

Antibiotic-resistant staph infection, also called **methicillin-resistant staph infection**, or **MRSA**, is an infection caused by a type of bacteria that is resistant to many commonly used antibiotics. Resistance means that antibiotics are not able to kill the bacteria. The bacteria causing these infections are a type of *Staphylococcus aureus* bacteria. They are often simply called staph.

Staph bacteria are commonly carried on the skin or in the nose of healthy people. They are one of the most common causes of skin infections in the US. Most of these skin infections are minor (such as pimples and boils) and heal on their own without antibiotics. However, staph bacteria can also infect the bloodstream, urinary tract, lungs, or surgical wounds, causing very serious illness. When an infection is caused by antibiotic-resistant bacteria, it can be hard to cure.

Resistant staph bacteria have evolved in response to the widespread use of antibiotics. MRSA infections have been a problem in hospitals and nursing homes for about 20 years. They usually develop in patients who are elderly or very sick or who have an open wound or a tube going into their body. But now these infections are being seen more often in healthy people in the community. MRSA infections that are acquired by people who **have not** recently been hospitalized (within the last year) or had a medical procedure (such as dialysis, surgery, catheters) are called community-associated MRSA infections, or CA-MRSA. These infections in the community are usually skin infections, such as pimples and boils, and occur in otherwise healthy people. The ways that community-associated MRSA skin infections may spread are:

- Close skin-to-skin contact
- Openings in the skin, like cuts or scrapes
- Contaminated items and surfaces
- Crowded living conditions
- Poor hygiene
- Sharing toys, towels, soap, or equipment, such as sports equipment

CA-MRSA infections seem to be quite contagious. One study found that if one person carried the germ, there was a 30% chance that others in the family did, too.

What are the symptoms and how is it diagnosed?

Skin infections may look like a pimple or boil. They may be red, swollen, painful, or have pus or other drainage. They can also look like a rash, with redness and oozing or crusting. If there is an outbreak of CA-MRSA in the community, your healthcare provider will suspect that your infection may be MRSA. A bit of skin or pus from the infected wound will be collected and grown in the lab and then tested to see what antibiotics work against it.

How is it treated?

Many staph skin infections may be treated by draining the abscess or boil and may not require antibiotics. Drainage of skin boils or abscesses should be done only by a healthcare provider. Serious spread of infection can result if you try to treat the sores this way at home.

A MRSA infection can usually be treated with antibiotics. If you are given an antibiotic, take all of the doses, even if the infection is getting better, unless your provider tells you to stop taking it. Not finishing your antibiotic may cause more resistant bacteria to develop. Do not share antibiotics with other people or save them for another time. If the infection does not get better within 2 to 3 days after you saw your provider, tell your provider. If other people you know or live with get the same infection, tell them to see their healthcare provider.

How long will the effects last?

The rash or sore usually goes away within a few days of starting the antibiotic.

How can I prevent CA-MRSA skin infections?

Practice good hygiene:

- Keep your hands clean by washing thoroughly with soap and water or using an alcohol-based hand sanitizer.
- Keep cuts and scrapes clean and covered with a bandage until healed.
- Avoid contact with other people's wounds or bandages.
- Avoid sharing personal items such as towels or razors.
- Shower after you work out at the gym or on the playing field. If you use shared athletic equipment, such as helmets or pads, use a barrier, such as clothing or a towel, between your skin and the equipment. Wipe surfaces of equipment before and after use. See if you can find a way to use the same equipment with each practice rather than sharing.

It is also important to take antibiotics only when necessary for infections. Finish all antibiotics as prescribed by your healthcare provider to help avoid creating resistant bacteria. If you have a staph infection, you can prevent spreading the infections to others by following these steps:

- **Cover your wound.** Keep wounds that are draining covered with clean, dry bandages. Follow your provider's instructions on wound care. Pus from infected wounds can contain the bacteria. Keeping wounds covered helps prevent spreading it to others. Dirty bandages or tape should be put into a plastic bag and sealed before they are thrown out with the regular trash.
- **Clean your hands.** You, your family, and others in close contact should wash their hands often with soap and warm water or use an alcohol-based hand sanitizer, especially after changing the bandage or touching the wound.
- **Don't share personal items** like towels, washcloths, razors, clothing, athletic equipment, or uniforms that may have had contact with the infected wounds or bandages. Wash sheets, towels, and soiled clothes with hot water and laundry detergent. After washing, drying clothes in a hot dryer helps kill bacteria in clothes, too.
- **Talk to your healthcare provider.** Tell any healthcare providers who treat you that you have or had a staph or MRSA skin infection.