COMMUNITY ACQUIRED METHICILLIN RESISTANT STAPH AUREUS (MRSA) INFECTION

WHAT IS STAPH AUREUS?

*Staphylococcus aureus* is a bacterium commonly found on the skin.

- Approximately 30% of adults are “colonized” with *Staph aureus* and carry these bacteria as part of their normal skin flora, most commonly in the nose. In these individuals, the presence of *Staph aureus* on the skin does not lead to any problems or infections.
- However, under the right conditions, *Staph aureus* can enter a cut in the skin, multiply, and cause an infection. Any opening in the skin, such as a scratch, a small cut from shaving, body piercings, and large open wounds, are possible sites of infection.

WHAT IS METHICILLIN RESISTANT STAPH AUREUS (MRSA)?

This strain of *Staph aureus* does not respond to traditional penicillin-related antibiotics used to treat skin infections.

- It is estimated that 2% of adults are colonized with MRSA.
- As with non-MRSA strains, the person who is colonized with MRSA does not have an active infection until conditions change and provoke abnormal growth of the bacteria.

Early cases of MRSA were seen only in people who were hospitalized or who were residents of long-term care facilities (i.e. nursing homes). However, in the 1990s, the first cases of MRSA outside of these settings (i.e. in the community) were diagnosed. Since then, the number of MRSA cases seen outside of the medical setting has greatly increased.

Today we divide MRSA infections into 3 different categories. Sometimes these groups may overlap.

- Community-associated MRSA (CA-MRSA) refers to infections in otherwise healthy individuals living in the community. In 2006, more than half of MRSA skin infections were of this type.
- Hospital-associated MRSA refers to infections in currently hospitalized patients.
- Healthcare-associated MRSA refers to infections in people who were recently hospitalized or have ongoing contact with medical facilities.

IS MRSA DANGEROUS?

In the community, most MRSA infections involve only the skin. Caught early enough, most of these infections respond well to treatment. More severe or potentially life-threatening MRSA infections occur among patients in healthcare settings, especially among the very young, elderly, and those with weakened immune systems. Complications include infections of the bloodstream, heart valves, lungs, joints, and bones.

HOW IS MRSA TRANSMITTED?

MRSA infections are transmitted by touching:

- The skin of someone who carries MRSA.
- A contaminated surface or object. Examples include countertops, door knobs, phones, exercise equipment, clothing, linens, and personal items (such as razors, soaps, and towels).

WHO IS AT RISK FOR CA-MRSA?

Anyone can become infected with MRSA. The biggest risk factor for CA-MRSA is trauma to the skin. However CA-MRSA infections can occur on skin that does not have an obvious break or wound.

Other risk factors include:

- Shaving or waxing in the armpit and groin areas
- Tattoos or body piercings

Because close skin-to-skin contact and crowded living conditions increase the risk for skin infection, the following groups may be at higher risk for CA-MRSA:

- Athletes in team sports
- Children enrolled in daycare
- Military personnel
- Prison inmates

WHAT ARE SYMPTOMS OF CA-MRSA?

- CA-MRSA skin infections may present as a raised red lump that is tender and often drains pus. Over time, this area can enlarge and become more swollen and painful. These infections are often confused with spider bites.
- Sometimes the infection presents as a cluster of “pimples”.
- Some patients experience fever and fatigue.

HOW IS CA-MRSA DIAGNOSED?

A wound culture that identifies the bacteria can be obtained from any pus that is present. Results are usually available in 48-72 hours.

Reasons to obtain a wound culture include:

- Recurrent boils or pustular skin infections
- A skin infection that is not responding to antibiotic treatment
- A history that suggests an increased risk for MRSA infection
WHAT IS THE TREATMENT?
■ MRSA is responsive to certain antibiotics that are not penicillin-related. Treatment courses vary from 1-2 weeks depending on how quickly the infection resolves.
  • If an antibiotic is prescribed, it is important to take all of the pills unless your medical provider instructs you to stop the pills or you develop an allergic reaction to the medication.
  • You should be evaluated 24-48 hours after starting antibiotics to determine if the infection is responding to the medication.
  • Return to your medical provider immediately if you think the infection is worsening. This includes increasing redness, warmth, tenderness, fever, nausea, or red streaking of the skin.
■ Boils and abscesses need to drain in order to heal.
  • However, you should NEVER try to squeeze or open the boil yourself, as this can worsen the infection.
  • Abscesses should be surgically drained by a trained healthcare professional.
■ Warm compresses or soaks should be used to promote natural drainage of a closed pustule or boil.
  • Wet a washcloth with warm water, and apply it to the lesion for 10-15 minutes. Re-wet the washcloth every few minutes to keep it warm.
  • Do not heat a wet washcloth in the microwave, as the washcloth can overheat and cause a burn.
  • You can also soak the infected area in a basin of warm water. Clean the basin with an antibacterial cleanser after each use.
  • Do not soak in a bathtub unless directed by your healthcare provider. The bathtub can become contaminated and act as a source of infection to both yourself and others.
  • Similarly, athletes with skin infections should not use their training room immersion tubs.
■ Keep a clean, dry bandage over your wound until all drainage has ceased and the wound is dry.
  • Change the bandage daily or more frequently if it becomes wet or soiled.
■ Wash your hands thoroughly after caring for your wound or changing the bandage.
■ Stop shaving until the infection has resolved.
  • If you must shave, it is important to avoid the area of infection.
  • Use disposable razors, and discard them after each use.
  • Use a separate razor to shave any skin near the infected area.
■ Wash your clothing, bed linens, towels, and any other washable items in hot water, and dry them in a hot dryer. Chlorine bleach will also help kill bacteria but may bleach your clothing.
  • Do not share your personal items, including:
    • Razors & other hair removal devices
    • Brushes & combs
    • Make-up
    • Soap
    • Towels & washcloths
    • Bed linens
    • Clothing & shoes
    • Athletic equipment
    • Jewelry for piercings

HOW CAN I PREVENT INFECTION WITH CA-MRSA?
■ The best defense is good personal hygiene with a pH-balanced soap that is not drying (eg. Dove, Oil of Olay, Neutrogena, Basis).
  • Wash your hands thoroughly. Remember to:
    • Rub your hands together with soap and water for 15-30 seconds (about the time it takes to sing “Happy Birthday To You”).
    • Pay special attention to the fingernails, the skin between the fingers, and the wrists.
    • Rinse and dry thoroughly.
  • Alcohol-based hand sanitizers are a good alternative for disinfecting hands if a sink is not available.
    • Hand sanitizers should be rubbed over the entire surface of the hands and wrists until dry.
    • When a sink is available, visibly soiled hands should be washed with soap and water.
  • Keep cuts and scrapes of the skin clean, dry, and covered with a bandage until healed.
  • Do not touch other people's wounds or bandages.
  • Do not share personal items, as listed above.
  • Students who participate in team sports should shower after every athletic activity using soap and clean towels. Athletes should not compete if they have active skin infections.
  • Avoid shaving as it may cause fine cuts in the skin, making it more susceptible to infection.
  • Apply warm compresses if you develop ingrown hairs or pustules after shaving, waxing, or hair removal. If the lesions do not improve, see your healthcare provider for further evaluation.
  • Adhere to skin care advice following the application of body art, such as piercings and tattoos. Seek care as soon as possible if you develop signs of infection.

RECOMMENDED WEBSITES:

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University Student Health Services: (804) 828-8828, Monroe Park Campus; (804) 828-9220, MCV Campus
Wellness Resource Center: (804) 828-9355 5/14