

Community-associated methicillin-resistant *Staphylococcus aureus* in Indigenous communities in Canada



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ABSTRACT

Community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infections have emerged as a significant issue in some Indigenous communities (including First Nations, Inuit and Métis) in Canada. Primarily associated with skin and soft-tissue infections, this organism can also result in significant morbidity and mortality. Canadian and American guidelines for managing CA-MRSA infections have been published. The specific epidemiology, microbiology and susceptibility patterns, and the social/environmental circumstances of CA-MRSA infections in Indigenous communities need to be considered for strategies to reduce transmission. While reducing household crowding and improving in-home potable water supply are optimal strategies to reduce the impact of this illness, implementing Canadian guidelines along with increased prevention strategies are recommended as interim measures.

Key Words: *Canada; Community-acquired infections; Indigenous populations; Methicillin-resistant S aureus (MRSA); SSTI*

RECOMMENDATIONS

To protect children and youth in Indigenous communities from CA-MRSA, the Canadian Paediatric Society recommends that paediatricians and other primary health care workers:

Build awareness

- Ensure that health centre staff know that the emergence of CA-MRSA is a cause of infection in affected communities.

Monitor resistance

- Collect specimens for culture from purulent drainage of abscesses to monitor resistance patterns and guide empirical management.

Be advocates

- Get involved with efforts to improve in-home potable water services and housing conditions for Indigenous and other marginalized populations, at both the federal and provincial/territorial government levels. (For information on advocacy approaches, see <www.cps.ca/en/advocacy-defense/how-to-advocate>).

Ensure prevention

- Use evidence-based guidelines to reduce unnecessary antibiotic use and provide educational materials to families about appropriate antibiotic use. For patient information, visit <www.antibioticawareness.ca> or <www.dobugsneeddrugs.org>.
- Practice and promote hand hygiene, starting with young children.
- Encourage seasonal influenza vaccination for all children. There is added benefit in MRSA endemic communities because of the risk for severe MRSA pneumonia following an influenza infection.

Practice infection control in health centres and clinics

- Model and reinforce proper hand hygiene before and after each completed patient contact by all staff and volunteers.
- Make alcohol-based handwashing supplies easily available wherever sinks and running water are less accessible.
- Implement routine infection control practices in health centres and appropriate preventive measures following the assessment of a client with an MRSA infection.

Use management strategies

- Engage community health staff, clients and communities in preventive approaches.
- Educate patients and families about how to manage MRSA SSTIs, including:
 - Keeping wounds covered with clean dry bandages; if unable to cover, exclude from contact sports or child care until wound drainage stops or wounds are healed.
 - Dispose of used dressings in a plastic-lined garbage container with a sealed lid immediately after they are removed.

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- Practice proper hand hygiene using soap and water or an alcohol-based hand gel before and after changing dressings.
- Bathing regularly, and washing clothes and bedding often.
- Avoiding sharing personal items, especially towels, bedding, clothing and bar soap.
- Seeking medical attention if fever or other signs of illness develop, or if a local lesion does not improve within 48 h of starting treatment.
- Regular cleaning of contact surfaces in the home with a standard household cleaner or detergent.
- Consult public health about a recurrent infection (three or more infections in the same individual within a six-month period) or if an outbreak in a closed population such as a day care or athletic team is suspected.
- Avoid the following strategies, which are generally NOT recommended:
 - Determining carriage rates among asymptomatic household contacts.
 - Reducing microbial carriage for routine management of CA-MRSA infections, in either endemic infection conditions or during an outbreak.

Engage in community-level interventions. Visit the Northern Antibiotic Resistance Partnership <www.narp.ca> and <www.germaway.ca>

- Provide education and raise awareness about:
 - self-care for cuts, scrapes and insect bites,
 - hand hygiene, personal hygiene and regular household cleaning, and
 - frequent laundering of clothes and bedding.
- Improve access to inexpensive laundry services in remote communities.

Follow research

- Evaluate the effect of community-level interventions to reduce microbial carriage in reducing CA-MRSA infections in endemic communities.

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