

Transmission-Based Precautions (Isolation) Policy

Purpose

To provide guidance on indications for transmission-based precautions to minimise infection transmission risk to patients, staff and visitors on Te Whatu Ora Health New Zealand Waitaha Canterbury and Te Tai o Poutini West Coast healthcare facilities.

Policy

A risk mitigation approach should be taken within our healthcare facilities with appropriate application of transmission-based precautions to prevent cross infection and promote patient safety.

Applicability

All staff including those not in direct contact with patients/consumers (as well as students, contractors, and volunteers).

Vision

There is an embedded culture among staff whereby adherence to best practice is the accepted norm minimising infection transmission risk and healthcare associated infection risk to patients, staff and visitors to our healthcare facilities.

Legislative Requirements and National Standards

Our organisation is obliged to comply with Health and Disability Services (Safety) Act 2001. The Infection Prevention and Control Service is mandated to ensure our organisation complies with the New Zealand Health and Disability Services (Infection Prevention and Control) Standards NZS 8134:2021.

Roles and Responsibilities

Te Whatu Ora Executive Team

The role of the Executive Team is to ensure that there are appropriate systems and processes in place for the management of infection that meet local and national requirements. They are responsible for ensuring effective, adequate, and appropriate resources are in place to enable staff to adhere to the Transmission-Based Precautions (Isolation) Policy.

Infection Prevention and Control Advisory Committee

The role of Infection Prevention and Control Advisory Committee (Waitaha Canterbury) is to provide strategic guidance and share their expertise. They are responsible for:

- Using evidence-based data and expert knowledge to inform strategic planning to minimise risk of healthcare associated infection.
- Ensuring local practices reflect changing international epidemiological trends for infectious diseases and antimicrobial resistant organisms and other organisms of concern.

Infection Prevention and Control Service

The role of staff in the Infection Prevention and Control Service is to provide day-to-day operational expertise and guidance in a timely manner to clinical staff (and other key stakeholders) on IPC measures to minimise infection transmission risk. They are responsible for:

- Reviewing cases in the electronic surveillance system (ICNet) daily
- Notifying clinical staff of alert organisms, infectious diseases and other conditions and advising on appropriate containment measures and infection prevention and control precautions
- Ensuring patients with positive isolates of key alert organisms are identified via ICNet and have an alert placed on patient information systems e.g. Health Connect South and SIPICS.
- Investigating suspected incidents of cross infection and outbreaks
- Providing written surveillance reports to relevant clinical staff, IPC committees and other key stakeholders

Maintenance and Engineering

The role of the maintenance and engineering team is to ensure heating, ventilation settings and air conditioning systems are maintained in accordance with hospital design best practice standards. WHO recommends at least six air changes per hour in standard patient rooms.

They are responsible for ensuring this is achieved i.e. through natural or by mechanical ventilation depending on the setting. Portable air filtration may be utilised as an additional measure to reduce risk of respiratory virus transmission especially in closed spaces.

Microbiology Department at Canterbury Health Laboratories

The role of the microbiology laboratory is to ensure appropriate tests are available to identify organisms causing infection. They are responsible for ensuring results are communicated promptly to clinical teams and the infection prevention and control team including any positive cultures, notifiable diseases, multi-resistant organisms, gastro-intestinal infections and bacteraemia.

Ward Managers / Co-ordinators / Nursing Staff

The role of ward managers / co-ordinators / nursing staff is to apply infection prevention and control policies, guidelines and procedures to ensure safety and minimise risk of healthcare associated infection. They are responsible for:

- Ensuring electronic patient records are checked on admission e.g. Health Connect South / SIPIC for alert organisms or conditions.
- Ensuring an MDRO admission risk assessment is completed on admission or upon transfer.
- Ensuring patients are screened for MDRO based on admission (or pre-admission or upon transfer) risk assessment and on request e.g. contact tracing.
- Ensuring specimens are obtained in a timely fashion.
- Ensuring infection prevention and control measures are carried out as detailed in this and other Te Whatu Ora Waitaha and Te Tai o Poutini policies.

Consultants and Other Medical Staff

The role of consultants and other medical staff is to apply infection prevention and control policies, guidelines and procedures to ensure patient safety and minimise risk of healthcare associated infection.

They are responsible for:

- Accessing and following up on any microbiology results for their patients
- Ensuring infection prevention and control precautions are carried out as detailed in Te Whatu Ora Waitaha and Te Tai o Poutini policies.
- Reporting notifiable disease to the local Medical Officer of Health
- Engaging in quality improvements to minimise risk of healthcare associated infection.
- Considering surveillance reports pertinent to their speciality.

Other Clinical Staff and Employees

The role of other clinical staff and employees is to apply infection prevention and control policies, procedures and guidelines to ensure patient safety and minimise risk of healthcare associated infection. They are responsible for:

- Following guidance of Ward / Unit and Nursing / Medical staff when dealing with patients in transmission-based precautions
- Asking for guidance and clarification for any areas of concern or uncertainty

Transmission-based Precautions

Transmission of infection within a healthcare setting requires three elements: an infectious agent (microorganism) or reservoir of infection, a susceptible host, and a mode of transmission. The mode of transmission varies by type of microorganism (bacteria, viruses, fungi, parasites, and prions) and may occur via more than one route.

The principal modes of transmission¹ are through:

- a) direct or indirect contact.
- b) via infectious aerosols – either larger droplets or smaller airborne particles; or
- c) vector-borne e.g. mosquitoes, ticks.

Healthcare procedures and clinical interventions increase risk of transmission of infectious agents. Effective work practices to minimise risk of transmission requires consideration of the specific risks as well as use of standard and transmission-based precautions.

1. Standard Precautions

Standard precautions are the **minimum** infection prevention practices that always apply when providing care to all patients, regardless of whether they have a known infection or not (as detailed in the Standard Precautions Policy – Ref 2400384).

2. Transmission-based Precautions

Transmission-based precautions are the **second tier** of infection prevention and control. Health care workers utilise them when standard precautions alone will not suffice to mitigate infection transmission risk.

When applying transmission-based precautions:

1. Minimise the frequency of room entry by grouping cares and collecting all equipment required ahead of time.
2. Minimise the number of people in the room.
3. Remove surplus equipment where possible.
4. Consider nominating a buddy or runner who can assist e.g. collecting and removing supplies or equipment, being a PPE buddy for donning and doffing.

¹ Health Quality and Safety Commission (2022). Ngā Whakatūpato: tuatahi, tuarua. Precautions: standard and transmission based. Available from URL: <https://www.hqsc.govt.nz/our-work/infection-prevention-and-control/ipc-practices/precautions-standard-and-transmission-based/>

2.1. Contact Precautions

The most common route of transmission is contact (direct or indirect). Contact precautions are intended to prevent transmission of infection either directly or through a contaminated intermediate object e.g. hands, clothing, surfaces, shared patient equipment.

2.2. Respiratory Precautions (Standard)

Interdisciplinary scientific data has demonstrated that most transmission of respiratory viruses is attributable to inhalation of small infectious aerosols inoculating mucous membranes of the respiratory tract rather than being limited primarily to large respiratory droplets.

People routinely breathe out respiratory particles. These particles are on a continuum of sizes, but most are in the aerosol size range (<100µm). Virus-laden aerosols can efficiently transmit seasonal and emerging respiratory viruses, particularly over short-range distances < 2metres.

Respiratory Precautions (Standard) are intended to prevent transmission of infection via respiratory aerosols.

2.3. Respiratory Precautions (Enhanced)

Airborne transmission of infection occurs via airborne droplet nuclei i.e. very tiny infectious aerosolised particles that can remain suspended in the air over time and may travel on air currents over distances ≥ 2metres.

They may be inhaled by susceptible persons who have not had face to face contact or been in the same room as the infectious person.

Respiratory Precautions (Enhanced) are intended to prevent transmission of infection via airborne droplet nuclei that may travel via air currents over distances ≥ 2metres.

Respiratory Precautions (Standard)

- **Surgical mask** (minimum requirement) *
- **Single room**

Key examples e.g.

- Influenza (IVA, IVB, IVC)
- RSV (respiratory syncytial virus)
- SARS-CoV-2 (COVID)

Respiratory Precautions (Enhanced)

- **N95 mask** (fit-checked)
- **Negative pressure room****

OR appropriately ventilated area /single room

Key examples e.g.

- pulmonary tuberculosis (*Mycobacterium tuberculosis* - MTB)
- measles (*Morbillivirus*)
- chickenpox (*Varicella-zoster virus* (VZV))
- MERS-CoV (Middle East respiratory syndrome coronavirus)

*Minimum requirement of surgical mask; staff may choose to wear a N95 mask

**negative pressure rooms may not always be available and well-ventilated single rooms may be acceptable in some situations. Consult IPC for advice.

Decisions about duration of precautions should be taken based on clinical judgement and in consultation with experts from the Infection Management Service or the IPC Service.

NB: Please note that longer duration in respiratory precautions may be necessary for immunocompromised or severely ill patients with respiratory viral infections due to prolonged viral shedding.

2.4 Protective Isolation Precautions

Dependant on neutrophil count, patients considered to be sufficiently immunosuppressed by their clinical team may be placed in Protective Isolation. A protective environment is most commonly used for stem cell transplant patients to minimise the risk of them acquiring infection and this usually requires providing HEPA filtered air and positive pressure rooms e.g. Haematology ward.

Other Considerations

Patient cohorting

Placement of patients exposed to or infected with the same laboratory-confirmed pathogen in the same inpatient room/geographical areas is a strategy that may be used when requirement for single patient rooms is exceeded. In such cases, the following measures should be followed:

- Separate patient beds by ≥ 2 metres where possible
- Create a visual barrier and define isolation space e.g. privacy curtain or portable screen.
- Use dedicated toilet or commode when cohorting patients with gastrointestinal illnesses.
- Use dedicated patient care items and equipment (otherwise decontaminate between patients)

Adverse effects of isolation on patients

The use of transmission-based precautions, although essential for infection control, has been associated with adverse effects in patients. Studies have found that patients in isolation precautions showed a negative impact on mental well-being and behaviour (including depression, anxiety and anger).

A few studies have shown that healthcare workers spend less time with patients in isolation. Patient safety may also be adversely affected by isolation related to supportive care failures.

It is important that patient education highlights the infectious disease status and rationale for transmission-based precautions and that regular assessments include checking on effectiveness of patient's coping mechanisms whilst in isolation.

Aerosol generating behaviours/procedures.

The risk of nosocomial transmission of respiratory viruses is more closely linked to patient factors and viral characteristics than to specific procedures undertaken.

PPE worn should be based on an assessment of the infective organism and patient factors, such as coughing, shouting/agitation or respiratory distress, regardless of which respiratory therapies/investigations are instituted.

Visitors

- Full PPE not required unless visitor assisting with direct patient cares for patient in contact precautions.
- Visitors should not visit if they are symptomatic with an illness e.g. respiratory symptom.
- All visitors must wash their hands or use alcohol-based hand rub prior to entering and leaving a room where the patient is in transmission-based precautions.
- Visitors should be given instructions about correct procedures and supported to follow requirements.
- Visitors, especially children, should consider delaying their visit for patients in the acute phase of highly transmissible diseases.
- Visitors should not use ward toilets or enter staff areas including ward kitchen.

IPC Precautions for deceased person (with infectious conditions)

Body bags are only required in the following circumstances:

- Leaking body fluids which are not containable or where gross external contamination of blood is present, OR
- Deemed to be at high risk of leaking body fluids by nature of condition, e.g. oedema, aspiration, extensive burns, trauma, OR
- The patient:
 - Had or was suspected of having a Viral Haemorrhagic Fever, **OR**
 - Has confirmed/suspected Emerging New Infectious Disease which may have resulted in death.

Clinical staff **must** advise the Mortuary or Undertaker if a patient is known or strongly suspected of having one of the following infectious diseases. **However, a body bag is not necessary unless any of the criteria above are present.**

- Spongiform encephalitis, e.g. Creutzfeldt Jacob Disease
- Ebola Virus Disease
- Hepatitis B
- HIV/AIDS
- Hepatitis C
- Tuberculosis
- Typhoid/paratyphoid
- Meningococcal meningitis/septicaemia (if death occurs before 48 hours of suitable antibiotics given).
- Invasive Beta-haemolytic Streptococcus Group A disease (if death occurs before 24 hours of suitable antibiotics given)

For site specific information on location of and processes related to body bags, see Appendix 1.

In some circumstances, there may be specific cultural needs that can be facilitated – please contact the IPC Service to discuss.

Notifiable Diseases in New Zealand (includes suspected)

Refer to guidance from the [Ministry of Health notifiable diseases](#) and Te Mana Ora [Community and Public Health](#) websites.

Policy measurement

- IPC annual or biennial environmental audits
- IPC Service surveillance data
- Outbreak reports

Supporting material

Controlled documents

- A-Z Infection Prevention & Control Management of Infectious Diseases – Ref 2405134
- Clostridioides difficile infection (CDI) Care Bundle – Ref 2409059
- Contact Precautions – Ref 2404769
- Decontamination of the Environment – Ref 2400387
- Discharge Cleaning and Disinfection Guide for Staff – Ref 2408588
- Discharge Clean Poster – Ref 2403495
- Inpatient Respiratory Streaming Guide – Ref 2409003
- Infection Prevention and Control (IPC) Service – Ref 2400388
- Isolation Resources Flipchart – Ref 2403491
- MDRO Admission Assessment Flowchart – Ref 2404773
- Multi-drug Resistant Organisms (MDRO) Control Policy – Ref 2400446
- Protective Precautions – Ref 2404761
- Standard Precautions Policy – Ref 2400384
- Standard Precautions Poster – Ref 2404775
- Respiratory Precautions (Standard) – Ref 2410075
- Respiratory Precautions (Enhanced) – Ref 241007
- Terminal Clean Poster – Ref 2404763
- Terminal Cleaning Quick Guide – Ref 2401160
- Why Am I In Isolation? (Patient information leaflet) – Ref 2402202
- Why Am I In Isolation? Te Reo Māori version – Ref 2410030

Supporting Resources

- Centres for Disease Control and Prevention. (2006). *Management of Multi Drug resistant Organisms in Healthcare settings*. (Updated 2017). Available from URL: <https://www.cdc.gov/infectioncontrol/pdf/guidelines/mdro-guidelines.pdf>
- Clark M, Haisman-Welsh R, White E, et al. (2018). *Infection Prevention & Control and Management of Carbapenemase-producing Enterobacteriaceae (CPE) Guidelines for health care providers in New Zealand acute and residential care facilities*. Available from URL: <https://www.health.govt.nz/publication/infection-prevention-control-and-management-carbapenemase-producing-enterobacteriaceae-cpe>
- Department of Labour. (2000). *Managing Health and Safety Risks in New Zealand Mortuaries*. Available from URL: <http://theapmla.net/files/NZ%20mortuaries-autopsy-guide.pdf>
- Health Quality and Safety Commission. (2022, April 14). *Ngā Whakatūpato: tuatahi, taurua Precautions: standard and transmission based*. Available from URL: <https://www.hqsc.govt.nz/our-work/infection-prevention-and-control/ipc-practices/precautions-standard-and-transmission-based/>

- Health Protection Scotland. (2020). *Appendix 11_Best Practice - Aide Memoire for Optimal Patient Placement and Respiratory Protective Equipment (RPE) for Infectious agents whilst a patient is in hospital.* Last accessed 14 December 2021
<http://www.nipcm.hps.scot.nhs.uk/media/1496/2020-3-16-appendix-11-v17.pdf>
- Heymann D. (2008). *Control of Communicable Disease Manual* (19th Edition). American Public Health Association.
- Ministry of Health. (2002). *Guidelines for the Control of methicillin-resistant Staphylococcus aureus in New Zealand*. Available from URL:
<https://www.health.govt.nz/system/files/documents/publications/mrsa.pdf>
- Ministry of Health. (2007). *Guidelines for the Control of Multidrug-resistant Organisms in New Zealand*. Available from URL:
<https://www.health.govt.nz/system/files/documents/publications/guidelines-for-control-of-multidrug-resistant-organisms-dec07.doc>
- Ministry of Health. (2019). *Guidelines for preventing the transmission of mycobacterium tuberculosis in healthcare settings*. Available from URL:
<https://www.health.govt.nz/system/files/documents/publications/guidelines-tuberculosis-control-new-zealand-2019-august2019-final.pdf>
- Ministry of Health. (2020). Schedule of Notifiable Diseases. Available from URL:
<http://www.health.govt.nz/our-work/diseases-and-conditions/notifiable-diseases>
- National Health and Medical Research Council. (2019). *Australian Guidelines for the Prevention and Control of Infection in Healthcare*. Available from URL:
<https://www.nhmrc.gov.au/sites/default/files/documents/infection-control-guidelines-feb2020.pdf>
- Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee. (Updated 2019). *CDC 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings*. Available from URL: <https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>

National Legislation and Standards

- [AS/NZS 4304:2002 Management of Healthcare Waste Standards](#)
- [AS/NZS 4146:2000 Laundry Practice](#)
- [NZ Food Act 2014](#)

Appendix 1 - Body Bags: Site specific locations and other information

Site	Location of body bags	Other
Ashburton Campus	Acute Assessment Unit	
Burwood Campus	Provided by Undertaker	In hours: Available via Supply After hours: Contact CHC Campus Duty Manager
Christchurch Campus	Mortuary / Undertaker	After hours: Mortuary staff or Orderlies
Hillmorton Campus	Provided by Undertaker	In hours: Available via Supply After hours: Contact CHC Campus Duty Manager
Te Nīkau Campus	Provided by Undertaker	