



TEAMSTERS Safety & Health FACTS

Safety and Health Department, International Brotherhood of Teamsters
25 Louisiana Avenue, NW, Washington, DC 20001 ♦ 202/624-6960 ♦ ibtsafety@teamster.org

MRSA: Drug-Resistant Staph Infection in Schools

What is MRSA (methicillin-resistant *Staphylococcus aureus*)?

MRSA which stands for Methicillin-resistant *Staphylococcus aureus* has been featured in the news and on television programs a great deal recently. *Staphylococcus aureus* is a common bacterium that causes “staph” infections and has developed resistance to several forms of antibiotics, including methicillin.

Staph bacteria are one of the most common causes of skin infections in the United States. Most of these skin infections are minor (such as pustules and boils) and can be treated without antibiotics. However, staph bacteria also can cause serious infections (such as surgical wound infections, bloodstream infections, and pneumonia).

Approximately 25 percent to 30 percent of us are colonized with staph bacteria and carry the bacteria without becoming ill; 1 percent may carry antibiotic-resistant strains or MRSA without becoming ill.

In 2005, MRSA was responsible for 94,000 serious infections and nearly 19,000 hospital deaths (CDC) – surpassing deaths from AIDS by more than 6,100 cases. The highest rates for these serious MRSA infections have occurred in those over 65 years old.

What type of infections does MRSA cause?

In the community, most MRSA infections are skin infections that may appear as pustules or boils that often are red, swollen, painful, or have pus or other drainage. These skin infections commonly occur at sites of visible skin trauma, such as cuts and abrasions, and areas of the body covered by hair (e.g., back of neck, groin, buttock, armpit, beard area of men).

Is MRSA a new threat?

No, MRSA infections have been circulating for many years, primarily in health care settings; this is referred to as healthcare-associated MRSA (HA-MRSA). However, in recent years, health care professionals have seen more and more cases outside of health care settings, which are referred to as Community-Associated (or acquired) MRSA (CA-MRSA) infections.

Public health experts identified CA-MRSA infections in the 1990s. It emerged in persons having none of the risk factors associated with HA-MRSA in the past. CA-MRSA is caused by strains of *Staphylococcus aureus* different from those associated with HA-MRSA.

CA-MRSA infections can be seen anywhere but are mostly seen in settings where people have close contact, such as in children to crowded homes with unsanitary conditions, schools, military barracks, dormitories, correctional facilities, and daycare settings. Outbreaks of CA-MRSA in schools have increased over the years, especially among athletes in contact sports. However, cases have also been reported outside traditional contact sports (such as football and wrestling), in sports like basketball, soccer, field hockey, and fencing.

In a CDC study, most U.S. MRSA infections in 2005 were found to be health care-associated (about 85%) while 13.7% were community-associated infections.

How is CA-MRSA spread?

The most frequent infections caused by CA-MRSA are skin and soft-tissue infections that may appear as boils or abscesses. Early lesions may be confused for spider bites. Less commonly, CA-MRSA can escape into the bloodstream and infect and attack lungs (causing pneumonia) and other major organs.

CA-MRSA is usually transmitted from person to person through close contact. Risk factors associated with the spread of MRSA include direct skin-to-skin contact with colonized or infected persons (non-intact skin is where bacteria can enter from), sharing contaminated personal items (e.g., body towels, razors, soap, and clothing), poor personal hygiene, direct contact with contaminated environmental surfaces, and living in crowded settings.

According to the Centers for Disease Control and Prevention (CDC), some factors, referred to as the 5 C's make it easier for MRSA to be transmitted: **C**rowding, frequent skin-to-skin **C**ontact, **C**ompromised skin (i.e. cuts or abrasions), **C**ontaminated items and surfaces, and lack of **C**leanliness. Settings that are at greater risk are military barracks, correctional facilities, schools, dormitories, and daycare centers.

How is CA-MRSA treated?

Almost all MRSA skin infections can be effectively treated by drainage of pus by a healthcare provider with or without antibiotics. If you are given an antibiotic, take all of the doses, even if the infection is getting better, unless your doctor tells you to stop taking it. Do not share antibiotics with other people or save unfinished antibiotics to use at another time. If after visiting your healthcare provider the infection is not getting better after a few days, contact them again. If other people you know or live with get the same infection tell them to go to their healthcare provider.

More serious infections, such as pneumonia, bloodstream infections, or bone infections, are very rare in healthy people who get MRSA skin infections. These serious infections usually require hospitalization.

Should schools be closed and cleaned or disinfected when a MRSA infection occurs?

If infections are covered, the risks of surfaces being contaminated by MRSA are greatly reduced. In general, *it is not necessary* to close schools to “disinfect” them when MRSA infections occur.

When MRSA skin infections do occur, cleaning and disinfection should be performed on surfaces that are likely to come in contact with uncovered or poorly covered infections. Cleaning surfaces with detergent-based cleansers or Environmental Protection Agency (EPA)-registered disinfectants is effective at removing MRSA from the environment. It is critical that cleansers and disinfectants are used safely and appropriately and according to the instructions. The EPA provides a list of EPA-registered products effective against MRSA: <http://epa.gov/oppad001/chemregindex.htm>.

How Can MRSA Be Controlled at Schools?

The best approach to controlling MRSA at schools is to have an active MRSA prevention and control policy and practice in place. Too often, the response to an outbreak has been panic. Disinfection of locker rooms and equipment is fine, but standard hygiene and routine cleaning may be enough in the long run to control MRSA.

Staff and students need as much encouragement and reminding as possible to wash their hands frequently and thoroughly. Hand-washing can be one of the most effective methods to control exposure to MRSA bacteria.

Staff and students should also be instructed to cover all lesions, cuts and sores while at school. If sport-specific rules do not exist, in general, athletes should be excluded if wounds cannot be properly covered during participation (CDC). A healthcare provider might exclude an athlete if the activity poses a risk to the health of the infected athlete (such as injury to the infected area), even though the infection can be properly covered (CDC).

A good policy should be written and reviewed on a regular basis: The policy may include other infectious diseases, including bloodborne pathogens. Some elements of a policy include:

- ◆ **Rapid identification and evaluation of students with painful skin lesions or ‘bug bites:’** Students should be encouraged to report these lesions and staff should direct them to the school nurse immediately for assessment. The nurse should also evaluate unusual skin lesions or other draining wounds.
- ◆ **Monitor athletes for skin infections:** Coaches and physical education teachers should work with the school nurse to monitor athletes for skin infections. Coaches and/or athletic trainers should be encouraged to assess student athletes for any unusual skin lesions before practice or competition.
- ◆ **Athletes with skin infections should be referred to their personal physician:** When MRSA infection is suspected, athletes should be referred to their primary care provider for evaluation and treatment. Following the medical evaluation, the student or parent should be asked to provide verification of the healthcare provider’s treatment plan. Those infected with MRSA should follow their healthcare provider’s treatment plan, including completing antibiotic therapy, if an antibiotic was prescribed.
- ◆ **Contact investigation:** If MRSA is diagnosed, the school nurse or designated policy coordinator should interview the student (parent/guardian for young children) to investigate the possibility of other cases among their friends, roommates, teammates, and/or family members. They may be at risk of a MRSA infection and should be given support and advice to seek treatment.
- ◆ **Exposure control:** A student with a draining skin lesion could transmit potentially infectious agents to others. When a student with a suspect or confirmed MRSA skin infection is in the classroom, the following infection control measures should be in place:
 1. **Keep the wound covered:** All skin infections, particularly those that produce pus must be covered with a clean, dry bandage to contain the drainage. Students that participate in contact sports or other contact activities should ensure that the wound dressing stays intact during the anticipated activity. Contaminated dressings and other materials associated with the infected lesion can be thrown away with the regular trash (CDC).
 2. **Practice good basic hygiene:** The school should promote and reward good basic hygiene for everyone in the school. Everyone, but especially infected students, should be diligent with hand hygiene. Schools need to ensure availability of adequate soap and hot water. If this approach is not practical, students and staff should be encouraged to use an alcohol- based waterless

hand sanitizer immediately after contact. It may be challenging but students should be encouraged to practice good hygiene overall, including showering and washing with soap on a regular basis but especially after all practices and competitions, before using the gymnasium, or immersing in a whirlpool, hot tub, or swimming pool.

- 3. Prohibit students from sharing personal items:** Instruct students and athletes to avoid sharing personal hygiene supplies and other items such as athletic clothing, towels, uniforms, skin balms, skin lubricants, razors, and certain sports equipment at all times. It is particularly important to avoid sharing personal items that may have been in contact with the infected wound or bandage.
- 4. Clean environmental surfaces:** Even when the MRSA outbreak or scare is over, schools should practice routine surface cleaning of shared athletic equipment and environmental surfaces. Athletic equipment that has been in contact with potentially infectious wound drainage, blood, or non-intact skin should be disinfected with an EPA-registered disinfectant cleaner that meets the requirements of the Blood-borne Pathogens Standard developed by the Occupational Safety and Health Administration (OSHA). Athletic equipment that is in contact with intact skin or not normally in contact with individuals (e.g., wrestling mats) can be cleaned with an intermediate (e.g., ready-to-use tuberculocidal solution) or low-level disinfectant (e.g., quaternary ammonium solution).
- 5. Educate Parents, Students, and Staff:** A policy is only effective if all concerned are trained in the school district's policy and practices. Refreshers help keep good practices alive; the training can be incorporated into the annual bloodborne pathogen training (required by OSHA state-plan states) or other health and safety programs.

Is the employer required to report MRSA cases to a public health entity?

State laws on reporting MRSA and other diseases vary by state. In general, any infectious disease outbreak is required by law to be reported to the health department in most states. So while a case of MRSA might not be required to be reported specifically, an outbreak of MRSA would be. Consult your local or state public health department or the IBT Safety and Health Department for more information.

For More Information:

Contact the IBT Safety and Health Department at (202) 624-6960, or ibtsafety@teamster.org or go to IBT's website at <http://www.teamster.org>;

The following information on MRSA is available through several federal agencies and state agencies (a sample provided):

- Methicillin-Resistant *Staphylococcus aureus* (MRSA) in Schools, Frequently Asked Questions (October 2007)
The Centers for Disease Control (CDC), U.S. Department of Health and Human Services
http://www.cdc.gov/ncidod/dhqp/ar_mrsa_in_schools.html
- About Methicillin-Resistant *Staphylococcus aureus* (MRSA) among Athletes, Frequently Asked Questions (November 2007)
The Centers for Disease Control (CDC), U.S. Department of Health and Human Services
http://www.cdc.gov/ncidod/dhqp/ar_MRSA_AthletesFAQ.html#11
- MRSA and the Workplace, National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services
<http://www.cdc.gov/niosh/topics/mrsa/>
- Invasive Methicillin-Resistant *Staphylococcus aureus* Infections in the United States, Journal of the American Medical Association (JAMA), October 17, 2007—Vol 298, No. 15.
http://www.cdc.gov/ncidod/dhqp/pdf/ar/InvasiveMRSA_JAMA2007.pdf
- MRSA in Schools, U.S. Department of Education (October 2007)
<http://www.ed.gov/admins/lead/safety/emergencyplan/index.html>
- Questions and Answers about MRSA for School Health Professionals, Commonwealth of Massachusetts Department of Public Health
http://www.mass.gov/dph/cdc/antibiotic/mrsa_school_health.htm
- MRSA Toolkit for Middle & High Schools, Tacoma-Pierce County Health Department
<http://www.tpchd.org/page.php?id=364>
- MRSA Facts for Schools, Connecticut Department of Public Health
http://www.ct.gov/dph/lib/dph/communications/pdf/ct_dph_mrsa_facts.pdf
- Guidelines for Reducing the Spread of Staph/CAMRSA in Non-Healthcare Settings, v 2 Los Angeles County Department of Public Health
<http://www.lapublichealth.org/acd/docs/MRSA/MRSA%20Guidelines.2007.pdf>
- Selected EPA-registered Disinfectants, U.S. Environmental Protection Agency (EPA)

[http://epa.gov/oppad001/chemregindex.htm.](http://epa.gov/oppad001/chemregindex.htm)
http://epa.gov/oppad001/list_h_mrsa_vre.pdf