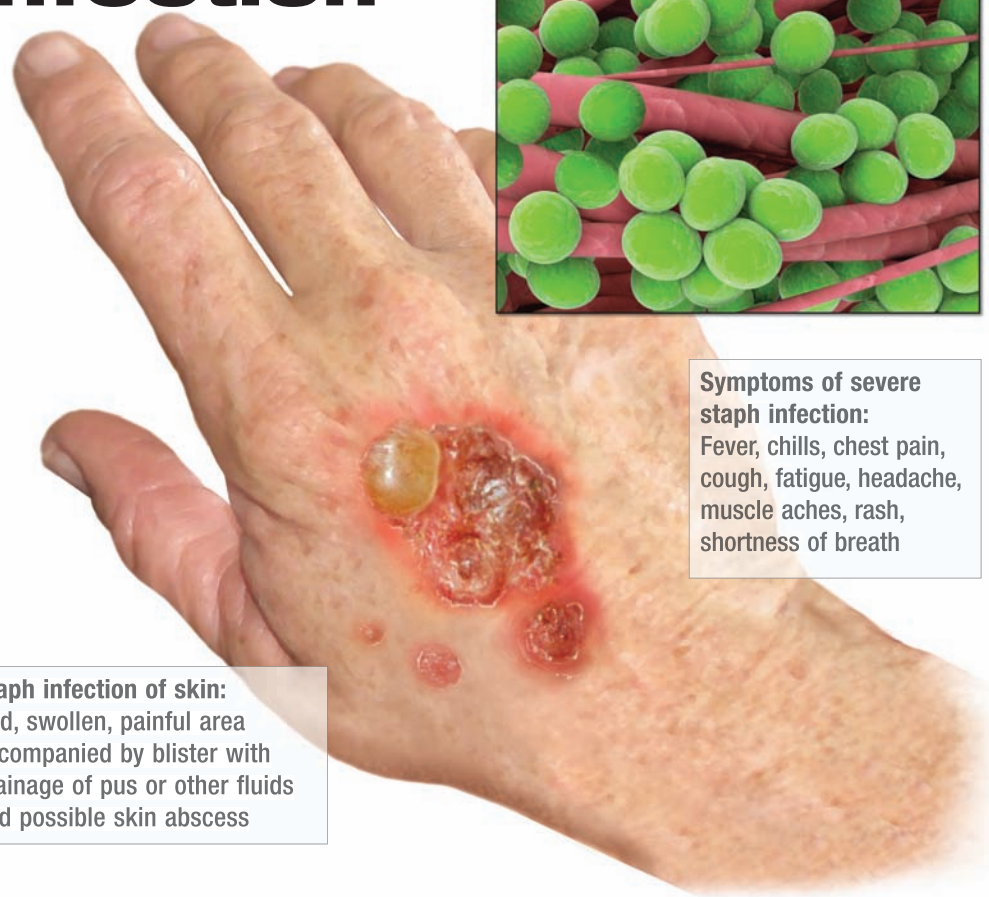
MRSA Infection



MRSA bodies

Symptoms of severe staph infection: Fever, chills, chest pain, cough, fatigue, headache, muscle aches, rash, shortness of breath

Staph infection of skin: Red, swollen, painful area accompanied by blister with drainage of pus or other fluids and possible skin abscess

"Superbug" Resistant to Standard Antibiotics

Methicillin-resistant Staphylococcus aureus *(MRSA) is a type of* Staphylococcus *(staph) bacterium that is resistant to therapy with the standard antibiotics used to treat other staph infections. MRSA was first identified in hospitalized patients with infections that did not respond to appropriate antibiotics. More recently, a different strain of MRSA has caused infections in otherwise healthy people in the community. This development has caused concern among health care workers and research scientists. Regardless of the strain of MRSA, it is likely that this resistant bacterium has emerged as a result of the unnecessary use of antibiotics to treat viral infections or symptoms of other conditions that are not caused by bacteria.*

Infections caused by MRSA bacteria in the hospital setting may be serious, circulating through the bloodstream and affecting tissues, lungs, and joints. In the community, MRSA usually appears as a skin infection, similar to a pimple or boil, where there has been an abrasion or break in the skin.

Although the standard antibiotic medications used to treat staph infections do not work on MRSA infections, there are other antibiotics that are effective. The key to successful treatment is early recognition that the infection is caused by a resistant strain of staph. Sometimes a MRSA infection that is confined to the skin can be drained without requiring further treatment with an antibiotic. If the MRSA bacterium has entered the body and spread to areas beyond the skin, appropriate antibiotic therapy is necessary. New tests are available to quickly determine whether a bacterial infection is caused by MRSA. The availability of these tests is important for guiding the decision to use the most effective antibiotic in a timely manner and eliminates the standard 48-hour wait for the result of a culture.

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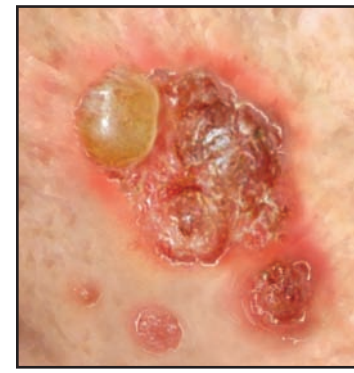
Infection Spread by Close Contact With Others



Symptoms of a MRSA skin infection include a red, swollen, painful area with fluid or pus in the center.

There are two types of methicillin-resistant *Staphylococcus aureus* (MRSA) bacteria: *health care–associated MRSA* (HA-MRSA) and *community-associated MRSA* (CA-MRSA).

Identifying MRSA Strains

HA-MRSA infections occur in patients who are in or have recently been in health care settings such as a hospital, nursing home, or dialysis clinic. These infections are related to surgery or devices such as IV lines or catheters. HA-MRSA infections are often found in the bloodstream or tissues, and complications may include heart valve infections or pneumonia.

Infections with CA-MRSA are usually confined to a localized skin infection that resembles a pimple or boil. These bacteria are most often transmitted through skin-to-skin contact or sharing personal items such as towels, razors, or athletic equipment. People at risk for developing MRSA infections in the community include wrestlers or other contact-sport athletes, children in day care, military personnel living in barracks, and those who get tattoos. CA-MRSA infections are typically less dangerous than HA-MRSA infections and can be more easily treated once they are correctly diagnosed.

One symptom of a MRSA skin infection is the appearance of a red, tender, warm, and swollen area that may resemble an insect bite. Fluid or pus may appear in the center of the infected area. If the MRSA infection has spread beyond the skin, the patient may show symptoms of a more serious infection, such as fever, chills, cough, chest pain, shortness of breath, rash, and headache.

Diagnosis of MRSA infection is based on a physical examination and history of the symptoms, as well as an identification of risk factors that may have contributed to the development of the infection. A sample of liquid or tissue scraping from the infected area is sent to a laboratory for growth in a culture medium and requires 48 hours for results. If appropriate, blood, sputum, and urine may also be cultured. Recently, rapid identification tests for MRSA staph have been developed that can detect the bacterium within a few hours. These tests have allowed doctors to begin the correct antibiotic rapidly, increasing the success of treatment.

Treatment Options and Prevention

The treatment of a MRSA infection depends on the location and strain of the bacterium. For local skin infections caused by CA-MRSA, drainage of the infected site may be the only necessary treatment. Antibiotics are indicated if the abscess is difficult to drain or does not improve after drainage. Antibiotics are also appropriate for very young or very old patients, those with extensive swelling in the area or multiple areas of infection, people with symptoms of infection that has spread into the bloodstream, and patients with poor immune systems. If MRSA has infected the blood or internal organs and is not treated promptly, the infection can be very difficult to treat and may be fatal.

There are several preventive measures that can protect people at high risk for developing MRSA infection. Cleaning of equipment and frequent hand washing with soap or an alcohol-based hand sanitizer, especially by health care facility personnel, can significantly decrease the spread of MRSA bacteria. In the community, all wounds should be covered to prevent spreading of the infection. Shared facilities for athletics or bathing should be avoided if used by a person with an open wound. Other locations where MRSA can be spread include day care centers, dormitories, correctional facilities, military barracks, health clubs, gymnasiums, and locker rooms. A towel or piece of clothing can protect the skin from direct contact with surfaces that might harbor MRSA.

If you have a skin infection, do not try to treat it yourself. A doctor can perform a quick test to determine the best therapy. If you have been diagnosed with a MRSA infection, be sure to finish your prescribed antibiotic even if signs of infection have disappeared.