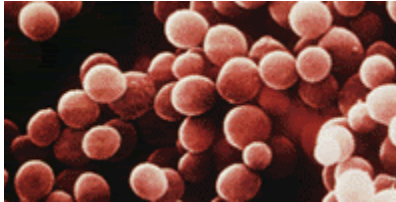


## What is MRSA?

**MRSA** stands for “**m**ethicillin-resistant **S**taphylococcus **a**ureus.”

MRSA is a kind of *Staphylococcus aureus* (“staph”) bacteria, that is [resistant](#) to some kinds of antibiotics. It is resistant to a family of antibiotics related to penicillin that includes antibiotics called methicillin and oxacillin, and is often resistant to many other antibiotics as well.

**Pronunciation:** MRSA is sometimes said as a single word, “mersa,” or by saying all four letters, “M-R-S-A.” Either way is correct.



MRSA is a bacterium that is resistant to some kinds of treatment. To understand MRSA it is helpful to learn about *Staphylococcus aureus* (“staph”) bacteria, because MRSA is a kind of staph.

## What is *Staphylococcus aureus*?

*Staphylococcus aureus*, often referred to as “staph,” are bacteria commonly carried on the skin or in the nose of healthy people. About 25-30% of the U.S. population carries staph on their bodies and yet the bacteria do not always cause illness or infection.

### Do staph always make people sick?

No. There are many different strains of staph, and not all of them are harmful. Many people carry staph in their nose or on their skin and do not know they are carrying them. They do not have skin infections. They do not have any other signs or symptoms of illness. This is called “colonization.”

Sometimes, though, staph can cause an infection, especially pimples, boils and other problems with the skin. Staph are one of the most common causes of skin infections in the United States. Also, staph occasionally can cause very serious illness when they get into the bloodstream, the lungs or a wound after surgery.

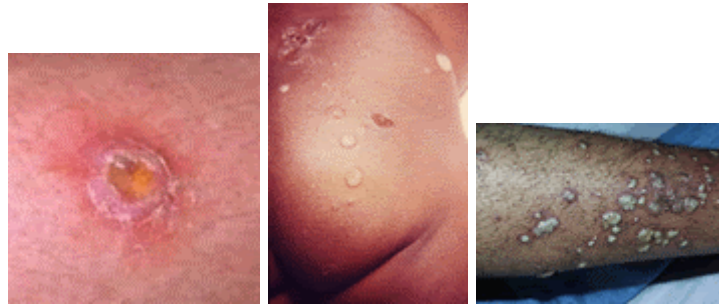
#### **Staph in the Community**

25-30% of the healthy people in your community can have staph on their skin or in their nose. Staph are bacteria found on the skin and in the nose of many healthy people.

### What kinds of infections do some people get from staph?

Staph can cause many kinds of skin infections, like pimples, boils, and rashes. These infections often contain pus, and may feel itchy or warm. They may be

swollen or red. Occasionally, staph cause more serious infections such as surgical wound infections, bloodstream infections, and pneumonia.



Staph infections of the skin may look like these photos of staph infections.

### **How are staph spread?**

Staph, including MRSA, are spread by direct skin-to-skin contact, such as shaking hands, wrestling, or other direct contact with the skin of another person. Staph are also spread by contact with items that have been touched by people with staph, like towels shared after bathing and drying off, or shared athletic equipment in the gym or on the field.

Remember, most people who have staph on their skin do not have infections or illness caused by staph. These people are “colonized” with staph. People who do have skin infections should be very careful to avoid spreading their infection to others. [Steps to prevent spread](#) are listed below.

Skin infections start when bacteria get into a cut or scrape. Bacteria live on everyone’s skin and usually cause no harm. But when staphylococcus bacteria get into your body through a break in the skin, they can cause a “staph” infection. Staph infections may spread to other people through skin-to-skin contact and from shared items such as towels, soap, clothes and sports equipment.



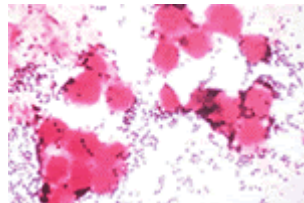
### **How are staph infections treated?**

Staph skin infections may heal by themselves if kept clean and dry. Those that do not heal by themselves may need to be evaluated by a doctor. The doctor may drain and clean an infected boil or wound or even prescribe an antibiotic. A doctor should treat serious staph infections, like infection of the blood or pneumonia.

### **MRSA – A Kind of Staph**

## Is MRSA different from other staph?

MRSA is a kind of staph. It can be carried on the skin or in the nose of healthy people, and may never cause an infection or make them sick. It can cause minor skin infections that go away without any special medical treatment. MRSA can cause skin infections that look just like infections caused by other staph. **MRSA is also spread the same way as other staph.**



Under a microscope, MRSA looks like any other kind of staph. MRSA is different from other staph because it is [resistant](#) to treatment with some antibiotics. Although 25-30% of the U.S. population is colonized with staph, far fewer are colonized with MRSA. Most staph on people's skin, and most staph causing skin infections, is not MRSA. However, MRSA is becoming increasingly common.

Compare and Contrast: Staph vs. MRSA	
Staph	MRSA
Spread by direct skin to skin contact	Spread by direct skin to skin contact
Spread by sharing items like towels and sports equipment	Spread by sharing items like towels and sports equipment
Can cause skin infections	Can cause skin infections
Can cause serious illness	Can cause serious illness
Can be on someone's skin or in their nose without causing infections	Can be on someone's skin or in their nose without causing infections
Can heal without treatment	Can heal without treatment
<b>Common</b> : 25-30% of population is colonized at any one time	<b>Less Common, but increasing</b>
When treatment is needed, <b>most staph are not resistant to commonly used antibiotics</b> , so can be treated with antibiotics more easily.	When treatment is needed, <b>MRSA is <a href="#">resistant</a> to certain, commonly used antibiotics</b> , so must be treated with other kinds of antibiotics.

## What are the symptoms of an infection caused by MRSA?

MRSA is a type of staph, so the symptoms of a MRSA infection and the symptoms of an infection due to other staph are the same. Pimples, rashes, pus-filled boils, especially when warm, painful, red or swollen, can mean that you have a staph skin infection. If you are concerned about a skin infection, please see a doctor.

Staph can also cause more serious infections such as severe skin infection, surgical wound infections, bloodstream infections, and pneumonia. The symptoms could include high fever, swelling, heat and pain around a wound, headache, fatigue, and others. These infections can be very serious.



Pimples, rashes, pus-filled boils, especially when warm, painful, red or swollen, can mean that you have a staph skin infection.

## Does MRSA cause more serious infections than other staph?

MRSA does not usually cause more serious problems than other staph. Many MRSA skin infections are mild and heal by themselves when kept clean and dry. However, because MRSA can't be identified without special lab tests, it is not always identified and treated correctly when antibiotic treatment is needed. Doctors may assume that a MRSA infection is a common staph infection and treat with antibiotics that do not kill MRSA. This potential delay in recognizing and treating MRSA infections effectively can result in prolonged illness and rare life-threatening illnesses in the blood, heart and bones. Some MRSA, just like some staph, may produce substances that cause more severe infections

## Is MRSA the “flesh-eating” bacteria?

Many bacteria can cause severe illness, including a very severe skin and tissue infection called “necrotizing fasciitis.” This kind of life-threatening infection is rare and can be caused by staph, including MRSA, and other kinds of bacteria.



### **What do you think?**

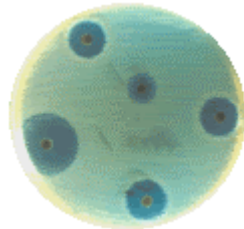
A friend shows you their finger, which looks red, swollen and painful. Could this be a staph infection? Could it be the resistant kind of staph called MRSA? How can you tell? What difference does it make if antibiotics are needed for treatment?

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

Keep the area clean and dry. See your doctor, especially if the infection is large, painful, warm to the touch, or does not heal by itself.

## **How will my doctor know if I have a staph/MRSA infection?**

Your doctor will usually take a sample on a swab (like a Q-tip) from the infected area. The sample will be sent to a laboratory to see if the infection is caused by staph. If the infection is caused by staph, a second test will be needed to determine if the staph is MRSA. Blood and other body fluids can also be tested for staph.



Staph infection can be confirmed by a lab test. A second test determines if the staph is MRSA.

## **How are MRSA infections treated?**

Most MRSA infections are treated by good wound and skin care: keeping the area clean and dry, washing your hands after caring for the area, carefully disposing of any bandages, and allowing your body to heal. Sometimes treatment requires the use of antibiotics. If antibiotics are needed, it is important to take all the doses you are given unless your doctor tells you to stop. If the infection has not improved within a few days after seeing your doctor, contact your doctor again.

## How can I prevent a staph/MRSA infection?

Regular handwashing is the best way to prevent getting and spreading staph/MRSA:

- Keep your hands clean by washing them frequently with soap and warm water or hand sanitizer, and especially after direct contact with another person's skin. [Obtain information about how to wash hands.](#)
- Keep cuts and scrapes clean and covered with a bandage until they have healed.
- Avoid contact with other people's wounds or bandages.
- Avoid sharing personal items such as towels, washcloths, toothbrushes, and razors. Sharing these items may transfer staph from one person to another.
- Keep your skin healthy, and avoid getting dry, cracked skin, especially during the winter. Healthy skin helps to keep staph/MRSA on the surface of your skin from causing an infection underneath your skin.
- See a doctor if you have any questions or an infection that does not improve.



**Surprising fact:** The best way to prevent skin infections is simple - **wash your hands.**

Washing your hands often with soap and warm water also helps prevent colds and flu. Antibacterial soaps are not needed.

## External Links

For more information about MRSA, visit:

- Centers for Disease Control and Prevention. CA-MRSA Information for the Public [http://www.cdc.gov/ncidod/dhqp/ar\\_mrsa\\_ca\\_public.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_public.html)
- Los Angeles County Department of Public Health Services. "Staph" or Community-Associated Methicillin-Resistant *Staphylococcus aureus* (CAMRSA) Information [www.lapublichealth.org/acd/MRSA.htm](http://www.lapublichealth.org/acd/MRSA.htm)
- Mecklenburg County Health Department. Community-Associated MRSA [www.charmeck.org/Departments/Health+Department/Top+News/MRSA.htm](http://www.charmeck.org/Departments/Health+Department/Top+News/MRSA.htm)
- Minnesota Department of Health. Methicillin-resistant *Staphylococcus aureus* (MRSA) [www.health.state.mn.us/divs/idepc/diseases/mrsa/index.html](http://www.health.state.mn.us/divs/idepc/diseases/mrsa/index.html)

- Seattle and King County Public Health. Fact Sheet for Patients and the Public [www.metrokc.gov/health/prevcont/mrsa.pdf](http://www.metrokc.gov/health/prevcont/mrsa.pdf)

#### Articles

- MetroWest CleanGear Corporation (Links to articles and news stories)  
<http://www.metrowestcleangear.com/MRSAnews.htm>