



The American Orthopaedic  
Society for Sports Medicine

## SPORTS TIP

# MRSA Infections

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### What causes MRSA infections?

Methicillin-resistant *Staphylococcus aureus* (*S. aureus*) bacteria, or MRSA, is an organism known for causing skin infections as well as many other types of infections. MRSA was first seen in U.S. hospitals during the 1970s as a bacteria that caused healthcare-associated infections among the elderly and sick. Since that time, MRSA has spread to healthcare facilities throughout the world, and has become the most common pathogen to cause healthcare-associated infections. Recently, a new strain of MRSA known as Community Acquired Methicillin-Resistant *Staphylococcus aureus*, or CA-MRSA, has left hospitals and began to spread in the community. This is the strain that is prevalent among athletes. The difference between CA-MRSA and Healthcare-Associated MRSA (HA-MRSA) lies in their effects, as CA-MRSA typically causes skin infection while HA-MRSA causes bloodstream, urinary tract, and surgical site infections. As a result, CA-MRSA is less dangerous than HA-MRSA. Another major difference between the two strains is that CA-MRSA is more vulnerable to antimicrobials.

### What are the symptoms of MRSA?

Signs of infection include redness, warmth, swelling, pus, and pain at sites where there are skin sores, abrasions, or cuts. MRSA also has the capability of spreading to any organ in the body, and when this occurs, more severe symptoms may result. These symptoms

include fever, chills, low blood pressure, joint pain, severe headaches, shortness of breath, and an extensive rash over the body. These more advanced, systemic symptoms require immediate medical attention.

### How is MRSA treated?

The first choice for treatment for a MRSA skin infection is the use of an antibiotic that has been determined to reliably kill the bacteria with minimal side effects. Most early infections without widespread symptoms can be treated with oral antibiotics. Because of the nature of this disease and antibiotic options, some patients think they are cured after just a few doses, and decide to stop taking their prescribed medication. However, MRSA is capable of re-infecting the patient and becoming resistant to the previously used antibiotics. Moderate-to-severe infections may require treatment with intravenous antibiotics. Those infections associated with deep abscesses or boils require open surgical drainage in addition to antibiotic therapy. Most infections resolve with appropriate treatment within seven to 10 days, though a deep abscess may take up to four weeks in order to eradicate the infection with resolution of the abscess cavity.

Early identification and treatment of MRSA infections will reduce the amount of playing time lost and decrease the chance that the infection will become severe. Skin can be protected by wearing protective clothing or gear designed to prevent skin abrasions or cuts.

### How can MRSA be prevented?

In addition to practicing good personal hygiene, athletes and visitors to athletic facilities should also keep their hands clean by washing frequently with soap and water or using an alcohol-based hand rub. At a minimum, hands should be cleaned before and after playing sports and activities such as using shared weight-training equipment, when caring for wounds (including changing bandages), and after using the toilet. Both plain and antimicrobial soap are effective for hand washing, but liquid soap is preferred over bar soap in these settings to limit sharing. Alcohol-based hand antiseptics with at least 60 percent alcohol content are preferred. Athletes should shower immediately after exercise and not share bar soap or towels. It is important to wash all uniforms and clothing after each use. Athletes should avoid sharing items that come into contact with the skin and avoid sharing personal items such as towels and razors that contact bare skin. Fortunately, most surfaces do not pose a risk of spreading staph and MRSA.