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Athletes and Community-Associated Methicillin-Resistant Staphylococcus Aureus (CA-MRSA)

CA-MRSA is increasing in athletes who participate in team sports (particularly football players, wrestlers, rugby players and even fencers and baseball players). Contact sports provide players more opportunity for skin infections due to skin trauma from turf burns, shaving, and contact with secretions and body fluids. Sports with less direct contact, like fencing, may require protective clothing which can be hot and chafe skin, leading to rashes and skin breakdown. Sharing of equipment, personal items, balms, and lubricants as well as current cleansing and disinfecting procedures that are not OSHA or Center for Disease Control (CDC) compliant often add to the problem. According to Rosenthal in *Infectious Diseases in Children* Nov. 05, precipitating factors in getting CA-MRSA are “crowding conditions . . . turf burns and abrasions” and frequent contact with infected skin. While MRSA infections are usually mild, they can produce areas on the skin that look like pimples or insect bites, which can expand to boils or abscesses. Players have been hospitalized for skin and soft tissue infections that would not respond to usual therapy. CA-MRSA has even been linked to some deaths from sepsis.

What exactly is CA-MRSA? Some strains of **Staphylococcus** or “staph” are bacteria commonly found on the skin; but when it enters the body, it can lead to an infection. **Methicillin** is an antibiotic commonly used to treat more serious infections caused by staph. Some staph bacteria develop a **resistance** to methicillin and can no longer be killed by this antibiotic and that leads to the development of **MRSA**.

MRSA can be found on the skin, in the nose, in the blood and urine and is almost always spread by physical contact. MRSA occurs in patients who are sick, elderly, or those with open wounds or invasive devices. Prevention of MRSA can be achieved in the hospital setting; but it has been neglected in many community contact sports, leading to infection in healthy athletes! MRSA acquired outside the hospital in a community setting is called “Community-Associated” or **CA-MRSA** for short. MRSA is resistant to many antibiotics and difficult to treat, but fortunately there are still a few antibiotics that can successfully cure MRSA.

Health providers should be aware of the potential for MRSA infections in athletes during evaluation and treatment.

Awareness may help prevent recurrence of infections if the care provider obtains cultures routinely when athletes have infected wounds. **CA-MRSA is diagnosed** by collecting a sample from the infected area for culture and susceptibility testing to determine to which antibiotics the causative organism is susceptible. When MRSA cycles out of the hospital, it can have even more serious effects in the community. It is important to know susceptibilities of the community before treatment is selected. At the Fifth Pediatric Infectious Disease Society Conference in October 2005, Steinberg stated that “Chloramphenicol and clindamycin tend to have activity against CA-MRSA; while the activity of erythromycin and fluoroquinolones against CA-MRSA vary; CA-MRSA is usually about 98 percent susceptible to trimethoprim-sulfamethoxazole (TMP-SMX).” For more detailed information on dosing see www.idinchildren.com.

Steinberg lists **people at increased risk for CA-MRSA** infections as those who have previously used antibiotics, “Alaska Natives,

Pacific Islanders, Native Americans and Blacks, as well as travelers to the Middle East and their families, correctional facility inmates, athletes in contact sports, military personnel and the homeless.” Steinberg adds that activities that put people at increased risk include “cosmetic body shaving and spa or whirlpool use, depending on the frequency of use and the number of participants.” There are also geographic and underlying risk factors such as chronic disease, long-term institutionalization, and previous exposure to MRSA to consider. It is important for the clinician to know about the patient's risk factors, lesion size, and chronic problems when considering treatment of any type of MRSA infection. The requirement to report outbreaks to the public health authorities varies from state to state.

Due to this increasing concern among team players of sports, the **CDC has defined guidelines for physicians, schools, and coaches**. They are:

- Cover all wounds. If a wound cannot be covered adequately, consider excluding players with potentially infectious skin lesions from practice or competitions until the lesions are healed or can be covered adequately.
- Encourage good hygiene, including showering and washing with soap after all practices and competitions (soap dispensers are recommended).
- Ensure availability of adequate soap and hot water.
- Discourage sharing of towels and personal items (e.g., clothing or equipment).
- Establish routine cleaning schedules for shared equipment.
- Train athletes and coaches in first aid for wounds and recognition of wounds that are potentially infected.
- Encourage athletes to report skin lesions to coaches and encourage coaches to assess athletes regularly for skin lesions.

*Note to Active and Retired
Navy Personnel:*



This is your column. Readers are invited to submit suggestions or articles on relevant health topics to CDR Susan Labhard at susan@labhard.com.

Health care professionals are encouraged to increase their awareness of CA-MRSA to identify and treat cases early and minimize infection rates caused by all organisms. Athletes are responsible to maintain good hygiene and to avoid contact with skin lesions of other players. By working together, we can get MRSA out of the community.

References:

CDC: Methicillin-Resistant Staphylococcus

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CDC: Community-Associated MRSA (CA-MRSA). Available online: http://www.cdc.gov/ncidod/hip/Aresist/ca_mrsa.htm or telephone 1-800-893-0485.

Hospital Infections Program, CDC, 1600 Clifton road, MS A07, Atlanta, GA, 30333.

<http://www.cdc.gov/ncidod/dhqp/index.html>

Lab Tests Online Web site: http://www.labtestsonline.org/news/ca_mrsa050603.html.

Rosenthal, M. CA-MRSA becoming fact of life for some athletes involved in contact sports. *Infectious Diseases in Children* 2005 Nov; 18(11): 52-55.

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