

Chattanooga-Hamilton County Health Department EPIDEMIOLOGY NEWSLETTER

February 2008

Community-Associated MRSA

Staphylococcus aureus (staph) and MRSA (methicillin resistant *S. aureus*) can cause illness in healthcare settings as well as in persons outside of hospitals and healthcare facilities. MRSA infections that are acquired by persons who **have not** been recently (within the past year) hospitalized or had a medical procedure (such as dialysis, surgery, catheters) are known as CA-MRSA (Community-Associated MRSA) infections. Staph or MRSA infections in the community are usually manifested as skin infections, such as pimples and boils, and can occur in otherwise healthy people. Patients frequently recall a “spider bite.” The involved site is red, swollen, and painful and may have pus or other drainage. Staph infections can also cause more serious infections, such as blood stream infections or pneumonia, leading to symptoms of shortness of breath, fever, and chills.



Electron micrograph depicting a group of MRSA bacteria (CDC/Janice Carr)

Research indicates 85% of all serious cases of MRSA infection are associated with health care settings, while the remaining 15% of reported infections are considered community-associated. Community-associated MRSA can be spread by contact with infected persons, contaminated surfaces, or items such as sports equipment.

Effective strategies to prevent and control MRSA require a collaborative effort of public health officials, local communities, health care facilities and providers, and infection control professionals.¹ Although staph are commonly carried on the skin or in the nose of healthy people, the increase of antibiotic resistant staph both in health care settings as well as in the community should be of concern to all medical providers.

Antibiotic resistance rates in Tennessee are among the highest in the nation. The Tennessee Department of Health, with support from the Centers for Disease Control and Prevention’s Campaign to Promote Appropriate Antibiotic Use, is dedicated to educate clinicians and the public about appropriate antibiotic use. It is very important that we make a concerted effort to reduce inappropriate antibiotic use in Tennessee.

CAUSES OF ANTIMICROBIAL RESISTANCE

The most significant factors in the development of antimicrobial resistance are:

- natural biological changes
- indiscriminate use of antibiotics
 - overuse of Rx for viral infections (colds, flu & other)
 - improper dosing, poor adherence
- noncompliance with infection control practices
- antibiotics in food products, particularly cattle, chickens, and pigs²

Resources for clinicians and consumers on antibiotic resistance and MRSA are available at:

<http://health.state.tn.us/MRSA/index.htm>

www.cdc.gov/drugresistance/community/index.htm

<http://health.state.tn.us./CEDS/Antibiotics/antibiotic.htm>

Resources for schools including guidelines for athletic programs, school nurses and janitors are available at:

<http://health.state.tn.us/MRSA/index.htm>



¹ MRSA Infections, Report & Recommendations of the Tennessee Department of Health Infections Taskforce, March 2007

² DePaola DDS, MS, Louis G., Antimicrobial resistance and MRSA, *The Infection Control Forum*, Volume V, Issue IV, page 1

OUTPATIENT MANAGEMENT OF SKIN AND SOFT TISSUE INFECTIONS IN THE ERA OF COMMUNITY-ASSOCIATED MRSA

Patient presents with signs/symptoms of skin infection:

- Redness
- Swelling
- Warmth
- Pain/tenderness
- Complaint of “spider bite”

Yes

Is the lesion purulent (i.e., are any of the following signs present)?

- Fluctuance — palpable fluid-filled cavity, movable, compressible
- Yellow or white center
- Central point or “head”
- Draining pus
- Possible to aspirate pus with needle and syringe

Yes

1. Drain the lesion
2. Send wound drainage for culture and susceptibility testing
3. Advise patient on wound care and hygiene
4. Discuss follow-up plan with patient

NO

Possible cellulitis without abscess:

- Provide antimicrobial therapy with coverage for *Streptococcus spp.* and/or other pathogens
- Maintain close follow-up
- Consider adding coverage for MRSA (if not provided initially), if patient does not respond

If systemic symptoms, severe local symptoms, immunosuppression, or failure to respond to Incision & Drainage

Consider antimicrobial therapy with coverage for MRSA in addition to I&D



For severe infections requiring inpatient management, consider consulting an infectious disease specialist.

Source: Centers for Disease Control and Prevention, www.cdc.gov/mrsa

Key prevention messages for patients with skin and soft tissue infections and their close contacts:

1. Keep wounds that are draining covered with clean, dry, bandages.
2. Clean hands regularly with soap and water or alcohol-based hand gel (if hands are not visibly soiled). Always clean hands immediately after touching infected skin or any item that has come in direct contact with a draining wound.
3. Maintain good general hygiene with regular bathing.
4. Do not share items that may become contaminated with wound drainage, such as towels, clothing, bedding, bar soap, razors, and athletic equipment that touches the skin.
5. Launder clothing that has come in contact with wound drainage after each use and dry thoroughly.
6. If you are not able to keep your wound covered with a clean, dry bandage at all times, do not participate in activities where you have skin to skin contact with other persons (such as athletic activities) until your wound is healed.
7. Clean equipment and other environmental surfaces with which multiple individuals have bare skin contact with an over-the-counter detergent/disinfectant that specifies *Staphylococcus aureus* on the product label and is suitable for the type of surface being cleaned.

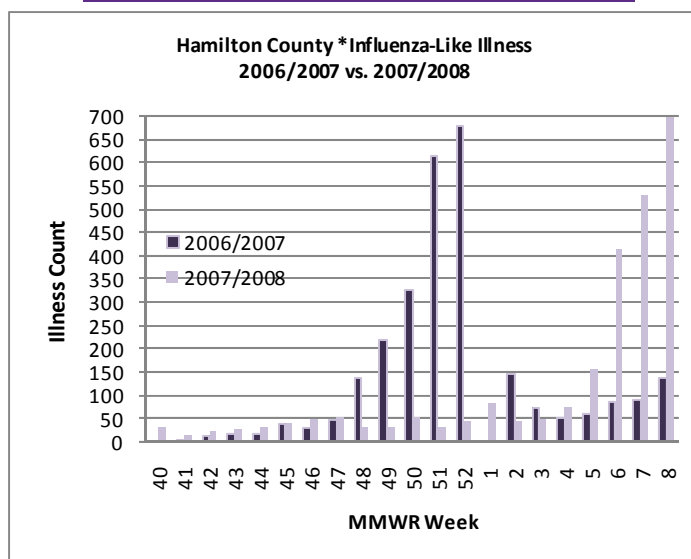
Source: Strategies for clinical management of MRSA in the community: Summary of an experts' meeting convened by the Centers for Disease Control and Prevention, 2006. Available at http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca.html.

Surveillance

The Tennessee Department of Health and the Chattanooga-Hamilton County Health Department appreciate your participation in surveillance and reporting of communicable diseases. Certain diseases and conditions are declared to be communicable and/or dangerous to the public and are to be reported to the local health department by all physicians, laboratories, and other medical personnel. For a complete list of notifiable diseases in Tennessee, call 423-209-8190 or visit:

<http://health.state.tn.us/CEDS/notifiable.htm>

Seasonal Influenza



*Influenza-like illness has been defined by the Centers for Disease Control and Prevention (CDC) as:

Fever greater than or equal to 100 degrees AND cough or sore throat (in the absence of a known cause)

Flu Prevention Strategies

- Yearly influenza vaccine
- Avoid close contact with ill persons
- Stay home when you are sick
- Cover your mouth and nose when coughing or sneezing
- Wash your hands often
- Avoid touching your eyes, nose or mouth

Flu Vaccine

Influenza surveillance during the 2007-2008 flu season has demonstrated that some virus strains causing illness are not optimally matched with the virus strains in the current vaccine. A good match between the virus strains circulating among people and virus strains in the vaccine produces effective protection against infection. During seasons when a less than ideal match occurs, the vaccine can provide cross-protection against circulating viruses and reduce the severity of illness in those who receive the vaccine. This is particularly important for people at high risk for serious flu-related complications and for close contacts of high risk people.

For more information on the influenza vaccine visit:

<http://www.cdc.gov/flu/>

EPIDEMIOLOGY REPORT

January—December 2007

Notifiable Disease	Cases
Campylobacteriosis	26
Cryptosporidiosis	2
Dengue Fever	1
Ehrlichiosis	1
Giardiasis	25
Group A Streptococcus, invasive	17
Group B Streptococcus, invasive	26
Guillain-Barre syndrome	6
Haemophilus influenzae, invasive	3
Hepatitis B Perinatal Program	8
Hepatitis B*, acute	9
Hepatitis C*, acute	3
Elevated Lead Reports	8
Legionellosis	3
Listeriosis	3
Lyme disease	4
Malaria	4
MRSA (S.aureus, methicillin resistant), invasive	155
Neisseria meningitidis, invasive	1
Pertussis	1
Q fever	1
Rocky Mountain spotted fever	8
Salmonellosis	54
Shigellosis	3
STEC (Shiga toxin-producing Escherichia coli)	5
Strep pneumoniae, drug resistant, invasive	11
Strep pneumoniae, invasive	57
VRE (Vancomycin-Resistant Enterococcus), invasive	7
Yersiniosis	1
Animal Bite/Exposure Follow-up	28
Restaurant Complaints Investigated	158
2007 Foodborne Outbreaks	16

*The majority of cases received and investigated are non-acute and not reportable, and therefore are not represented here.

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Mission:

To monitor and investigate epidemiologic trends and diseases to protect the health of the community.

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