



Louisiana Office of Public Health  
Infectious Disease Epidemiology  
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## Methicillin Resistant *Staphylococcus aureus* (MRSA) in Day Care

These guidelines are to help in developing a program to address managing children with methicillin-resistant *Staphylococcus aureus* (MRSA) infections and MRSA outbreaks specifically in the daycare setting.

### Basic Information about MRSA

The emergence of antibiotic resistant bacteria has become a significant public health concern. Due to the extensive use of antibiotics, the sharing of antibiotics, and/or the failure to complete a course of antibiotics, our current arsenal of antibiotics is becoming ineffective against common bacterial infections. *Staphylococcus aureus* (commonly referred to as "staph") is a bacteria that can live on human skin or even the cleanest individuals. It can cause boils, wound infections, abscesses, cellulitis, impetigo, pneumonia and even bloodstream infections. The Centers for Disease Control and Prevention (CDC) estimate that 25-35% of children and adults in the United States have staph colonization—staph living on them, but not harming them. Staph like to live in the nose, groin, around the anus, armpits, finger tips, tracheostomy sites, wounds and in the secretions of intubated patients. Staph spreads by direct skin-to-skin contact with an infected individual or a colonized individual or more rarely from objects contaminated by these individuals such as sheets soiled with infected wound drainage. Staph is not found in dirt or mud or carried through the air.

### The emergence of MRSA

In the past, staph infections were easily treated with a short course of penicillin with very few complications. Unfortunately, staph infections quickly became resistant to penicillin. Methicillin, along with other drugs, was developed in the 1950s to address the problem. However, by the 1960s, methicillin-resistant strains of staph began to appear. By the 1980s, *Staphylococcus aureus* infections resistant to methicillin and methicillin-related drugs were becoming highly prevalent and continue to increase to this day. These resistant infections were labeled methicillin-resistant *Staphylococcus aureus* (MRSA). Fortunately, there are still different classes of antibiotics that can be used to control these infections, but resistance continues to spread to our newer drugs and threatens to exhaust our supply of effective treatments if practices are not put into place to stop irresponsible antibiotic use. MRSA started in hospitals and other medical facilities, but it has progressively become more common in the community and other institutions such as schools, day care centers, prisons and correctional institutions.

### In Louisiana, it is estimated that

- 30% of the general population is carrier of Staphylococci
- 1% of the low-risk population is carriers of MRSA.
- 5-20% of high risk population is carriers of MRSA (patients with multiple hospitalizations, residents of long term facilities, chronically ill patients, inmates in detention facilities...)
- This means that out of a 4,500,000 population, 1,500,000 are carriers of *S. aureus* and 45,000 are carriers of MRSA.

### General Prevention of MRSA

Daycare administrators should consider a way to encourage parents to report wounds or skin infections to facility staff in order to properly manage these infections and prevent their spread among other children. Early treatment is crucial in stopping these infections from causing serious harm. The location of the wound will determine which steps need to be taken to best prevent spread.

**HAND WASHING or use of hand sanitizers IS THE MOST IMPORTANT STEP IN PREVENTING MOST INFECTIOUS DISEASES.**

### Correct hand washing technique for you and your children:

When using soap and water:

1. Wet hands with warm running water.
2. Apply liquid soap to palm of hand.
3. Vigorously rub hands together working soap into a lather and covering all surface of wrists, hands, fingers and under fingernails for at least 15 seconds.
4. Rinse hands with water and dry thoroughly with a clean disposable towel.
5. Turn off faucet with a towel.

### When using alcohol-based hand rub:

1. Apply product to palm of one hand (see product instructions for amount).
2. Rub hands together, covering all surfaces of hands, fingers and nails thoroughly.
3. Continue to rub until hands are completely dry.

### When to wash your and your children's hands:

- After any contact with your or your child's nose, mouth, eyes, ears, groin, anus, blood, or bodily fluids (includes, sneezing, coughing, blowing your nose, rubbing eyes, eating, using the restroom, etc.).
- Before and after direct contact with another person or their belongings especially if infected or a known carrier.
- Wash hands before coming into and leaving the daycare facility.
- Anytime hands are visibly dirty or soiled.

### Some other recommendations include:

- Draining wounds should be kept covered.
- Other persons or children should not come into contact with an employee's or child's infection or wound.
- Non-contact activities are permissible if the wound is covered at all times and the person/child practices good hygiene—frequent hand washing, showering and clean clothes.
- Contact activities should be suspended until the wound is completely healed
- Utensils, dishes, clothes and other laundry should be washed normally with hot water and normal detergents. Laundry should be dried on the hottest setting.
- Clean non-sterile gloves should be used by employees caring for the child's wound or infection.
- Change gloves when moving from one body site to another or from one child to another.
- Discourage the sharing of personal care items, towels, sheets, etc.
- Use liquid soap instead of shared bar soap that is mild and non-irritating.
- Discourage the use of extended artificial nails especially when caring for wounds.
- Keep nails neatly trimmed short and free of debris under the nail.
- Do not add soap to a partially empty soap container. This can lead to bacterial contamination.
- Use moisturizers or hand lotions to keep skin healthy.
- Transport soiled items in a plastic bag or other waterproof container.

- Inform laundry workers of contaminated articles and pre-rinse/wash grossly soiled items.
- Clean the facility and used recreational equipment daily with a commercial disinfectant or a daily prepared solution of 1:100 bleach and water mix (1 tablespoon bleach in 1 quart of water).

### **Wound Care Recommendations**

Consult the physician or medical staff:

Facility personnel should always consult with the parent concerning any wounds or suspected infections which have been noticed at the daycare or during recent physician visits. The physician should examine the child and obtain a culture and sensitivities to determine the best treatment for the child. If antibiotics are deemed necessary by the physician, the parent should ensure that the child takes all of the antibiotics as prescribed even if the wound appears healed. The daycare should not require antibiotic treatment for admittance back into daycare. The physician should address all other concerns including participation in daycare activities and wound care which should be followed exactly. If the wound does not heal or show signs of improvement in the time frame provided by the physician, the daycare should notify the parent immediately who in turn should notify the physician.

It is important that there is an open communication between the parent and the daycare provider concerning the health of the child.

### **Wound Care at the Daycare Center:**

- Handle all wounds as potential MRSA infections until confirmed with culture and sensitivities.
- Do not allow other children or employees to contact the infected person's wound or objects with which the infected person may have contaminated unknowingly (bedding, toys, personal care items, etc.)
- Encourage the parent to take the child to the physician.
- Ask the parent to keep you informed of the child's condition and culture results.

### **Personal Hygiene for all Children and Employees:**

- All employees and children should have ample access to soap, water and clean towels.
- Small alcohol-based hand sanitizers can be beneficial for employees to carry when soap and water is unavailable.
- Commercial disinfectants or bleach solutions (as described earlier) should be used to daily clean equipment or other parts of the facility especially those which have come in contact with the infected patient.
- Phenol-containing sprays such as Lysol® can be used to disinfect upholstered/cloth surfaces.
- Soiled laundry should be carried in a plastic or waterproof container; hands should be washed thoroughly after handling any laundry.

### **Wound care:**

- Follow all instructions given by the physician exactly.
- Keep the wound covered.
- Change the dressings as instructed by the physician. This is usually at least twice a day or when drainage becomes apparent whichever is sooner.
- Always wear clean gloves right before touching the site.
- Remove gloves and throw them away before touching any non-contaminated object or other person.
- Wash hands after removal of gloves and when moving from one site or patient to the next.
- Throw away contaminated items used for wound change in a separate bag from regular trash.
- Wash with soap and water reusable items such as scissors and tweezers. Then wipe them with 70% isopropyl alcohol (rubbing alcohol) and allow to air dry. These items can be used again, but only for that child.

### **Medications:**

- Only give antibiotics prescribed by a physician for that child.
- Never share antibiotics or topical treatments.
- Finish all antibiotics prescribed even if the wound has completely healed.
- Never give antibiotics to children or employees to attempt to prevent an infection.
- Misuse or overuse of antibiotics can lead to harm to the child and spread of resistant bacteria.

### **Need More Information:**

Always address any concerns or questions about correct treatment to your healthcare provider.

More information can also be obtained from your parish health unit, or the Infectious Disease Epidemiology Section of the Louisiana Office of Public Health and the Centers for Disease Control and Prevention websites listed below.

Louisiana Office of Public Health Infectious Disease Epidemiology  
[http:// www.infectiousdisease.dhh.louisiana.gov](http://www.infectiousdisease.dhh.louisiana.gov)

CDC Get Smart Program  
<http://www.cdc.gov/drugresistance/community/index.htm>