



Maine Correctional Facility TB TOOL KIT

Tools for Security Staff have headings that are shaded in purple

- **What Your Correctional Facility Can Do to Prevent TB**
- **Tuberculin Skin Test (“PPD”) Administration and Interpretation**
- **What to Do When a Prisoner has a Positive “PPD”**
- **What to Do if You Suspect TB Disease in a Prisoner**
- **Cough Alert Policy for Security Staff**
- **“Think TB” for Prisoners and Security Staff**
- **“Think TB” for Medical Providers**
- **“What is TB?”**
- **“Cover Your Cough” poster**

Questions? Call: Maine TB Control Program 287 5194

What Your Correctional Facility Can Do To Prevent TB

- ❑ Observe prisoners for signs of TB and facilitate a prompt medical evaluation for individuals who are coughing for more than three weeks or who have other signs of TB.
- ❑ Encourage prisoners who are being evaluated or treated for TB to follow through with evaluation and treatment. Reassure them that TB can be cured.
- ❑ Follow your facility's guidelines for isolating prisoners who are being evaluated for TB disease
- ❑ Maintain records of housing and staff assignments for one year.
- ❑ Follow CDC recommendations for skin testing (PPD) of staff at hire, then annually.
- ❑ Follow CDC recommendations for screening prisoners for TB. This should be done on admission, then annually
- ❑ Think about ventilation. When possible, open windows to promote air exchange, especially in areas where prisoners congregate to eat, sleep or watch TV. If your facility has a mechanical ventilation system, be sure that it is functioning properly. If your facility has a negative pressure cell, be sure that the ventilation system is functioning properly.
- ❑ Use ultra violet lights if they are available. UV lighting kills bacteria in the air.
- ❑ Provide education about TB for staff and prisoners.
- ❑ Post signs to promote "cough etiquette".
- ❑ Provide tissues and paper masks and use them for both staff and prisoners when they are coughing.
- ❑ Be aware that individuals who have HIV infection or other chronic diseases are more vulnerable to TB infection.
- ❑ Develop a site-specific TB infection control plan and keep it in a place where staff may refer to it when questions arise.
- ❑ **Call TB Control (287 5194) if you suspect TB in a prisoner**

What To Do When a Prisoner Has a Positive TB Skin Test (TST or “PPD”)

It is important for staff to understand the difference between latent TB infection (not infectious) and active TB disease (infectious). Please refer to Tool Kit Sheet: “Think TB: What is TB?”

- ❑ Be sure that the skin test has been properly administered and interpreted according to the information on Tool Kit Sheet: [“Tuberculin Skin Test Administration and Interpretation”](#)
- ❑ Screen the prisoner for symptoms of TB (coughing longer than three weeks, night sweats, fever, weight loss, hemoptysis)
- ❑ Compare skin test results with medical history to determine results of previous tuberculin skin tests
- ❑ Obtain exposure history
- ❑ X-ray the prisoner’s chest
- ❑ Refer the patient to the facility medical provider for evaluation
- ❑ Notify the TB Control Program: 287 5194

Normal CXR and No Symptoms:

- *If the chest x-ray is normal and the patient does not have symptoms of TB, he may have latent TB infection (LTBI). LTBI is not infectious to other prisoners or staff. Prisoners with suspected LTBI should be evaluated as soon as feasible, but LTBI is not an emergency and individuals who have LTBI are not an immediate public health threat.*

Abnormal CXR and Symptoms

- *If the prisoner has symptoms of TB and an abnormal CXR, refer to Tool Kit Sheet: “What to Do if you Suspect TB in a Prisoner”*

What To Do if You Suspect TB in a Prisoner

- ❑ Move the prisoner to a separate cell or sleeping area
- ❑ Call TB Control (287 5194) to report the TB Suspect
- ❑ Arrange for the prisoner to be evaluated by a physician as soon as an appointment can be arranged
- ❑ Collect sputum specimens for submission to the State Health and Environmental Testing Laboratory, as directed by TB Control. Do not collect a sputum sample inside the prisoner's cell: use a negative pressure cell, or move the prisoner out of doors to collect the specimen.
- ❑ Prisoners in respiratory isolation should be eat meals in their cells and should wear a disposable mask if they are removed from the cell for any reason.
- ❑ Staff who enter the prisoner's isolation cell should wear a protective mask (N-95).
- ❑ N-95 masks may be used more than one time by the same person, unless they are damaged or become wet.
- ❑ When transporting a prisoner with suspected TB disease in a vehicle, physically isolate the front seat from the rest of the vehicle (if possible), have the patient sit in the back seat and open the windows.
- ❑ Reassure the prisoner that TB is curable and that isolation is only temporary.
- ❑ Reassure prisoners that close contacts of the TB Suspect will be evaluated for evidence of infection.
- ❑ Reassure correctional officers that exposed staff will be evaluated in collaboration with the State Center of Disease Control and according to national guidelines. It is important for staff to understand that their families are not at risk of TB infection due to a recent work exposure.
- ❑ Work with the TB Control Program to identify and evaluate contacts of the TB Suspect.

Tuberculin Skin Test (TST or “PPD”) Administration

Nursing and medical staff play a critical role in the prevention and detection of TB in the corrections setting. It is important that the tuberculin skin test is properly administered and interpreted. Corrections medical staff should be trained in proper methods for skin test administration and interpretation. Training is available through Maine DHHS Public Health.

Skin Test Administration

Using blood-borne pathogen precautions:

- ❑ Locate and clean the injection site
 - 2-4 inches below the elbow joint
 - Place forearm palm side up on a clean, firm surface in a well lit area
 - Select an area free of barriers for placing the tuberculin and reading the results (E.g., scars, sores)
 - Clean the area with an alcohol swab

- ❑ Prepare the syringe
 - Check the expiration date on the vial and ensure the vial contains tuberculin (5 TU per 0.1 ml)
 - Use a single-dose tuberculin syringe with a ¼ - ½ inch, 27 gauge needle with a short bevel
 - Fill the syringe with 0.1 ml of tuberculin

- ❑ Inject tuberculin
 - Insert the needle intradermally with the bevel up, at a 5 – 15 degree angle
 - The needle bevel should be seen just below the skin surface
 - Inject the tuberculin
 - After the injection a tense, pale wheal should appear over the needle
 - The wheal should be 6 – 10 mm in diameter. If not, repeat the test at a site at least 2 inches away from the original site

- ❑ Record information
 - Record all information required by your institution
 - Be sure to document:
 - The date and time of test administration
 - Injection site location
 - Lot number and date of expiration of tuberculin

Tuberculin Skin Test (TST or “PPD”) Interpretation

Skin Test Interpretation

The skin test should be read between 48 and 72 hours after administration. If a prisoner does not return for reading within 72 hours, the skin test needs to be repeated.

- ❑ Inspect the site
 - Visually inspect the site under a good light
- ❑ Palpate the induration
 - Use the fingertips to find the margins of the induration (hard, dense raised formation)
 - **Do not measure redness, only induration**
- ❑ Mark the induration
 - Use the fingertip as a guide for marking the widest edges of induration across forearm (transverse axis)
- ❑ Measure the induration
 - Place “0” ruler line inside the left dot edge
 - Read the ruler line inside right dot edge (use lower measurement if between two gradations on mm scale)
- ❑ Record the measurement of induration in mm
 - Only record measurement in mm
 - If no induration, record as 0 mm
 - Do not record as “positive” or “negative”

Remember !

- ❖ **Criteria for “positive skin test” in the correctional setting is 10 mm of induration**
- ❖ **Report positive skin tests to Maine TB Control by calling (207) 287 8157**

Cough Alert Policy for Security Staff

Security staff play an important role in communicable disease detection and prevention. Staff who follow “Cough Alert Policies” help to find active cases of TB and prevent the spread of TB to others.

What to Look For

- ❑ Prisoners who cough for more than three weeks without improvement
- ❑ Prisoners who have chronic cough and also have night sweats, fever, weight loss and/or blood in sputum (phlegm)

Cough Alert Check List

- ❑ Coughing more than 3 weeks?
- ❑ Coughing up blood?
- ❑ Weight loss?
- ❑ Fever lasting more than three weeks?
- ❑ Sweating at night that drenches clothes and bedding?

What to Do

1. Ask the prisoner to cover his/her nose and mouth when coughing, by using tissues and wearing a paper mask
2. Notify the Medical Department
3. Help the prisoner to arrange for a timely nursing or medical assessment
4. Reassure the prisoner that evaluation for TB is important and that his/her confidentiality will be respected by staff

***Coughing up blood is a serious symptom that should be evaluated right away**

THINK TB

For Prisoners / Security Staff

- ➡ **Tuberculosis is spread by tiny germs that can float in the air**
- ➡ **TB germs may spray into the air if a person with TB disease coughs, shouts or sneezes**
- ➡ **If TB germs cause TB disease, the person needs medical help**
- ➡ **If you have TB you may: feel weak, cough a lot, cough up blood, have chest pain when you cough, lose your appetite, lose weight, have a fever, or sweat a lot at night**
- ➡ **Only a doctor can tell you if you have TB disease**
- ➡ **Staff at this facility screen prisoners for TB by checking for symptoms and by providing TB skin tests. A positive TB skin test does not mean that you have TB disease**
- ➡ **TB tests are confidential**
- ➡ **TB is preventable and if you already have it, it can be cured**
- ➡ **If you know someone who is being checked for TB disease, you can help by offering your support. No one should be blamed for having TB infection.**

Let's All Work Together to STOP TB!

Think TB For Health Care Providers

The Maine Bureau of Health urges healthcare providers to “Think TB” when evaluating potential high-risk persons such as . . .

- Foreign-born from TB endemic areas
- Residents of long-term care facilities
- Homeless or incarcerated persons

- Those with or at risk for HIV infection
- Close contacts of persons with TB
- Injection drug users

Diagnosis of Latent Tuberculosis Infection

Background. In most U.S. populations, screening for TB is done to identify infected persons at high risk for TB disease who would benefit from treatment of TB latent infection and to identify persons with TB disease who need treatment. Screening should be done in groups for which rates of TB are substantially higher than for the general population. Clinicians should tuberculin test high-risk persons as part of their routine evaluation. Institutional screening is recommended for the staff of health care facilities, as well as for the staff and residents of long-term care institutions where TB cases are found or the case rates of TB are high. The Mantoux tuberculin skin test is the preferred method of screening for TB infection.

Tuberculin Skin Test. The Mantoux tuberculin skin test (TST) is used to determine whether a person is infected with *Mycobacterium tuberculosis*. Tuberculin skin testing is contraindicated only for persons who have had a necrotic or a severe allergic reaction to a previous tuberculin skin test. It is not contraindicated for any other persons, including infants, children, pregnant women, persons who are HIV infected, or persons who have been vaccinated with BCG. The Mantoux tuberculin skin test is the standard method of identifying persons infected with *M. tuberculosis*. Multiple puncture tests (MPTs) should not be used to determine whether a person is infected.

Administering the Tuberculin Skin Test. The Mantoux tuberculin test is performed by placing an intradermal injection of 0.1 ml of purified protein derivative (PPD) tuberculin containing 5 tuberculin units (TU) into the inner surface of the forearm. The injection should be made with a disposable tuberculin syringe, just beneath the surface of the skin, with the needle bevel facing upward. This should produce a discrete, pale elevation of the skin (a wheal) 6 mm to 10 mm in diameter. Institutional guidelines regarding universal precautions for infection control (e.g., the use of gloves) should be followed.

Interpreting Skin Test Results. A trained health care worker should read the reaction to the Mantoux tuberculin skin test 48 to 72 hours after the injection. The reading should be based on a measurement of induration (swelling), not on erythema, or redness. The diameter of the induration should be measured perpendicularly to the long axis of the forearm. All reactions, even those classified as negative, should be recorded in millimeters. Some persons who have positive skin test results may have TB disease. The possibility of TB disease must be ruled out before treatment of latent TB infection is begun.

False Positive & Negative Reactions. The Mantoux tuberculin skin test is a valuable tool, but it is not perfect. False-positive and negative reactions do occur. There is no sure way to determine the true cause of the reaction.

Diagnosis of Tuberculosis Disease

When to Suspect Tuberculosis (TB). The symptoms of pulmonary TB include cough, chest pain, and hemoptysis; the specific symptoms of extrapulmonary TB depend on the site of disease. Systemic symptoms consistent with TB also include fever, chills, night sweats, easy fatigability, loss of appetite, and weight loss. TB should be considered in persons who have these symptoms. Persons suspected of having TB should be referred for a complete medical evaluation, which should include a medical history, a physical examination, a Mantoux tuberculin skin test, a chest radiograph, and any appropriate bacteriologic or histologic examinations. A positive bacteriologic culture for *M. tuberculosis* confirms the diagnosis of TB. However, if TB disease is not ruled out, treatment should be considered. Please report all suspect and confirmed cases of TB to the Maine TB Control Office.

Diagnostic Laboratory Tests. The presence of acid-fast bacilli (AFB) on a sputum smear often indicates TB. Acid-fast microscopy is easy and quick, but it does not confirm a diagnosis of TB because some acid-fast bacilli are not *M. tuberculosis*. Therefore, a culture is done to confirm the diagnosis. Culture examinations should be done on all specimens, regardless of AFB smear results. Treatment should not be initiated until specimens have been submitted to the laboratory. Laboratories should report positive smears and positive cultures within 24 hours by telephone or fax to the primary health care provider and the TB control program. For all patients, the initial *M. tuberculosis* isolate should be tested for drug resistance. It is crucial to identify drug resistance as early as possible in order to ensure appropriate treatment. For this reason, we require all laboratories to submit clinical isolates of *M. tuberculosis* to the Maine Health and Environmental Testing Laboratory (287-2727) for drug susceptibility testing.

Who to call and why. . .

To report a suspect laboratory & clinical TB case: Contact the State of Maine TB Control Office at 1-800-821-5821 or (207) 287-5194.

For clinical consultation: Because of the potential public health implications of a patient who receives inadequate or suboptimal therapy, the Maine TB Control Office, Bureau of Health, provides comprehensive services for persons with confirmed or suspect TB. These services are free to you and your patient, and include the following:

- Laboratory services for smear, culture and susceptibility studies.
- Medication for patients with disease.
- Referral for HIV Testing – HIV Testing is recommended for all TB suspects/cases by the CDC's TB Surveillance and Prevention Program and the American Thoracic Society.
- Directly Observed Therapy by Public Health Nurse for patients with disease.
- Treatment of TB latent infection (e.g. INH) for infected individuals.
- Public health nursing services to ensure follow-up of patients being treated for TB; delivery of medications; assistance with contact screening investigations etc.
- Educational materials for the primary care physician including CDC/ATS national guidelines on treatment.

If your patient, who is suspect or diagnosed TB disease, does not have access to third party insurance and is unable to pay for TB follow-up services, the TB Control Office in the Bureau of Health will provide resources for TB clinic services to a TB suspect or case at any one of the six state tuberculosis clinics located statewide.

THINK TB WHAT IS TB?

- ➡ **What is TB?** “TB” is short for a disease called tuberculosis. TB is spread by tiny germs that can float in the air. TB germs may spray into the air if a person with *TB disease* of the lungs or throat coughs, shouts, or sneezes. Anyone nearby can breathe TB germs into their lungs and get a *TB infection*.
- ➡ **How do I know if I have a TB infection?** A skin test is the only way to tell if you have a *TB infection*. You can have a *TB infection* without feeling sick. The germs are sleeping in your lungs. You can take medicine to keep the germs from growing. If you don’t take medicine, the TB germs may begin to grow and cause TB disease. If you have TB disease you need to take medicine to cure your TB. A nurse will bring you the medicine and the health department will pay for it.
- ➡ **How does the *skin test* work?** The test is usually done on the arm. A small needle is used to put some testing material under the skin. In two or three days, a health care worker will check to see if there is a reaction to the test. The test is “positive” if a bump about the size of a pencil eraser or bigger appears on your arm. This bump means you probably have a *TB infection* and need to visit a doctor. Staff at this center can help you get a TB test. The test is free and confidential.
- ➡ **How do I know if I have TB disease in my lungs?** An X-ray of your chest can tell if there is damage to your lungs from TB. Phlegm (“flem”) you cough up can also be tested to see if the TB germs are in your lungs. If you have *TB disease* in your lungs, you may:
- Feel weak
 - Lose your appetite
 - Have a fever
 - Have a cough lasting longer than 3 weeks
 - Cough up blood in phlegm (“flem”), mucus or blood
 - Lose weight
 - Sweat a lot at night
- ➡ **How does HIV infection affect TB?** HIV helps TB germs make you sick by attacking the germ fighters in your body. If you are infected with HIV and with TB germs, you have a very big chance of getting *TB disease*. Talk to your health care worker about getting an HIV test. If you have HIV infection, get tested for *TB infection* at least once a year.

Keep Germs to Yourself!

Cover Your Cough



Cover your mouth and nose with a tissue when you cough or sneeze

Put your used tissue in the waste basket.



or

Cough or sneeze into your upper sleeve - not your hands.



Clean Your Hands



Wash vigorously with soap and water or Use an alcohol-based hand cleaner.



Stop the spread of germs that make you and others sick!



Department of Health and Human Services
Maine Center for Disease Control and Prevention
www.mainepublichealth.gov