Staphylococcus aureus including Methicillin-Resistant *Staphylococcus aureus* (MRSA)

Staphylococcus aureus, often referred to simply as 'staph' or 'golden staph', are bacteria commonly found on the skin and in the noses of healthy people. When bacteria are living on or in the human body, but are not causing infection, it is called 'colonization' and the person is said to be a 'carrier'. Humans are most often colonized with *S. aureus* in their noses but it is also found on the skin and other body sites. Over time, 20% of the population will almost always be colonized with *S. aureus*, 60% of the population will be colonized with *S. aureus* off and on, while another 20% are almost never colonized with *S. aureus*.

Occasionally, *S. aureus* can cause infection. These bacteria are one of the most common causes of skin infections such as pimples and boils. However, *S. aureus* can also cause serious and sometimes fatal infections (such as bloodstream infections, surgical wound infections and pneumonia). Skin-to-skin contact with a person carrying the bacteria on their skin (with or without symptoms) and sharing towels or linen can spread the bacteria, particularly within families.

Lack of hand washing during food preparation can result in *Staphylococcus aureus* from hands contaminating food, which may lead to food poisoning.

The diagnosis of *Staphylococcus aureus* infection is made by growing the bacteria from specimens such as pus or blood.

In the past, most serious *S. aureus* infections were treated with a type of antimicrobial agent related to penicillin. Over the past 50 years treatment of these infections has become more difficult because *S. aureus* bacteria have become resistant to many antibiotics. These bacteria are known as MRSA (methicillin-resistant *Staphylococcus aureus*). Infections with MRSA are no more serious than infections with other types of *Staphylococcus aureus*.

Traditionally, MRSA infections have been associated with hospitalisation, but in recent years an increasing number of people with MRSA infections appear to have acquired them in the community, with no history of hospital admission.

Recently, even more resistant types of *S. aureus* bacteria have been found, called vancomycin-intermediate *Staphylococcus aureus* (VISA) and vancomycin-resistant *Staphylococcus aureus* (VRSA). These are resistant to vancomycin, an antibiotic to which most *S. aureus* bacteria are usually susceptible and which is used to treat serious MRSA infections.

Incubation period

(time between becoming infected and developing symptoms)

Some people can be colonized with *S. aureus* and never get an infection. For those people who do get an infection, the time from exposure to development of disease can be from days to years.

Infectious period

(time during which an infected person can infect others)

As long as the organism is carried on the skin. A person does not have to have symptoms of infection to be able to transmit the bacteria.

Treatment

Infections with *Staphylococcus aureus* (including MRSA) can be treated with appropriate antibiotics, although the resistance of available antibiotics is increasing. People who carry the germ on their skin or in their nose will only require antibiotics under special circumstances. Many common skin infections caused by *S. aureus* will heal without medical treatment. However, some skin infections will require incision and drainage of the infected site and some infections may require antibiotics. Most skin infections will heal within a few weeks, but more serious skin infections can take longer to heal if treatment is delayed or if ineffective treatment is given.

More serious types of *S. aureus* infections (such as pneumonia or bloodstream infections) typically require hospitalisation and treatment with intravenous antibiotics.

Communicable Disease Control Branch Telephone: 08 8226 7177 Email: cdcb@health.sa.gov.au

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Control of spread

- Standard Precautions in the form of strict hand washing by care givers and good personal hygiene on the part of the infected person are the most effective means of control.
- Boils and infected wounds should be covered with clean, dry dressings until they are healed. Pus or drainage from wounds is very infectious.
- Clean your hands frequently with soap and water or an alcohol based hand rub, especially after changing bandages or touching wounds.
- Dispose of used dressings promptly, in a sealed plastic bag.
- Clothing, sheets and towels of an infected person should be washed with detergent in hot water. Ideally they should be dried in sunlight, or in a clothes dryer on the hot setting.
- In hospital, there are some patients, such as those with wounds, where infection with MRSA could pose a special risk. Therefore when a hospital patient is found to carry or have an infection with MRSA, additional precautions may be taken to prevent transmission of MRSA. Use of single room with ensuite facilities is recommended. Staff and visitors should follow the hospital's recommended precautions.
- Do not share razors, towels or similar items with others.
- Persons with MRSA do not need to be excluded from child care, preschool, school and work unless infected skin lesions on exposed surfaces cannot be completely covered with a dressing.

- Hand Hygiene
- Preventing Food Poisoning at Home
- Handling Blood and other Body Substances (standard precautions)

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