

Policy Applies to:

All staff employed by Mercy Hospital. Credentialed Specialists students, patients and visitors will be supported to meet policy requirements.

Related Standards:

NZS 8134.3:2021– Ngā Paerewa Health and disability service standard.

NZS 4304:2002 – Management of Healthcare Waste.

EQUIP Standards

1.3.1 – Healthcare and services are appropriate; 1.5.2 – The infection control system supports the safe practice and ensures a safe environment for consumers/patients and healthcare workers. 1.6.2 – Consumers are informed of their rights and responsibilities.

Cultural Considerations:

No cultural considerations were considered in this policy document.

Definitions:

PPE- personal protective equipment. Isolation PPE can consist of a long-sleeved, moisture-resistant gown, gloves, face shields/eye protection, and a variety of mask types.

Enterobacteriaceae - a large and diverse family of gram-negative bacteria. Although they generally exist as commensal organisms in the human gastrointestinal tract, they can be responsible for various infections, including; urinary tract infections, wound infections, gastroenteritis, meningitis, septicaemia, and pneumonia. Amongst the gram-negative bacteria, *Enterobacteriaceae* are the most frequent cause of both community-acquired and healthcare-acquired infections.

IPCC- Infection Prevention and Control Committee

IPC nurse or IPC RN- Infection Prevention and Control Registered Nurse

Multidrug Resistant Organisms (MDRO) can be defined in two ways - organisms that are resistant to:

- Several antimicrobial classes to which they would normally be susceptible, or
- All but one or two antimicrobial classes, regardless of the mechanism of resistance (and often susceptible to only one or two commercially available antibiotics).

Such organisms include:

MRSA - Methicillin-resistant *Staphylococcus aureus*

ESBL - Extended-spectrum beta-lactamase, producing *Enterobacteriaceae*

VRE - Vancomycin-resistant enterococci

CRE - Carbapenem-resistant *-Enterobacteriaceae*, (Including CPE Carbapenemase-producing *Enterobacteriaceae* or CRO Carbapenem-resistant organism).

Other Gram negative MDRO; all of which are covered in these guidelines.

Rationale:

Controlling MDRO's is important because they:

- Are resistant to usual antimicrobial therapy
- Increase patient morbidity and mortality
- Increase the length of hospital stay and cost of treatment
- Have the potential to spread
- Act as a reservoir of resistant genes for the transmission to other organisms

Successful control of MDRO is based on a combination of interventions:

- Screening of patients at high risk of MDRO carriage
- Rigorous adherence to hand hygiene
- Appropriate use of personal protective equipment (PPE)
- Implementation of transmission-based precautions
- Cleaning and disinfection of shared patient equipment

Modes of transmission:

Contact transmission is the primary mode of spread for MDRO:

- Transient carriage on the hands of health care workers is a significant risk for transmission. Surfaces and equipment can also become reservoirs and contribute to spread within the healthcare environment.
- Droplet transmission may also be implicated in the spread of MDRO when the patient has a respiratory tract infection where the MDRO is the causative organism.

Objectives:

To prevent and control the spread of Multidrug-resistant Organisms.

To minimise the risk of cross-infection to other patients, staff and visitors.

Implementation:

Screening patients for MDRO

Screening patients for MDRO is an important measure in the control of the spread of these resistant organisms.

- *Please note Manaaki modified screening for Endoscopy and Eye surgery. No screening and testing for this group. Environmental changes, cleaning processes and IPC protocols are in place for every patient. If a patient has a known MDRO, IPC protocol related to that MDRO following a risk assessment will be put in place for the patients' stay.*

All other non Manaaki patients are screened on the first contact with the Credentialed Specialist for MRSA, VRE, CRE and ESBL according to the MDRO flow chart, screening for MDRO, see **Appendix 1**.

This chart is used in conjunction with any communication stating which healthcare providers, are considered “high risk”. Communication will be circulated to credentialed specialists, the clinical and booking staff of Mercy Hospital by the Infection Prevention and Control Nurse (IPC Nurse) via email, in the event of notification from Public Health South, ESR or Te Whatu Ora of a high-risk facility. The MDRO high-risk communication will be distributed when there are changes to the status quo. This is not a regular communication. -

The screening will be initiated by the Credentialed Specialist’s rooms to ensure that patients are screened appropriately, promptly, and to ensure that the patient does not receive inappropriate antibiotic prophylaxis/treatment.

Instructions on how to self-perform testing, see **Appendix 4**, can be provided to patients from Specialist rooms and those issuing screening requests to detail how screening is performed.

The screening will be undertaken before the patient enters the hospital for surgery, and an allowance of up to 7 days is required for the lab processing of collected specimens. Screening results are valid for 6 months if no additional travel or hospital admissions to high-risk healthcare providers have occurred during the 6 months.

If the patient is admitted to the hospital in less than 7 days.

The IPC Nurse must be informed and the patient must have a single room in the overnight ward. If a single room is not available, a multi-bedroom can be utilised with curtains pulled (curtains simulate walls to create a temporary “single room”. Screening must be undertaken as soon as possible. If the patient is unable to have a single room, it may be appropriate to delay surgery until results are known. The patient is cared for in standard precautions until the results are known. Patient MDRO status should be ascertained before admission, habitual non-screening of patients will be monitored by the IPC Nurse and reported to the IPCC and Executives of Mercy. Expectations of MDRO screening and appropriate testing will be discussed during the credentialing and re-credentialing processes.

Communication of MDRO status

Patients found to meet the criteria will be communicated to Mercy through the bookings form and communication to the IPC Nurse.

An ‘ALERT’ will be entered on the TrakCare System by the Bookings staff, IPC nurse or following notification to them, of a pending MDRO screening.

MDRO alerts may only be removed by either the Bookings staff, Charge Nurse Manager (CNM), Associate Charge Nurse (ACN), and the IPC nurse (or nominated other for IPC nurse). A note on the MDRO alert will state which MDRO has been screened for and what is pending.

MDRO pending patients must be booked into a single room in the overnight ward.

Pending MDRO will be stamped on the draft Theatre List and reviewed by the Theatre Coordinator and either the Day Surgery ACN or day stay facility CNM, one operating day before surgery. If the status is still pending on the day of surgery, the Theatre Coordinator must be alerted. It is the responsibility of the Theatre Coordinator to distribute this information to the relevant staff, including Theatre Suite Assistant staff.

In the event of positive MDRO result this will be communicated by Preadmissions Nursing staff to the IPC Nurse, Theatre and PACU Coordinators, the relevant admitting and stay over ward/area Clinical Nurse Manager, ACN or Coordinator. This will be done by email. It is the responsibility of those receiving the information to disseminate the information to only to those that require it. If the patient requires isolation, notification needs to be made to the Housekeeping and Theatre Suite Assistant Coordinators.

Booking staff will stamp Contact Precautions on the theatre list if appropriate upon communication with the IPC nurse either by phone, email, or TRAK alert instructions.

Positive MDRO results will be placed on the patients' file and notification will be placed on the NHI Alert by the Director of Clinical Services or Clinical Nurse Manager. The TrakCare Alert will stay active on the patients' file for further admissions to the hospital.

Care of the MDRO Positive Patient – General Points

- **Placement and contact isolation of the MDRO positive patient**

Patient room allocation and isolation management are detailed in **Appendix 2** and are detailed further in the Isolation (transmission-based precautions) Policy.

Patients with confirmed positive MDRO are cared for in a single room, with access to a dedicated bathroom with a toilet. If a dedicated toilet for the isolation patient is not possible, a commode at the bedside must be used. Signage at the doorway of the room instructing PPE and isolation type using the signage in the Isolation (transmission-based precautions) policy must be displayed. Staff and Patient signage must be displayed

Requires Isolation

For selected MRSA strains (hospital strains and mMRSA), selected ESBL strains (in conjunction VRE, CRE positive cases, contact precautions must be adhered to.

ESBL positive cases must have further assessment using the ESBL risk assessment flow chart, see **Appendix 3**, to assess the extent of contact precautions required.

When isolation facilities are limited, the following isolation room prioritisation for patients with an MDRO is recommended:

* Carbapenem-resistant *Enterobacteriaceae* (CRE)

- * Vancomycin-Resistant *Enterococcus* (VRE)
 - * Multi-resistant gram-negative species (MRGN) e.g. *Acinetobacter. baumannii* and *Pseudomonas.aeruginosa*
 - * ESBL-Other than *E.coli* (e.g., Extended spectrum beta-lactamase – *Kleb.pneumo*, *Kleb.oxytoca*, *Enterobacteriaceae*)
 - * mMRSA (Multi resistant Methicillin-Resistant *Staphylococcus.aureus*)
- Laboratory report of the MDRO states the causative organism and will be noted in the patients TRAK alert by the IPC nurse.

Visitors

Visitors may be required to wear PPE (dependant on the type of MDRO). They must be instructed to wash their hands or use alcohol-based hand rub (ABHR) before and after visiting the patient. Due to the complexity around PPE fit for children and ability to adhere to isolation guidelines, it is recommended that children do not visit patients in isolation.

Visitors are not to visit other patients or other areas of the hospital following visiting patients in isolation. Visitors should be advised to undertake any other patient visits before the isolated patient by the staff looking after the isolation patient.

CRE and VRE - Visitors for CRE, VRE positive patients must wear PPE regardless of other visiting on the Mercy Hospital Campus.

ESBL –HIGH RISK- If the ESBL requires contact precautions, visitors must wear PPE.

- MEDIUM & LOW RISK- Visitors must wear PPE if performing personal hygiene cares. IF not performing personal hygiene cares, PPE is not required.

See **Appendix 3** for guidance on PPE requirements, for ESBL positive patient visiting.

MRSA Community strains– Visitors for MRSA positive patients, no PPE is required to be worn, as these strains are prevalent in the community and everyone is exposed and may have colonisation of these strains.

MRSA Hospital strains– Visitors for MRSA positive patients, PPE is required to be worn.

Surgery

Clearance is not possible before elective surgery for patients with ESBL, VRE, and CRE. However, suppression of MRSA is possible and treatment should be initiated at least 24 hours before surgery (refer MRSA decolonisation treatment for patients).

If antibiotic prophylaxis or treatment is required, a Clinical Microbiologist should be consulted for alternative antibiotic selection

The patient is to be placed last on the surgical list. The patient will require to be in isolation once admitted into the admission areas of the Mercy Campus. Lounge/waiting rooms do not need terminal cleaning, as no invasive procedures such as cannulation has taken place.

Only relevant Operating Theatre staff, including the Credentialed Specialists and Theatre Suite Assistants, must be informed of the patient's MDRO status.

Appropriate infection prevention and control practices and decontamination (cleaning & disinfection) procedures should be maintained by all persons in direct contact with the patient. All equipment must be cleaned before removal from the isolation room/theatre. Equipment not required must be covered, or removed from the area before the arrival of the patient.

Patients are to either walk through to theatre, or if transported on a bed, the bed must be covered with a fresh sheet. This reduces contamination of the theatre environment, with the potentially contaminated bed, while stored in the theatre hallway.

Transportation to other Departments within the Hospital

When transporting patients to other areas, e.g. Pacific Radiology, the ward orderly should be advised by clinical staff of any isolation requirements before collecting the patient. The receiving department must also be advised of the diagnosis and the need for precautions. Environmental cleaning e.g. X-ray bed and equipment will be required before other patients being treated afterwards. It would be prudent to have the isolated case treated last to limit exposure of MDRO to other patients.

- Dress the patient in a fresh gown.
- Ensure all dressings are occlusive and that all drips, drains and other devices are secure.
- Encourage the patient to perform hand hygiene before leaving the room.
- Wheelchairs used for transporting the MDRO patients must be covered with a clean sheet or disinfected after use by the ward assistant or nurse with cleaner and disinfectant wipe currently approved for use.

Contact precautions remain in place for staff when transporting the patient.

Restrictions on patient movements

The purpose of isolation is to prevent the spread of MDRO to other patients and the environment. Patients that are in contact isolation must not freely mobilise around the ward. If required to do so,

- Dress the patient in a fresh gown.
- Ensure all dressings are occlusive and drips, drains and other devices are secure
- Encourage the patient to perform hand hygiene before leaving the room.

The patient must not use patient areas such as family rooms or communal lounge areas. Please see ESBL risk assessment for patients that are Medium & Low risk, for further guidance on patient movement for these specific MDRO cases.

Transfer of MDRO Positive Patients

Colonisation or infection with an MDRO should not prevent the transfer of patients.

MDRO infection or colonisation should not be a barrier to appropriate clinical care.

Consequently, hospital transfer for clinical reasons should not be prevented.

Some MRSA patients may be transferred on topical clearance treatments. Ensure clearance treatment plans are documented and any topical treatment accompanies the patient on transfer

- Before transfer, liaise with the receiving health care facility regarding the MDRO status of the patient.
- MDRO status should be indicated on any transfer documentation.

Discharge to the Community

- A patient's MDRO positive status and related treatment should be noted on the medical discharge letter and communication to the GP.
- Other health care agencies involved in the patient's care should be informed if relevant e.g. District Nurse Services.
- If the patient is discharged to a long term care facility, the relevant nursing staff must be informed in advance. MDRO colonisation or infection is not a contraindication to the transfer of a patient to a long term care facility.

Prevention of psychological effects of isolation

Isolated patients may suffer from negative psychological effects. The following interventions may help to prevent this:

- Ask the patient and whanau (if appropriate, and led by the patient) about cultural needs and support during the isolation.
- Provide patients with information about their MDRO and explain the requirements and rationale for this. Check with the patient, their understanding of information and adjust to aid understanding.
- Ensure the patient can communicate effectively with staff e.g. can access a call bell, and has care provided as any patient at Mercy would receive. I.e., care must be taken not to unconsciously ignore or ration care due to the patients' MDRO status.
- Encourage visits from family and friends.
- The door may remain open for Contact Precautions.
- Meals and other items of need are to be provided promptly.

Communication with patient, families, primary caregivers and visitors

Consideration of the patient and support people's health literacy and cultural needs should be reflected in communications.

There must be timely, open and effective communication with patients, families, primary caregivers and visitors.

It is important to remember that a positive result can be traumatic and evoke negative feelings for the patient and their support people. At a minimum people need to understand;

- The nature of the organism, defining that they may cycle between colonisation and infection depending on their immunity strength
- What this means for them
- How this will affect their/the patients' care
- What transmission-based precautions should be undertaken

Education resources available are;

Appendix 4 – MDRO Screening Patient Booklet (How to swab guide)

Appendix 5 – MDRO Whanau information Booklet

Appendix 6 – MRSA Patient Booklet

Appendix 7 – ESBL Patient Booklet

Appendix 8 – VRE Patient Booklet

Appendix 9 – CRE Patient Booklet

Also, see **Isolation Policy** education resource;

Appendix 8 – What you need to know, Patient Information Booklet (Isolation Policy)

Evaluation

- Staff health records
- Incident forms.
- High Risk healthcare providers and/or countries circulated to relevant referrers and Mercy Clinical areas when required
- Patient Admission Information Questionnaire
- Patient Assessment form - MDRO high risk status documentation
- Discharge Summary MDRO documentation
- Positive MDRO patient Trak alert status recorded
- Clinical notes
- Complaints

Appendices

- Appendix 1 - MDRO Flow Chart – Consultant rooms screening
- Appendix 2 - MDRO Flow Chart – Clinical decision making for nurses
- Appendix 3 - MDRO Flow Chart – ESBL risk assessment
- Appendix 4 – MDRO Screening Patient Booklet (How to swab guide)
- Appendix 5 – MDRO Whanau Information Booklet
- Appendix 6 – MRSA Patient Booklet
- Appendix 7 – ESBL Patient Booklet
- Appendix 8 – VRE Patient Booklet
- Appendix 9 – CRE Patient Booklet
- Appendix 10– Information and Management Processes for MDRO's

Associated Documents

Internal

- Standard Precautions Policy
- Infectious Diseases Patient Management Policy
- Infectious Diseases Staff Management
- Outbreak Management Policy
- Isolation Policy- Transmission Based Precautions and appendices
- Antimicrobial Policy
- Waste Management Policy
- Environmental Cleaning Policy
- Laundry Policy
- Transfer of Patients Policy
- Discharge Policy
- Clinical Records Policy
- Personal Protective Equipment - Infection Control Policy
- Pre-admission – Trak Electronic Alert System
- Pre-admission- Telephone calls assessment process
- Bookings Coordinator
- By-Laws for Credentialed Specialists
- Application for Employment, Human Resources
- Schedule of Fees
- New Zealand Formulary

References

An Roinn Sláinte Department of Health. 2017. *National Public Health Emergency Team on Carbapenemase Producing Enterobacteriaceae (CPE) Situational Analysis*. An Roinn Sláinte Department of Health: Dublin.

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Guidelines for the Control of Methicillin-resistant Staphylococcus aureus in New Zealand. August 2002, Ministry of Health, Wellington

Guidelines for the Control of Multi-drug Resistant Organisms in New Zealand (2007), Ministry of Health, Wellington

Infection Prevention and Control and management of Carbapenemase-producing Enterobacteriaceae, Guideline for health care providers in New Zealand acute and residential care facilities (2018), Ministry of Health, Wellington

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