# Community-Associated MRSA

Methicillin-resistant Staphylococcus aureus (MRSA) infections are becoming more common and are often misdiagnosed as spider bites. Health care providers should be aware of the increasing need to order cultures and antibiotic sensitivity tests for lesions that could be due to MRSA.

References:

CDC. Outbreaks of community-associated methicillin-resistant *Staphylococcus aureus* skin infections – Los Angeles County, California, 2002-2003. MMWR 2003; 52:88.

CDC. Methicillin-resistant *Staphylococcus aureus* infections in correctional facilities – Georgia, California, and Texas, 2001-2003. MMWR 2003; 52:992-996.

Texas Department of Health has developed specific MRSA guidelines for **school athletic departments**
http://www.tdh.state.tx.us/ideas/antibiotic_resistance/mrsa/school_athletic_departments.asp
and **day care centers**
http://www.tdh.state.tx.us/ideas/antibiotic_resistance/mrsa/daycare_administrators.asp .

Additional Information from the U.S. Centers for Disease Control and Prevention (CDC), 2003 [http://www.cdc.gov/ncidod/hip/Aresist/mrsa_comm_faq.htm]

**What is MRSA?**

MRSA is a type of *Staphylococcus aureus* (S. aureus). *Staphylococcus aureus*, often referred to simply as “staph,” are bacteria commonly carried on the skin or in the nose of healthy people. Some *S. aureus* are resistant to the class of antibiotics that are frequently used to treat staph such as methicillin—and thus are called methicillin-resistant *S. aureus* (MRSA).

**Who gets MRSA?**

*S. aureus* (staph) including MRSA can be spread among people having close contact with infected people. MRSA is almost always spread by direct physical contact and not through the air. Spread may also occur through indirect contact by touching objects (e.g., towels, sheets, wound dressings, clothes, workout areas, or sports equipment) contaminated by the infected skin of a person with staph bacteria or MRSA.

Just as *S. aureus* can be carried on the skin or in the nose without causing any disease, MRSA can be carried in this way also. This is known as colonization.

MRSA infections are usually mild, superficial infections of the skin that can be treated successfully with proper skin care and antibiotics. MRSA, however, can be difficult to treat and can progress to life-threatening blood or bone infections because there are fewer effective antibiotics available for treatment.

MRSA infections occur commonly among persons in hospitals and healthcare facilities. However, MRSA can cause illness in persons outside of hospitals and healthcare facilities as well. Cases of MRSA infection in the community have been associated with recent antibiotic use, sharing contaminated items, having recurrent skin diseases, and living in crowded settings. Clusters of skin infections caused by MRSA have been described among injecting drug-users (1,2); aboriginals in Canada (3), New Zealand (4) and Australia (5,6); Native Americans in the United States (7); incarcerated persons (8); players of close-contact sports (9,10); men who have sex with men (MSM); and other populations (11-17). Most of the transmission in these settings appeared to be from people with active MRSA skin infections.

**How do I know if I got MRSA from the community or from a healthcare setting?**

Persons with MRSA infections that meet all of the following criteria likely have community-associated MRSA (CA-MRSA) infections:

- Diagnosis of MRSA was made in the outpatient setting or by a culture positive for MRSA within 48 hours after admission to the hospital.
- The patient has no medical history of MRSA infection or colonization
- The patient has no medical history in the past year of:
  - Hospitalization
  - Admission to a nursing home, skilled nursing facility, or hospice
  - Dialysis
  - Surgery
- The patient has no permanent indwelling catheters or medical devices that pass through the skin into the body.

**If my doctor or healthcare provider has told me that I have an MRSA skin infection, what can I do to prevent others from getting infected?**

You can prevent spreading an MRSA infection to those you live with or others around you by following these steps:

1. Keep infections, particularly those that continue to produce pus or to drain material, covered with clean, dry bandages. Follow your healthcare provider's instructions on proper care of the wound. Pus from infected wounds can contain MRSA and spread the bacteria to others.
2. Advise your family and other close contacts to wash their hands frequently with soap and warm water, especially if they change your bandages or touch the infected wound or potentially infectious materials.
3. Avoid sharing personal items (e.g., towels, washcloth, razor, clothing, or uniforms) that may have had contact with the infected wound and potentially infectious material. Wash linens and clothes that become soiled with hot water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes.
4. Tell any healthcare providers who treat you that you have an antibiotic-resistant staph skin infection.

**How is MRSA diagnosed?**

A sample of the infected wound (either a small biopsy of skin or pus taken with a swab) must be obtained to grow the bacteria in the microbiology laboratory. Once the staph is growing, the organism is tested to determine which antibiotics will be effective for treating the infection. A culture of skin lesions is especially useful in recurrent or persistent cases of skin infection, in cases of antibiotic failure, and in cases that present with advanced or aggressive infections.

**What is the mortality rate of CA-MRSA?**

CA-MRSA infections are typically limited to the skin and do not result in severe disease (such as infection of the bloodstream) or death. However, on rare occasion, CA-MRSA can cause severe illness even when treated quickly, as in the cases of four children who died from CA-MRSA (18).

**I have heard this bacterium is attacking healthy people and healthy skin. Is this what CDC is seeing?**

Yes, staph infections commonly affect healthy people and healthy skin. Usually, these infections are easily treated. Any activity that promotes breakdown in skin integrity (e.g., chronic skin infections, physical trauma, poor health) can promote staph skin infections including those caused by MRSA.

**Are people who are positive for the human immune deficiency virus (HIV) at increased risk for MRSA? Should they be taking special precautions?**

People with increased exposure to antibiotics and the healthcare setting may be at increased risk for antibiotic-resistant infections of various kinds, including MRSA. People with compromised immune systems, which include some patients with HIV, may be at risk for more severe illness if they get infected with MRSA.

**Why does CDC think so many cases of MRSA are being recognized across the country?**

MRSA has been recognized as a problem in the healthcare setting for over 20 years. CDC believes that MRSA has been emerging in the community over the last several years. It is difficult to determine whether there is an increase in MRSA disease in the community or an increased awareness and recognition of MRSA disease. However, it is clear that some of the recently recognized outbreaks of CA-MRSA are associated with strains that have some unique properties compared to the traditional hospital-based MRSA strains, suggesting some biologic properties (like virulence factors) may allow the CA-MRSA strains to spread more or cause more disease; however, these hypothesis need testing and confirmation.

## What is CDC doing about CA-MRSA?

### Public Health Response

- CDC is providing technical assistance to various professional organizations and state health departments to develop guidance for control of MRSA.
- CDC is beginning a national program of surveillance for serious infections with MRSA.

### Prevention Activities

#### Outbreaks among correctional facilities

- CDC and the Federal Bureau of Prisons are sharing information about risk factors in correctional facilities that potentially lead to increase MRSA spread among incarcerated persons. The Federal Bureau of Prisons has developed specific recommendations for infection control of MRSA in correctional facilities (URL www.nicic.org).
- LINK TO MMWR for more information
  www.cdc.gov/mmwr/preview/mmwrhtml/mm5042a2.htm
  www.cdc.gov/mmwr/preview/mmwrhtml/mm5205a4.htm

#### Outbreaks among athletic Teams

- CDC plans to review existing disease prevention guidelines developed by sporting organizations (e.g. The National Collegiate Athletic Association).
- LINK TO MMWR for more information
  www.cdc.gov/mmwr/preview/mmwrhtml/mm5233a4.htm

#### Outbreaks among men who have sex with men (MSM)

- CDC has worked with gay and lesbian health clinics throughout the country to develop infection control measures to prevent the spread of MRSA, to encourage culturing of skin lesions to determine if a patient has MRSA, and to develop a fact sheet for patients who are concerned about MRSA.
- CDC continues to provide technical microbiologic and epidemiologic support to Los Angeles County and other health departments conducting investigations of CA-MRSA infections.
- LINK TO MMWR for more information:
  www.cdc.gov/mmwr/preview/mmwrhtml/mm5205a4.htm

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