Fact Sheet for healthcare workers

Methicillin-resistant Staphylococcus aureus (MRSA)

What is methicillin-resistant *Staphylococcus aureus* (MRSA)?

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a bacterium and is a strain of *Staphylococcus aureus* (golden staph) that has developed resistance to antibiotics (methicillin/penicillin).

For the purpose of this fact sheet, *Staphylococcus aureus* (*S. aureus*) is referred to as Methicillin-susceptible *Staphylococcus aureus* (MSSA) and the more resistant strain is referred to as methicillin-resistant *Staphylococcus aureus* (MRSA).

Both MSSA and MRSA, can be found on the human skin, nose or mouth and other body sites.

When either MSSA or MRSA is present on the body, but not causing an infection, this is referred to as "colonisation" or sometimes "carriage". However, both MSSA and MRSA can cause infections both in the community and in healthcare settings.

MRSA 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 (sometimes referred to as multi-resistant strains).

People with MRSA colonisation can be asymptomatic. The pathogenic potential of *S. aureus* ranges from mild skin infections (for example boils) to serious deep infection such as osteomyelitis, and potentially fatal systemic illness such as bloodstream infection.

MRSA are important hospital pathogens that can cause significant infections in susceptible patients. In hospital, people who have lowered resistance or who have breaks in their skin due to surgery, indwelling devices or chronic wounds, may be more susceptible to MRSA colonisation or infection.

Mode of transmission

Numerous reports of hospital outbreaks of MRSA have shown that patient-to-patient transmission of MRSA can occur. The modes of transmission include:

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

Patients who are colonised may also self-infect areas of broken skin, or medical device insertion sites.

Minimising the risk of colonisation and infection

The minimisation of the risk of colonisation and infection with MRSA is a multi-modal approach, including:

- implementation of infection prevention and control (IPC) precautions (standard and transmission-based precautions) including:
    - hand hygiene as per the 5 moments for hand hygiene including availability of alcohol-based hand rubs (ABHR)
    - use of recommended personal protective equipment (PPE)
    - environmental controls including cleaning and disinfection of the patient care environment/equipment.
    - surveillance and identification of patients who are colonised or infected with MRSA, including screening of higher risk patient groups – refer to local risk assessed procedures.

Government of South Australia
SA Health

- appropriate inpatient placement of people with MRSA (e.g. single room where indicated and available). Refer to the SA Health Bed Management Toolkit
- implementation of antimicrobial stewardship (AMS).

Management

Local Health Networks, 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 prevention and control team.

LHNs, hospitals and other health care settings should have strategies and local policies, guidelines and procedures for the management of MRSA colonisation and infection with practices adapted to suit the patients/residents of the clinical setting. For example, management of patients identified with MRSA in intensive care units may be different to management of a patient attending an outpatient department where the risk of transmission and infection are lower.

Some patients may be assessed and recommended for Staphylococcus decolonisation treatment with mupirocin nasal ointment and medicated body washes. See the SA Health Staphylococcus aureus Patient Decolonisation consumer fact sheet for further information.

Why is it important to control the spread of MRSA?

Prevention of infection both MSSA and MRSA is important. Infections due to MRSA have been shown to be associated with a higher morbidity and mortality than infections with MSSA. 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 high mortality.

Healthcare setting considerations and actions

MRSA poses minimal risk to healthy staff; and this risk is further minimised by adherence to standard and transmission-based precautions including hand hygiene, personal protective equipment and environmental and shared patient equipment cleaning procedures.

Healthcare workers can assist efforts to reduce the incidence and spread of MRSA by adhering to the SA Health and healthcare facility's management policies, guidelines and procedures.

Staff should be aware of, and implement, the required infection prevention and control precautions.

MRSA patient screening protocols

LHNs should have guidelines and procedures for surveillance and screening patients for MRSA (this can include testing higher-risk patient groups. Surveillance and screening can assist with identification, interventions and implementation of IPC precautions. The Australian Commission on Safety and Quality in Healthcare (ACSQHC) Australian Guidelines for the Prevention and Control of Infection in Healthcare identifies other patient groups for routine screening as follows:

- previous infection or colonisation of MRSA
- frequent re-admissions to any healthcare facility
- transfers from other acute care facility, particularly one known to have a high prevalence of MRSA
- residence in long term care facilities
- a wound that has not healed (e.g. burn, surgical incision, chronic wounds)
- a number of co-morbidities
- populations with a high prevalence of community strains of MRSA

- a long-term indwelling medical device.

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.

Patients with MRSA should not be refused admission or transfer to any health care facility because of having MRSA colonisation or infection. Patient management should not be compromised, and transfer may be necessary from acute care hospitals to other facilities for convalescence, rehabilitation or long-term care.

Further information

SA Health has developed the Methicillin-resistant Staphylococcus aureus (MRSA): Infection prevention and control Guideline for the prevention and control of MRSA.

The SA Health Infection Control Service (ICS) coordinates the SA Health HAI surveillance program to monitor the occurrence of MRSA.

References

1. ACSQHC Australian Guidelines for the Prevention and Control of Infection in Healthcare
2. SA Health Methicillin-resistant Staphylococcus aureus (MRSA): Infection prevention and control Guideline September 2020.
3. Centres for Disease Control and Prevention, Methicillin-resistant *Staphylococcus aureus* (MRSA) Infections website.

For more information

Infection Control Service
Communicable Disease Control Branch
11 Hindmarsh Square
Adelaide SA 5000
Telephone: 1300 232 272
www.sahealth.sa.gov.au/infectionprevention

Public-I2-A1
Version 4.5 (April 2025)

Department for Health and Ageing, Government of South Australia. All rights reserved.

www.ausgoal.gov.au/creative-commons

Government of South Australia
SA Health