

Information on Staphylococcal Infections For Day Care Administrators and Care Givers

The following guidelines are intended to serve as recommendations for the creation of a policy for the management of methicillin resistant Staphylococcus aureus (MRSA). These guidelines can be adapted to accommodate different facilities and environments.

Antibiotic resistant-bacteria currently pose a significant health threat. A person in your daycare facility may have already experienced an infectious disease that has not responded to treatment with antibiotics. Two important factors in the development of resistance to any antibiotic are the extensive use of antibiotics and people sharing or not completing a course of antibiotics. While the situation is alarming, everyone can help in the effective control and prevention of antibiotic resistant infections. This information is provided to assist you specifically in the control and prevention of staphylococcal (commonly called staph) infections. However, **these measures are effective against almost all infectious diseases.**

BACKGROUND

Staphylococcus aureus

Staphylococcus aureus (staph) has long been recognized as a common cause of boils and soft-tissue infections as well as more serious conditions such as pneumonia or bloodstream infections. According to the Centers for Disease Control and Prevention, twenty-five to thirty per cent of adults and children in the United States are “colonized” with staph—the bacteria are present but do not cause illness. Staph colonization usually occurs in the armpit, groin, genital area, or the inside of the nose, with the nose being the most densely colonized. Although staph is carried in the nose, it is not usually transmitted through air droplets (airborne). Most infections occur through direct physical contact of the staphylococci with a break in the skin (cut or scrape), during contact with a person with the bacteria, or during contact with an inanimate object (such as clothing, bed linens, or furniture) that is soiled with wound drainage. Susceptibility to infection depends on factors such as immunity and general state of health. In the past, these staph infections typically have been easy to treat with an inexpensive, short course of one of the penicillins, cephalosporins, or other usually well-tolerated antibiotics. Times have changed and many of these staphylococci are now resistant to penicillin and other commonly used antibiotics.

Methicillin resistant *Staphylococcus aureus* (MRSA)

Methicillin is an antibiotic that represents a group or class of antibiotics. A MRSA (often pronounced mer-sa) infection, unlike a common *Staphylococcus aureus* infection, cannot be treated with the penicillins, including Augmentin®, dicloxacillin, or other methicillin-related antibiotics. These bacteria are also resistant to the cephalosporins. Consequently, the treatment is often longer, more expensive, and more complicated, with frequent recurrence of infections. Depending on the antibiotic resistance patterns, alternative antibiotics, such as trimethoprim/sulfamethoxazole (Bactrim®, Septra®), minocycline, or clindamycin, may be considered. For serious infections, vancomycin has become the treatment of choice, but this can only be administered intravenously and must be carefully monitored. Other newer antibiotics, such as linezolid or daptomycin, may also play a role in the treatment of serious infections, but these antibiotics, along with vancomycin, may be rendered ineffective through the development of bacterial resistance. The Centers for Disease Control and Prevention recently reported the first two cases of vancomycin-resistant *Staphylococcus aureus* infections. This underscores the need for aggressive control and prevention measures for all antibiotic resistant organisms.

Originally, MRSA was found only in hospitals and long-term care facilities, such as nursing homes. In the past few years, there have been increasing reports of MRSA not associated with the medical environment. Since May 2002, the Infectious Disease Epidemiology and Surveillance Division (IDEAS) of the Texas

Department of State Health Services has noted an increasing number of reports of MRSA from local and regional health departments, the public, physicians, schools, and daycare facilities.

PREVENTION STRATEGIES

Day care administrators may need to introduce a policy in which parents must inform the day care if their child has a skin infection. With this policy, the facility should have options for assuring that the other children do not have contact with the infected site in the affected child or the contaminated physical environment. These options will need to be customized depending on the age of the infected child and the location of his/her wound. Have the parents sign a release regarding their understanding of the policy and their responsibilities in this matter.

RECOMMENDATIONS FOR DAYCARE ADMINISTRATION

- Do not allow employees with draining wounds or infections to have physical contact with children
- Do permit the child or employee to participate in non-contact activities if wounds are covered and the infected person observes good hygienic practices—washing hands, showering, and laundering clothes
- Do permit the child or employee to return to contact activities when the wound has healed. Because MRSA is difficult to treat, this may be a few weeks or longer
- Do arrange to have utensils and dishes washed in the usual manner with soap and hot water or using a standard home dishwasher
- Do wash clothes with the usual detergent in hot water and dry thoroughly using the hottest setting possible
- Do provide clean non-sterile gloves for employees to use when caring for children's wounds

EMPHASIZE THIS TO YOUR EMPLOYEES, CHILDREN AND THEIR PARENTS:

HAND WASHING IS THE SINGLE MOST IMPORTANT BEHAVIOR IN PREVENTING INFECTIOUS DISEASE.

Wash your hands with soap and water or alcohol-based gel sanitizers. The use of an alcohol based hand sanitizer may be a supplement or a substitute when soap and water are not available. **Follow manufacturer** directions or generally place enough hand sanitizer in the palm of your hand to thoroughly cover your entire hand. Rub hands together until dry.

Hand Washing Procedure: 1) Use warm running water. 2) Wet your hands and wrists. 3) Use a bar or a thumbnail size dab of liquid soap. 4) Work soap into a lather and wash between fingers, up to wrists and under finger nails for at least 15 seconds. 5) Dry hands thoroughly using a clean cloth towel or paper towel.

Wash your hands and those of your child:

- After sneezing, blowing, or touching your nose or wiping your child's nose
- Before and after close contact with another person
- After using the toilet
- Before and after assisting your child on the toilet or changing diapers
- After arriving home from daycare or other activities

OTHER GENERAL PRECAUTIONS:

- Do not share towels or other personal care items
- Do not share soap
- Do not wear artificial nails
- Do keep fingernails short (no longer than the tip of the finger)
- Do use a skin moisturizer to prevent dry, cracked skin
- Do place soiled items in a plastic bag or other waterproof container to be sent home, if laundry is not done at the facility
- Do prewash or rinse items that have been grossly contaminated with body fluids. Then wash clothes for a full cycle in hot water and dry on the hottest cycle possible
- Do inform parents of these precautions if laundry is sent home

- Do clean the daycare facility and items used by children at least daily using a commercial disinfectant or a fresh (daily) solution of one part bleach and 100 parts water (1 tablespoon bleach in one quart of water)

RECOMMENDATIONS FOR CARE OF DRAINING WOUNDS

COMMUNICATION WITH THE CHILD'S PHYSICIAN:

It is extremely important that parents communicate with caregivers regarding the physician's diagnosis and treatment of any sores or wounds their children have. The physician should perform a culture and susceptibility test to determine what bacteria the child has and what treatment will be the most effective with the fewest side effects. The physician may determine that the child does not need an antibiotic. Therefore the daycare center should not require antibiotic treatment for readmission to daycare. If an antibiotic is prescribed, the child must take all medication even after the infection seems to have healed. Assure that the medications are administered in the correct dose and at the appropriate time. Never permit medications to be shared, not even topical medications. The physician may recommend that the child not attend daycare until the wound is no longer draining. If the child is permitted to attend daycare, follow the physician's instructions for dressing changes, including application of a topical ointment if prescribed. Follow all directions as instructed by the physician. This will require careful communication between caregivers and parents. If the child does not respond to treatment, insist that parents inform the physician.

INITIAL WOUND CARE PRECAUTIONS:

- Treat any draining wound as a potential MRSA infection
- Do not permit other children from the infected child's wound or a contaminated physical environment
- Do not permit uninfected children to use bedding or mats that are used by children with draining wounds
- Encourage the parents of the infected child to take the child to a physician
- Encourage the parents to inform the physician of the possibility of MRSA
- Encourage the parents to inform the physician that they want a culture and susceptibility test
- Ask the parents to inform you of the culture results
- If the wound is uncultured or you are not informed of the culture results, treat the wound as MRSA

PRECAUTIONS FOR CAREGIVERS AT DAYCARE:

- Carry and use an alcohol-based hand sanitizer when soap and water are not available
- Clean equipment or any part of the activity area that comes in contact with the wound with commercial disinfectant or fresh (daily) solution of diluted bleach (1 tablespoon of household bleach to one quart of water or phenol-containing product such as Lysol® or Pinesol® before any other person comes in contact with the equipment or area. A phenol-containing spray can also be used to disinfect any cloth or upholstered surface
- Do not allow children with draining wounds or infections to have physical contact with other children until the wound has stopped draining and has healed
- Keep the wound covered
- Change the wound dressings any time that drainage is apparent as directed by the physician
- The infected individual must have a designated chair or area for sitting. It should have a plastic or similar hard surface or cover for easy disinfection. No one else should sit here until the child's wound has healed
- Put on clean gloves just before touching broken skin
- Remove gloves promptly and discard after use, before touching uncontaminated items, environmental surfaces, and before touching another person
- Wash hands immediately after contact with the wound even if gloves were worn
- Wash hands between tasks and procedures on the same child (such as putting on a band-aid and helping a child at the toilet) to prevent cross-contamination of different body sites
- Place disposable items that have come in contact with the infected site in a separate trash bag and close the bag before placing in the common garbage
- Disinfect reusable items such as scissors or tweezers. Wash visible blood or drainage off with soap and

water. Wipe with 70% isopropyl alcohol (rubbing alcohol). Allow to air dry. Do not use these items on any other person

- Do not share towels
- Carry laundry away from the body in a plastic or other lined bag that will not allow wet articles to drain through (wash hands after loading soiled laundry into washer)
- Give antibiotics only to infected persons for whom the medication is prescribed. Do not give antibiotics to uninfected children or employees in an effort to prevent infections
- Use a changing table with an uncovered impervious surface and wipe down with an effective disinfectant between children, OR use a disposable cover and dispose of after each child, OR use a freshly laundered reusable cover and change after each child

PRECAUTIONS AT HOME:

There are many things that parents can do at home to reduce the risk of MRSA infections or to stop their spread. We recommend that you develop an information sheet that can be distributed to parents to assist you in keeping your daycare facility free of infection. Recommendations for prevention activities in the home are given in the accompanying article "Prevention of Staphylococcal Infections for Parents."

ADDITIONAL SOURCES OF INFORMATION

When in doubt of the correct procedure to follow, contact your healthcare provider, your local or regional health department, or the Infectious Disease Control Unit of the Texas Department of State Health Services.

Additional information on bacteria, antibiotics, resistant organisms, disinfection, wound healing, and other treatment for infections can be found in your local library or the following web sites.

Centers for Disease Control and Prevention

<http://www.cdc.gov/ncidod/hip/ARESIST/mrsa.htm>

<http://www.cdc.gov/drugresistance/community/>

Other sources:

www.ahrq.gov