



Pulmonary Tuberculosis (TB) Infection Prevention and Control Policy

Purpose

This policy is intended to be used in conjunction with clinical guidelines for patients with pulmonary tuberculosis and provide staff with information related to infection prevention and control requirements when caring for these patients.

Policy

This policy focuses on infection prevention and control measures to be implemented in CDHB & WCDHB healthcare facilities when caring for patients with pulmonary tuberculosis.

Pulmonary Tuberculosis is a **NOTIFIABLE** disease in New Zealand and immediate notification to the local Medical Officer of Health is required. Notification of TB encompasses all Mycobacterium species within *M. tuberculosis* complex, therefore including *M. bovis* and other species (see *Guidelines for Tuberculosis in New Zealand, 2019*).

Applicability

All staff at CDHB and WCDHB.

Roles and Responsibilities

CDHB Executive Management Team

The role of the Executive Management Team is to ensure that there are processes in place for the surveillance and care of patients with pulmonary tuberculosis (TB) that meets local and national requirements. They are responsible for ensuring effective, adequate and appropriate resources are in place for the implementation of this policy.

Microbiology Department at Canterbury Health Laboratories

The role of the microbiology laboratory is to ensure appropriate tests are available to identify pulmonary tuberculosis. They are responsible for ensuring any acutely positive results are communicated promptly to clinical teams, infection prevention and control team, the Medical Officer of Health and national surveillance laboratories.

CDHB Infection Prevention and Control Executive Committee

The role of Infection Prevention and Control Executive Committee is to provide strategic guidance and direction for CDHB and WCDHB in surveillance and management of patients with TB. They are responsible for:

- Reviewing the CDHB surveillance system to ensure it meet obligations for identifying cases and reporting in line with national requirements
- Ensuring the management of patients with TB follows current national and international recommendations
- Ensuring there are effective environmental measures in place to manage cases within the healthcare environment

Infection Prevention and Control Operational Team

The role of the Infection Prevention and Control Operational Team is to provide advice to staff in the management of patient's in CDHB & WCDHB facilities with TB.



They are responsible for:

- Reviewing the electronic surveillance system (ICNet) daily to identify any positive isolates
- Notifying clinical staff of positive acid-fast bacilli (AFB) cases and advising on appropriate containment measures and infection prevention and control precautions.
- Identifying potential exposure of other patients /staff to an active TB case and assisting with patient/staff data collection for contact tracing purposes
- Liaising with Community and Public Health (CPH) and CDHB and WCDHB Occupational Health teams in relation to contact tracing

Community and Public Health

Public Health Nurses are responsible for contacting patients discharged from healthcare facilities and families of confirmed cases where an exposure risk has been identified. Where applicable, the details of the patient are forwarded by the IPC Service.

Occupational Health Service

The role of the CDHB Occupational Health Service is to follow-up staff who meet the definition for workplace exposure to a TB case.

Where there has been unprotected exposure to patients with active tuberculosis before diagnosis is made (>8 hours cumulative exposure), appropriate follow-up for staff will be provided by the CDHB Occupational Health Service. Staff who meet this criterion will have their names forwarded by their Charge Nurse Manager.

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 for TB to ensure patient and staff safety and minimise risk of transmission. They are responsible for:

- Ensuring any suspected/positive case is assessed on admission or upon transfer
- Ensuring patients are managed in the appropriate physical setting i.e. negative pressure room with anteroom and ensuite or single room with anteroom and ensuite.
- Ensuring patients are placed in appropriate transmission-based precautions i.e. airborne precautions
- Ensuring staff are familiar with the recommended infection prevention and control precautions including use of N95/P2 mask and mask fit testing/checking requirements
- Maintaining the required precautions until clinical and microbiological clearance is obtained

Consultants and other Medical Staff

The role of consultants and other medical staff is to apply infection prevention and control policies, guidelines and procedures for TB to ensure patient/staff safety and minimise risk of transmission. They are responsible for:

- Accessing and following up on any microbiology results for their patients
- Co-reporting any new cases to the local Medical Officer of Health via the NOTIFIABLE Disease electronic reporting process in PRISM
- Ensuring infection prevention and control precautions for TB are carried out as detailed in CDHB and WCDHB policies
- Liaising with other departments as applicable in the effective treatment regime for patients, as applicable

Other Clinical Staff and Employees

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

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

Use of Transmission-based Precautions in Hospital

Infectious patients should be admitted to hospital and transmission-based precautions implemented if they are:

- sufficiently unwell as to require admission to hospital
- unable to comply with the community infection control precautions

If there is a suspicion of pulmonary tuberculosis on admission/initial assessment, the patient should be given a surgical mask to wear and a negative pressure isolation room sought as soon as possible.

Airborne Precautions

- Airborne Precautions must be used to care for patients with suspected or confirmed infectious pulmonary tuberculosis. Airborne Precautions are used in addition to Standard Precautions.
- An airborne isolation room with an anteroom and an ensuite bathroom should be used. This room will have negative air pressure in relation to the surrounding areas (with a pressure differential of 10-15 pascals) and appropriate discharge of air outside or high-efficiency filtration of room air before it is circulated to other parts of the hospital.
- When an Airborne Isolation room is unavailable, a single room with anteroom and ensuite may be used for suspected patients after consultation with the IPC team or the Respiratory Medical team.
- All clinical staff who enter the room should wear N95 masks.
N.B. A surgical mask is not adequate protection for staff or visitors.
- Mask fit- testing of staff is no longer a routine requirement, however staff must make sure that they undertake fit-checking to ensure the mask worn forms a tight seal around nose/mouth before entering isolation room.
- Children are rarely infectious; however, advice should be sought from the infectious diseases/paediatric expert in TB regarding isolation needs.
- N95 masks should also be offered to visitors although a risk assessment in relation to their previous exposure (e.g. if they have been living with the patient prior to admission) may be carried out by nursing/medical staff who may not deem this necessary as contact tracing will be undertaken for these individuals.
- **A patient with suspected or proven drug resistant TB especially Multi-Drug resistant TB should always be isolated in a negative pressure room.**
- Where a combination of both airborne and protective isolation (AII/PE) may be required for an immunocompromised patient, discussion with the Clinical Team/IPC Service is recommended to ascertain risks related to various ventilation requirements e.g. a single ensuite room and use of a portable air filtration unit may be considered.



Aerosol generating procedures

- Aerosol generating procedures such as induced sputum's and bronchoscopy must be carried out using Airborne Precautions in a room with negative air pressure even when tuberculosis is only remotely possible as a diagnosis.
- N95 masks (particulate respirators) must be worn by all staff undertaking or present in the room during these procedures.

Precautions for patient movement and transfer outside of isolation room

- Infectious patients must wear a surgical mask when leaving the isolation room e.g. for investigations in other parts of the hospital and be instructed to keep this on at all times while out of the isolation room.

Extra-pulmonary tuberculosis precautions

- Patients with tuberculosis infection of a wound, cysts, perineum or any other non-pulmonary site do not require isolation and Airborne Precautions.
- Where care of a TB infected wound may generate aerosols e.g. irrigation of the wound bed, N95 masks and gloves are required.
- N95 masks should be worn when emptying peritoneal bag fluid from a patient diagnosed with peritoneal TB.

Criteria for ending isolation

The default position for a patient with a smear-positive pulmonary TB is to isolate for at least two weeks for a patient who is tolerating treatment but it is at the discretion of the Respiratory/Specialist Medical Team.

Factors for consideration include:

- The patient has stopped coughing
- The patient is infected with a fully sensitive strain of Mycobacterium tuberculosis
- The patient is responding well to treatment and there is no treatment interruption
- Low smear score on sputum
- Compliance with requests to wear masks outside of room

Many patients will have ceased to produce sputum after 2 weeks' treatment and are unlikely to be infectious. If spontaneous sputum specimens cannot be obtained, supervising nursing staff must be sure the patient is no longer coughing before the decision is made to end isolation.

Patients with evidence of cavitary disease, vigorous cough or ongoing smear positive scores may require longer isolation

NB: These are not discharge criteria as many patients may be able to continue isolation at home following clinical/nursing assessment.

Key Performance Indicator

- Regular assessment of staff knowledge and compliance for management of patients during ward rounds and notification of results
- Review of staff exposure cases with CDHB Occupational Health in regard to any increase in exposure events
- Policy review in line with current literature on a 3-yearly basis

Supporting material

Controlled documents

- Airborne Precautions Poster - Ref: 2404957
- Discharge Cleaning and Disinfection Guide - Ref: 2408588
- Transmission-based Precautions (Isolation) - Ref: 2400389
- Guidelines for Operating the ventilation System in Negative pressure Rooms - Ref: 2402209

References

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