RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

Infection Prevention and Control

Tuberculosis (TB) Control Plan

SUBJECT: SCREENING FOR TUBERCULOSIS IN EMPLOYEES	**Policy No.:** **IC300C** **Revision Date:** **07/2022** **Reviewed:** **07/2022** **Page:** **1 of 8**

INFECTION PREVENTION AND CONTROL POLICY

All Rancho Los Amigos National Rehabilitation Center (RLANRC) employees (including pre-employees, volunteers, students, residents, etc.) shall be documented to be free of active tuberculosis (TB) prior to employment and shall be screened on a periodic basis during employment.

1. All employees without a documented history of a positive skin test shall receive a skin test at hire as a condition of employment.
2. Employees with documented previous positive skin test shall receive screening for active disease as a condition of employment. If the employee has no history of LTBI treatment and has no active disease detected, offer LTBI treatment if they are within guidelines for Latent TB Infection (LTBI) treatment from LA County Tuberculosis Control Program.

CLASSIFICATION OF TUBERCULOSIS

The standard classifications used in this document as contained in the Los Angeles Tuberculosis Control Program Manual are as follows:

Class 0: No tuberculosis exposure, not infected
Class 1: TB exposure, no evidence of infection
Class 2: TB infection, no disease
Class 3: TB - Current disease
Class 4: TB - No current disease
Class 5: TB suspect

EMPLOYEE SCREENING

Rancho will follow the screening policy recommended by LA County TB Control Program:

1. All new employees are required to have a baseline TB skin test (TST), using two-step method unless he/she has a documented prior positive TST reaction or a documented negative reaction in the past 12 months. Chest radiograph screening alone without the use of TST is not acceptable. All employees should be asked about symptoms of TB disease.

2. A chest radiograph is required of all persons with positive TSTs, and all persons subsequently classified as TB class 2 should be evaluated for treatment of LTBI as outlined in attachment A by LA County TB Control Program. Employees with abnormal chest radiographs consistent with TB disease or employees with whom TB disease is suspected (TB class 5) must be excluded from work until physician clearance *in writing* is obtained.

3. Annual TB Risk assessment should be performed to determine the healthcare workers' periodic TB screening requirement. RLANRC does not knowingly admit TB suspect or TB patients with less than two weeks treatment. The TB risk is classified as low risk.

4. All employees should receive TB screening annually. If an employee has a high-risk medical or social conditions (such as HIV infection, abnormal chest radiograph), the employee should have an annual chest radiograph unless an adequate course of LTBI treatment has been completed. Otherwise, routine annual chest radiograph screening is not recommended, but a symptom checklist is required.

5. All TST converters must be entered on the Cal-OSHA log and report screening results, including converters and cases, to TBC quarterly.

6. TB prevention training will be provided to all employees at least annually and should include the following information:
   - Mode of TB transmission, symptoms, differences between infection and disease, screening, treatment of LTBI and TB disease.
   - Individuals at increased risk for occupational exposure to TB, especially those who are immunocompromised
   - Connection between TB and HIV disease
   - Personal protection education and training for fit testing for personal respirators and usage of equipment for assigned staff
   - Instruction to report chronic illness to supervisor
   - Employee and employer responsibility under the workplace Exposure Control Plan

INITIAL SCREENING
Tuberculin Skin Test (TST)
Mantoux 5 TU PPD 0.1 ml given intracutaneously and read in 48-72 hours. It is acceptable to read and record a negative Mantoux up to 96 hours after application. If a test is read later than 96 hours and is negative, the test must be repeated. A positive reaction will still be measurable up to one week after testing, and may still be readable.

1. Interpretation of tuberculin skin test reaction:
   Measure and record all results in millimeters of induration:
   a. If no induration, record as non-reactive, “0 mm” should be recorded
   b. A reaction of five (5) millimeters or more of induration should be considered positive in the following persons:
      - Persons known or suspected to have HIV infection
      - Recent contacts to an infectious case of TB
      - Persons with an abnormal chest radiograph consistent with TB disease
      - Immunosuppressed individuals
   c. A reaction of ten (10) millimeters or more should be considered positive for all other persons.

2. Booster Tuberculin Skin Test
    a. If the initial Mantoux tuberculin skin test reaction is ill-defined or difficult to interpret, or
    b. If the candidate for employment has no induration or if index of suspicion is high for tuberculosis infection,
        - Repeat Mantoux 5 TU PPD skin test after 10 days at another site on forearm
        - Record the skin test reaction as indicated above
        - The performance of the repeat booster skin test should not interfere or delay the hiring process

3. Two step testing
   It is to be performed on all <u>initial</u> screening of employees with documented negative skin test in the past 12 months.
    a. If the first test is positive, consider employee infected; evaluate employee and offer LTBI treatment
    b. If the first test is negative, give second test 1-3 weeks later
    c. If the second test is positive, consider employee infected; evaluate employee and offer LTBI treatment.
    d. If the second test is negative, consider employee not infected.

4. Testing Individuals with History of BCG Vaccination
   A history of previous vaccination with BCG (with or without a BCG vaccination scar) is not a contraindication to TST, nor does it influence the indications for a TST. Administration and reading of the TST in these individuals are performed in the same manner as in those who had no previous BCG vaccination.
    - If history of BCG vaccination is obtained, record the date of the last vaccination
    - All these individuals should have the standard initial tuberculin skin test
    - In the absence of recent BCG vaccination (less than one year) a reactive Mantoux tuberculin skin test of 10 mm or more is considered significant
    - As with other individuals, those with a positive TST must have active TB ruled out, and if applicable, the individual should be offered treatment for LTBI.

The following are LA County TB Control Program's recommendation for persons with a positive TST and documented BCG vaccination **within one year** of TST:

- If no other TB risk factors are identified, treatment for LTBI is generally not necessary. The reaction should be recorded in terms of millimeters of induration and it should be documented that the **positive TST is due to BCG vaccination**.

- Routine follow-up for TB screening is not necessary. The patient and/or parent/legal guardian should be educated about symptoms of TB and told to return to clinic should TB symptoms occur. The person should be retested if he/she requires skin testing due to contact to someone with infectious TB.

FOLLOW-UP ANNUAL SCREENING FOR TUBERCULOSIS

1. All previous non-reactors will have the routine Mantoux tuberculin skin test and symptom evaluation.
2. All reactors will have a TB symptom assessment at the time of their periodic screening.
   a. Non-reactors to annual Mantoux tuberculin skin test and previously normal chest x-rays do not require a repeat chest x-ray.
   b. Tuberculin converter (change from non-reactive to reactive Mantoux skin test within two years) will have a repeat chest x-ray.
   c. Previous Mantoux reactors do not require an annual chest x-ray unless there are symptoms/signs indicative of pulmonary tuberculosis.
   d. All employees should be instructed at the time of initial TB screening to report symptoms suggestive of TB, such as persistent/unexplained symptoms/signs of respiratory origin, to their supervisor or Employee Health Services (EHS) as soon as they occur. EHS will provide a repeat evaluation to assess for current TB disease.

MANAGEMENT OF EMPLOYEE WITH TUBERCULOSIS

1. TB Class 3 and Class 5
   - Treatment with anti-tuberculosis drugs should be promptly instituted
   - Employee will be excluded from work until cleared by Employee Health Services (with a physician clearance in writing).
2. TB Class 2 and Class 4
   - LTBI with Isoniazid should be offered for those who have not received previous chemotherapy and who qualify for preventive therapy under LA County TB Control Program Guidelines.
3. Tuberculosis Class 1
   a. The employee with a significant exposure to an infectious tuberculosis patient (i.e., performance of CPR) will promptly receive preventive medical therapy
   b. A tuberculin skin test will be applied following the significant exposure to an infectious patient
   c. If the tuberculin skin test is non-reactive, the employee will be offered a chest x-ray and preventive therapy three (3) months following the exposure. After three months, the employee will receive a repeat Mantoux tuberculin skin test

d. If the three-month repeat Mantoux skin test becomes reactive, a chest x-ray will be obtained and the tuberculosis classification will be changed accordingly, and the employee is continued on LTBI therapy if TB disease is ruled out
e. If the three-month repeat Mantoux tuberculin skin test remains non-reactive after three (3) months, the Isoniazid can be discontinued at that time. The TB diagnosis remains unchanged as Class 1: tuberculosis exposure, no evidence of infection.

MAINTENANCE OF SCREENING RECORDS

1. Employee Health Services maintains records of TB screening which includes a list of all employees at RLANRC, the date of the skin test, the result of the skin test in mm of induration, and the interpretation of the result
2. Employee Health Services reports summary statistics by category to the Hospital Infection Prevention and Control Committee on a monthly basis. These statistics include the number screened, the number of skin test conversions, and the number of active cases detected
3. Facilities Management has a written respiratory protection program policy and procedure for those employees exposed to asbestos areas

ENGINEERING CONTROLS

The ventilation engineer works closely with Infection Prevention and Control Staff to assist in the control of airborne infections.

1. The RLANRC ventilation system requires a modification with a portable HEPA filtration system to reach 12 air exchanges per hour, a current requirement for the airborne precaution negative pressure room
2. The direction of airflow from clean areas to less clean areas is monitored by the Facilities Management department
3. Negative pressure rooms, with air exhausted directly out to the attic space through portable HEPA filter are used for Airborne Precaution isolation.
4. Nursing staff must notify the Facilities Management staff immediately to install the HEPA filter when a TB suspect or infectious TB case requires a negative pressure room. Notify the Hospital-in-Change nurse during after hours and weekends to contact the Director of Facilities Management.

AIRBORNE PRECAUTIONS ISOLATION

The negative rooms at RLANRC require modification with a portable HEPA filtration. The following inpatient rooms have the best ventilation system for modification to an airborne precaution, Airborne Precautions isolation room:

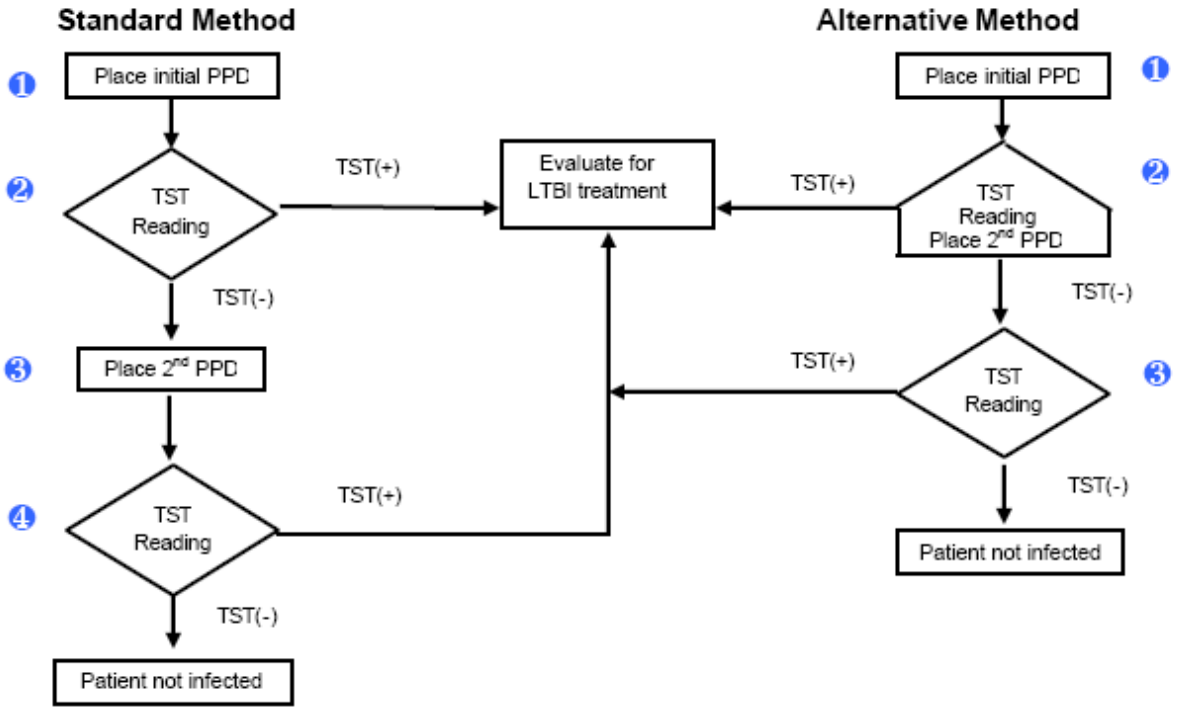
JPI 3 North, Room 3002 ; JPI 3 South, Room 3070 ; JPI 101, Room S216A

Attachment A

Two-Step Testing

Standard Method: (Step 1)
Administer TST: (Step 2) Read TST in 48 to 72 hours; if TST + evaluate for LTBI treatment, if negative; (Step 3) Administer second TST in one to three weeks; (Step 4) Read second TST in 48 to 72 hours; if TST + evaluate for LTBI treatment. If negative, TST is truly negative.

Alternative Method: (Step 1)
Administer TST: (Step 2) Read TST in one week, if TST + evaluate for LTBI treatment, if negative administer second TST; (Step 3) Read TST in 48 to 72 hours; if TST + evaluate for LTBI treatment. If negative, TST is truly negative and there's no "booster"
response.



Source: Los Angeles County Tuberculosis Control Program Manual, 2003 edition.

Attachment B

Risk groups defined for targeted testing and treatment for targeted testing and treatment for LTBI (if TST positive) In Los Angeles County

Higher-risk groups	Comments
Persons with known or suspected HIV infection	All persons in these categories should be tested and are candidates for LTBI treatment, regardless of age. Testing and initiation of treatment should not be delayed in pregnancy.
Persons with abnormal chest radiograph suggestive of TB Class 4	
Recent close contacts to infectious TB*	
TST converters	
Persons with medical conditions associated with an increased risk of TB (Attachment C)	
Residents and employees of high risk congregate settings+	
Persons who abuse alcohol, cocaine and intravenously-injected drugs	
Persons from countries with high TB rates who arrived in the US within the past three (3) years	All persons in these categories should be tested and are candidates for LTBI treatment, regardless of age. Initiation of treatment for pregnant women should be delayed until 3 to 6 months postpartum.
Children and adolescents under 18 years of age exposed to adults with an increased risk of TB (Attachment C)	
Lower-risk groups	Persons over 35 years of age should be excluded from testing. Initiation of treatment for pregnant women should be delayed until 3 to 6 months postpartum.
Persons from countries with high TB rates who have been in the US greater than three (3) years	
Persons with a positive TST who are not in the above categories	

* A patient who has a TST <5 millimeters and has TB disease excluded should be started on treatment if there is a high probability of infection or the contract is under of age or immunocompromised.

+ Defined as residents of prisons, jails, nursing homes, other long-term care facilities, AIDS residential facilities, and homeless shelters.

Source: Los Angeles County Tuberculosis Control Program Manual, 2003 edition.

Attachment C

High-risk groups who are candidates for targeted testing

- Contacts of persons with infectious TB (pulmonary or laryngeal)
- Persons known or suspected of being HIV-infected
- Injection drug users
- Persons with certain medical conditions (see Table 2-3 below)
- Persons with radiographic evidence of old, healed TB
- Employees or residents of congregate settings, such as hospitals, correctional facilities, homeless shelters, nursing homes, or drug treatment centers
- Persons from an area of the world where the incidence of TB is high
- Children and adolescents <18 yrs. old exposed to adults with high-risk conditions

Medical conditions that are associated with an increased risk of TB in an infected person

- Human immunodeficiency virus (HIV)
- Diabetes mellitus (especially insulin-dependent)
- Silicosis
- End-stage renal disease
- Chronic immunosuppression (including transplant recipients, persons on prolonged corticosteroid (equivalent to prednisone 15 mg daily for one month) or other immunosuppressive therapy)
- Hematological and reticuloendothelial diseases (e.g., leukemia and Hodgkin's Disease)
- Malnutrition and clinical situations associated with rapid weight loss (including cancer of the head and neck, intestinal bypass, gastrectomy, chronic malabsorption, or body weight under 10% of ideal)

Source: Los Angeles County Tuberculosis Control Program Manual, 2003 edition.