

Methicillin-resistant Staphylococcus aureus (MRSA)

What is MRSA?

Staphylococcus aureus is a bacterium that can be commonly found on human skin. It can sometimes cause infection and may require treatment with antibiotics. MRSA are strains that are resistant to methicillin (a derivative of penicillin) and other closely related antibiotics (oxacillin, flucloxacillin). They may also be resistant to a number of other antibiotics (multi-resistant). MRSA have emerged as important hospital pathogens that can cause significant morbidity and mortality in susceptible patients.

Some people are colonised with MRSA, where they have MRSA resident in their nose or throat, or on their skin, with no apparent ill effects. However, MRSA may also cause infections that require treatment. Although harder to treat than methicillin-sensitive *S. aureus* (MSSA) MRSA are no more or less virulent than sensitive strains.

In hospital, patients who have lowered immunity or who have breaks in their skin due to surgery, indwelling devices or chronic wounds, may be predisposed to either MRSA or MSSA colonisation or infection.

Mode of Transmission

Numerous reports of hospital outbreaks of MRSA have shown that patient-to-patient transmission of MRSA is common. The most likely modes of transmission are:

- > direct contact - by the contaminated hands of staff and/or visitors
- > indirect contact - by contact with contaminated equipment or environmental surfaces.

Patients may also infect themselves if they are colonised with *S. aureus* or MRSA and touch their wounds or devices.

Why is it important to control the spread of MRSA?

Infections due to MRSA have been shown to be associated with a higher morbidity and mortality than infections with MSSA, but prevention of infection with both types of *S. aureus* is important. Patients who are immune compromised or are in critical care units are especially vulnerable to infection with MRSA and MSSA. Bloodstream infection with all types of *S. aureus* is associated with a mortality rate of 20 – 30%.

What is SA Health doing about MRSA?

SA Health has developed best practice guidelines for the management of MRSA and also monitors the incidence of MRSA in hospitals.

Hospitals and other health care settings should have clear written guidelines for the management of patients with MRSA, which includes a screening and prevention program, which are based on the SA Health MRSA Guidelines.

It is important that all clinical staff are aware of and understand these guidelines; if you need further information please contact someone from your infection control team.



Are healthcare workers at risk?

MRSA poses minimal risk to healthy staff; and this risk is further minimised by adherence to correct hand hygiene, and environmental and shared patient equipment cleaning procedures.

Staff with active exfoliative skin conditions such as eczema, dermatitis and psoriasis should not be allocated to care for MRSA patients wherever possible, as these conditions can predispose them to colonisation with MRSA.

Staff do not need to be routinely cultured for the presence of MRSA, but may be tested as part of an on-going outbreak investigation.

All colonised staff will be provided with appropriate information, training and strategies for management of MRSA.

How can healthcare workers assist?

Healthcare workers can assist efforts to reduce the incidence and spread of MRSA by adhering to the healthcare facility's management policies and guidelines. Staff should be aware of, and implement, the required contact precautions when dealing with known MRSA infected or colonised patients, such as the wearing of appropriate personal protective equipment and performing hand hygiene according to the "5 moments" for hand hygiene.

MRSA screening protocols

The hospital should have a strategy for testing for MRSA carriage in certain high risk patient groups (refer to local protocols). This allows for the earliest possible identification and confinement of the organism to affected patients and decreases the risk of cross-transmission to other susceptible patients. Other patient groups that are generally targeted for screening include:

- > All patients with a past history of MRSA colonisation or infection being transferred or admitted.
- > Patients transferred from any other acute or long term care facility.
- > Patients admitted/transferred with unhealed wounds e.g. ulcers, burns, wound breakdown, or long term indwelling devices *in situ*.

Confidentiality

As for any other medical information, it is the responsibility of all staff within the hospital to maintain the confidentiality of MRSA patients with regard to their condition.

A patient's MRSA status should not be allowed to compromise their care, nor should a person be refused admission to any facility based on their MRSA status.

References

1. SA Health Guidelines of the Management of Patients with Methicillin-resistant *Staphylococcus aureus* (MRSA). June 2015.
2. Centers for Disease Control and Prevention, Methicillin-resistant *Staphylococcus aureus* (MRSA) Infections website: <http://www.cdc.gov/mrsa/>

For more information

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