

## **Guidance for Schools and Student Athletes about Community-Associated Staphylococcus Aureus (CA-MRSA) Infections**

### **Background**

*Staphylococcus aureus*, often referred to as “staph,” are bacteria commonly found on the skin or in the nose of healthy people. Approximately 25% to 30% of the population are colonized with staph bacteria (i.e., carry the bacteria without becoming ill). Sometimes staph causes minor skin infections (e.g., pustules, small boils) that can be treated conservatively, without antibiotics. However, on occasion, staph bacteria can cause much more serious skin infections, as well as bloodstream infections, pneumonia, etc.

Over the past several years, treatment of some staph infections has become more problematic because the bacteria have become resistant to various antibiotics. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph that is resistant to some antibiotics, including the antibiotic methicillin. Infections caused by MRSA have historically been associated with ill persons in health-care institutions. However, MRSA has now emerged as a common cause of skin and soft tissue infections that may occur in previously healthy adults and children who have not had prior contact with health-care settings. This type of MRSA infection is known as community-associated MRSA (CA-MRSA).

CA-MRSA can be transmitted from person to person through close contact. Risk factors associated with the spread of MRSA includes direct skin-to-skin contact with colonized or infected persons (non-intact skin serves as a point of entry for the bacteria), sharing contaminated personal items (e.g., towels, razors, soap, clothing), inadequate personal hygiene, direct contact with contaminated environmental surfaces, and living in crowded settings. CA-MRSA infections are treatable; early recognition and good medical management, including, as needed, surgical drainage and proper antibiotic prescribing and use, help to ensure prompt resolution of infections.

Recently, the Illinois Department of Public Health (IDPH) has received increasing reports of both outbreaks and sporadic cases of CA-MRSA infections. Likewise, there has been an increase in the number of outbreaks of CA-MRSA skin and soft-tissue infections reported at the national level. Outbreaks of CA-MRSA have occurred among athletes, especially participants in contact sports (e.g., football, wrestling) and sports where participants are prone to skin abrasions.

### **Recommendations**

To limit the spread of staph, including MRSA, in school settings, IDPH recommends the following with respect to policy, infection control, and education/increased awareness:

## 1. *Policy*

The school health service should take an active role in evaluating students with skin lesions, including lesions that resemble a “bug bite,” or other pustule skin lesions that appear to be infected. It is recommended that any unusual skin lesion or other draining wound be considered as potentially infectious to others and infection control measures should be in place to prevent the spread of infection. Students with any open, weeping, or pustule lesion on the skin (other than acne) should be promptly referred to a primary care provider for consultation.

MRSA generally does not spread through a shared classroom environment. However, transmission of MRSA infection among student athletes is well described, and can have substantial impact on students and schools. Therefore, a policy for active surveillance for skin infections should be implemented by the school nurse, school physician, and/or director, coach or trainer of sports teams (especially those teams involved in contact sports) to expedite referral for medical evaluation. Encourage coaches and/or athletic trainers to assess student athletes for any unusual skin lesions before practice or competition, and athletes to report skin lesions to coaches.

When MRSA infection is suspected, athletes should be referred to their primary care provider for evaluation and treatment. Following the medical evaluation, confirm that a treatment plan for the student athlete is in place. Those infected with MRSA or other staph infections should follow their healthcare provider’s treatment plan, including completing antibiotic therapy, if an antibiotic was prescribed. (Note: IDPH has developed guidance for healthcare providers regarding MRSA infections, available at [http://www.idph.state.il.us/health/infect/MRSA\\_Provider.htm](http://www.idph.state.il.us/health/infect/MRSA_Provider.htm).)

Because bandages can shift or dislodge with activity or when wet, students with draining wounds should not be allowed to participate in practices, games, or physical education classes that involves contact with others until the wound has stopped draining. A more stringent requirement, complete healing, may be recommended for wrestlers. The student may participate in non-contact athletic activities such as weight-lifting, running, or jogging provided he/she observes good hygienic practices (e.g., washing hands) and the wound can be covered at all times with a clean, dry, intact bandage taped on all 4 sides. In addition, IDPH [rules](#) prohibit use of licensed swimming pools by anyone with a skin infection, regardless of whether or not it is bandaged.

If MRSA is diagnosed in a student athlete, the school should evaluate the possibility of other cases among their teammates. Clusters of MRSA infections (i.e., two or more laboratory-confirmed cases during a 14 day period) should be promptly reported to the local health department, as required by Illinois Department of Public Health Rules and Regulations effective March 3, 2008. Please note that skin lesions are caused by numerous causes other than MRSA, and that self-reports of MRSA diagnoses are sometimes incorrect. Definitive confirmation of MRSA infection typically requires review of laboratory records or direct communication with a physician’s office. In addition, two or more MRSA cases in a school do not necessarily mean transmission has occurred in the school setting. Local health departments can provide assistance in confirming MRSA diagnoses, evaluating the likelihood of facility-based transmission, and recommending control measures.

Typically, it is not necessary to inform the entire school community about a case of MRSA infection. When MRSA occurs within the school population, the school nurse and school physician should determine, based on the specific situation, and in consultation with school administrators, whether some or all parents and staff

should be notified. It is prudent to notify parents of students on an athletic team when a case of MRSA has been confirmed in a team member; and school-wide notification is typically warranted when a school-associated outbreak has been confirmed by the local health department. In the event notification takes place, care must be taken to maintain the confidentiality of students to avoid stigmatization and anxiety. Local health departments can assist schools in making sure that notifications contain factually correct information. **2.**

### ***Infection Control***

The following infection control measures are prudent in school settings in order to reduce the likelihood of spread of skin infections:

- **Keep the Wound Covered.** All skin infections, particularly those that produce pus, must be covered with a clean, dry dressing (e.g., bandage) to contain the drainage. Keeping the wound covered will help control the spread of potentially infectious drainage to others and can also protect the environment from contamination. When providing wound care or dressing changes in the school setting, staff must prevent any unprotected contact with potentially infectious materials by use of gloves. Use standard precautions (e.g., hand hygiene before and after contact, gloves) when caring for nonintact skin or potential infections. Use barriers such as gowns, masks, and eye protection if splashing of body fluids is anticipated. Contaminated dressings and other materials associated with the infected lesion should be placed in a plastic bag before discarding, as appropriate.
- **Hygienic Practices.** MRSA outbreaks have clearly occurred in settings where athletes did not have access to, or did not use soap for handwashing or showering. To prevent spread of MRSA or other infections, all members of the school community should routinely be diligent with hand hygiene. To this end, ensure availability of adequate soap, warm water and towels. If facilities for hand washing are not available, provide alcohol-based waterless hand sanitizers with careful supervision to ensure appropriate and safe use.
- Advise any MRSA-infected student and all those who might have contact with the infected wound or wound dressing to thoroughly wash his/her hands using soap and warm water or to use an alcohol-based waterless hand sanitizer immediately after contact. Hand hygiene also should be performed after using multi-use equipment (e.g., weight equipment). In addition, emphasize the importance of good hygiene overall with all students, including showering and washing with soap as soon as possible after ALL practices and competitions.<sup>1</sup> Showering also should take place before sports with extensive skin-to-skin contact (e.g., wrestling).
- **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. It is particularly important to avoid sharing personal items that may have been in contact with the infected wound or bandage. Also, do not permit students to share individual-use bars of soap. Provide alcohol-based waterless hand sanitizer for hand hygiene when soap and water is not available.
- **Laundering Soiled Clothing.** Team uniforms and clothing worn during practices should be laundered with hot water and laundry detergent as appropriate. Dry items in a hot dryer to help eliminate bacteria when possible. The disinfectant capability of chlorine bleach is well established. Its use is the most effective means of reducing the bacterial count in laundered items at any temperature. Oxygenated (color safe) bleach may reduce numbers of bacteria, but does not eliminate them, and oxygenated bleach is not approved for disinfecting and sanitizing by the EPA.

- **Environmental Surfaces.** Closure of schools for facility-wide disinfection is not recommended when MRSA infections occur. The most important approach to preventing MRSA transmission is through simple measures noted above, including good personal hygiene, and covering infections. However, the environment may play a role in some cases of MRSA transmission. Therefore, a written procedure and schedule should be established for routine surface cleaning of frequently touched surfaces and surfaces that come into direct contact with people’s skin, such as shared athletic equipment (e.g., wrestling mats and strength training equipment). Ensure cleaning products are used in accordance with the manufacturer’s instructions. Clean and disinfect environmental surfaces and athletic equipment that has been in contact with potentially infectious wound drainage, blood, or non-intact skin utilizing an EPA-registered disinfectant cleaner that meets the requirements of the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard or a 1:10 dilution of household chlorine bleach (1 part bleach in 9 parts water, prepared daily). Use an EPA-registered low-level disinfectant<sup>2</sup> (e.g., quaternary ammonium solution), 1:100 dilution of household chlorine bleach, or a general purpose cleaner to clean environmental surfaces and athletic equipment that is in contact with intact skin. Mats and other high-use equipment should be cleaned before and after each practice and several times a day throughout a wrestling tournament. **3. Education/Increased Awareness**
- Transmission of MRSA skin and soft tissue infections among students who participate in competitive sports is a significant concern. All persons (e.g., coaches, trainers, parents/caregivers, and teammates) associated with the school’s competitive sport activities and sport teams should engage in initiatives to increase adherence to the school’s policies and procedures designed to prevent transmission of MRSA skin infections, and awareness of risk factors for infections. Providing information for student athletes and their parents regarding precautions and preventive measures related to CA-MRSA is prudent practice. Athletes and their parents should be aware that possible risk factors for MRSA skin and soft tissue infection occurring among athletes include:
  - When feasible, use a clean towel as a barrier between bare skin and shared surfaces (e.g., exercise equipment). Use of barriers between bare skin and shared surfaces reduces the need for frequent sanitizer application. In addition, repair or discard equipment with damaged surfaces that cannot be adequately cleaned (e.g., equipment with exposed foam).
  - Physical contact/skin trauma
  - “Turf burns”
  - Contact with teammates’ uncovered skin lesions
  - Sharing protective equipment, clothing, or towels
  - Sharing sports equipment
  - Sharing personal hygiene items
  - Reuse of unlaundered towels, clothing, uniforms, etc.
  - Inadequate supply of dispensable or individual-use soap
  - Cosmetic body shaving
  - Poor personal hygiene practices, including infrequent hand washing
  - Poor environmental cleaning of locker rooms/sport rooms (1) Students that require bandages taped on all four sides should shower at home. While in use, school showers should be cleaned and disinfected on a daily basis. In unusual situations where showering at home is not an available option, consult with the school nurse about use of a waterproof covering (plastic wrap or commercial product designed for this purpose), and infection control issues related to dressing changes, towels etc. **Additional**

**Resources:**

- [Guidelines for the Primary Care Provider \(MRSA\)](#)
- [Methicillin-Resistant Staphylococcus aureus Health Beat \(MRSA\)](#)
- [Basic Hygiene Guidelines for the Prevention of Staphylococcal Infections in Schools](#)
- (2) A list of EPA approved disinfectants is available at <http://www.epa.gov/oppad001/chemregindex.htm>.
- In addition, since staph infections start when staph enter the body through a break in the skin, keeping skin healthy and intact is a good preventive measure -- good skin care should be encouraged among student athletes.