TUBERCULOSIS (TB) EXPOSURE CONTROL PROGRAM

AP18.1. Purpose.
To establish a Tuberculosis (TB) Exposure Control Program and provide policy guidance for CBP employees.

AP18.2. Policy.
This program has been designed to provide for the prevention and early detection of infection among CBP employees who are at significant risk of exposure to a source with tuberculosis disease, especially pulmonary tuberculosis (TB). Inspectors, Border Patrol Agents, and Canine Enforcement Officers may interact closely with hundreds of persons in a given work shift, many of whom may be from countries where tuberculosis is prevalent.

AP18.3. Background.
Tuberculosis is a disease produced by infection with Mycobacterium tuberculosis. Tuberculosis continues to be a public health problem in the United States, with about 20,000 cases reported annually. TB is spread through the air from person to person by infectious airborne droplets containing tubercle bacilli. These tiny droplets, less than 1/5000th of an inch, are produced when a person with infectious TB of the lung or throat coughs, sneezes, speaks, or sings. Unless ventilated to the outside of the building, these infectious particles are suspended in the air. They can then be inhaled and infect someone breathing this air. However, the highest risk of becoming infected is from prolonged, frequent, or intense contact with a person with active and infectious TB — such as family members, roommates, and coworkers. Casual contact with an infectious person — someone with active, untreated TB in the lungs — in a public place such as a movie theater or subway is unlikely to lead to infection, although the risk is not zero.

Three general strategies are fundamental to the prevention and control of tuberculosis. The first priority is the identification and treatment of persons who have active TB, assuring that they complete appropriate therapy. The next priority involves finding and screening individuals who have been in contact with TB infected people to determine whether they have TB infection or TB disease and providing them with appropriate treatment. The third priority is screening high-risk employees to detect individuals who may be infected with M. tuberculosis and who could benefit from therapy to prevent infection from progressing to TB disease.
AP18.4. *Definitions.*

**BCG vaccine** — Bacillus Calmette-Guerin (BCG) vaccine made from live attenuated mycobacterium strains is commonly used in some countries in an attempt to prevent vaccine recipients from becoming infected with tuberculosis. The BCG vaccine is not used in the United States.

**Covered (at risk) employees** — Inspectors, Canine Enforcement Officers and Border Patrol Agents shall be considered at risk to an exposure incident, and shall receive the annual TB skin tests and training. Additionally, any other CBP employee with an exposure incident shall be included in requirements of this TB program.

**Exposure incident** — An event in which an employee has been exposed to an individual with confirmed or suspected infectious TB or to air containing aerosolized *M. tuberculosis* without the benefit of applicable exposure control measures. Also referred to as a TB Contact Incident.

**Induration** — An area around the site of tuberculin injection that is raised and firm to the touch.

**Mantoux Method** — A tuberculin skin test using a syringe and needle to inject purified protein derivative (PPD) of tuberculin.

**Suspected Active TB Infection** — A person observed in a potential state of disease with one or more of the following conditions, unless the individual’s condition has been medically determined to result from a cause other than TB: Has a persistent cough (lasting 3 or more weeks, if known) and two or more of the following symptoms of active TB (e.g., bloody sputum, night sweats, weight loss, fever, anorexia).

**Tuberculosis disease** — The person has symptoms, signs, radiographic, or laboratory evidence of pulmonary, meningeal, miliary, or extra-pulmonary tuberculosis.

**Tuberculosis infection** — The person has no symptoms, signs, or radiographic evidence of active disease, but does have evidence of infection, as indicated by the presence of a positive tuberculin skin test. The TB organisms have entered the body, but are inactive. TB cannot be spread to others in this stage. Tuberculosis infection refers solely to individuals whose only evidence of tuberculosis infection is a positive tuberculin skin test.

**Tuberculin skin test** — Refers to the Mantoux method of skin testing for tuberculosis. The method utilizes an intradermal injection of tuberculin antigen with subsequent measurement of the reaction induration. It is also referred to as a PPD skin test.
AP18.5. *Purified Protein Derivative (PPD) Testing.*

To determine whether someone has been infected with *Mycobacterium tuberculosis*, a skin test with purified protein derivative (PPD) administered by the Mantoux method is the most sensitive and specific test available. Following exposure, periodic skin testing detects newly infected persons, so that they can receive preventive therapy. In the U.S., about 90 percent of infected persons remain infected for life, with no symptoms of disease. But about 5% develop disease in the first year or two following infection, and another 5% develop disease later in life (this varies with age and immunological status).

A person who tests positive for TB infection but does not have disease symptoms:

- cannot spread infection to others;
- is not considered a case of tuberculosis;
- usually has, as the only evidence of infection, a positive reaction to the tuberculin skin test;
- usually has a negative chest x-ray and no symptoms of TB; and
- has TB bacteria in his or her body that, although inactive, remains capable of causing disease at any time later in life.

AP18.6. *Pulmonary Tuberculosis.*

Pulmonary tuberculosis is the most common form of active disease, but not the only one. It causes the most concern because of the potential to transmit the infection to others by the airborne route. In general, such persons require treatment with multiple antibiotics, and should be under the care of a physician. CBP employees discovered to have active disease will be referred for medical management and will not return to work until a written statement from a physician indicates that they are no longer infectious. A person with active, infectious, and untreated TB has the following symptoms:

- anorexia (loss of appetite);
- weight loss;
- fatigue;
- chronic cough (usually productive);
- pleuritic chest pain (pain in the side of the chest with coughing or when breathing deeply);
- physical signs may include fever and production of blood when coughing.

AP18.7. *Tuberculosis Control Program Elements.*

The CBP Tuberculosis Control Program consists of periodic screening, prevention of tuberculosis disease among tuberculin reactors, management of tuberculosis disease, and tuberculosis contact investigations.
AP18.7.1. Tuberculosis screening.

a) The purpose of screening is to detect CBP employees who have tuberculosis infection (including those who have progressed to active disease). CBP employees at greatest risk includes:
   - Inspectors
   - Canine Enforcement Officers
   - Border Patrol Agents

These employees are likely to interact with persons with infectious tuberculosis and have a risk of exposure to persons with infectious tuberculosis over their working lifetime.

b) The above covered employees shall be included in annual tuberculosis screening. In addition, a TB skin test shall be provided within 30 days of termination.

c) Under the following conditions, covered employees shall be provided a medical history, physical examination, TB skin testing, medical management and follow-up, and, if indicated, other related tests and procedures:
   1. When an employee has signs or symptoms of TB, either observed or self-reported;
   2. When an employee has a TB skin test conversion;
   3. When a physician or other licensed health care professional, as appropriate, deems necessary.

d) Chest Radiographs — These are used in the initial evaluation of employees that are tuberculin positive reactors and in the evaluation of any employee who may have signs or symptoms suggestive of active disease. In general, the lack of infiltrate in the lungs excludes active pulmonary tuberculosis.

e) Prevention of Active Disease — Positive tuberculin skin test reactors will be referred for medical evaluation to determine whether prophylactic measures will substantially decrease their chance of progression to active disease. Medical evaluation procedures and prophylactic measures shall be at the discretion of the evaluating physician.

f) Management of Active Disease — Persons with active disease must be treated to prevent progression of disease in the individual and to reduce the spread of infection in contacts.

g) Pregnancy Concerns — Tuberculin skin testing is considered valid and safe throughout pregnancy. No teratogenic effects of testing during pregnancy have been documented.
h) Tuberculosis Exposure or Contact Incident Investigation — These are designed for early detection of infection in employees who probably have been significantly exposed to a person with infectious tuberculosis disease. Air, Marine and Canine Enforcement officers who have interacted with persons manifesting signs or symptoms of tuberculosis, or who report to them that they have tuberculosis, may also request a contact investigation. See the following section.

AP18.7.2. Investigation of Exposure Incidents.

a) Management shall identify each employee who has been involved in an exposure incident.

b) Employees who are tuberculin nonreactors from past testing, or who have not been identified as tuberculosis infected, must receive a tuberculin skin test, with a repeat skin test at 3 months (12 weeks).

c) Each employee involved in an exposure incident will be given a medical history questionnaire to complete.

d) An employee with an exposure incident who is known from past testing to be a tuberculin reactor (positive PPD skin test) must receive an evaluation by a physician, a chest radiograph and clinical examination looking for evidence of active tuberculosis. Another symptom review must be repeated at 3 months, with the need for a chest radiograph being again assessed.

e) Detailed documentation of all evaluations must be maintained and copies provided to the CBP employee for use in their medical management.

f) The evaluating physician providing the initial screening is responsible for all follow-up skin testing unless that responsibility is specifically transferred to the employee’s treating physician.

g) Upon completion of the 3-month follow-up, those employees who remain tuberculin nonreactors will have completed the process and should return to their normal schedule of TB screening. No further action is required. Any employee determined to be in a high-risk category, as determined by the CBP designated physician, shall be referred to his/her personal physician.

AP18.7.3. Confidentiality and Medical Records.

a) All medical findings or diagnoses not directly related to TB infectious status, ability to wear a respirator, or work restrictions shall be kept confidential and shall not be included in any written report.
b) The physician or other licensed health care professional shall provide CBP a written opinion within 15 days of completion of TB surveillance as noted in this policy. The written opinion shall be limited to:

(1) The employee’s TB skin test status (e.g., positive or negative);
(2) The employee’s infectivity status (e.g., non-infectious or infectious);
(3) A statement that the employee has been informed of the results of the medical evaluation;
(4) A statement that the employee has been told about any medical conditions resulting from exposure to TB that require further evaluation or treatment;
(5) Recommendations for work restrictions;
(6) The employee’s ability to wear a respirator (if applicable).

AP18.7.4. Decontamination of Spaces Occupied by Persons with Active TB Disease.

a) Tuberculosis is transmitted by small airborne droplets or droplet nuclei from person to person in close contact or possibly through ventilation systems. Other dried secretions or fomites (i.e., indirect transmission through potentially contaminated inanimate objects such as clothing) in themselves do not pose a significant hazard. Therefore, when a case of active pulmonary tuberculosis disease is discovered, the filters in the ventilation system exhausting the areas where the source case worked must be cleaned as per the usual HVAC procedures. No extra measures need to be taken in cleaning the workspace. If possible, increased circulation of fresh air and exposure of the working spaces to natural light (sunlight) will rapidly clear any infectious, airborne droplet nuclei from the spaces. No other sanitation measures are necessary. The Safety and Occupational Health Branch may be consulted for advice in specific instances.

b) For proper design and engineering controls, each Port of Entry shall strive to be designed in accordance with “The United States Land Ports of Entry Design Guide.” This design criteria specifies the following:

(1) Negative air pressure of at least 0.02 inches of water for spaces holding potentially infectious TB infected individuals.
(2) At least ten air changes per hour recommended for spaces with high risk of TB transmission.
Airflow rates across counters from inspector side to public side should be at least 150 feet per minute. Where possible, sneeze shields and additional counter depth should be considered.

A holding room at each port of entry needs to be designated as an isolation room for holding potential infectious TB individuals. This room needs to meet the above criteria and have surgical masks available for the suspect individuals use.

AP18.7.5. Respiratory Protection.

a) When respirators are needed they shall be disposable N95 to N100 filtering facepiece respirators (dust masks). These shall be used when entering a holding room with a suspected TB individual or when transporting a suspected TB individual in a vehicle. The suspect shall also be encouraged to cover all coughs with a tissue, or optimally to wear a surgical mask or valveless disposable respirators (dust mask) while in custody.

b) Should employees be required to wear a respirator the following requirements must be met:

   1. Have a written respiratory protection program that meets OSHA regulatory requirements (29 CFR 1910.139).
   2. Use only NIOSH approved respirators rated N-95 or higher.
   3. Have medical surveillance to determine employee’s ability to wear a respirator.
   4. Train employees annually and provide fit testing to ensure proper respirator fit.

AP18.7.6. Training. At risk employees shall be provided training regarding the hazards and control of tuberculosis.

a) Training shall include:

   1. Information about the disease (i.e., cause and transmission);
   2. Signs and symptoms;
   3. Risk factors;
   4. Engineering controls;
   5. Personal protective equipment use;
   6. Review of the CBP TB program;
   7. Review of the medical surveillance program.

b) Training shall be repeated annually, and records of training shall be maintained in TRAEN and include:
(1) The dates of the training sessions;
(2) The contents or summary of the training sessions;
(3) The names and qualifications of the persons conducting the training;
(4) The names and job titles of all persons attending the training sessions.

AP18.7.7. Responsibilities.

a) Chief, Safety and Occupational Health Branch, Human Resources Management shall provide guidance and assistance in program development.

b) Port Directors and Chief Patrol Agents are responsible for implementing procedures outlined in this program and setting up site-specific protocols to reduce employee exposure to tuberculosis.

c) The HRM Health and Fitness Branch shall provide for medical surveillance and testing of at-risk employees.

AP18.8. References.

The United States Land Ports of Entry Design Guide, Prevention and Control of Tuberculosis in Correctional Facilities, Recommendations of the Advisory Council for the Elimination of Tuberculosis, issued by the Center for Disease Control, and the Proposed Rule for the Occupational Exposure to TB, issued by OSHA.