

## Community-Associated Methicillin Resistant *Staphylococcus aureus* (CA-MRSA) FACT SHEET for Public Health Staff

### What is MRSA?

*Staphylococcus aureus* is a bacterium that commonly lives on the skin or in the noses of healthy people. Methicillin Resistant *Staphylococcus Aureus* (MRSA) is the term for *Staphylococcus aureus* bacteria that have become resistant to semi-synthetic penicillins such as cloxacillin and methicillin.

MRSA infections can be difficult to treat and drugs commonly used for treatment of other strains of *Staphylococcus aureus* are not always effective.

Traditionally, MRSA is seen in people who are taking antibiotics and those individuals who are receiving hospital care (referred to as hospital-acquired MRSA or HA-MRSA). More recently, MRSA has been found in people who have had no recent contact with the health care system. This is referred to as community-associated MRSA (CA-MRSA). CA-MRSA strains are genetically different than HA-MRSA and this can be identified in bacterial cultures of wound drainage.

The “probable case definition” of CA-MRSA is lab-confirmed MRSA infection in a person who has **none** of the following risk factors for HA-MRSA: isolation of MRSA more than 48-hours after hospital admission; history of hospitalization, surgery, dialysis or residence in a long-term care facility within one year of the MRSA culture date; the presence of an indwelling catheter or a percutaneous device at the time of culture; previous isolation of MRSA. A “confirmed case” would be the presence of CMRSA10, CMRSA7, PVL Virulence Factor or SCCmecIV or V in the lab specimen.

In the community, MRSA most commonly causes skin and soft tissue infections (e.g. boils or abscesses on arms, legs or elsewhere). These are treatable with drainage and sometimes antibiotics. Rarely, MRSA can cause severe invasive infections such as pneumonia and bloodstream infections. These severe infections require urgent medical treatment.

In Canada and Nova Scotia, approximately 8% of all MRSA is CA-MRSA.

### How is CA-MRSA Spread?

MRSA bacteria are spread through direct person-to-person contact with a colonized or infected person. It can be passed from hands to any person, object or surface they touch. When hands are washed thoroughly or rubbed with alcohol-based hand products, MRSA will likely be removed.

However, if the immediate environment is not clean, hands can very quickly become soiled again. Frequent hand cleaning is necessary to either prevent spreading MRSA to others or to prevent picking it up from others.

There are five "Cs" that describe risk factors for CA-MRSA infections:

1. **crowded** conditions
2. close **contact**
3. lack of **cleanliness**
4. sharing **common** personal items (towels)
5. having **compromised** or broken skin

High risk groups include:

- Athletes, sports teams
- Daycares
- Military personnel
- Homeless shelters
- Intravenous drug users
- MSM (men who have sex with men)
- Inmates of correctional facilities
- People who reside in dormitories

### **What do colonization and infection mean?**

*Colonization:* Colonization occurs when bacteria are present on or in the body without causing illness. MRSA can colonize the nose, skin and moist areas of the body (e.g. groins).

*Infection:* Infection occurs when bacteria get past the person's normal defenses and cause disease (e.g., skin bacteria getting into the bloodstream via an intravenous catheter). Infections with MRSA may be minor, such as pimples or boils, but serious infections may also occur, such as surgical wound infections and pneumonia.

### **What can you advise people to do to decrease the spread of MRSA?**

- Clean hands regularly with soap and water or alcohol-based hand sanitizer (minimum 60% alcohol). If hands are visibly soiled, soap and water works best. Antibacterial soaps are NOT recommended for most situations.
- Always clean hands immediately after touching skin or any item that has come in direct contact with a draining wound.
- Keep wounds that are draining covered with clean, dry bandages.
- If unable to keep a wound covered with a clean, dry bandage at all times, people should not participate in activities where there is skin-to-skin contact with other persons (such as athletic activities) until the wound is healed.
- Maintain good general hygiene with regular showering or bathing.

- Do not share personal items that may become contaminated with wound drainage, such as towels, clothing, bedding, bar soap, razors and athletic equipment that touches the skin.
- Wash clothing using regular laundry soap in the usual wash cycle of a household washing machine.
- Clean shared items (e.g. sports equipment or environmental surfaces) with over the counter detergent/disinfectant (e.g. Lysol) that is suitable for the type of surface being cleaned. It's very important that gym equipment be cleaned before and after each use.
- If there are signs of an infection, seek appropriate medical care promptly.

### **What is the role of Public Health presently?**

Education of the public, especially high risk groups

Education of physicians and other health care providers in the community and provision of teaching tools (e.g. information sheets for their clients).

### **References:**

CCDR Volume 31-03, 1February 2005

Alberta Standards for Prevention and Management of MRSA January 16, 2008, Page 49-51

Can J Infect Dis Med Microbiol Volume 17 Supplement C September/October 2006

Centers for Disease Control and Prevention "Community-Associated MRSA Information for Clinicians"

BC Medical Journal Volume 48, Number 3, April 2006 Page 116-120

Prevalence of Methicillin Resistant Staphylococcus aureus in Nova Scotia Susan Clay, Field Epidemiologist, Public Health Agency of Canada 23January, 2008