

# Information about MRSA

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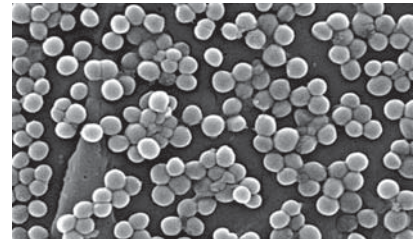
Read the following information about methicillin-resistant *Staphylococcus aureus* (MRSA). Then answer the questions at the end of this handout on your own. It's okay not to know the answers to these questions at this point. You will revise your answers later. Recording your ideas now will make it easier to learn this material. If you have questions, ask them during a class discussion.

## What is *Staphylococcus aureus*?

*Staphylococcus aureus* is a species of bacterium. This species is often called “staph.” These bacteria are spherical in shape and sometimes form clusters that look like grapes (see Figure 1). These bacteria are commonly found on the skin or in the nose of healthy people. They are also found on other animals, such as cows, pigs, and chickens. About one in three people have populations of *S. aureus* in their nose. In most cases, this does not cause any illness. But sometimes, *S. aureus* does cause infections. While most are minor skin infections, some are serious, especially if the bacteria get into the body through a wound, such as a cut. They are frequent causes of infections after surgery, bloodstream infections, and pneumonia.

Like other bacteria, *S. aureus* reproduce by binary fission. When an *S. aureus* cell divides, it produces two daughter cells that have the same genetic instructions. However, mutation introduces genetic variation into a population of bacteria.

**Figure 1.** *Staphylococcus aureus*. These bacteria are about 1/1,000th millimeter in diameter. If lined up in single file, more than 25,000 of them would be 2.5 centimeters (1 inch) long.



(CDC, Janice Haney Carr; Jeff Hageman, MHS)

## What is MRSA (pronounced “mer-sah”)?

Methicillin is a type of drug called an antibiotic because it can kill bacteria. Methicillin belongs to a group of antibiotics that includes others that may sound familiar to you: penicillin and amoxicillin. Unfortunately, some populations of *S. aureus* are resistant to the group of antibiotics that include methicillin. Resistant populations of bacteria are not killed by this group of drugs. So, MRSA stands for “methicillin-resistant *Staphylococcus aureus*.” Can you see why we simply call it “MRSA”?

People infected with MRSA on their skin usually don't have any health problems. Sometimes, they have red, swollen, and painful patches on their skin that look like pimples or spider bites. If the infection penetrates into the body, it can become more serious and cause pneumonia or infections of the blood or bone. Serious problems usually occur in people who have weakened immune systems.

MRSA spread through skin-to-skin contact. They also spread when a person's skin comes into contact with items or surfaces that touched the open wound of an infected person. Passing MRSA on to others can be stopped by simply washing hands, covering open wounds with bandages, and not sharing personal items (such as towels) that have been contaminated with MRSA.

MRSA populations are resistant to the group of antibiotics that are most often used to treat these infections. However, most people with MRSA infections can be treated successfully with other types of antibiotics.

