



CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS

## TUBERCULOSIS EXPOSURE CONTROL PLAN

### 1.0 PURPOSE

Tuberculosis, once thought to be safely under control with the advent of modern medicine and modern medical equipment, is no longer in a safe mode. TB has silently risen toward escalated levels of exposure only known in the mid-20<sup>th</sup> century. Although in the United States, the number of TB cases has shown a slow but measurable decline each of the last seven years, internationally the disease has not shown any steady decline toward the once safe zone of years past.

Because of these alarming numbers of exposure this control plan is designed to assist the University in dealing with this silent and deadly disease on a proactive basis. Efforts to control tuberculosis through prompt identification and treatment of persons with infectious TB can reduce the number of newly infected persons, and assist in achieving the world goal of eliminating TB.

### 2.0 DEFINITIONS

- 2.1 **Converter** – an individual who has a documented increase of >10mm of indurations within a 2 year period (regardless of age)
- 2.2 **INH Medication** – TB control medication given to individuals that have a positive skin test but may not have active TB. This medication is often used to have the TB infection stay dormant.
- 2.3 **PPD Mantoux Skin Test** -- also known as the **Mantoux screening test**, **Tuberculin Sensitivity Test**, **Pirquet test**, or **PPD test** for Purified Protein Derivative) is a diagnostic tool for assisting the diagnosis of tuberculosis.
- 2.4 **PPE** – Personal Protective Equipment; may be specialized clothing or equipment worn or used by an employee for protection against a

hazard. General work clothes (e.g. uniforms, pants, or shirts) are not intended to function as protection against a hazard and are not considered to be PPE. Goggles, face shields, respirators, and gloves are PPE that are considered to protect/minimize the user from exposure to hazards.

- 2.5 **Reactor** – any individual who has a positive skin test
- 2.6 **TB** – tuberculosis is a common and often deadly infectious disease usually affecting the lungs and caused by bacterial infection
- 2.7 **TB Disease / Case** – positive culture for M. tuberculosis (if done), or a positive tuberculin skin test and clinical or x-ray evidence of current disease
- 2.8 **TB Infection** – positive reaction to the tuberculin skin test, no clinical or x-ray evidence of TB disease
- 2.9 **TB Suspect** – person with signs and symptoms of TB disease but diagnosis is still pending

### 3.0 SCOPE

- 3.1 This written Exposure Plan is developed to be in compliance with California Code of Regulations, Title 8, Section 5147. It is administered under the Department of Industrial Relations under the Division of Occupational Safety and Health known as Cal-OSHA. The following sections of the Code are also applicable to this written exposure plan:
  - Section # 3203
  - Section # 5141
  - Section # 5143
  - Section # 5144
  - Section # 14301
- 3.2 This Exposure Plan primarily focuses on the following risk groups:
  - Student Health Center and staff
  - Public Safety / University Police and staff
  - International Education and staff

3.3 The main goal of an infection/exposure control program is to detect the TB disease early and to isolate and promptly treat persons who have TB.

Exposure control will involve three types of infection control measures:

- Administrative controls (to reduce risk of exposure)
- Engineering controls (to prevent spread and reduce concentration of droplets)
- Personal respiratory protection (in areas where there is increased risk of exposure)

3.3.1 The measures should be based on periodic assessment of the risk for transmission of tuberculosis in the outpatient setting.

#### **4.0 POLICY**

The following measures are intended to reduce the risk of exposing uninfected persons to persons who have infectious TB.

##### **4.1 Identification and Containment**

4.1.1 All staff of the Student Health Center must be proactive in noticing a person who is coughing. The coughing person must be given a tissue to cover their cough and notification needs to be made to the triage nurse.

4.1.2 Clinical staff should respect TB in any patient who has a persistent cough (>3 weeks), bloody sputum, night sweats, fever, weight loss, loss of appetite.

4.1.3 Patients with signs or symptoms of TB should be removed from the reception area, placed in a designated area, and promptly given a diagnostic evaluation.

4.1.4 These patients should be given a surgical mask and instructed to keep it on. They also should be given tissues and instructed to cover their nose and mouth when coughing and/or sneezing.

4.1.5 The triage nurse should use the Algorithm for TB Suspect Triage to determine the acuity of the patient and plan of action.

4.1.6 If TB is suspected, appropriate precautions to prevent airborne transmission should be taken unless infectious TB is ruled out.

## 4.2 Employee Surveillance

4.2.1 A baseline PPD Mantoux skin test should be obtained on all clinical and front office staff unless written documentation of previous positive PPD is provided. Two-step testing:

- Should be used for initial skin testing of employees who will be retested periodically.
- If the reaction to the first skin test is negative (less than 10mm), a second test should be given 1-4 weeks later.
- If reaction to the second skin test is positive (> 10mm), the employee should be considered TB infected and a chest x-ray is indicated.

4.2.2 All PPD negative risk group employees should have annual PPD skin testing and symptom review.

### 4.2.3 Chest X-Ray

- Employees with positive PPD should have a chest x-ray as part of the initial evaluation of their tuberculin skin test.
- If the chest x-ray reveals active TB condition, the employee will be referred to the Los Angeles County Public Health Department for treatment and further evaluation.
- If the x-ray is negative, repeat chest x-rays are not required unless symptoms develop that could be attributed to TB. TB symptoms review will be assessed annually with the exception of every 6 months for recent converters.

4.2.4 Preventive therapy with INH shall be recommended to latent tuberculosis infected persons who meet TB control guidelines.

- Persons of all ages with medical risk factors
- All reactors under age 35

#### 4.2.5 All documented PPD reactors must have:

- Annual TB symptom assessment
- Chest x-ray if symptoms are present
- If high risk medical or social factors (such as HIV positive, immuno-compromised) exist, employee must have annual chest x-ray unless and adequate course of preventive therapy has been completed.

#### 4.2.6 Exposed Individuals

- Shall obtain a PPD skin test within 1 week of the exposure. If test results are negative, the employee will follow-up with a repeat PPD test at 12 weeks post-exposure.
- Treatment and disposition of employee will be determined by the Los Angeles County Public Health Department.

#### 4.2.7 Documentation, Data Collection and Evaluation

- Employee's skin test conversions along with PPD conversion rate to be evaluated by applicable health center staff
- Periodic reassessments of risk based on trends or information from PHD
- All PPD converters must be entered in the Cal-OSHA 300 log (if applicable). Active TB occurring within 5 years of exposure requires the original entry in the log to be corrected

### 4.3 Employee Education

TB prevention training must be provided to all employees at risk annually and should include the following information:

- Mode of transmission, symptoms, and treatment; the difference between infection and disease; screening and preventive therapy
- Individuals at increased risk for TB, especially those with HIV
- Connection between TB and HIV
- PPE education and training for fit and usage of equipment for assigned staff
- Instruction in reporting TB suspect or TB case
- Importance of participating in employee skin testing program

## **5.0 ENGINEERING CONTROLS**

Based primarily on use of adequate ventilation systems to reduce the concentration of infectious droplets in the air, prevent the dissemination of these droplets throughout the site or render droplets non-infectious by killing the tubercle bacilli they contain.

- Ventilation system must be properly cleaned, maintained, and functional
- Air exchanges, a minimum of 12/hr. and negative pressure in any area where infectious TB suspects or cases are held and/or examined
- Air should be exhausted to the outside and not recirculated within the facility—if the air must be returned to the facility it must be returned after being filtered through a HEPA air filtration unit
- All respiratory precaution areas must be identified and posted when in use as “Atmospheric Isolation”.

## **6.0 PERSONAL RESPIRATORY PROTECTION**

Cal-OSHA required the use of respirators when respiratory protection is needed.

### **6.1 Staff**

6.1.1 Student Health Center and Public Safety/University Police personnel must utilize NIOSH approved respirators # N95 or HEPA when in presence of TB Suspect case

6.1.2 Staff selected to wear respirators must be fit tested and receive proper training on use and care of respirators through the RM/EHOS department

6.1.3 Staff must wear PPE When:

- Occupying the room with an unmasked, coughing, suspected or confirmed smear positive TB patient
- Entering a room within 1 hour after the room was occupied by an unmasked TB infectious suspect or case
- Transporting a masked or unmasked infectious patient in any type of vehicle

## 6.2 TB suspect or Case

A TB suspect or infectious patient must wear a surgical mask while:

- In a room other than an atmospheric isolation room
- Being transported within the Student Health Center and/or by car