<table>
<thead>
<tr>
<th><strong>NAME OF DOCUMENT</strong></th>
<th>Tuberculosis: Patient Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE OF DOCUMENT</strong></td>
<td>Infection Control procedure</td>
</tr>
<tr>
<td><em>Policy, Procedure or Clinical Guideline</em></td>
<td></td>
</tr>
<tr>
<td><strong>DOCUMENT NUMBER</strong></td>
<td>SESLHNPD/125</td>
</tr>
<tr>
<td><strong>DATE OF PUBLICATION</strong></td>
<td>April 2011</td>
</tr>
<tr>
<td><strong>RISK RATING</strong></td>
<td>Medium</td>
</tr>
<tr>
<td><strong>LEVEL OF EVIDENCE</strong></td>
<td>NSW Health policy</td>
</tr>
<tr>
<td><strong>REVIEW DATE</strong></td>
<td>April 2014</td>
</tr>
<tr>
<td><em>Documents are to be reviewed a maximum of five years from date of issue</em></td>
<td></td>
</tr>
<tr>
<td><strong>FORMER REFERENCE(S)</strong></td>
<td>Replaces Tuberculosis – Infection control management of patients with suspected or confirmed tuberculosis. Section T 3</td>
</tr>
<tr>
<td><em>Documents that are replaced by this one</em></td>
<td></td>
</tr>
<tr>
<td><strong>EXECUTIVE SPONSOR or EXECUTIVE CLINICAL SPONSOR</strong></td>
<td>Director Clinical Governance</td>
</tr>
<tr>
<td><strong>AUTHOR</strong></td>
<td>SESIH Infection Control Manual Working Party</td>
</tr>
<tr>
<td><em>Position responsible for the document including email address</em></td>
<td><a href="mailto:Helen.Newman@sesiahs.health.nsw.gov.au">Helen.Newman@sesiahs.health.nsw.gov.au</a></td>
</tr>
<tr>
<td><strong>KEY TERMS</strong></td>
<td>Tuberculosis, patient management</td>
</tr>
<tr>
<td><strong>SUMMARY</strong></td>
<td>To outline the infection control principles for the management of a patient admitted with suspected or confirmed tuberculosis (TB).</td>
</tr>
</tbody>
</table>

**COMPLIANCE WITH THIS DOCUMENT IS MANDATORY**

Feedback about this document can be sent to areaexecutiveservices@sesiahs.health.nsw.gov.au
1. **POLICY STATEMENT**

The TB Coordinator at the Chest Clinic and the Infection Prevention and Control Professional must be notified of all patients admitted with a diagnosis or provisional diagnosis of TB.

Patients diagnosed or with a provisional diagnosis of pulmonary, laryngeal or extra pulmonary TB where there is a discharging lesion are to be managed using Airborne Precautions in addition to Standard Precautions. The risk of transmission for a patient with extra pulmonary TB is to be assessed by the TB Coordinator. Contact tracing of patients with confirmed TB is managed by the TB Coordinator.

Extra Pulmonary TB where there is no discharging lesion and pulmonary TB has been ruled out requires Standard Precautions only (consult with TB or Infection Control Coordinator). Extra pulmonary TB is not considered to pose a significant risk of transmission.

Triaging of patients suspected of a transmissible infection or disease should occur in a manner that prevents contamination of the environment and transmission in waiting rooms. Suspected patients should be moved from public waiting rooms to a single patient accommodation area while awaiting treatment.

Staff who care for patients with TB must be on a screening program as specified in the NSW Health Department. Policy Directive PD2011_005: Occupational Assessment, Screening & Vaccination Against Specified Infectious Diseases.

2. **BACKGROUND**

This document outlines the management of a patient known or suspected to be infected with pulmonary or laryngeal tuberculosis (TB) and extra pulmonary TB where there is a discharging lesion.

3. **RESPONSIBILITIES**

3.1 **Employees will:**
- Comply with the management procedures for all patients with suspected or confirmed tuberculosis
- Ensure the patient and their visitors understand the need for additional precautions
- Provide education to the patient and visitors on how they must comply with the management procedures
- Document the care given to the patient

3.2 **Line Managers will:**
- Ensure all patients with suspected or confirmed tuberculosis are managed as outlined in this procedure
- Ensure all staff comply with this procedure
- Ensure all staff receive appropriated education regarding the management of patients suspected or confirmed tuberculosis
- Ensure all the patients and their visitors understand the need for these additional precautions
3.3 **Infection Prevention and Control Staff will:**
- Provide education to staff to ensure they understand the rationale for this procedure
- Assist with ensuring the patient and their visitors understand the need for these additional precautions
- Document education provide to staff, patients and visitors
- Liaise with TB Coordinator/Chest Clinic staff

3.4 **TB Coordinators/Chest Clinic staff will:**
- Assess the risk of transmission
- Organise contact tracing of potential contacts
- Coordinate appropriate follow up treatment of patients and potential contacts
- Provide education to Health Care Workers, patients and their immediate family

3.5 **Network Managers/Service Managers will:**
- Distribute information to line managers
- Ensure recourses are available for the appropriate management of patients suspected or confirmed tuberculosis

3.6 **Medical staff will:**
- Comply with the management procedures for all patients with suspected or confirmed tuberculosis
- Ensure the patient understands the need for additional precautions
- Provide information and explanation to the patient on their disease process
- Document care give to patient

4. **DEFINITIONS**

**Active TB:** disease state where transmission of tuberculosis is possible.

**Additional (transmission based) Precautions:** are designed for patients known or suspected to be infected with pathogens for which additional precautions beyond Standard Precautions are needed to interrupt transmission in health organisations. Additional Precautions are also designed to protect immunocompromised patients from acquiring healthcare associated infections whilst in protective isolation.

**Airborne Precautions:** precautions applied to patients known or suspected to be infected with pathogens that can be transmitted by the airborne route to reduce the risk of transmission of infectious agents.

**Airborne transmission:** occurs by dissemination of either airborne droplet nuclei (small-particle residue {5μm or smaller in size} of evaporated droplets that may remain suspended in the air for long periods of time) or dust particles containing the infectious agent.

**Alcohol-based hand rub/gel:** an alcohol-containing preparation designed for reducing the number of viable micro-organisms on the hands.
**Extra-pulmonary TB:** Extra-pulmonary tuberculosis refers to disease outside the lungs.

**Health care settings:** any place where health care is provided to patients on a commercial or public health basis.

**Health care workers (HCWs):** persons, including students and trainees, whose activities involve contact with patients or with blood or body substances from patients.

**Laryngeal TB:** TB of the larynx

**Particulate mask (P2, N95 or PFR95):** a mask which provides a tight facial seal with a face-seal leakage of < 10% and ability to filter particles 1 micron in size in the unloaded state with a filter efficiency of greater than/equal to 95% given flow rates of up to 50 litres per minute.

**Personal protective equipment (PPE):** equipment designed to prevent contamination of the health care worker and/or their clothing, for example gloves, goggles, face shield, gown, mask.

**Pulmonary TB:** Tuberculosis of the lung.

**Qualitative fit test:** a facial fit test conducted to assess the fit of a P2 mask giving pass/fail results and relying on the subject’s response to a test agent.

**Quantitative fit test:** a facial fit test conducted to assess the fit of a P2 mask giving numerical results and not relying on the subject’s response to a test agent.

**Respiratory hygiene/cough etiquette comprises of:**
- covering the nose/mouth with a tissue when coughing or sneezing;
- using tissues to contain respiratory secretions;
- spitting into a tissue if spitting is necessary;
- disposing of tissues into the nearest rubbish bin after use; and
- performing hand hygiene after contact with respiratory secretions and contaminated objects/materials e.g. tissue.

**Standard Precautions:** precautions designed to reduce the risk of transmission of microorganisms from both recognised and unrecognised sources of infections in health care settings.

**Tuberculosis (TB):** Tuberculosis is a disease caused by infection with the bacteria Mycobacterium tuberculosis. TB can affect any part of your body (extra-pulmonary TB) but usually affects the lungs. It is generally transmitted by the inhalation or ingestion of infected droplets and usually affects the lungs, although infection of multiple organ system occurs.
5. **PROCEDURE**

5.1 **Patient Accommodation**
- Single room with ensuite facilities
- Door to remain closed
- Airborne precautions sign to be placed prominently on entrance to room
- Negative pressure air-conditioning to be used (if available)
- Do not use a positive pressure air conditioning system. If this type of system is installed it must be turned off during the patient’s isolation
- If no negative pressure is available and there is no possibility of air currents resulting in TB transmission, the window may be opened (consult with TB or Infection Control Coordinator); and
- Do not cohort TB patients in multi-bedded rooms, due to the possibility of multi-drug resistant TB (MDR-TB)

5.2 **Hand hygiene**
- Hand hygiene to be performed as per the 5 Moments for Hand hygiene
- Hand hygiene to be performed on leaving the room and after removal of PPE using an antiseptic hand wash solution or alcohol based hand rub or gel

5.3 **Masks**
- A particulate filter personal respiratory protection device or P2/N95 mask, is a close fitting mask worn for Airborne Precautions, which is capable of filtering 0.3μm particles
- A P2/N95 mask must comply with AS/NZS 1716
- A mask must be discarded once it has been worn, or becomes visibly soiled or moist, and must not be used again. When the mask becomes moist from the wearer, or from contamination, the barrier has been breached and the mask is no longer effective
- A mask must be removed by touching the strings/ties or loops only
- The P2/N95 mask (for airborne precautions) should be removed outside the room, after the door has been closed.

5.3.1 **Fit Checking of P2 or N95 masks**
- Staff and visitors should perform fit checks every time they wear a P2 (N95 Equivalent) mask
- Fit checks ensure the mask is sealed over the bridge of the nose and mouth and there are no gaps between the mask and face
- No activity should be undertaken until a satisfactory fit has been achieved
- Staff and visitors who have facial hair must be made aware that an adequate seal cannot be guaranteed between the mask and the wearers face

5.3.2 **The procedure for fit checking includes:**
- place the mask on the face
- place the headband or ties over the head and at the base of the neck
- compress the mask to ensure a seal across the bridge of the nose
- compress the mask to ensure a seal across the cheeks and face
• check the positive pressure seal of the mask by gently exhaling. If air escapes the mask needs to be adjusted
• check the negative pressure seal of the mask by gently inhaling. If the mask is not drawn in towards the face, or air leaks around the face seal, readjust the mask and repeat process, or check for defects in the mask; and
• The manufacturer’s instructions for fit checking of individual brands and types of P2/N95 masks should be referred to at all times

5.3.3 Patients
• Patients must wear a fluid resistant surgical mask when leaving the room for any reason
• Patients on oxygen therapy must be changed to nasal prongs and wear a fluid resistant surgical mask over the top of the nasal prongs if condition allows
• Must be provided with instructions for donning and removal of mask; and
• Patients are not required to wear a mask when the staff or visitors are entering their room

5.3.4 Health Care Workers
• Particulate mask (P2 or N95) to be worn by all HCWs entering the room of patients diagnosed or with a provisional diagnosis of TB and removed after leaving the room
• Perform hand hygiene after removing and discarding mask

5.3.5 Visitors/Family
• Visitors must wear a particulate mask (P2 or N95) on entering the room and removed after leaving the room
• Perform hand hygiene after removing and discarding mask

5.4 Catering
• Catering staff to leave meal trays outside patient’s room and inform nursing staff; and
• Nursing staff are to deliver to and remove meals from the patient

5.5 Linen
• As per Standard Precautions

5.6 Excreta
• As per Standard Precautions

5.7 Waste
• No additional precautions necessary except for dressings from open TB wounds or TB discharging lesions. These dressings are to be discarded as clinical waste.

5.8 Cleaning
• Room to be cleaned daily;
• All items and surfaces to be cleaned with neutral detergent solution; and
• Cleaning staff must observe the same respiratory precautions as other staff when entering the room
5.9 Patient Equipment
- Equipment to be cleaned with neutral detergent solution and disinfected/sterilised as appropriate before being used by another patient

5.10 Patient Education
- Patient should be instructed:
  - regarding the need for additional precautions
  - regarding how and when to wear a mask
  - to cover mouth and nose when coughing and sneezing
  - in the correct handling and disposal of sputum
- TB Coordinator will provide full counselling and education on disease, transmission, treatment, contact screening for relatives and friends and likely clinical outcome

5.11 Specimen Collection
- All specimens must be collected in a container with a lid which can be secured; and
- For sputum induction refer to NSW Health Department. Policy Directive GL2009_006: Tuberculosis Sputum Induction Guidelines

5.12 Visitors
- Number of visitors as per ward protocol eg 2 visitors at a time
- Visitors to consult with nursing staff before entering room
- Visitors other than household contacts to be discouraged
- Visitors to be given clear instructions regarding necessary precautions to be followed;
- Visitors must wear and be educated on how to put on a particulate mask (P2 or N95) on entering the room; and
- Children should be discouraged from visiting

5.13 Transport/transfer of patient
- Limit transfer to other wards/facilities
- Where possible tests/investigations/procedures to be conducted in patient’s room
- Receiving department/facility and transport services must be notified prior to patient transfer
- Patient to wear a fluid resistant surgical mask when leaving the room for any reason
- Patients on oxygen therapy must be changed to nasal prongs and over the top of the nasal prongs if condition allows; and
- If patient unable to wear a surgical mask staff should consult the TB Coordinator at the Chest Clinic

5.14 Duration of Isolation
- Airborne transmission precautions are required for a minimum of two weeks after optimum chemotherapy/antibiotic therapy is commenced and/or when the client has 3 consecutive sputum samples that are direct smear negative
- Do not remove the patient from isolation without approval from the medical team (treating physician) and the TB Coordinator; and
The TB Coordinator can be contacted via Chest Clinic during office hours. The TB Coordinator will determine (and advise staff accordingly) as to when the room can be reused for another patient.

5.15 In Hospital Contacts
If TB diagnosis is made after the patient’s admission to hospital, the patient is to be isolated as outlined in this document. The contact details of all patients in the room and staff who have cared for the patient are to be provided to the TB Coordinator during normal business hours.

6. DOCUMENTATION
Patient Clinical Notes

7. AUDIT
Not required

8. REFERENCES
- NSW Health Department. Policy Directive PD2008_019 Tuberculosis Principles for Management of People with Tuberculosis in NSW.
- NSW Health Department. Policy Directive PD2011_005 Occupational Assessment, Screening and Vaccination Against Specified Infectious Diseases

9. REVISION AND APPROVAL HISTORY

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision No.</th>
<th>Author and Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2011</td>
<td>1</td>
<td>Amendment to reflect change to Local Health Network</td>
</tr>
</tbody>
</table>