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Health Advisory

Guidelines for the Management of Community Associated Methicillin-resistant *Staphylococcus aureus* (CA-MRSA) Infections in School-aged Children

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Due to the recent attention to infections caused by CA-MRSA among children in the United States, the Philadelphia Department of Public Health is issuing this health advisory to update clinicians on the appropriate medical management and disease control measures to limit transmission. In recent years, CA-MRSA skin and soft-tissue infections have been identified in certain populations, most notably prisoners, college sports teams, users of sports facilities, and school-aged children. Undoubtedly, other populations are affected as well. Most infections are spread through direct skin-to-skin contact, although fomite transmission can also occur. It is important to recognize that there are a variety of organisms, other than CA-MRSA, that can cause skin and soft tissue infections such as pimples, furuncles, and cellulitis.

DIAGNOSIS

Clinically, skin and soft-tissue infections due to CA-MRSA present similarly to other infections caused by non-resistant strains of *S. aureus*. Patients often present with furuncles, carbuncles, or abscesses, which may be self-described as a spider or insect bite. Clinicians are encouraged to collect appropriate specimens for culture and antimicrobial sensitivity testing from patients with one or more of the following:

- Open skin lesions > 1 cm in diameter
- Abscesses
- Draining or purulent skin lesions
- Failure to improve from treatment with a beta-lactam antibiotic
- Signs and symptoms of systemic illness
- Epidemiologically linked to a cluster or if household transmission is suspected

MANAGEMENT GUIDELINES

Recommendations for patient management include:

- Incision and drainage of purulent fluid from furuncles and abscesses
- Initiation of empiric antimicrobial therapy for patients with one of the following:
    - Severe or rapid progression of infection
    - Presence of associated cellulitis
    - Signs and symptoms of systemic illness
    - Presence of co-morbidities or immune suppression
    - Extremes of patient age
    - Abscess located in an area that is difficult to adequately drain
    - Lack of clinical response to incision and drainage alone

ANTIBIOTIC SELECTION

Selection of appropriate antimicrobial agent should depend upon available culture and sensitivity data, and known prevalence of MRSA in the patient population. Although the proportion of *S. aureus* isolates that are resistant to methicillin in the Philadelphia region is unknown, estimates based on review of local microbiology data suggest that it might range from 15-50%. Thus, beta-lactam antibiotics may not be optimal for patients who require empirical treatment of skin or soft tissue infections of suspect *S. aureus* etiology. The Centers for Disease Control and Prevention suggests use of clindamycin, tetracyclines (for children >7 years, and non-pregnant patients), or trimethoprim-sulfamethoxazole as first line empirical therapy.

DISEASE CONTROL MEASURES

Transmission of CA-MRSA in households is very common and patients should be educated on personal hygiene measures to reduce transmission. Patients should be instructed to:

- Cover lesions completely with a dressing until healed
- Change dressings regularly, especially when soiled
- Wash hands with soap and water following dressing changes and bathroom use
- Avoid activities that result in direct contact with skin lesions to others
- Avoid sharing personal items including towels, razors, cosmetics, etc.
- Clean surfaces that may have become contaminated with secretions from infected lesions.

SCHOOL MANAGEMENT

Patients who attend school do not need to be excluded while recovering from CA-MRSA. However, until lesions are completely healed these students may be excluded from activities with the potential for direct skin-to-skin contact, including gym class, sports practices and games, and possibly recess. School nursing staff may elect to exclude cases from additional activities, if close contact with others is anticipated (children with learning or behavioral disabilities, age less than 5, wounds that cannot be covered adequately or have excessive drainage).

Indiscriminate disinfection of schools is not a recommended control measure for CA-MRSA. In the setting of a confirmed school associated outbreak, public health officials will work with school leadership to ensure cleaning and disinfection of facilities/equipment implicated in transmission.

REPORTING

Single cases of MRSA are not reportable in the City of Philadelphia. However, the Division of Disease Control requests that clusters of suspected CA-MRSA infection be reported within 24 hours. To report clusters of CA-MRSA infection, please call 215-685-6740 during normal business hours, or 215-676-1776 after hours, and ask to speak to the person on call for the Division.

For more information on the management and treatment of CA-MRSA infection, see the weblink to the CDC Strategies for Clinical Management of MRSA in the Community (March 2006), located on-line at:

http://www.cdc.gov/ncidod/dhqp/pdf/ar/CAMRSA_ExpMtgStrategies.pdf