

Questions and Answers about *Staphylococcus aureus* Infections, Including MRSA

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What is MRSA?

MRSA stands for methicillin-resistant *Staphylococcus aureus* (staph). Some strains of staph have evolved resistance to methicillin and oxacillin, antibiotics that used to be used against the common penicillin-resistant strains of staph.

Where do people get MRSA?

Most infections (85%) occur in people who are currently in a health care facility or have been a patient or resident in one sometime in the last year. About 15% of infections occur in people without health care exposure; the strain that causes these can cause somewhat faster-moving infections.

Settings where MRSA may be a problem include workplaces where cuts and abrasions are common, crowded living and working spaces like fishing boats, jails and prisons, and sports settings where athletes have frequent physical contact and share equipment.

Because so many infections are in people without symptoms, and the infections may be from the organisms they were already carrying, we cannot identify a source patient for most cases.

Are school-children a high-risk group for *Staphylococcus aureus* infection or MRSA?

No. A CDC study published in the *Journal of the American Medical Association*, school-aged children were the LEAST likely age group to get severe staph infections.

How long has staph been a problem?

Staphylococcal infections have been around forever. They cause boils and other skin and soft tissue infections. They can also cause serious infections -- and in severe cases even death -- if the infection spreads widely beyond its original location. People who are not in good health or whose immune systems are compromised are particularly at risk for severe infections.

When antibiotics were first introduced in the 1930s and 1940s, staphylococcal infections were the most important targets of these new 'miracle' drugs. *Staphylococcus aureus* has repeatedly developed resistance to the most commonly used antibiotics as they were introduced -- first to penicillin, then to methicillin, now even to more recently introduced antibiotics. This is one of the strongest reasons for physicians, patients and parents to use antibiotics only when they are necessary and not for common viral infections.

What are the symptoms of staph infection?

Most infections with *Staphylococcus aureus* have no symptoms. As many as a quarter of all healthy children and adults may be carriers of this organism in their noses at any time. According to a recent article in the *Journal of the American Medical Association (JAMA)*, most infections (85%) with this organism occur in people who have had recent contact with a health care facility.

How can staph infections be treated?

The mainstay of treatment for localized staph infections is incision and drainage, and local wound care -- keeping wounds and sores clean, dry and covered. This is the same for MRSA and for regular staph infections. Effective, safe antibiotics are available for treating serious MRSA infections, including Trimethoprim/Sulfa, tetracycline, and clindamycin.

How can staph infections be prevented?

According to the Centers for Disease Control and Prevention (CDC), staphylococcal infections, including MRSA, that are acquired outside the health care setting occur most frequently among persons where the 5 C's are present:

1. Crowding

2. **C**ontact (Frequent skin-to-skin)
3. **C**ompromised skin (cuts or abrasions)
4. **C**ontaminated items and surfaces,
5. **L**ack of **C**leanliness.

Prevention of staph infections is so simple that many people do not imagine it could be effective – but it is:

- Wash hands frequently, both children and adults, whenever they are soiled or have been exposed to materials that may be contaminated.
- Schools should provide soap and towels in rest rooms so children can wash their hands effectively.
- Be careful when doing activities that may result in cuts and scratches.
- Wash cuts and scratches with soap and water and then keep them clean and dry.
- Keep skin infections such as boils or infected wounds covered and treat them promptly with both local care (such as drainage of boils) and appropriate antibiotics for the entire duration, as prescribed by your healthcare provider.
- Do not participate in contact sports if you have a skin infection unless the lesions can be securely covered.
- Avoid sharing personal items such as towels or razors, or sports equipment that touches skin.
- Clean locker rooms and sports equipment routinely with a disinfectant.

Are schools a major source of MRSA infection in children?

No. We can determine that schools are an uncommon setting for transmission of *Staphylococcus aureus*, including MRSA, for several reasons. First, we do not see a decline in MRSA infections among children during the summer when school is out of session. Second, the JAMA article shows that the incidence rate for severe infections due to MRSA is lowest among school-age children, compared to adults and seniors. The overall incidence rate of severe MRSA infections for persons of all ages is 31.8 cases per 100,000 per year, but it ranges from 1.4 in persons aged 5 to 17, to 127.7 in those aged 65 and over. Third, outbreaks in schools are rare, and when they do occur are among members of certain sports teams.

What is Florida Department of Health doing about MRSA, and how are you protecting our children, inmates and healthcare workers?

We are monitoring the percentage of staph infections that are resistant to MRSA and other antibiotics in collaboration with a major laboratory and with a network of health care facilities. We also monitor hospitalizations and deaths from staph infections. We work closely with the Florida Practitioners in Infection Control, the professional group of healthcare facility Infection Control Practitioners, to provide policy advice and to assist in recognizing, working up and controlling outbreaks of health-care-associated infections. The Department of Health has provided guidelines for the control of antibiotic resistant organisms in healthcare settings. The Department has helped health care institutions, schools, jails and prison to control MRSA. We investigate unusual cases of staph infections, such as pneumonia deaths in previously healthy people, to try to identify patterns and predisposing factors.

Is infection with MRSA reportable to public health agencies in Florida?

Doctors and hospitals are not required to report individual cases, but they should report outbreaks. We have participated in investigating outbreaks of MRSA involving healthcare facilities, jails, prisons, workplaces, and sports teams. Additionally, laboratories that report other infectious diseases to the health department electronically are required to send antimicrobial sensitivity information for all *S. aureus* organisms they test. This allows us to monitor patterns of drug resistance without overburdening doctors and hospitals. Usually, the reason why we make cases of a disease reportable is so that we can investigate each case and take action. MRSA is quite a common infection and it is not necessary for the health department to take action for every case of MRSA. Physicians in the community are successfully treating MRSA.

Do hospitals have to report MRSA cases to anyone?

Hospitals are required to report rates of various health-care-acquired infections to the Florida Agency for Health Care Administration (AHCA).

Do Florida hospitals test people for MRSA before they are admitted?

Some authorities have recommended such testing, either of all persons being admitted, or of selected persons at high risk of being MRSA carriers or infected with MRSA. More and more Florida hospitals are adopting such policies voluntarily.

Should Florida hospitals be required to test everyone, or selected people, for MRSA before they are admitted?

The US Centers for Disease Control and Prevention (CDC) has not recommended such requirements. They believe each health care facility should adopt policies that are appropriate to their own situation and the success or lack of success of less drastic control measures adopted so far.

Should healthcare workers be tested for MRSA?

CDC and other authorities have recommended testing of healthcare workers for MRSA or other pathogens only when there is epidemiologic evidence in an outbreak investigation, suggesting that one or more healthcare workers may be a source of infection in this situation. Authorities have not recommended routine or periodic screening of healthcare workers. Any plan for screening healthcare workers would have to include a plan for how to manage MRSA positive health care workers.

What is a Super-Bug?

The term super-bug has been used to describe MRSA and has led to some misconceptions. MRSA is resistant to some types of antibiotics, however the MRSA that typically causes skin infections may not require any antibiotic treatment and if antibiotics are needed, oral antibiotics usually can be used. MRSA can be killed in the environment just as easily as any other Staph bacteria. Bleach is not needed to kill MRSA. The environment can be disinfected by use of many disinfectants that one can buy in grocery or department stores.

For more information contact the Florida Department of Health's Bureau of Epidemiology at 850-245-4401.