

## Transmission-Based Precautions (Isolation)

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### Purpose

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To provide guidance on appropriate infection prevention and control measures to minimise risk of transmission of an infectious agent to patients, staff and visitors on Canterbury DHB (CDHB) healthcare facilities.

### Policy

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A risk mitigation approach should be taken to reduce the risk of transmission of infectious agents within healthcare facilities, and to prevent cross infection and promote patient safety.

### Applicability

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All employees and staff of Canterbury and West Coast DHB.

### Vision

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Healthcare-associated infections and the spread of harmful pathogens are minimised through excellence in Infection Prevention and Control (IPC) practice. There is a deeply embedded culture among all CDHB staff whereby best practice to minimise risk of infection to patients, staff and visitors to healthcare facilities is the accepted norm.

### Legislative Requirements and National Standards

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

### Roles and Responsibilities

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#### CDHB Executive Management Team

The role of the Executive Management 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 for the implementation of the Transmission-Based Precautions (Isolation) Policy.

#### CDHB Infection Prevention and Control Executive Committee

The role of Infection Prevention and Control Executive Committee is to provide strategic guidance and direction. They are responsible for:

- Ensuring policy reflects changing international epidemiological trends for infectious diseases and antimicrobial resistant organisms and other categories of concern
- Using data to inform strategic planning for future improvements

#### Infection Prevention and Control Service

The role of the Infection Prevention and Control Service is to operationalise strategic guidance and IPC measures and ensure timely reporting to clinical areas and other key stakeholders. They are responsible for:

- Reviewing cases in the electronic surveillance system (ICNet) on a daily basis

- Notifying clinical staff of alert organisms, infectious diseases and other conditions and advising clinical staff 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

### **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 patient safety and minimise risk of healthcare associated infection. They are responsible for:

- 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 other specimens are obtained in a timely fashion
- Ensuring electronic patient records are checked on admission e.g. Health Connect South / SIPIC for alert organisms or conditions
- Ensuring infection prevention and control measures are carried out as detailed in this and other CDHB 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 CDHB 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

## Principles

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

Healthcare procedures and clinical activities increase risk of transmission of infectious agents. Effective work practices to minimise risk of transmission of infection require consideration of the specific situation and appropriate use of PPE as well as use of standard and transmission-based precautions.

### 1. Standard Precautions

Standard precautions are the primary strategies for minimising the transmission of healthcare-associated infections. Standard Precautions must be used 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

In certain situations, the use of standard precautions alone may not be enough to limit the spread of infection. When this occurs, transmission-based precautions are required.

There are three types of transmission-based precautions contact, droplet and airborne precautions. One or more types of transmission-based precautions may be required depending on how an infection is spread between people. When applying transmission-based precautions:

1. Minimise the frequency of room entry by collecting all the equipment required before entering the room
2. Minimise the amount 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

#### 2.1. Contact Precautions

The most common route of transmission is contact (direct or indirect). Contact precautions are intended to prevent transmission of infectious agents either directly or through an intermediate object e.g. contaminated hands, clothing, shared surfaces, shared patient equipment or via intermediate person. Refer to Contact Precautions poster (Ref 2404769) for guidance.

#### 2.2. Droplet Precautions

Droplet Precautions are intended to prevent spread of infection by respiratory droplets e.g. from coughing, sneezing, talking or during procedures e.g. suctioning. Droplet transmission occurs when microorganisms travel from the respiratory tract of the infectious individual to susceptible mucosal surfaces of the recipient. The distance droplets travel depends on the velocity and mechanism by which they are propelled from the source as well as the density of the respiratory secretions and environmental factors e.g. temperature, humidity and airflow/ventilation. This tends to be under 1-2 metres. Refer to Droplet Precautions poster (Ref 2404765) for guidance.

#### 2.3. Airborne Precautions

Airborne transmission occurs by spread of airborne droplet nuclei or tiny aerosolised particles that remain infectious over time and distance and are dispersed by air currents. 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.

Airborne Precautions are intended to prevent transmission of respiratory droplet nuclei and aerosols that may travel distances of  $\geq 2$ metres via air currents and cause infection. Refer to Airborne Precautions poster - Ref 2404957 for guidance.

#### 2.4. **Enhanced Precautions (Airborne and Contact)**

Enhanced precautions (Airborne and Contact) are intended to prevent spread of infection from emerging infectious diseases such as SARS, MERS and SARS-COV-2 (COVID-19), that spread rapidly and cause global epidemics. Refer to Enhanced Precautions - Airborne and Contact poster – Ref 2406828 for guidance.

#### 2.5. **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.

#### 2.6. **Visitors**

- Visitors should not visit if they are asymptomatic with an illness e.g. respiratory symptoms.
- 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.
- Visitors must not use ward kitchen areas or staff toilets.

#### 2.7. **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.

The IPC Service does not routinely recommend cohorting of patients, however, when applied the following measures should be followed:

- Separate patient beds by  $\geq 2$  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)



## 2.8. 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.

Body bags are available from Mortuary or Undertaker and can be requested via the Mortuary staff or orderlies out-of-hours.

- Clinical staff **must** advise the Mortuary 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).

## 2. 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.

## 3. 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

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- Environmental audits
- Surveillance data
- Outbreak reports

## Supporting material

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### Controlled documents

- CDHB IPC MDRO Control Guidelines – Ref 2400446
- IPC MDRO Admission Assessment Flowchart – Ref 2404773
- CDHB IPC Standard Precautions Policy – Ref 2400384
- CDHB Terminal Cleaning Quick Guide – Ref 2401160
- CDHB Decontamination of the Environment – Ref 2400387
- CDHB Decontamination of Equipment – Ref 2401703
- COVID-19 Guidelines for Patient Management – Ref 2408056
- Infection Prevention and Control (IPC) Service – Ref 2400388
- A-Z Infection Prevention & Control Management of Infectious Diseases – Ref 2405134
- Standard Precautions Poster – Ref 2404775
- Transmission Based Precautions Signage – Ref 2403491
- Why Am I In Isolation? (patient pamphlet) – Ref 2402202

### Supporting Research

- Centers 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 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>
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<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>

#### **Other COVID-19 Resources:**

- New Zealand Health and Disability Services (Infection Prevention and Control) Standards NZS 8134: 2021
- Centers for Disease Control and Prevention. (2021). *Global COVID-19*. Available from URL: <https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/index.html>
- European Centre for Disease Prevention and Control. (2021). *COVID-19*. Available from URL: <https://www.ecdc.europa.eu/en/covid-19>
- European Centre for Disease Prevention and Control. (2021). Infection prevention and control and preparedness for COVID-19 in healthcare settings. (6<sup>th</sup> update). Available from URL: <https://www.ecdc.europa.eu/en/publications-data/infection-prevention-and-control-and-preparedness-covid-19-healthcare-settings>
- Ministry of Health. (2021). *COVID-19 (novel coronavirus)*. Available from URL: <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus?mega=Our%20work&title=COVID-19>
- World Health Organization. (2021). *Coronavirus disease (COVID-19) pandemic*. Available from URL: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

#### **National Legislation and Standards**

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