



[Link to state Montana Antibiotic Resistance Awareness \(MARA\) site](#)

Slides for use in MRSA education can be obtained from the Chouteau County Health Department by calling 622-3771.

Resistant Staphylococcus aureus

Methicillin-resistant Staphylococcus aureus (MRSA) is a type of bacteria resistant to methicillin and other more common antibiotics such as oxacillin, penicillin and amoxicillin. VRSA are staph bacteria that have developed resistance to vancomycin. To date, all MRSA and VRSA isolates have been susceptible to other Food and Drug Administration (FDA) approved drugs. Staph infections, including MRSA and VRSA, occur most frequently among persons in hospitals and healthcare facilities (such as nursing homes and dialysis centers) who have weakened immune systems.

Resistant infections that occur in otherwise healthy people who have not been recently (within the past **year**) **hospitalized or had a medical procedure (such as dialysis, surgery, catheters) are known as** community-associated infections. These infections are usually skin infections, such as abscesses, boils, and other pus-filled lesions.

You can get MRSA and VRSA through direct contact with an infected person or by sharing personal items, such as towels or razors that have touched infected skin. If you or someone in your family experiences these signs and symptoms, cover the area with a bandage and contact your healthcare professional. It is especially important to contact your healthcare professional if signs and symptoms of a skin infection are accompanied by a fever.

Most staph skin infections, including MRSA, appear as a bump or infected area on the skin that may be:

- Red
- Swollen
- Painful
- Warm to the touch
- Full of pus or other drainage
- Accompanied by a fever

The estimated number of people developing a serious drug resistant infection (i.e. invasive) in 2005 was about 94,360; approximately 18,650 persons died during a hospital stay related to these serious infections.

Serious drug resistant disease is still predominantly related to exposures to healthcare delivery:

- About 85% of all invasive MRSA infections were associated with healthcare, and of those, about two-thirds occurred outside of the hospital, while about one third occurred during hospitalization.
- About 14% of all the infections occurred in persons without obvious exposures to healthcare.



Evaluation of the pathogens causing these infections confirmed that most of the strains associated with these serious infections were caused by strains traditionally associated with healthcare. However, the strains traditionally associated with transmission in the community are now being identified in healthcare.

Factors that have been associated with the spread of drug resistant skin infections include close skin-to-skin contact, openings in the skin such as cuts or abrasions, contaminated items and surfaces, crowded living conditions, and poor hygiene.

What are the clinical features of CA-MRSA?

CA-MRSA most often presents as skin or soft tissue infection such as a boil or abscess. Patients frequently recall a "spider bite". The involved site is red, swollen, and painful and may have pus or other drainage. Staph infections also can cause more serious infections, such as blood stream infections or pneumonia, leading to symptoms of shortness of breath, fever, and chills.

How is a MRSA infection diagnosed?

In general, a culture should be obtained from the infection site and sent to the microbiology laboratory. If *S. aureus* is isolated, the organism should be tested as follows to determine which antibiotics will be effective for treating the infection.

- **Skin Infection:** Obtain either a small biopsy of skin or drainage from the infected site. A culture of a skin lesion 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.
- **Pneumonia:** Obtain a sputum culture (expectorated purulent sputum, respiratory lavage, or bronchoscopy).
- **Bloodstream Infection:** Obtain blood cultures using aseptic techniques.
- **Urinary Infection:** Obtain urine cultures using aseptic techniques.

How is CA-MRSA infection treated?

Staph skin infections, such as boils or abscesses, may be treated by incision and drainage, depending on severity. Antibiotic treatment, if indicated, should be guided by the susceptibility profile of the organism.

Complications:

Serious staph infections may lead to:

- Cellulitis
- Endocarditis
- Toxic shock syndrome
- Pneumonia
- Blood poisoning

Organ failure and death may result from untreated MRSA infections.

What should I do if I think I have a Staph, MRSA, VISA, or VRSA infection?

Keep the area covered, wash hands and see your healthcare provider.

Prevention:

- Careful attention to personal hygiene is key to avoiding MRSA infections
- Wash your hands frequently, especially after transporting patients
- Make sure all doctors, nurses, and other healthcare providers wash their hands before examining you
- Do not share personal items such as towels or razors with another person -- MRSA can be transmitted through contaminated items
- Cover all wounds with a clean bandage, and always use gloves to avoid contact with other people's soiled bandages or wounds
- Avoid common whirlpools or saunas; ensure that communal bathing facilities are clean

How long does staph and MRSA survive on surfaces?

As with other germs, staph and MRSA can survive on some surfaces for hours, days or even months, but it all depends on factors like temperature, humidity, the amount of germs present, and the type of surface (is it porous like a sponge or nonporous like plastic?). It also depends on whether these surfaces have nutrients to allow it to survive longer. When surfaces aren't cleaned and conditions are good for bacterial growth, staph and MRSA is more likely to survive for longer periods.

What can I do to keep surfaces free from staph and MRSA?

Cover your infections. Covering infections with bandages or dressings is the best way to keep surfaces from becoming contaminated with staph and MRSA.

Clean your hands often. Wash your hands often with soap and water or use an alcohol-based hand rub when a sink is not available. Always clean your hands after changing bandages or touching infected skin.

Keep the environment clean. Regularly clean frequently touched surfaces and other items that come into direct contact with infected skin. In the ambulance repair or throw out equipment with damaged surfaces that cannot be thoroughly cleaned.

What surfaces should be the focus of my cleaning efforts?

Focus on surfaces that touch people's bare skin each day and any surfaces that could come into contact with uncovered infections. For example, surfaces such as benches in the weight room or locker room.

Large surfaces such as floors and walls have not been directly involved in the spread of staph and MRSA. There is no evidence that spraying or fogging rooms or surfaces with disinfectants will prevent staph and MRSA infections more effectively than the targeted approach of cleaning frequently touched surfaces and any surfaces that have been exposed to infections.

Disinfectants effective against *Staphylococcus aureus* or staph are most likely also effective against MRSA. Sani-Wipe Disinfectant Wipes contain 55% alcohol to achieve faster kill times of a broader range of bacteria and viruses including: **RSV** and **TB** in 1 minute; **HBV**, **HIV-1** and **MRSA** in 2 minutes.

Will routine laundry processes, detergents, and laundry additives remove staph and MRSA from towels, clothes, linens, and uniforms?

Yes. Routine laundry procedures, detergents, and laundry additives will all help to make clothes, towels, and linens safe to wear or touch. If items have been contaminated by infectious material, these may be laundered separately, but this is not absolutely necessary.

For more information on how to prevent MRSA, please visit:

http://www.cdc.gov/ncidod/dhqp/ar_mrsa_prevention.html

http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_prevention.html