

# MRSA Infections

**M**ethicillin-resistant *Staphylococcus aureus* (MRSA) is a type of bacterium. *Staph* bacteria, like other kinds of bacteria, frequently live on the skin and in the nose without causing health problems. *Staph* becomes a problem when it is a source of infection. These bacteria can be spread from one person to another through casual contact or through contaminated objects. Infections with MRSA are more difficult to treat than ordinary *Staph* infections because these strains of bacteria are resistant to many types of **antibiotics**—the medicines used to treat bacterial infections. Infections can occur in wounds, burns, and other sites where tubes have been inserted into the body. In 2005, there were an estimated 94 360 cases of MRSA infections in the United States.

MRSA that is acquired in a hospital is called **hospital-associated methicillin-resistant *Staphylococcus aureus* (HA-MRSA)**. MRSA infections are now becoming more common in healthy, nonhospitalized persons. These infections can occur among young people who have cuts or wounds and who have close contact with one another, such as members of sports teams. This type of MRSA is called **community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA)**. The October 17, 2007, issue of *JAMA* includes an article that documents the increasing incidence and burden of invasive MRSA infections.

## CAUSES OF MRSA INFECTIONS

Leading causes of antibiotic resistance include

- Unnecessary antibiotic use—for decades, antibiotics have been prescribed for colds, flu, and other viral infections that do not require or respond to antibiotics.
- Antibiotics in food—antibiotics are routinely given to cattle, pigs, and chickens.
- Bacterial mutation—bacteria that survive treatment with one antibiotic may develop resistance to the effects of that drug and similar medicines.

## RISK FACTORS

Risk factors for hospital-acquired MRSA include

- A current or recent hospitalization
- Residing in a long-term care facility
- Invasive procedures
- Recent or long-term antibiotic use

Risk factors for community-acquired MRSA include

- Young age—incomplete development of immune system
- Participation in contact sports
- Sharing towels or athletic equipment
- Having a weakened immune system, such as persons with HIV/AIDS
- Living in crowded or unsanitary conditions such as prisons

Sources: Centers for Disease Control and Prevention, American Academy of Family Physicians, Alliance for the Prudent Use of Antibiotics

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## TREATMENT AND PREVENTION

Both hospital- and community-associated MRSA still respond to certain medications. Doctors often rely on **vancomycin** (an antibiotic) to treat resistant *Staph* infections, but vancomycin-resistant MRSA can also occur. Current research is directed toward improvements in surveillance, surgical treatments, and development of new antibiotics. To protect yourself, family members, and friends from hospital-acquired MRSA infections:

- Ask hospital staff to wash their hands before touching you.
- Wash your own hands frequently.
- Make sure that intravenous tubes and catheters are inserted and removed under sterile conditions.
- Follow the hospital's isolation procedures for gowns, gloves, and masks as indicated by signs.

## FOR MORE INFORMATION

- Centers for Disease Control and Prevention  
[www.cdc.gov/ncidod/diseases/submenus/sub\\_mrsa.htm](http://www.cdc.gov/ncidod/diseases/submenus/sub_mrsa.htm)
- American Academy of Family Physicians  
[www.aafp.org](http://www.aafp.org)
- Alliance for the Prudent Use of Antibiotics  
[www.apua.org](http://www.apua.org)

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