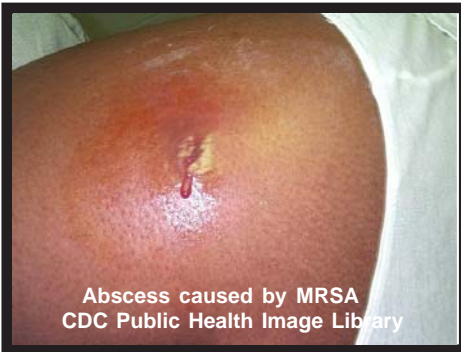




MRSA in the Community: A Growing Threat to Young People



Abscess caused by MRSA
CDC Public Health Image Library

Until recently, infections caused by MRSA or (methicillin-resistant strains of *Staphylococcus aureus*) were largely restricted to hospitals and other institutions. But since 1999, a new form of resistant staph. infection dubbed CA-MRSA (community-associated MRSA) has become epidemic in the

outpatient visit, nursing home admittance, antibiotic exposure, chronic illness, injection drug use, and close contact with a person with risk factor(s). Prevalence of CA-MRSA is low among community members without healthcare-associated risk factors, but the rates increase to 47.5% of community members with one or more healthcare associated risk factors, and 85% of hospital patients.⁴

How can we prevent the spread of CA-MRSA?

Educating PE instructors, coaches, athletes, facility staff, parents, and the public about CA-MRSA is critical. Information should be presented each season or school year, posted in locker rooms and sent home to parents. See Resource #5 for an up-to-date information sheet for athletes. Personal cleanliness, regular disinfection of shared equipment and prompt attention to minor cuts and scrapes is extremely important.

Diagnosis & treatment Clinicians should be aware that CA-MRSA is spreading rapidly in the U.S. Abscesses and other skin infections, especially those like "Spider bites" with necrotic centers should be cultured and assessed for susceptibility. If the patient does not respond quickly to simple wound draining or cleaning (if appropriate), or standard antimicrobial therapy or are from settings with a high incidence of CA-MRSA, they should begin a CA-MRSA-specific regime right away and be hospitalized if a positive clinical response is lacking.⁶ Please refer to Resource #7 for a recently published clinical guideline.

Resources

1. "The growing menace of community-acquired methicillin-resistant *Staphylococcus aureus*." Moellering, R.C. *Annals of Internal Medicine* 144 (5): 368-370.
<http://www.annals.org/cgi/reprint/144/5/368.pdf>
2. "Combating CE-MRSA in physical education, sports and dance." (2007). Andrews, A.K. et al. *Jnl of Physical Education, Recreation & Dance*. 78(9): 19-21, 31.
3. Q & A about MRSA in schools. CDC.
<http://www.cdc.gov/Features/MRSAinSchools/#q3>
4. "Community-Acquired MRSA: Prevalence and risk factors." (Sep. 2006). Beam, J. *Jnl of Athletic Training*, 41(3): 337-340.
<http://tinyurl.com/yslbzs>
5. *An athlete's guide to prevent the spread of bacteria*. (Oct. 2007). NY State Dept. of Health.
<http://tinyurl.com/yvezdu>
6. "Locker room acquired MRSA." (Jul. 2007). Patal, A. et al. *Orthopedics*, 30 (7): 532-5. [Includes clinical pathway for soft tissue infections in athletes].
7. *Community Acquired MRSA (CA-MRSA) skin and soft-tissue infections*. (Dec. 2007) Mercury Clinics Inc. [guideline].
<http://tinyurl.com/ynrxbd>
8. *MRSA infection*. (Nov. 2007). Mayo Clinic.
<http://www.mayoclinic.com/health/mrsa/DS00735>
9. *MRSA abscess and sepsis reaction*. [A personal experience] Yee, N. <http://tinyurl.com/yqbpsg>

community, especially among athletes, and it can cause serious illness and death especially the young and the healthy.

CA-MRSA is not simply an HA-MRSA strain that has spread to the community. The two types differ genetically in the location of genes conferring methicillin resistance. Also HA-MRSA strains are usually resistant to multiple antibiotics, whereas CA-MRSA is still susceptible to the tetracyclines and tri-methoprim-sulfamethoxazole.¹ Nevertheless, there is concern that CA-MRSA is proliferating rapidly because physicians treating the infections did not suspect the bacteria were methicillin-resistant.

How serious is CA-MRSA? Untreated or improperly treated infections have led to death. The CA-MRSA alarm was first raised by the deaths of four children in the Midwest in 1999, followed by a report of 14 adolescents with severe cases, three of whom died, at Texas Children's hospital from August 2002 to January 2004. One of the young victims had contracted the infection after a football injury.² Since then CA-MRSA infections have been reported from all levels and many types of sport, as well as community health facilities. The results of serious CA-MRSA infection can be life-altering, leading to severe disability, loss of a limb or death.

What are the symptoms? All of us carry *Staphylococcus* bacteria in our noses and on our skin. But any break in the skin such as a bite, scrape, scratch, razor burn or cut can allow the bacteria to invade the body and grow, causing an infection. CA-MRSA infection may first appear as a small bump with a necrotic center, often mistaken as a spider bite or ingrown hair. It may grow rapidly becoming an angry red abscess, or a cluster of pustules. Cellulitis may also be present.² Serious infections can lead to rapidly fatal overwhelming pneumonia and systemic infection. In children, such infection can result in septic thrombophlebitis of the hands and feet and a "pelvic syndrome" including septic arthritis of the hips, pelvic osteomyelitis, and pelvic abscesses.¹

Who's at risk? Initial reports of CA-MRSA indicated that young children, prisoners, gay men, and people competing in contact sports, especially American football, were at risk, but the list is expanding.¹ The CDC points out 5 factors (5 Cs) that facilitate transmission of infection: **C**rowding, frequent skin-to-skin **C**ontact, **C**ompromised skin (cuts or scrapes), **C**ontaminated items/surfaces, and lack of **C**leanliness. These are common in dormitories, military barracks, households, correctional facilities, and daycare centers.³ Risk factors for MRSA acquisition are recent hospitalization,