

MULTIRESISTANT ORGANISMS (MRO): PREVENTION, MINIMISATION, MANAGEMENT AND SURVEILLANCE - CHW POLICY[®]

DOCUMENT SUMMARY/KEY POINTS

- Healthcare associated infections (HAIs) remain a major cause of morbidity, mortality and excess healthcare costs. HAIs contribute to a considerable cost to the health care system and to the patient and their families with prolonged hospital stays, readmissions and additional treatment.
- MROs include but are not limited to methicillin resistant *Staphylococcus aureus* (MRSA), Vancomycin resistant Enterococci (VRE) and multi-resistant *Acinetobacter baumannii* (MRAB)².
- A combination of early detection, isolation, appropriate treatment and prevention of cross infection will all contribute to preventing transmission.
- Hand hygiene is widely acknowledged to be the single most important activity for reducing the spread of disease.
- Standard precautions underpin routine safe practice, protecting both staff and patients from infection⁶.
- Screening for MRO carriage other than MRSA should be performed only in consultation with Infection Prevention and Control and Microbiology, usually in response to an identified MRO outbreak or threat.
- MRSA screening is mandatory for the groups of patients listed in this document.
- This document is used in conjunction with "[Infection Control Policy: Prevention and Management of Multi-Resistant Organisms \(MRO\) Document Number: PD2007_084](#)"⁷

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	CHW SCHN Policy, Procedure and Guideline Committee	
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Team Leader:	Clinical Nurse Consultant	Area/Dept: Infection Control

CHANGE SUMMARY

- Due for mandatory review: No changes other than updated links and references

READ ACKNOWLEDGEMENT

- Clinical staff (medical and nursing) should read and acknowledge they understand the contents of this document.

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Introduction

Healthcare associated infections (HAI's) remain a major cause of morbidity, mortality and excess healthcare costs. HAI's contribute to a considerable cost to the health care system and to the patient and their families with prolonged hospital stays, readmissions and additional treatment.

An organism is considered to be multiple resistant when it is unable to be killed by many of the antibiotics commonly used¹. There are several examples of multiple resistant organisms (MROs) that have emerged over the past 50 years or so and continue to cause problems in both healthcare settings and even in some community settings². These MROs include but are not limited to methicillin resistant *Staphylococcus aureus* (MRSA), Vancomycin resistant *Enterococci* (VRE), Extended Spectrum Beta-lactam producing organisms (ESBL), Metallo beta-lactamase producing organisms (MBL) and multi-resistant *Acinetobacter baumannii* (MRAB)².

Some types of *Staphylococcus aureus* have developed into 'super-strains', which have become resistant to methicillin as well as many other antibiotics and are classified as multiresistant MRSA⁴. *Staphylococcus aureus* is an organism that colonises the skin, particularly the nose, skin folds, hairline, perineum and navel⁶. It commonly survives in these areas without causing infection. A patient becomes clinically infected if the organism invades the skin or deeper tissues and multiplies.

MRSA infections can be difficult to treat and may require a lengthy stay in hospital. In some cases, it can lead to serious health problems such as sepsis and infections of the lungs, bones or the heart valve⁴. A small number of people die from infections caused by MRSA each year⁴.

It is important to remember that MRSA rarely causes problems for fit and healthy people. Many people carry MRSA without knowing it and never experience any ill effects. These people are said to be *colonised* with MRSA rather than being *infected* with it⁴. In most cases, MRSA only poses a threat when it has the opportunity⁴ to get inside the body and cause an infection, for example via wounds or surgical incisions⁴.

This policy will focus primarily on MRSA as it is the most prevalent of the MROs in NSW.

Goals

Prevention and Control

A combination of early detection, isolation, appropriate treatment and prevention of cross infection will all contribute to preventing transmission of MRSA. Hand hygiene is widely acknowledged to be the single most important activity for reducing the spread of disease, yet evidence suggests that many health care professionals do not decontaminate their hands as often as they need to or use the correct technique which means that areas of the hands can be missed⁵. Regular hand washing, use of disposable gloves when changing dressings and/or use of alcohol gel hand-rubs will contribute to preventing transmission of MRSA⁴.

Healthcare facilities have also been advised to keep hospitals as clean as possible. Both of the above measures will help to reduce cross infection⁴.

Standard precautions (formerly known as universal precautions) underpin routine safe practice, protecting both staff and patients from infection⁶. By applying standard precautions at all times and to all patients, best practice becomes second nature and the risks of infection are minimised. Standard precautions include:

1. achieving optimum hand hygiene,
2. using personal protective equipment (PPE),
3. safe handling and disposal of sharps,
4. safe handling and disposal of clinical waste,
5. managing blood and body fluids,
6. decontaminating equipment,
7. achieving and maintaining a clean clinical environment,
8. appropriate use of indwelling devices,
9. managing incidents,
10. good communication – with other health care workers, patients and visitors,
11. training/education⁶

Management of patients

For management of a patient with a specific MRO, please refer to the relevant hospital policy on that particular organism. (Refer to [Related Information](#) below)

Cleaning

For cleaning of the environment for a patient with a specific MRO, please refer to the relevant hospital policy on that particular organism and the hospital cleaning policy.

MRO Screening Programme

Prior to microbiological screening, it must be known that the patient has not been administered an antibiotic and/or antiseptic body wash/soap that are active against the organism of interest. The screening and detection procedure requires cessation of the antibiotic and/or antiseptic body wash/soap *prior* to the sample being taken. Patient treatment is the priority, therefore, if antibiotics have been administered, the sample should be collected at a minimum *72hours after the antibiotic / antiseptic treatment has been completed.*

(a) MRSA Screening

Refer to CHW Practice Guideline “MRSA Mandatory Screening Programme: All Areas”:
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2008-8118.pdf>

(b) Screening for MROs other than MRSA

Screening for MRO carriage other than MRSA should be performed only in consultation with Infection Prevention and Control and Microbiology, usually in response to an identified MRO outbreak or threat. In general such screening requires specialised laboratory techniques, and should not be requested on an ad-hoc or ward/team initiated basis.

Readmission screening for previous MRO colonised or infected patients:

A proportion of MRO colonised patients eventually “clear” themselves of carriage following treatment of whatever condition which required inpatient care.

- Documentation of previously colonised patients who have cleared an MRO is kept by Infection Prevention and Control.
- The flagging system continues for known MRO patients to ensure that isolation and infection control contact precautions are initiated on admission.
- The child's MRO status is also listed as an “Active Problems and Clinical Alerts” in Powerchart.

Related Information

- CHW Practice Guideline: **Extended Spectrum Beta-lactamase (ESBL) producing Gram Negative Bacilli – Management:**
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2007-8110.pdf>
- CHW policy: **Vancomycin Resistant Enterococci (VRE):**
<http://chw.schn.health.nsw.gov.au/o/documents/policies/policies/2006-8254.pdf>
- CHW Practice Guideline: **MRSA and VISA: Infection Control and Management:**
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2008-8039.pdf>
- CHW Practice Guideline: **Infection Control – Isolation:**
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2006-8256.pdf>

References

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2. Ansell Infection Control Advisory Board. *What are multiple resistant organisms and how did they emerge?* Essential Practices in Infection Control (EPIC), Edition 2, 2006
3. Muto CA. *Methicillin-resistant Staphylococcus aureus control: we didn't start the fire, but it's time to put it out.* Infect Control Hosp Epidemiology 2006; 27:111-5.
4. MRSA UK website: <http://www.mrsa.uk.com> (accessed November 2008)
5. Royal College of Nursing. *Methicillin Resistant Staphylococcus aureus (MRSA) Guidance for Nursing Staff Wipe it Out Campaign on MRSA – Royal College of Nursing in conjunction with Kimberley Clark.* April 2005 http://www.rcn.org.uk/resources/mrsa/downloads/Wipe_it_out-MRSA-guidance_for_nursing_staff.pdf
6. Royal College of Nursing. *Methicillin Resistant Staphylococcus aureus (MRSA) Guidance for Nursing Staff Wipe it Out Campaign on MRSA – Royal College of Nursing in conjunction with Kimberley Clark.* April 2005.
7. NSW Health Policy Directive "Infection Control Policy: Prevention and Management of Multi-Resistant Organisms (MRO)" http://www.health.nsw.gov.au/policies/pd/2007/PD2007_084.html (accessed November 2008)
8. Australian Commission on Safety and Quality in Healthcare "Australian Guidelines for the Prevention and Control of Infection in Healthcare. Australian Government National Health and Medical Research Council 2010

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