MRSA is the predominant strain in both community and hospital settings. The incidence of CA-MRSA infection increased in the early 2000s and has stabilized at about one in four *S. aureus* isolates.[2]

This guideline is a tool for health care providers working in community or primary care settings. Recommendations of this guideline are developed from Bugs & Drugs evidence-based treatment recommendations and serve as a quick reference guide for community and primary care practitioners in British Columbia. This guideline and recommendations are not for hospital or acute care settings.

2. Diagnosis

2.1 Clinical Presentation

Common clinical manifestations of CA-MRSA include furuncles, carbuncles and abscesses. The spontaneous red raised lesions are frequently described as “spider bite”. There is also a tendency for lesions to develop necrotic areas. Severity can range from mild superficial infections to deep soft tissue abscesses requiring hospital admission for incision and drainage (I & D) and parenteral antibiotics. Recurrent skin infections and clustering of infections within a household are relatively common.[3]

2.2 Reporting

CA-MRSA infection is not a reportable disease in British Columbia. Surveillance data from patients admitted to acute care facilities are available on the PICNet website (https://picnet.ca/surveillance/mrsa/).[4]

3. Susceptibility Patterns of CA-MRSA

Susceptibility patterns can be reviewed on:

- Bugs & Drugs (http://bugsanddrugs.org)

- BCCDC Antimicrobial Resistance Dashboard (http://www.bccdc.ca/health-professionals/data-reports/antimicrobial-resistance-utilization)
- Your health authority antibiogram

4. Management

Management of SSTI with CA-MRSA is based on clinical presentation.[5]

4.1 Simple Abscesses or Boils

Incision and drainage (I & D) alone is adequate. If unsure whether pus is present, one may attempt to aspirate fluid from the lesion with needle and syringe of adequate size (e.g. a 16-19 gauge needle on a 10 cc syringe). For small furuncles not amenable to I & D, moist heat may promote drainage.[6]

Antibiotics are recommended for abscesses associated with the following conditions:

1) Severe or extensive disease (e.g. involving multiple sites of infection) or rapid progression in the presence of associated cellulitis,
2) Signs and symptoms of systemic illness, (If a *S. aureus* bloodstream infection is diagnosed, an ID consult is recommended.)
3) Associated comorbidities or immunosuppression,
4) Extremes of age,
5) Abscess in area difficult to drain (e.g. face, hands, and genitalia),
6) Associated septic phlebitis, OR
7) Lack of response to I & D alone.[6]

4.2 Cellulitis

The minimum criteria for cellulitis are redness, warmth, pain, swelling, and unilateral involvement.[7] See Bugs & Drugs reference guide for detailed clinical information on diagnosis and management.

4.3 Treatment Recommendations

For treatment recommendations for abscesses and cellulitis refer to Bugs & Drugs (http://bugsanddrugs.org).[7]

See Bugs & Drugs (http://bugsanddrugs.org) for treatment recommendations for decolonization if indicated.

4.4 For Cases where Household or Interpersonal Transmission is Suspected

Personal and environmental hygiene measures should be implemented for the client and contacts. This includes hand hygiene through hand washing (with plain soap and running water) or with alcohol-based hand rub (ABHR). Hand hygiene is particularly important after touching wounds or contaminated items.

4.5 Screening

The BC Centre for Disease Control (BCCDC) recommends against active screening for carriers except for individuals with recurrent *S. aureus* infection (>2 per 6 months) despite enhanced hygiene measures and for closed communities or families with recurrent infection despite enhanced hygiene measures.[5] Nares are the recommended site to screen for CA-MRSA in the community.

Symptomatic contacts should be evaluated for *S. aureus* infection and treated.

Nasal and topical body decolonization may be considered for symptomatic contacts post treatment and asymptomatic household contacts.

5. Infection Prevention and Control

5.1 General Recommendations for Healthcare Practitioners in Community Settings

- Judicious and appropriate prescription of antibiotics.
- Notification to public health officials if outbreak is suspected i.e., spread beyond a family unit to a localized community group.
- Patient education on infection prevention, health promotion, and antibiotic use.

6. Health Teaching for Clients

Clients may need extra time to understand what it means to have a MRSA infection and that bacteria can be resistant to antibiotics. Clients also may need extra teaching on the difference between carrying MRSA bacteria and having an MRSA infection. Provide strengths-based teaching on how to prevent infections and prevent the spread of infections to promote health. Use destigmatizing language to help people understand the reasons for enhanced hygiene measures and why it is important to tell health providers about a history of MRSA infection.

Inform people about enhanced infection prevention measures that may occur in health facilities to prevent the spread of the bacteria. Let the person know that health care providers may place them in a room alone and health care staff may wear gowns and gloves. This is only to help prevent the spread of the bacteria to keep everyone healthy and is common practice for some illnesses in health care facilities.

6.1 Personal Hygiene

- Clean your hands frequently with soap and water or use an alcohol-based hand rub.
- For those with an infection, you, your family, and others in close contact should clean their hands frequently - especially before and after changing the bandage or touching the infected area.
- On a daily basis, wash your body with soap and water. For athletes, shower after each game or practice.[8]

Differences between soap and alcohol-based hand rub (ABHR)

- Soaps (aka cleaner or detergent) work by removing soil, dirt, dust, organic matter, and germs off surfaces so they can be rinsed away with water.
- Use a bar of soap or plain liquid soap for everyday washing.
- Do NOT use antibacterial or antibiotic soap unless under guidance of a physician for refractory, chronic infections.
- ABHR is used to reduce germs to levels considered safe from the surface of the hands.
- ABHR will not remove dirt, soil, or dust.
- Hands that have visible dirt need to be washed with soap and water to mechanically remove the dirt, soil etc.

6.2 Personal Items

If you have a MRSA infection, do not share personal items that may have had contact with the infected wound or bandage. Wash sheets, towels, and clothes that come in to contact with the infection using water and laundry detergent. Dry items completely in a dryer.[4]

Personal items include but are not limited to:

- Razor
- Towels
- Clothing or uniforms
- Toothbrushes
- Nail files
- Combs and brushes
- Creams or lotions
- Soaps and make-up
- Athletic equipment that touches the skin[8]

6.3 Wound Care

Keep any wounds that are draining, or have pus, covered with clean, dry bandages until they have healed (scabbed over).[4] Follow your health care provider's instructions on proper care of the wound.

Keeping the infection covered will help prevent spreading it to others. Bandages and tape can be discarded with regular waste. It is important to clean your hands before and after changing wound coverings.

Tell health care providers that the wound had MRSA bacteria if you need to seek medical attention.

6.4 Clean Environment in the Home

Bacteria can survive on surfaces, so it is important to clean regularly to reduce the spread of MRSA bacteria. Use a household cleaner to reduce the amount of MRSA and other bacteria in the environment. Surfaces that are likely to come in contact with skin should be cleaned regularly, and these include:

- Frequently touched items such as doorknobs, light switches, and door handles
- Counters
- Chairs and benches (e.g., gym benches)
- Shared equipment[4]

Disinfectants (e.g., bleach) destroy or inactivate bacteria and prevent them from growing.[8]

- Disinfectants can be used on surfaces but not on skin.
- Disinfect surfaces that have come in contact with the infected area.
- The BCCDC recommends using Health Canada approved disinfectants which have a drug identification number (DIN)

Using Disinfectants

- Check the disinfectant product's label on the container. Most will provide a list of germs that their product can kill.
- Check the label for guidance and follow the product's instructions about:
    - How to apply the product to a surface.
    - How long to leave it on the surface to be effective (this is called contact time).
    - If the disinfectant is safe for the surface.
    - If the product needs to be diluted with water before use.
    - What extra steps you need to take when using the product, such as wearing gloves or aprons and making sure there is good ventilation (open windows).

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7. References

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