

IC4: 0210 Tuberculosis Management

1.0 PURPOSE

- 1.1 Admission of residents with active pulmonary tuberculosis will be delayed until resident is on treatment and has confirmation of 3 negative sputa for Acid Fast Bacillus (AFB). Consult Infection Prevention and Control Practitioner.
- 1.2 Any resident with suspected or confirmed pulmonary tuberculosis will be maintained on airborne precautions and will be transferred to a facility with negative pressure as soon as possible (within the same day). They may return to the facility once confirmation of 3 negative sputum for Acid Fast Bacillus (AFB).
- 1.3 For all residential healthcare facilities within the Fraser Health Authority.

2.0 DEFINITIONS

- 2.1 Tuberculosis (TB) is a bacterium (mycobacterium tuberculosis) that when in the lungs or larynx the bacteria are spread via Airborne particulates. Transmission requires close, frequent and prolonged exposure to a source case.
- 2.2 Latent TB is when TB bacteria in your body, but your body's defenses (immune system) fight the infection and try to keep it from turning into active TB. There are no symptoms of TB and it cannot be spread disease to others. Latent TB can convert to active TB.
- 2.3 Active TB is when TB bacteria are growing and causing symptoms. If the lungs or larynx are infected with TB the **Airborne precautions** are required and staff must wear an N95 respirator (see IC5:0500 Procedure Masks and N95 Respirators). Annual fit testing is required for use of an N95 respirator.
- 2.4 Acid-Fast Bacilli (AFB), the test used to confirm presence of mycobacterium tuberculosis.
- 2.5 Multi drug resistant TB (MDR TB) is defined as TB that is resistant at least to isoniazid (INH) and rifampicin (RMP), the two most powerful first-line anti-TB drugs.
- 2.6 Extensively drug-resistant tuberculosis (XDR-TB) is a form of TB caused by bacteria that are resistant to the most effective anti-TB drugs.
- 2.7 Extra pulmonary TB is in the body outside of the lungs and may include lymph nodes, spine, kidneys, joints, eyes, and other organs throughout the body.
- 2.8 Contact, a person who has shared the same air with a person with infectious TB.

- 2.9 Tuberculin skin testing (TST) a type of tuberculin skin test in which purified protein derivative (PPD) is introduced intra-dermally and is used for screening to determine previous exposure to TB.

3.0 TUBERCULOSIS MANAGEMENT

The Fraser Health Residential Care TB infection-control program should be based on the following three-level hierarchy of control measures:

- 3.1 Administrative measures
- 3.1.1 Risk assessment of facility.
 - 3.1.2 Written policies outlining management and treatment of suspected and confirmed cases
 - 3.1.3 Training and education of staff regarding symptom identification and transmission
 - 3.1.4 Screening staff and residents
 - 3.1.5 Ensuring proper precautions (Airborne Precautions for laryngeal and pulmonary TB) and respiratory etiquette is followed
 - 3.1.6 Working in conjunction with Public health and TB Control
- 3.2 Environmental controls
- 3.2.1 Ensuring airborne precautions, air exchanges, airflow and ventilation, are met or the resident is transferred to a facility that has the proper environment
- 3.3 Personal protective equipment, use of N95 respirators for all suspected and confirmed cases of pulmonary or laryngeal TB
- 3.3.1 Implementing a respiratory-protection program for the use of N95 respirators
 - 3.3.2 Ensuring staff are fit tested for N95 respirators
 - 3.3.3 Training residents, staff and visitors on respiratory etiquette, see IC5: 1100 Respiratory Etiquette.

Precautions required

Any suspected pulmonary or laryngeal TB case will be maintained on

Airborne precautions :

See IC6: 0300 Airborne Precautions) and will be transferred to a facility with negative pressure ASAP (same day).

Signs and symptoms of active pulmonary and laryngeal TB:

- An unexplained productive cough for more than 2-3 weeks.

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- Blood in sputum (hemoptysis)
- Fever, chills, and night sweats
- Fatigue and weakness.
- Loss of appetite and unexplained weight loss.
- Shortness of breath and chest pain.
- TB is a reportable communicable disease and all confirmed cases will be reported to public health.
- Screening of contacts will be done in conjunction with Public Health and TB control.
- Ensure compliance with TB treatment to prevent development of resistant bacteria.
- Upon discharge or transfer
- Resident to wear a procedure mask when leaving the room for transfer to another facility.
- All staff accompanying the resident is to wear an N95 respirator.
- Notify ambulance and receiving facility of potential pulmonary tuberculosis
- Terminally clean room after the time period to filter the air (so housekeeping need not wear an N95) leave door closed for time as determined by air exchanges per table below.

Air changes per hour	Minutes required for removal at 99%	Minutes required for removal at 99.9%
2	138	207
4	69	104
6	46	69
12	23	35
15	18	28
20	7	14
50	3	6

Adapted from Canadian Tuberculosis Standards 6th edition

3.4 Risk factors for having disease and or converting.

- 3.4.1 High TB incidence country
- 3.4.2 High incidence aboriginal community
- 3.4.3 Former urban poor
- 3.4.4 HIV/AIDS
- 3.4.5 Immune compromised (i.e. liver disease, renal disease, absent or dysfunctional spleen, autoimmune disease, inflammatory conditions)
- 3.4.6 Transplantation (related to immunosuppressant therapy)
- 3.4.7 Chronic renal failure requiring hemodialysis
- 3.4.8 Carcinoma of head & neck
- 3.4.9 Recent TB infection (less than 2 years)

4.0 RELATED STANDARDS

- 4.1 Fraser Health Residential Care Infection Control Manual:
 - 4.1.1 IC6:0300 Airborne Precautions
- 4.2 Fraser Health Community Care Facilities Licensing: Tuberculosis Testing and Immunization Guidelines in Adult Residential Care – (Part B- For Persons in Care)

5.0 EDUCATION REQUIREMENTS

- 5.1 Signs and symptoms of TB.
- 5.2 N95 respirators and fit testing requirements

6.0 APPENDICES

- 6.1 See Appendix II N95 respirators and fit testing requirements

7.0 REFERENCES

British Columbia Center for Disease Control (March 2010). TB Manual
http://www.bccdc.ca/NR/rdonlyres/B17BA4E2-605D-47D7-9B23-053791D9BA7A/0/BCC_TB_Manual_FinalJune2010.pdf

Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005.

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<http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf>

Ontario Lung Association (2009). Tuberculosis Information for Health Care Providers, Fourth Edition.

www.on.lung.ca

Public Health Agency of Canada (2013). Canadian Tuberculosis Standards, seventh edition.

<http://www.respiratoryguidelines.ca/tb-standards-2013>