American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™
Ohio Chapter

Sports Shorts

GUIDELINES FOR PHYSICIANS AND SCHOOL NURSES

Staph and skin infections

Methicillin-resistant *Staphylococcus aureus* (MRSA) remains a serious and common community acquired (CA) skin and soft tissue infection. These strains differ from the more resistant MRSA acquired in health-care settings. CA-MRSA is susceptible to 2 or 3 classes of antibiotics. Because some MRSA strains may carry virulence factors, infections caused by any of these Staph strains are potentially life-threatening. The prevalence of CA-MRSA varies geographically but definitely is on the rise worldwide. In one report MRSA accounted for half of the *Staphylococcus aureus* hospitalizations in children in the U.S.

Risk factors for CA-MRSA

1. Skin trauma (abrasions, body shaving, body piercings, tattoos and lacerations)
2. Skin-to-skin contact
3. Sharing contaminated personal items and sport equipment (razors, towels, etc.)
4. Crowding
5. Poor personal hygiene

Clinical spectrum of Staphylococcal infections

1. Soft tissue abscesses or boils (most common)
2. Impetigo and cellulitis
3. Invasive infections including osteomyelitis, pneumonia, sepsis and endocarditis

Many individuals are colonized with *Staphylococcus aureus* and serve as a reservoir. The most common site for colonization is the anterior nares but consider vaginal, rectal areas and skin sites also. Attempts to decolonize individuals have been only partially successful; many individuals get recolonized. There is no way to successfully eliminate these infections. The most important measure is to practice scrupulous and frequent hand hygiene to avoid infections and recurrences of these infections in the same individual and family members. Coaches, trainers and parents need to be vigilant to limit exposure to MRSA. Athletes should not be allowed to participate in sports while lesions remain open and draining. Regular, thorough cleaning of all sporting equipment with antibacterial solutions is critical to reducing the spread of infection. Sports trainers should discourage sharing of sports equipment or personal items.

Management of skin abscesses

- Drain pus incision and drainage (I&D) and submit it to the laboratory for culture and susceptibility testing.
- For abscesses less than 5 cm in size, I&D often is sufficient to treat.
- If the physician prefers, I&D can be followed by a short course of an appropriate oral antibiotic.
- Appropriate antibiotics include: clindamycin, doxycycline (for > 7 years of age) and trimethoprim/sulfamethoxazole (TMP/SMX). Methicillin sensitive Staph strains can be treated with the "old" antibiotics: cephalexin, or trimethoprim/sulfamethoxazole, doxycycline or clindamycin. Cellulitis or abscess caused by Group A Streptococcus cannot be treated with TMP/SMX.
- Follow up is suggested within 48 hours.
- For large abscesses both surgical I&D and oral antibiotic therapy are necessary.
- If a child is febrile or a good follow up cannot be assured, hospitalize and start on empirical intravenous clindamycin. Keep in mind that some strains of MRSA and even methicillin sensitive Staph are resistant to clindamycin. In more severe cases add vancomycin until susceptibilities become available.
- If the patient has severe infection (limb-threatening infection, toxic-appearing), the patient needs to be hospitalized, surgery performed promptly, and vancomycin plus nafcillin started intravenously.

With repeated recurrences, consider placing the patient on a 5-day course of TMP/SMX plus rifampin following completion of your therapy for the acute infection.

For recurrent Staphylococcal infections

There is no clear and well-accepted strategy. Decolonization may be effective, but unfortunately in many cases are only temporary, due to repeated contact with a carrier (family member or classmate). Consider the following strategies:

- Cover the area with clean bandages
- All household members wash their hands frequently
- Always wash after coming in contact with the lesion
- Fingernails kept clean and short
- Soiled linens, pjs and all clothing should be washed in hot water and separate from the rest of the family
- No contact sports should be allowed until all lesions are healed
- Sites of new skin trauma should be cleansed and mupirocin (Bactroban) ointment applied 3 times daily
- Once infection has cleared, the patient may take bleach baths
- All household members should apply mupirocin ointment into the anterior nares 2 times a day for 5 days

This information is available on the Ohio AAP website www.ohioaap.org

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GUIDELINES FOR PARENTS

Staph and skin infections

Infections of the skin and soft tissues, such as abscesses (boils) are most commonly caused by bacteria known as *Staphylococcus aureus*. In recent years many of these strains of bacteria have become resistant to the common antibiotics we used in the past. This is a serious development. Both the methicillin-susceptible (MSSA) and the methicillin-resistant (MRSA) forms of *Staphylococcus* are highly contagious; can spread readily among family members and schoolmates; and under certain circumstances, can be a very dangerous, and even fatal, form of infection. Everyone associated with the active child, particularly those participating in sports where skin-to-skin contact is common (wrestling, football, basketball, lacrosse, etc.), need to be watchful about skin infections, and take the right steps to limit them right away.

Tips for preventing spread of MRSA/MSSA

1. Wash hands frequently throughout the day.
2. Always wash hands after touching infected skin or touching an item that was in direct contact with a draining wound.
   - Soap and water (the brand of soap in not important) or
   - Alcohol-based gels
3. Do not share clothes/towels/linens or personal items such as razors.
4. If possible, avoid shaving in skin areas that are frequently infected.
5. If shaving those areas cannot be avoided, change razor blades frequently.
6. When washing laundry, add bleach (if color permits) and use hot water.
7. Dry clothes on the hottest possible setting (bleach and heat can kill MRSA/MSSA).
8. Keep hands washed and fingernails clean and cut short to prevent scratches to the skin.
9. Cover any draining infected area with a clean, dry bandage.
10. Environmental surfaces that have frequent contact with bare skin (door knobs, countertops, bath tubs, and toilet seats) should be cleaned frequently with any commercially available cleaner or detergent.

The following recommendations from the physicians of the Ohio Chapter, American Academy of Pediatrics can help you to decrease the chances of an infection getting worse, or an isolated infection becoming a recurring problem due to the spread of the MRSA and MSSA type infections.

If your child is involved in sports, discourage any sharing of personal or sports equipment with other kids. Be sure all equipment is kept clean and clothing and towels are washed frequently. Keep a close eye on your child's skin, looking for skin wounds or infections that may signal early problems and treat them right away.

If your child has multiple recurrences, try using a soap with chlorhexidine (Hibiclens) to bathe, three times per week for four weeks. This, plus the above recommentions, may help limit reinfection.

Also:

- Apply Bactroban ointment just inside the nose using a Q-tip twice a day for five days.
- Use bleach baths two times a week for about 1-3 months with 1 teaspoon of bleach per gallon of water (or a cup of bleach in a tub of water = 13 gallons). Soak in the bleach water up to your neck for 10-15 minutes, then rinse thoroughly with plain water afterwards.
- Recurrent pus-filled skin infections after trying these routine measures merits a visit to your doctor. Antibiotics may be needed to control the infections.

Finally, if your child is involved in school sports and has had a problem with skin infections, remind the coaches and athletic trainers to be vigilant about keeping those students with open lesions out of direct contact with others until the wounds heal completely. Controlling MRSA is an issue for the whole community.

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