SUBJECT: Tuberculosis Prevention and Exposure Control

SCOPE: All Unity Health Care employees, contractors, volunteers and patients.

POLICY: To prevent transmission of Mycobacterium tuberculosis (TB) from an infectious individual to a susceptible host. All Unity Health Care employees will have the appropriate TB testing at the time of hire, annually and in the case of an exposure. Records of all TB test results will be maintained by the Employee Health QI Specialist.

PROCEDURE:

1. NEW EMPLOYEES

   A. New employees with a negative Mantoux history will be given a Mantoux (PPD) Skin Test with 0.1 ml/5U of Tuberculin Purified Protein Derivative prior to new hire orientation by a qualified health professional.

   B. The Mantoux Skin Test will be read by a qualified health professional in 48 to 72 hours after being administered. If an employee fails to return for the reading within that time frame, the test must be repeated. Self-reading of the PPD test is UNACCEPTABLE. A reading greater than or equal to 10mm of induration is considered a positive conversion.

   C. If the employee is immunocompromised, then 5mm or greater will be considered positive.
D. At the time of hire, any new employee with an initial negative PPD test result who does not have documentation of a negative PPD test during the past 12 months preceding employment at UHC, will receive a second two-step PPD testing two weeks after the initial test.

E. A new employee with a positive Mantoux history must furnish a chest x-ray and complete a TB questionnaire as a condition of employment.

F. A new employee with a positive Mantoux must have a chest x-ray, complete a TB questionnaire, and furnish documentation from their physician that they are free of active tuberculosis.

G. Documentation of a negative Mantoux Skin Test completed at another location within the past 6 months will be acceptable for the new employee TB screening. This documentation should be provided prior to the first day at your site to the employee health nurse.

II. ANNUAL

A. The nurse manager of each site is responsible for placing annual employee Mantoux Skin Tests. The nurse manager will maintain a log of current/expiring annual PPD’s and forward updated employee PPD documents to the employee health nurse to be placed in the employee’s medical file.

B. Employees with a negative Mantoux history will be given an annual (every 12 months) Mantoux Skin Test. The test is read in 48 to 72 hours after being administered by the nursing or medical staff. If an employee fails to return for a reading within that time frame, the test must be repeated. An employee’s self-reading of the PPD test is unacceptable.

C. An employee’s medical risk factors determine at which increment (5mm, 10 mm, or 15 mm) of induration is considered a positive Mantoux test. A positive result indicates TB exposure.

1. 5 mm of induration is considered positive for:

   • HIV positive persons

   • Persons in recent contact with TB case
- Persons with nodular or fibrotic changes on chest x-ray consistent with old, healed TB

- Persons with organ transplants

- Persons who are immunosuppressed for other reasons (i.e. persons taking the equivalent of ≥ 15 mg/day of prednisone for 1 month or longer, taking TNF-α antagonists

2. 10 mm of induration is considered positive for:

- Persons recently arriving (less than 5 years) from high-prevalence countries

- Injection drug users

- Residents and employees of high-risk congregate settings (e.g., prisons, nursing homes, hospitals, homeless shelters, etc)

- Mycobacteriology lab personnel

- Persons with clinical conditions that place them at high risk

- Children less than 4 years of age, or children and adolescents exposed to adults in high-risk categories

3. 15 mm of induration is considered positive for:

- Persons with no known risk factors for TB

D. An employee with a positive Mantoux history must obtain a chest x-ray.

1. If the chest x-ray shows no active TB, the employee must have a note from their physician indicating they are free from active TB. After the results have been documented in the employee’s health file, the employee will only be required to complete the annual TB questionnaire.

2. If the chest x-ray shows active TB, the employee must follow-up with their physician for further evaluation, treatment, and medical clearance to work. The employee’s health file will be documented with the results. After the employee is cleared from active TB, the employee will only be required to complete the annual TB questionnaire.
3. The employee should have a new chest x-ray completed every 5 years, unless advised otherwise by your physician.

E. Unity Health Care reserves the right to require additional testing, at more frequent intervals, as needed.

III. **POSITIVE MANTOUX CONVERSION** (PPD reading of ≥ 10mm of induration)

A. The employee must complete an Incident Report.

B. The employee must follow-up with their physician to get a chest x-ray, be evaluated for prophylactic treatment, and complete the employee TB questionnaire within 10 calendar days of notice; if the employee doesn’t have active TB symptoms.

   1. If the chest x-ray is negative; the employee may continue working.

   2. The employee must also furnish a statement from his/her own physician that they are free of communicable TB.

C. If the chest x-ray shows abnormalities suggestive of pulmonary and larynx TB;

   1. The employee will be relieved from duty.

   2. The DC Department of Health (DOH) will be notified by the infection control/employee health nurse or designee.

   3. Returning to work will be permitted when the employee furnishes documentation from his/her own physician or local health department that the employee is free from communicable TB.

D. The infection control/employee health nurse or designee will perform an investigation into the incident.

E. A Workman’s Compensation claim should be filed.

F. If medically necessary, an employee should be offered reasonable work accommodations and/or job reassignment.
KNOWN TB EXPOSURE

A. Any patient with high-suspicion of TB or with the risk factors for TB should be evaluated promptly.

B. These patients are to be placed in an exam room away from other patients while being examined.

C. Staff must wear an N95 Respirator when assessing the patient.

D. Patients with high-suspicion of TB or with risk factors for TB will be required to wear a mask and cover their mouth and nose while sneezing and/or coughing.

E. Risk Factors for TB:

1. Homeless Persons

2. Immigrants from areas with high prevalence of TB

3. Medically underserved

4. Low-income population

5. Incarcerated population

6. Residents of long-term care facilities

F. EMS should be called and patient should be transported to nearest hospital. EMS should be informed that patient is a suspicion for TB.

G. The medical director/health center director should complete an Incident Report, develop a contact list, and forward to the Employee Health QI Specialist designee within the Quality Improvement Department, if the patient is confirmed to be TB+.

H. The Employee Health QI Specialist designee will follow-up with the DC DOH within 10 days of sending patient to hospital, if the patient is confirmed to be TB+.

I. The Employee Health QI Specialist designee will perform an investigation, follow up with staff, and determine what additional, if any, testing is needed.
J. The Employee Health QI Specialist designee will work in collaboration with DC DOH to ensure that all involved Unity staff are free of active TB disease by:

1. Identifying and evaluating the suspected source.

2. Evaluating possible reasons for exposure and transmission.

3. Implementing interventions, as necessary.

4. For those employees who have a negative Mantoux history, a repeat PPD skin test will be completed 10-12 weeks after exposure.

5. For those employees who have a positive Mantoux history, the TB questionnaire must be completed again 10-12 weeks after exposure.

6. If the PPD skin test shows a conversion (>10 mm of induration) or the TB questionnaire answers change from the previous questionnaire, the employee is to follow the MANTOUX CONVERSION GUIDELINES listed above.

7. If the PPD skin test is negative after 12 weeks post-exposure, no further investigation is needed.

K. All involved employees may inquire about the status of the investigation as it pertains to them.

L. All findings related to the incident will be kept with the Employee Health QI Specialist designee within the Quality Improvement Department, in a secure area.

IV. UNKNOWN TB EXPOSURE

A. If there is an unknown TB exposure that occurs at one of Unity’s clinical sites, and subsequently Unity is made aware of the exposure, an Incident Report should be completed.

B. The Employee Health QI Specialist designee will notify the DC DOH, if they are not already involved.

C. The Employee Health QI Specialist designee, in collaboration with the DC DOH, will investigate the incident to include, but not limited to:
1. Reviewing laboratory and medical history records to identify any patients who have had TB.

2. Match patients who have had TB with employee(s) who have a PPD conversion by time and location.

3. If the TB source is not identified, we will review PPD results of other employees in the same area or occupational group and consider additional PPD skin testing, if necessary.

4. If the TB source is identified, we will further investigate by:
   - Identifying and evaluating the suspected source.
   - Evaluating possible reasons for exposure and transmission.
   - Implementing interventions, as necessary.
   - For those employees who have a negative Mantoux history, a repeat PPD skin test will be completed 10-12 weeks after exposure.
   - For those employees who have a positive Mantoux history, the TB questionnaire must be completed again 10-12 weeks after exposure.
   - If the Mantoux/PPD skin test shows a conversion (>10 mm of induration) or the TB questionnaire answers change from the previous questionnaire, the employee is to follow the MANTOUX CONVERSION GUIDELINES listed above.
   - If the PPD skin test is negative after 12 weeks post-exposure, no further investigation is needed.

D. All involved employees may inquire about the status of the investigation as it pertains to them.

E. All findings related to the incident will be kept with the Infection Control/Employee Health Nurse or designee within the Quality Improvement Department, in a secure area.
VI. PREGNANCY

Based on the CDC guidelines, pregnancy should not exclude a female employee from having the annual TB screen or as part of a contact investigation.

VII. BREAST-FEEDING

Breast-feeding does not exclude a female employee from having the Mantoux test.

VIII. BCG VACCINE

BCG, or bacilli Calmette-Guerin, is a vaccine for TB disease. Many foreign-born persons have been BCG-vaccinated. BCG is used in many countries with a high prevalence of TB to prevent childhood TB, meningitis and miliary disease. However, BCG is not generally recommended for use in the United States because of the low risk of infection with Mycobacterium tuberculosis, the variable effectiveness of the vaccine against pulmonary TB and the vaccine’s potential interference with tuberculin skin test reactivity. BCG vaccination may cause a false-positive reaction to the TST, which may complicate decisions about prescribing treatment. Blood tests (IGRA’s) to detect TB infection, unlike the TST, are not affected by prior BCG vaccination and are less likely to give a false-positive result. IGRA’s (Interferon-Gamma Release Assays) measure a person’s immune reactivity to M. tuberculosis. It will be at the discretion of the employee’s PCP to determine if an IGRA is appropriate, once the employee has been referred for follow-up. All costs associated with the IGRA will be the responsibility of the employee.

For any existing UHC employee who has been previously vaccinated with BCG:
- The employee must have one TST on file.
- If the TST is positive, the employee should have been referred to their PCP for a chest x-ray.
- A copy of the CXR results must be forwarded to the Employee Health QI Specialist designee.
- If the CXR is negative, the employee will complete the PPD questionnaire on an annual basis.
- If the CXR is positive, the steps for TB treatment are to be followed.
IX. SURVEILLANCE OF EMPLOYEES EXPOSED TO INFECTIOUS TB

Employees exposed to a patient or employee with infectious TB will be followed according to the KNOWN OR UNKNOWN TB EXPOSURE protocol listed above.

A. If an employee has a negative PPD, no further investigation is needed. Employees will have routine PPD skin testing performed according to Unity’s guidelines or more often as needed.

B. If an employee has a positive PPD, they will follow the POSITIVE MANTOUX CONVERSION procedure.

C. If at any time an employee with a positive Mantoux history reports any signs and/or symptoms of active TB disease after being exposed, the employee will be relieved from work and referred to their physician for further evaluation.

1. The employee will need medical clearance from their physician that they are free of communicable TB disease before returning to work.

2. An incident report should be completed.

3. If necessary, a Workman’s Compensation Claim should be filed.

4. If medically necessary, an employee should be offered reasonable work accommodations and/or job reassignment.

D. All findings related to the incident will be kept with the Infection Control/Employee Health Nurse or designee within the Quality Improvement Department, in a secure area.

X. TRAINING AND EDUCATION

A. Staff development will ensure that employees at risk for exposure to TB receive initial and annual education and training. Initial training will be completed prior to assignment.
B. Training will include, but is not limited to the following:

1. Basic concepts of TB transmission, pathogenesis, diagnosis, and transmission.

2. Risk of occupational exposure.

3. Prevention of TB including engineering and workplace practice controls.

4. PPD skin testing for TB.

5. Procedures for reporting problems and exposures.

6. The importance of notifying your supervisor if diagnosed with active pulmonary or laryngeal TB.

7. Unity Health Care is responsible for maintaining employee’s confidentiality while assuring that the employee receives appropriate therapy and is non-infectious prior to returning to work.

C. A log of initial and annual trainings will be maintained with the Employee Health QI Specialist designee.