



## Fact Sheet: MRSA

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### What is MRSA?

MRSA stands for methicillin-resistant *staphylococcus aureus*. *Staphylococcus aureus*, or more simply "staph," are bacteria that often live in the nose or on the skin of healthy people. When these bacteria penetrate the skin or invade other parts of the body, a staph infection may result. Staph bacteria that are resistant to the action of methicillin and related antibiotics are referred to as "methicillin-resistant staph aureus" or MRSA.

MRSA are not only resistant to all penicillin-like antibiotics, but they are often resistant to many other types of antibiotics as well. Infections with MRSA can be costly and difficult to treat because of limited antibiotic options.

In the past, MRSA has been a problem mainly in healthcare settings such as hospitals and nursing homes (healthcare-associated MRSA). Recently however, there have been many reports of MRSA infections occurring among persons in the general community without any healthcare contact (community-associated MRSA).

### How common is MRSA?

The proportion of staph infections that are methicillin-resistant has been steadily increasing, especially in the last 15-20 years. For example, a convenience sample of 18 microbiology laboratories in 1996 in Oregon showed that 11.5% of all staph isolates were MRSA; by 2003, a similar sample of 20 laboratories indicated that the percentage of MRSA among all staph isolates had risen three-fold to 38.6%.

MRSA can be carried on the skin or in the nose without causing any disease, which is called *colonization*. Approximately 25-30% of the population is colonized in the nose with staph bacteria at any given time; however, the proportion colonized with MRSA is not known.

The incidence of MRSA infections in Oregon is unknown. Recently, the Oregon Department of Human Services began [surveillance of invasive MRSA in the Portland area](#). Preliminary data from 2004 indicate that the incidence of invasive MRSA infections is approximately 26.3 infections per 100,000 population per year.

### Who gets MRSA and how does it spread?

Anybody can get MRSA, but MRSA infections are by far more common among persons in hospitals and healthcare facilities. Less often, MRSA can be acquired in the community and has been associated with recent antibiotic use, sharing contaminated items, having recurrent skin diseases, and living in crowded settings. Outbreaks of MRSA have been reported among injection drug users, jail inmates, and participants in contact sports such as wrestling and rugby.

As with other types of *S. aureus*, MRSA can be spread among people having close contact with colonized or infected people. MRSA is almost always spread by direct physical contact and not through the air. Spread may also occur through indirect contact by touching objects (e.g., towels, sheets, wound dressings, clothes, workout areas, or sports equipment) contaminated by a person colonized or infected with MRSA.

### What are the symptoms of MRSA?

Symptoms of MRSA infection are, for the most part, not different from any other staph infection. (See our [staph infection fact sheet](#).) However, a new strain of MRSA that has caused community-associated infections may be more likely to result in skin infections and pneumonia more commonly than other types of staph infections.

### How is MRSA diagnosed?

Diagnosis is confirmed by identifying the bacteria grown in a laboratory culture from a sample. The sample may be from a sterile site, such as blood or cerebrospinal fluid (CSF), or from a non-sterile site such as a draining lesion or a swab of the back of the nose.

### What is the treatment for MRSA?

The treatment of staphylococcal infections depends on multiple factors such as the site of infection, the severity of illness, and the antibiotic sensitivity of the infecting strain. Colonization of the skin or nose usually is not an indication for antibiotic treatment except in special circumstances. Small, localized skin abscesses may improve without use of antibiotics. When

antibiotics are required, there are usually only a few from which to choose. MRSA are resistant to penicillin and all penicillin-like drugs (beta-lactam antibiotics). Most hospital-acquired MRSA are also resistant numerous other antibiotics. MRSA acquired in the community may have broader antibiotic sensitivity.

### What can be done to prevent staph or MRSA infections?

The simplest way to avoid MRSA infections is to practice good hygiene:

- Wash your hands thoroughly with soap and water.
- Keep cuts and abrasions clean and covered with a proper dressing (e.g., bandage) until healed.
- Avoid contact with other people's wounds or material that has been in contact with wounds.
- Avoid sharing athletic equipment and towels.
- Avoid using needles to inject drugs. Because MRSA is often present on the skin, anything that punctures the skin can push MRSA bacteria below the skin or into the blood.

For more information on prevention, see the following resources:

- [Management of antimicrobial-resistant organisms in long-term care facilities \(pdf\)](#) (Developed by Oregon ARM taskforce, June 1998)
- CDC [guidelines on hand hygiene in healthcare settings](#) (MMWR article)
- [Reducing the spread of CA-MRSA in non-healthcare settings](#) (Developed by Los Angeles County, CA; December 2004)
- Recommendations on the [prevention, treatment, and containment of MRSA outbreaks \(pdf\)](#) from the Federal Bureau of Prisons

### What should I do if I think I have a staph or MRSA infection?

See your healthcare provider. In the meantime, keep any wounds covered with a clean dressing and wash your hands frequently to avoid spreading potential infections to others in your household.

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