Management of Patients with Suspected and/or Confirmed Pulmonary or Laryngeal Tuberculosis

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Approved by:
Vice President & Chief Medical Officer

Purpose
To provide guidance for the management of patients with suspected and/or confirmed pulmonary or laryngeal tuberculosis (TB) in Covenant healthcare facilities.

Policy Statement
Covenant Health Infection Prevention & Control is committed to patient safety at all levels of the organization by supporting and promoting an environment that encourages appropriate care and management of patients with suspected and/or confirmed pulmonary or laryngeal tuberculosis.

Applicability
This policy applies to all healthcare staff, physicians, volunteers, students and to any other persons acting on behalf of the following Covenant Health facilities; Banff Mineral Springs, Bonnyville Health Centre, Camrose – St. Mary’s, Castor – Our Lady of the Rosary, Edmonton – Grey Nuns, Misericordia and Villa Caritas, Killam Health Centre, Vegreville – St. Joseph’s. This policy applies only to the acute care population if the above facilities provide both acute and continuing care.

Responsibility
Covenant Health (COV) staff, members of the medical staff, volunteers and other service providers are responsible for creating and sustaining an environment that supports an infection control program that effectively prevents transmission of tuberculosis.

Principles
1. **Precautions Required and Background**

   - **Airborne precautions are required at all times and should be initiated as soon as possible.** Individuals become infected with tuberculosis via inhalation of droplet nuclei. These droplet nuclei can remain suspended in airspace for long periods of time, and can also travel on air currents.
   - **Contact precautions are not required unless indicated as per point of care risk assessment** (see Related Documents section).
   - **Symptoms of active TB include:** cough (particularly if productive with hemoptysis), low-grade fever, unexplained weight loss, night sweats, fatigue, and loss of appetite.
   - Fomites (i.e., inanimate objects such as linens, furniture, books, floors, etc.) are not a significant source of infection.
   - Individuals with laryngeal TB (eg. larynx, vocal cords) show the highest infectivity of all forms of TB, followed by cavitary pulmonary tuberculosis, compared to individuals with only pulmonary involvement.
   - Most patients with extrapulmonary tuberculosis alone are not infectious and require only routine practices. However, it is important to exclude concomittant pulmonary involvement which occurs in a significant proportion of patients with extrapulmonary TB, at which point additional airborne precautions would be required. Airborne precautions for extrapulmonary tuberculosis without pulmonary involvement are also required if procedures are being performed that may
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The World Health Organization estimates that one third of the world’s population is infected with *Mycobacterium tuberculosis*. The challenges of the spread of HIV and emergence of drug-resistant strains of TB continue to influence the global picture.

Individuals with depressed cell-mediated immunity are at higher risk of developing active TB. This includes persons with: HIV/AIDS, organ transplant recipients, silicosis, chronic renal failure, diabetes, head/neck carcinoma, hematological malignancies, recent TB infection, and abnormal radiographs.

Certain groups have higher rates of TB throughout Canada. These include: persons 65 years of age or older, Aboriginal population, homeless/inner-city residents, foreign-born individuals from TB endemic countries, travelers to TB endemic countries, persons with a history of TB, injection drug users, staff/inmates of correctional facilities, and health professionals who work closely with populations at increased risk for TB.

2. **Hand Hygiene Guidelines**

   - Refer to Corporate Policy# VI-10, *Hand Hygiene*.

3. **Patient Hygiene**

   - Patients must have access to appropriate hand hygiene; i.e. following pericare/toileting, prior to meals, etc.

4. **Personal Protective Equipment (PPE)**

   - Perform a Point of Care Risk Assessment (PCRA)* (see *Related Documents* section). Prior to every patient interaction, health care providers have a responsibility to assess the infectious risk posed to themselves, other patients, visitors, and other health care providers by a patient, situation or procedure.
   - Routine practices must always be followed in addition to airborne precautions. A fit-tested N95 respirator must be worn.
   - PPE is single-use only.

5. **Communication of Additional Precautions**

   - Place airborne precautions signs on the door and have personal protective equipment outside the room.
   - Communication of TB status should be placed on the chart and care plan, in order to alert staff to use additional precautions, along with routine practices.
   - **Additional precautions must be followed by all persons entering the patient’s room.**
   - Receiving unit / department / facility must be notified of the additional precautions required.
6. **Accommodations**

- Patient must be admitted to a negative pressure room with appropriate air control.
- The door to the room must remain closed, in order to maintain negative pressure.
- Single room required.
- If appropriate ventilation is not available, patient must be placed in a single room with door closed. If tuberculosis is confirmed, transfer must be arranged to a facility with appropriate ventilation.
- Upon discharge/transfer, patient room must be left vacant, in order to allow sufficient time to ventilate the room with the door closed. Recommendations for room types are as follows:
  - **Non-Negative Pressure Rooms**: Do not admit a new patient into this room for at least two hours. If entering room before two hours, wear an N95 respirator.
  - **Negative Pressure Rooms**: Do not admit a new patient into this room for at least 45 minutes. If entering room before 45 minutes, wear an N95 respirator.

7. **Patient/Roommate and Staff Contacts**

- Follow up with roommate contacts of patients with suspected TB is not necessary until TB has been confirmed.
- If a patient is confirmed to be positive for TB – Infection Control (during regular business hours or the next available business day) will coordinate a step-by-step approach working with Unit Managers to identify all exposed patients and provide this information to TB Services or the TB Clinic for appropriate follow-up.
- All staff exposed to a patient with confirmed TB will be followed by COV Occupational Health & Safety (OHS).

8. **Equipment and Supplies**

- Use single-use items whenever possible, or dedicate non-critical patient care items (such as blood pressure cuffs and stethoscopes) to a single patient. When this is not possible, patient items must be thoroughly cleaned and disinfected between uses with hospital-approved disinfectant.
- Minimize supplies taken into the patient’s room.

9. **Waste and Laundry**

- Soiled laundry bag/bin must be located inside the patient’s room.
- Waste/garbage receptacle to be placed in the hall directly outside the patient’s room (or in anteroom, if available) for disposal of N95 respirator following room exit. Perform hand hygiene after doffing N95 mask.
- Waste/garbage should be discarded into the general waste.
• Double-bagging for waste or laundry is not required unless the bag is leaking.
• Disposable meal trays are not required.

10. **Environmental Cleaning**

• Thorough routine daily cleaning is required with hospital approved detergent / disinfectant as per hospital policy / procedure.
• Routine room cleaning is required when patient is discharged, transferred, or when precautions are discontinued.
• N95 respirator must be worn when performing cleaning if the room is occupied or appropriate ventilation/settle time has not occurred (see below).
• Upon discharge/transfer, patient room must be left vacant in order to allow sufficient time to ventilate with the door closed:
  - **Non-Negative Pressure Rooms**: Room must be left vacant for at least two hours. If entering room to perform cleaning before two hours, wear an N95 respirator.
  - **Negative Pressure Rooms**: Room must be left vacant for at least 45 minutes. If entering room to perform cleaning before 45 minutes, wear an N95 respirator.

11. **Patient Transport and Movement Within Facility**

• Patient should remain in room unless essential medical/diagnostic/ rehabilitative services must be performed.
• If patient leaves room:
  - does not need to wear gloves, but must perform hand hygiene
  - should wear a clean hospital housecoat
  - must wear a surgical mask
• The patient must be accompanied by a health care provider.
• Health care providers transporting the patient require a fit-tested N95 respirator.
• Alert receiving unit/department of patient’s TB status and that additional precautions are required.
• If transporting patient in an elevator – limit those in elevator to only the patient and the necessary HCW(s). All other patients, visitors, health care providers, etc. must step out of the elevator.
• If patient received essential medical/diagnostic/rehabilitative services within another department, room/area to be cleaned as per #10 Environmental Cleaning (above).

12. **Patient Transport and Movement Outside Facility**

• Information about the patient’s TB status and required additional precautions must be communicated directly to transport personnel and staff on the unit at the transport destination.
13. **Screening for Tuberculosis**

- Screening is not ordered by Infection Prevention & Control.
- Screening is performed at the discretion of the attending physician.

14. **Discontinuation of Airborne Precautions**

*(See p 375 or 377/468 in Can TB Standards - 7th edition)*

- Airborne precautions may only be discontinued by the attending physician in discussion with Infection Prevention & Control and/or TB Services.
  
  o Airborne precautions may be discontinued if three successive samples of sputum (spontaneous or induced) are smear negative, **unless** TB is still strongly suspected and no other diagnosis has been made.

  **Note:** Specimens can be collected within one hour of each other on the same day, with at least one of them taken in the early morning.

  o A single negative AFB smear from bronchial alveolar lavage does **NOT** definitively exclude pulmonary TB; three induced sputa provide superior yield for the diagnosis and, therefore, are also required in addition to any single negative bronchoscopy specimens.

15. **Patient Teaching**

- Instruct the patient to cover mouth and nose with tissue when coughing, sneezing, or laughing, and to discard tissues into the waste container in the room.

16. **Visitors**

- Limit visitors to essential family members only.
- As per additional precautions signage, visitors are to check with nursing staff prior to entering patient room.
- Visitors must comply with additional precautions.

**Definitions**

*Health care provider* means any person who provides goods or services to a patient, inclusive of health care professionals, staff, students, volunteers and other persons acting on behalf of or in conjunction with Covenant Health.

*Point of Care Risk Assessment (PCRA)* - an evaluation of the risk factors related to the interaction between the HCW, the patient and the patient’s environment to assess and analyze potential for exposure to infectious agents and identify risks for transmission.
The following resources are available @ [http://www.compassionnet.ca/Page172.aspx](http://www.compassionnet.ca/Page172.aspx)

Covenant Health Corporate Policy #VI-10, Hand Hygiene

Covenant Health Infection Prevention & Control Posters:
- “Personal Protective Equipment”
- “Putting on (Donning) Personal Protective Equipment – Detailed”
- “Taking off (Doffing) Personal Protective Equipment – Detailed”

Covenant Health Infection Prevention & Control Patient Teaching Materials:
- “Frequently Asked Questions about Isolation Precautions”
- “Tuberculosis Information for Patients/Families/Visitors”

Covenant Health Infection Prevention & Control Staff Information:
- “Tuberculosis Information for Staff”

Covenant Health Infection Prevention & Control Routine Practices & Additional Precautions:
- “Airborne Information”
- “Point of Care Risk Assessment”

Covenant Health IPC Diseases & Conditions Table:
- “Recommendations for Management of Acute Care Patients” @ [http://www.compassionnet.ca/Page185.aspx](http://www.compassionnet.ca/Page185.aspx)

References

Revisions
June 10, 2013
February 12, 2008