



Philadelphia Department of Public Health
Division of Disease Control

DONALD F. SCHWARZ, MD, MPH
Deputy Mayor, Health & Opportunity
Health Commissioner

JOSEPH C. CRONAUER
Deputy Health Commissioner

CAROLINE C. JOHNSON, MD
Director, Division of Disease Control

Health Update

Prevention and Control of MRSA Infections in Schools and Childcare Settings

March 17, 2008

Please find attached *Guidelines for Prevention and Control of MRSA (Methicillin-Resistant Staphylococcus aureus) Infections in Schools and Childcare Settings*. These guidelines were developed by the Division of Disease Control in collaboration with the Philadelphia School District. They are being shared with regional healthcare providers to assist in answering questions from patients or patient families about school-related MRSA policies.

Recommendations for the Prevention and Control of MRSA (Methicillin-Resistant *Staphylococcus aureus*) Infections in Schools and Childcare Settings - January 2008



Staphylococcus aureus (staph) bacteria are a common cause of skin infections, particularly boils and abscesses that have pus or drainage. MRSA is a type of staph that is resistant to certain antibiotics, including methicillin and related medications. Although infections from MRSA may be more difficult to treat than infections from regular staph, they are otherwise similar. In the past, MRSA occurred mainly in hospitals and nursing homes, where it caused serious infections like pneumonia, bloodstream infections and surgical wound infections. But now, it is more common in community settings such as schools and among groups of people who have frequent close contact (e.g., families, athletic teams, inmates in jails). Community associated MRSA infections most commonly present as skin pustules or boils.

MRSA, like all staph infections, is spread from person to person through direct contact with infected skin or contaminated items that are shared. Good personal hygiene is the best way to prevent and control the spread of MRSA. The Philadelphia Department of Public Health (PDPH) has developed this information regarding MRSA and other staph infections to assist school nurses and childcare providers.

RECOMMENDATIONS FOR THE CONTROL OF MRSA INFECTIONS IN SCHOOLS

Identification of Staph Infections in Schools

- **Most MRSA infections that occur in the community are skin infections that appear as pustules or boils, which often are red, swollen, painful, and have pus or other drainage.** These skin infections often 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).
- **Teachers who observe students with open skin wounds or boils should refer them to the school nurse.** If any lesions appear to be open, uncovered, and/or draining pus, the child should be referred to the school nurse for evaluation. Teachers who oversee gym classes, coach sports, or other recreational activities should pay particular attention to lesions that involve open, uncovered skin.
- **School nurses should refer children with skin lesions that appear to be staph infections to a medical provider.** Not all skin infections are due to MRSA. A skin lesion that is one centimeter or larger in size should be referred to a medical care provider for diagnosis and treatment. These lesions often require incision and drainage to improve, and medical treatment should be guided by the results of culture and susceptibility testing.

Prevention of Staph Infections in Schools

- **Staph infections, including MRSA, can be prevented by the following measures:**
 - **Practicing good hygiene** (washing hands with soap and water or using an alcohol-based sanitizer, showering after exercise or group physical activities).
 - **Covering skin lesions** or skin trauma such as cuts and abrasions with a clean and dry bandage until healed.
 - **Avoiding sharing personal items (towels, razors) that come into contact with bare skin.** Use a barrier (clothing, towel) between skin and equipment that is shared between people (e.g., gym equipment such as weight-training benches).

- **Skin infections, including those diagnosed as staph or MRSA, should be completely covered with a clean, dry bandage that is taped on all four sides.**
- **School staff should wear disposable gloves when examining skin lesions or providing wound care.** Gloves should be used when changing bandages and soiled bandages should be disposed of in infectious waste containers or placed inside a plastic zip lock bag before being discarded.

Exclusion Recommendations

- **Children with skin or soft tissue infections should be excluded from activities that involve close (direct skin-to-skin) contact with other students, such as gym class or contact sports such as wrestling.** This exclusion applies even if the infected area is covered or due to staph that is not MRSA.
- **Students with skin infections may be allowed to participate in contact-activities when lesions are healed, indicated by a dry scab that does not require a dressing.**
- **Students with MRSA infections that are well-covered do not need to be excluded from regular classroom activities.** Students with the diagnosis of impetigo may be infected with staph or strep bacteria. They should be excluded from school until they have received at least 24 hours of antibiotic therapy.
- **Cases with draining or open wounds that cannot be covered should be excluded from school until the wound has subsided, is no longer draining, and can be effectively covered.** Students that are not able to follow infection control recommendations such as keeping their wounds covered or maintaining good hand hygiene are to be excluded until the infection is cleared.

Recommendations for Facility Cleaning

- **Because staph bacteria are primarily carried on people, there are no routine disinfection measures that are recommended for schools or offices to eliminate staph from the environment.** The spread of MRSA is mainly controlled through personal hygiene measures such as good hand hygiene and the covering of infections.
- **Common-use equipment used by sports teams and other groups may require additional cleaning, if there appears to be transmission in these settings.** Cleaning of shared surfaces/equipment is recommended in settings where a risk for direct skin contact is identified (e.g. gym equipment, athletic gear, etc.), particularly when there is possible MRSA spread among users of the shared facility or equipment.
 - a. Contaminated surfaces that are non-porous should be cleaned using an EPA-registered disinfectant or dilute bleach solution (1:100 dilution or 500-615 ppm).
 - b. Wood and other porous surfaces that require disinfection should be cleaned with a 1:10 dilution of household chlorine bleach. If commercial products are used for disinfection, the label should be checked to make sure the product is suitable for the type of surface being treated, and that the product label specifies *Staphylococcus aureus* and other bacteria.

- **Gloves should be worn when cleaning.** For additional information regarding cleaning and disinfection recommendations please contact the Division of Disease Control. A list of EPA-registered products effective against MRSA can be found at <http://epa.gov/oppad001/chemregindex.htm>.

Management of a Single Case of MRSA

- **A diagnosis of MRSA infection must be made by a healthcare professional, and should be confirmed by a note from a doctor or other healthcare professional.**
- **In general, single cases of MRSA infection do not need to be reported to PDPH.** However, school nurses should keep a log of MRSA and other staph infections among their school population. This log will help school health staff identify clusters of cases and risk factors that might be related to spread within the school.
- **Typically, PDPH does not recommend that school administration inform the entire school community about a MRSA infection.** When a case of MRSA infection occurs within the school population, the school nurse, in conjunction with the principal and the Office of School Health may determine whether some, or all parents and staff should be notified. Notification may be considered for close contacts of cases in high-risk situations (e.g., a case on a sports team where there is shared athletic equipment or locker room facilities), or if there is an unusual manifestation of disease such as severe illness or death. PDPH should be consulted regarding the appropriate content of these notifications.
- **The closure of schools is not recommended because of MRSA infection in a student.** The decision to close a school for MRSA or any communicable disease is ultimately up to school officials in consultation with public health officials.

Management of Two or More Cases of MRSA in a School

- **MRSA infections are extremely common in the community: more than one case in a school at any given time does not necessarily mean that transmission occurred within the school.** Teachers, coaches and other staff should notify school health staff if they become aware of two or more cases of MRSA or staph infections within a single class, or among students on the same team or recreational activity.
- **Two or more cases of MRSA from the same school (who are not from the same household) should be reported by the school nurse to the Department of Public Health.** PDPH will work with the school nurse and the Office of School Health to verify that the cases are actually staph infections, and to investigate whether the cases may have resulted from spread within the school. A surveillance log will help staff to collect this information. Staff in the Division of Disease Control will assist in providing additional guidance with respect to prevention and control as needed.
- **Multiple cases of staph infections, including MRSA, that occur within a school should be managed in the same manner as individual cases, with respect to infection control measures and exclusion from contact activities.**
- **As with single cases of MRSA infection, school closure for facility-wide disinfection following the identification of several cases of MRSA is not recommended.** Disease control measures should focus on hygiene and eliminating opportunities for contact with infected skin and environmental disinfection of shared equipment that appears to be responsible for disease

spread. Consult the Division of Disease Control, PDPH for recommendations regarding cleaning measures that are appropriate.

- **The decision to inform the school community or certain members of the community of multiple MRSA cases should be made by school officials in consultation with the Office of School Health and the Department of Public Health.** Notification should provide information to students and parents that assists with the early recognition of MRSA infections and encourages recipients to seek medical attention if they develop symptoms of MRSA. In general, these letters should be directed towards parents of students at highest risk (e.g., same sports team). A template notification letter is available from the Department of Public Health.

RECOMMENDATIONS FOR THE CONTROL OF MRSA INFECTIONS IN CHILDCARE SETTINGS AND PRE-SCHOOLS

Recommendations for managing MRSA infections in childcare settings with pre-school age children are similar to the guidelines provided above for school age children. However, because pre-school children may have more frequent direct skin contact and less optimal skin and hand hygiene, there may be greater possibility for person-to-person transmission. PDPH recommends that pre-school children with MRSA infection be allowed to participate in childcare programs, as long as the following conditions are met:

- Parents provide a note from a doctor stating the diagnosis and confirming that the child is appropriate for participation in the program.
- The wound is completely covered
- The wound is not draining and does not require dressing changes during the time the child is present at the center or program
- There is no outbreak or evidence of MRSA spread in the center.

Additional Resources

Further information about MRSA can be found at:

CDC: MRSA in Schools
http://www.cdc.gov/ncidod/dhqp/ar_mrsa_in_schools.html

CDC: Community-Associated MRSA Information for the Public
http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_public.html

CDC: MRSA educational materials
http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_skin.html