

Methicillin-resistant Staphylococcus Aureus (MRSA) Infection and Community-associated MRSA Infection



Causative agent

Staphylococcus aureus (*S. aureus*) is a bacterium commonly carried on the skin or in the nasal cavity of healthy people. These healthy individuals carry the bacteria without signs or symptoms of infection. Yet, the bacteria may sometimes cause diseases such as infection of skin, wound, urinary tract, lung, bloodstream and food poisoning.

Most *S. aureus* infections can be treated by antibiotics effectively. However, methicillin-resistant *S. aureus* (MRSA) is a strain of *S. aureus* that is resistant to antibiotics including methicillin and other commonly used antibiotics such as oxacillin, penicillin, amoxicillin and cephalosporins. Improper use of antibiotics is widely recognised as a contributing factor to antibiotic resistance.

Most MRSA infections occur in people who have been hospitalised, live in residential care homes or have received treatment in health care settings such as dialysis centres.



What is 'Community-associated MRSA (CA-MRSA)' infection?

However, infections can also occur in community-dwelling individuals who have not been hospitalised, stayed in residential care homes, or received medical procedures within a year prior to symptom onset. These are known as community-associated MRSA (CA-MRSA) infections.



Clinical features

MRSA usually causes skin and soft tissue infections such as pimples, boils, abscesses or wound infections. The infected area may be red, swollen and painful or it may produce pus. Sometimes, more serious sequelae such as bloodstream infections, lung infections or necrotising fasciitis may occur.



Mode of transmission

The main mode of transmission of MRSA infections is through direct contact with wounds, discharge and soiled areas. Other risk factors include close contact, breaks in the skin due to wounds or indwelling catheters, poor personal hygiene and living in crowded conditions.



Management

Individuals with wound infection should seek advice from healthcare professional quickly so that the infection can be properly diagnosed and effectively treated. Boils or abscesses may require incision and drainage while antibiotics may be prescribed if indicated.



Prevention

1 Maintain good personal hygiene

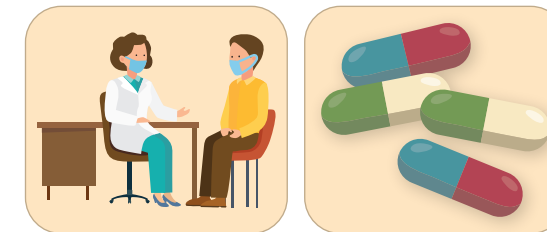
- Perform hand hygiene frequently, especially before touching the mouth, nose or eyes; after touching public installations such as handrails or doorknobs; or when hands are contaminated by respiratory secretion after coughing or sneezing.
- Wash hands with liquid soap and water, and rub for at least 20 seconds. Then rinse with water and dry with a disposable paper towel or hand dryer. If hand washing facilities are not available, or when hands are not visibly soiled, hand hygiene with 70 to 80% alcohol-based handrub is an effective alternative.
- Wear gloves when handling soiled objects, and perform hand hygiene thoroughly afterwards.
- Avoid sharing personal items such as towels, clothing or uniforms, razors or nail-clippers.

2 Proper wound management

- Avoid direct contact with wounds or objects soiled by wound discharge.
- Clean wound immediately and cover it properly with waterproof adhesive dressings until healed.
- Perform hand hygiene before and after touching wounds.
- Consult doctor promptly if symptoms of infection develop.
- Avoid contact sports or visiting public bathrooms if you have an open wound.

3 Proper use of antibiotics

- Do not demand antibiotics from your doctor.
- Follow your doctor's advice when taking antibiotics.



- Do not stop taking antibiotics by yourselves even if you are feeling better.
- Do not take leftover antibiotics.
- Do not share your antibiotics with others.
- Enhance personal hygiene while you are taking antibiotics to protect yourself and to prevent the spread of bacteria:
 - Practise frequent hand hygiene.
 - Eat or drink only thoroughly cooked and boiled items.
 - Disinfect and cover all wounds.
 - Wear a surgical mask if you have respiratory symptoms like cough, sneeze, runny nose and sore throat.
 - Young children with symptoms of infections should minimise contact with other children.

4 Maintain good environmental hygiene

- Keep the environment clean; shared items (e.g. athletic equipment and mats) in public places such as sports centres and public bathrooms should be cleaned and disinfected regularly.
- MRSA can spread among family members via contaminated household items. It is important to keep the home clean and free of dust. High-touch surfaces (e.g. toilet seat, bathroom, and doorknobs), children's toys and bed linens should be washed, cleaned and disinfected (with diluted household bleach) regularly. For more information on the use of bleach, please visit the following webpage: http://www.chp.gov.hk/files/pdf/the_use_of_bleach.pdf



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Centre for Health Protection Website www.chp.gov.hk

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