

PREVENTION AND CONTROL OF TUBERCULOSIS (TB) IN SHORT-TERM CORRECTIONAL FACILITIES (MUNICIPAL AND COUNTY JAILS)

- I. **Authority:** Florida Statute Chapter 392 - TB Control requires that each person who makes a diagnosis of TB or who treats a person with TB shall report or cause to be reported such facts to the Department of Health not to exceed 72 hours. The updated Florida Administrative Code 64D-3.029 is more restrictive requiring confirmed or suspected tuberculosis to be reported to the county health department the next business day after diagnosis.
- II. **Title:** Protocol for Prevention and Control of TB in County Jails and other Short-Term Correctional Facilities
- III. **Type of Standard:** Service
- IV. **Outcome:** This guideline has been developed to assist in the control and prevention of TB in inmates and staff in short-term correctional facilities.
- V. **Personnel:** Determined by appropriate local jurisdictions in accordance with levels of care provided.
- VI. **Competencies:** All correctional facilities, including those in which few TB cases are expected to occur, should identify a person or group of persons with experience or training in infection control, occupational health, and engineering to be responsible for the TB infection control program in their facility. These persons should have the authority to develop, implement, enforce, and evaluate TB infection control policies. If supervisory responsibility is assigned to a committee, one person should be designated as the contact person to whom questions and problems can be addressed. In multi-facility systems, one person should be designated to oversee TB infection control activities throughout the system. Correctional facility staff assigned to TB infection control activities and all clinicians who treat inmates or employees of correctional facilities should be familiar with current American Thoracic Society (ATS)/Centers for Disease Control and Prevention (CDC) guidelines concerning TB, the Florida Model Jail Standards, and the National Commission on Correctional Health Care standards for correctional facilities. A member from the local county health department (CHD) TB Program should be included as a member of this team.

VII. AREAS OF RESPONSIBILITY:

The transmission of TB in a correctional facility presents a public health problem for employees, inmates, and the communities into which inmates are released. Local officials responsible for the administration of short-term correctional facilities should ensure the implementation of effective TB control and prevention activities in these facilities. These activities must include the following:

- A. Early identification and initiation of treatment for cases or suspected cases of tuberculosis.
- B. Appropriate containment of these individuals to prevent disease transmission to staff and inmates.

- C. Notification by next business day, but no later than 72 hours, to the local health department of a TB suspect or case.
- D. Conduct appropriate contact investigation in concert with the local county health department when active TB cases are identified.
- E. Provide tuberculin skin testing (TST) using the Mantoux method to inmates incarcerated for ≥ 14 days.
- F. Provide and complete the recommended treatment of Latent TB Infection (LTBI) for inmates in conjunction with the local CHD TB program.
 - 1. Develop and maintain close communications with county health departments, as well as state and federal correctional systems to facilitate and ensure continuity of care for inmates with tuberculosis disease or latent TB infection returning to the community or sentenced for further incarceration.
 - 2. Develop and annually review a TB Control Plan specific for the control and prevention of TB.

G. TUBERCULOSIS SCREENING

The following procedures should be routinely implemented to identify individuals who have active/suspected TB disease or latent TB infection.

1. Symptom Screening

Screening for symptoms of active TB disease is the **first and most important step of early intervention**. All inmates should be screened upon admission and at each health encounter for the following:

- a. Symptoms of infectious TB (e.g., a prolonged cough or hoarseness lasting 3 weeks or more)
- b. Chest pain; and/or hemoptysis (coughing up blood)
- c. Fever, chills, night sweats, fatigue, loss of appetite and/or weight loss

Individuals experiencing these symptoms may be infectious, particularly when pulmonary symptoms are accompanied by systemic symptoms. All inmates who have symptoms suggestive of TB should immediately be placed in an appropriate airborne infection isolation (AII) room and receive a thorough medical examination as soon as possible. This medical examination should include a Mantoux tuberculin skin test (TST), and a chest x-ray and sputum examination, if indicated. Immediately (by the next business day, but no later than **72** hours) subsequent to the medical examination, the TB case/suspect case **should be reported to the local county health department**.

2. HIV Status

HIV positive inmates are at high risk for progression to active TB disease, if infected, should have a chest x-ray taken as part of the initial symptom screening. Inmates suspected to be at high risk for HIV, or other immunocompromised conditions should also be provided a chest x-ray regardless of their tuberculin skin test status.

3. TB History

During symptom screening, inmates should be asked if they have been treated for active TB disease or infection. This information should be documented in the medical record. Copies of records should be obtained if possible. If an inmate has a **documented** positive Mantoux TST, with active disease excluded, the inmate should be evaluated for treatment of latent TB infection.

4. Mantoux Tuberculin Skin-Test Screening

- a. Tuberculin skin testing is not usually recommended for inmates incarcerated less than fourteen (14) days. The TST is a tool in the screening process and is not the determining method of diagnosing TB disease. On average, up to 24% of patients with active TB disease have a negative TST.
- b. The TST is **not** recommended for the following:
 - 1) Persons who have a **documented** history of a positive Mantoux TST.
 - 2) Persons who have a **documented** history of TB disease.
 - 3) Persons who have a reported history of a severe necrotic reaction to the tuberculin antigen (rare).

H. Administering the TST:

1. Should be administered by an individual **trained** in administering the Mantoux TST.
2. PPD antigen must be kept out of light and refrigerated or in a cooler with an ice pack to maintain potency. Also each vial needs to be dated and initialed when opened. **Note:** The PPD antigen vial should be discarded 30 days after opening.
3. If a 6-10 mm. wheal is not produced, another test should be done immediately at least 2" or 5 cm. from the first one or on the inmate's other arm.
4. For further information, refer to TA-TB 5 Tuberculin Skin Testing (TST) at http://www/doh.state.fl.us/disease_ctrl/tb/guidelines/guide.html, or contact your CHD TB nurse for a copy.

I. **Reading the TST:**

1. Should be read by an individual **trained** in reading the Mantoux TST.
2. Read in 48 to 72 hours and documented in millimeters.
3. Reading is measured across the width of the arm using a mm ruler.
4. Measure induration **only** using a flexible mm ruler and pen to mark the edges of the induration. To measure: Find the first edge by lightly running your fingers from the outer aspect of the forearm toward the induration. Rest your finger next to the beginning of the induration and place a small dot at the widest edge of the induration. Repeat the procedure from the other side of the forearm. Measure the distance between the dots with the mm ruler. Place the zero on the ruler at the left edge of the induration and read at the ruler line inside the right dot. If the reading falls between two divisions on the ruler, record the lower mark in mms. Redness or bruising should **not** be included, when measuring the reaction.
5. For further information, refer to TA-TB 5 Tuberculin Skin Testing (TST) at http://www.doh.state.fl.us/disease_ctrl/tb/guidelines/guide.html or contact your CHD TB nurse for a copy.
6. *An induration of **10mm** or more is considered a positive result in inmates and correctional facility employees.*
7. *An induration of **5mm** or more is considered a positive result in the following groups:*
 - a. Recent contacts of a person who has infectious TB.
 - b. Persons whose chest x-rays are suggestive of prior TB disease.
 - c. Persons known to have HIV infection.
 - d. Persons who are at risk for HIV infection, including injecting drug users.
 - e. Persons with organ transplants and other immunosuppressed persons receiving the equivalent of $\geq 15\text{mg/day}$ of prednisone for 1 month or more.

A tuberculin skin test conversion is defined as an increase of ≥ 10 mm of induration within a 2-year period regardless of age.

Bacillus Calmette Guérin (BCG) vaccine, used in many countries, can cause a reaction to the Mantoux TST. Treatment for latent TB infection should be strongly considered in correctional facilities for BCG vaccinated individuals who have a TST reading of 10 mm or more. These individuals are at increased risk for recent TB infection and/or progression from infection to disease.

J. X-Ray Screening

1. Persons with a positive TST and no symptoms suggestive of TB disease should receive a chest x-ray within 72 hours after the TST is interpreted.
2. Persons who have a positive Mantoux TST result and symptoms suggestive of TB disease should be immediately isolated in an airborne infection isolation (All) room and receive a medical evaluation, including a sputum examination and a chest x-ray.
3. Persons who have an abnormal chest x-ray should be medically evaluated as soon as possible.
4. All inmates with abnormal x-rays should be isolated until TB disease has been ruled out.
5. If an inmate has a history of a **documented** past-positive TST, they should be screened for signs and symptoms, and if signs and symptoms are present then a chest x-ray is indicated.

K. CONTACT INVESTIGATION

1. A contact investigation should be conducted whenever an inmate or employee is diagnosed with infectious TB disease.
2. All contact investigations should be completed in concert with the county health department TB nurse/designee, to ensure all contacts have been identified both within the facility and the community.
3. Contact investigations should be initiated **within three (3) working days** of identification of an infectious patient. This is essential due to the rapid movement of inmates and correctional employees within many correctional facilities.
4. Using the concentric circle approach to contact investigations is important. Refer to TA-TB 3 Contact Investigation and Contact Evaluation for further information, which can be found at http://www.doh.state.fl.us/disease_ctrl/tb/guidelines/guide.html, or contact your CHD TB nurse for a copy.
5. Essential procedures to follow when implementing a contact investigation include:
 - a. Use classification personnel to determine movement and tracking of the inmates.
 - b. Identify those inmates and staff who are considered high-priority contacts, i.e., those who have been in close contact with the infectious TB client and those who are at risk for contracting TB or progressing to active TB disease once infected, e.g. HIV positive inmates.

It is recommended that the health department TB nurse/designee view the areas where the index case was housed to identify air flow patterns, room size, and other essential elements to an effective contact investigation.

Identify HIV infected or other immune-suppressed contacts immediately. Evaluate for active TB disease and, if active TB disease is ruled/out, consider for treatment of LTBI.

L. TREATMENT OF TUBERCULOSIS DISEASE AND LTBI

1. For treatment of active TB disease, refer to TA-TB 6 - Treatment of Tuberculosis Disease (available at http://www.doh.state.fl.us/disease_ctrl/tb/guidelines/guide.html or from your local CHD TB nurse) and/or "Treatment of Tuberculosis", MMWR, June 20, 2003/Vol. 52/No. RR-11 for CDC's recommendations.
2. For treatment of LTBI, refer to TA-TB 3 - Tuberculosis Targeted Testing and Treatment of Latent TB Infection (LTBI) (available at http://www.doh.state.fl.us/disease_ctrl/tb/guidelines/guide.html or from your local CHD TB nurse) and/or "Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection", MMWR, June 9 2000/Vol. 49/No. RR-6 for CDC's recommendations.
3. All inmates who have suspected or confirmed TB disease or who are receiving treatment for LTBI should be reported to the local health department to ensure completion of therapy upon release.
4. Clinicians may call the TB Physicians Network at 1-800-4TB-INFO (1-800-482-4636) for expert TB consultation or the Bureau of TB and Refugee Health at 1-850-245-4350.

M. CLINICAL AND LABORATORY MONITORING

1. Inmates being treated for active TB disease or LTBI should receive an initial clinical evaluation and monthly evaluations until treatment is complete.
2. Each evaluation should include:
 - a. Checking for side effects/adverse reactions to the medication, including vision and hearing tests, if indicated based on the medication(s) ordered.
 - b. Checking for signs and symptoms of hepatitis.
 - c. Laboratory testing, if indicated.
3. Baseline laboratory testing is recommended for all TB suspects/cases.
4. Baseline laboratory testing is not routinely indicated for inmates at the

start of treatment of LTBI unless the initial evaluation suggests a liver disorder, then baseline liver function tests including serum AST (SGOT) ALT (SGPT) and bilirubin should be obtained.

5. Baseline testing is indicated for inmates with HIV infection, pregnant women and those in the immediate postpartum period (within 3 months of delivery), persons with a history of chronic liver disease, e.g., hepatitis B or C, alcoholic hepatitis or cirrhosis, persons who use alcohol regularly, and others who are at risk for chronic liver disease.

N. DISCHARGE PLANNING FOR INMATES INCARCERATED IN SHORT-TERM FACILITIES

1. Discharge planning begins when the inmate is identified as a suspect or confirmed active TB disease or LTBI client.
2. Should always be done in conjunction with the local CHD TB Program.
3. Each short-term facility needs to identify inmates who need follow-up care once they leave the facility. Medical, classification, and the local CHD should coordinate follow-up care for each inmate who is a TB suspect/case or LTBI prior to release from the facility.

O. ANNUAL TB RISK ASSESSMENT FOR TB CONTROL

1. A risk assessment of the facility should be done annually. Local CHD TB Program can assist with the risk assessment.
2. More information can be found in CDC's "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005", MMWR December 30, 2005/Vol. 54/No. RR-17.

P. EMPLOYEES IN CORRECTIONAL FACILITIES

1. A TB history should be obtained and recorded for all employees at the time of hire. An initial two-step TST (this test will determine those employees with previous exposure to TB) is recommended for all new employees who do not have a **documented** history of a positive TST. Information about two-step TST can be found in TA-TB 5 Tuberculin Skin Testing (TST) at http://www.doh.state.fl.us/disease_ctrl/tb/guidelines/guide.html, or contact your CHD TB nurse for a copy.
2. Newly positive TST employees should have a chest x-ray and be evaluated for TB disease. If TB disease is excluded as a diagnosis, these persons should be considered for treatment of latent TB infection.
3. All employees who have a negative TST result after two-step testing is completed should have an annual TST. Past positive TSTs should receive an annual symptom screening. Routine annual chest x-rays are not recommended unless they are experiencing symptoms.
4. **Tuberculin skin test results in "millimeters" should be recorded in the**

employee's medical record.

VIII. Supportive Data

Centers for Disease Control and Prevention. "Extensively Drug-Resistant Tuberculosis (XDR TB) – Update." Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, October 20, 2006.

Centers for Disease Control and Prevention. "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005." Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *MMWR* December 30, 2005/Vol. 54/No. RR-17.

Centers for Disease Control and Prevention. "Errata - Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005". Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, September 25, 2006.

Centers for Disease Control and Prevention. "Mantoux tuberculin skin test Facilitator's Guide". Atlanta, GA. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003.

Centers for Disease Control and Prevention. "Prevention and Control of Tuberculosis in Correctional and Detention Facilities: Recommendations". Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *MMWR*, July 7, 2006/Vol. 55/No. RR-9.

Centers for Disease Control and Prevention. "Revised Definition of Extensively Drug-Resistant Tuberculosis". Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *MMWR* November 3, 2006/Vol. 55/No. 43.

Centers for Disease Control and Prevention. "Stop TB in the African-American Community". Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, September 29, 2006.

Centers for Disease Control and Prevention. "Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection", *MMWR* 2000/Vol. 49/No. RR-6.

Centers for Disease Control and Prevention, Advisory Council for the Elimination of Tuberculosis. "Tuberculosis elimination revisited: obstacles, opportunities, and a renewed commitment", *MMWR* 1999/Vol. 48/No. RR-9, p. 6.

Florida Department of Health, "Treatment of Tuberculosis Disease", *County Health Department Guidebook*, Technical Assistance: TB6.

Florida Department of Health. "Tuberculosis Targeted Testing and Treatment of Latent TB Infection (LTBI)", *County Health Department Guidebook*, Technical Assistance: TB3. April 1, 2002.

National Tuberculosis Nurse Consultant Coalition. *Tuberculosis Nursing: A Comprehensive Guide to Patient Care, 1997.*