



STATE OF WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN RESOURCES

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Governor

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Secretary

To: Local Health Departments

From: Dominic Gaziano, M.D., Director
Tuberculosis Control Program

Date: March 1, 2007

Re: PROTOCOLS FOR TUBERCULIN SCREENING

Tuberculin skin testing is the standard method of identifying persons infected with M. Tuberculosis. Through screening, infected persons are identified so they can receive treatment to prevent the development of disease and persons with disease are detected so they can be treated. In a setting where persons are grouped together in a relatively closed environment, the possibility of transmission of tuberculosis infection is far greater than in the general population.

The Mantoux Test is performed by the intradermal injection of 0.1 ml. of PPD tuberculin containing 5 TU (tuberculin units) into either the volar or dorsal surface of the forearm. The injection should be made with a disposable tuberculin syringe. The injection should be made just beneath the surface of the skin, with the needle bevel facing upward to produce a discrete, pale elevation of the skin 6mm to 10mm in diameter.

The tuberculin test should be read 48 to 72 hours after the injection. If more than 72 hours has elapsed and there is not an easily palpable and measurable induration, repeat the test on the other arm and read at 48 to 72 hours. The reading should be based on measurement of induration, not erythema. The diameter of induration should be measured transversely to the long axis of the forearm and recorded in millimeters (you may also measure both directions and record, e.g., 15mm x 10mm). Reactions are to be recorded by date, type of skin test, and the measurement of induration in millimeters; no reaction would be recorded as 0mm.

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The tuberculin skin test must be given and read by a professional who has been trained to do this, and has been informed of them most recent guidelines in tuberculosis control. Never allow anyone other than a nurse or a physician to read a tuberculin skin test. The patient and his family must not be depended upon to interpret the results of these tests since an incorrect reading can result in a false sense of security and may adversely affect the health of the patient and the control of tuberculosis. If a patient is given proper documentation (including date, site, type of test and by whom), the skin test may be read by a professional other than the one who gave the test.

Two-step testing (one to three weeks apart) should be used for the initial skin testing of adults who will be retested periodically, such as health care workers and nursing home residents, to establish a baseline and avoid misinterpretation of a boosted reaction. Then routine screening would consist of one test as often as indicated by risk assessment.

Classifying the Tuberculin Reaction:

≥ 5 mm

- Close contacts of persons with infectious TB
- Persons who have a chest x-ray suggestive of previous TB
- Persons known to have or suspected of having HIV infection
- Persons who inject drugs (if HIV status unknown)
- Patients with organ transplants and other immunosuppressed patients (receiving the equivalent of 15mg/d Prednisone for / one month.

≥10mm

- Persons who inject drugs (if HIV negative)
- Persons with certain medical conditions (other than HIV) that reportedly increase the risk for progressing from latent TB infection to active TB (e.g., silicosis, gastrectomy or jejunioileal bypass, ≥10% below ideal body weight, chronic renal failure with renal dialysis, diabetes mellitus, high-dose corticosteroid or other immunosuppressive therapy, some hematologic disorders, including malignancies such as leukemias and lymphomas, and other malignancies).
- Children younger than four years of age
- Foreign-born persons from areas where TB is common
- Medically underserved, low-income populations, including high-risk racial and ethnic groups
- Residents of long-term care facilities (e.g., nursing homes or correctional facilities)
- Locally identified high-prevalence groups (e.g., migrant farm workers or homeless persons)

≥15mm

- All persons with no known risk factors for TB

Occupational Exposure

The cutoff depends on:

- Individual risk factors for TB
- The prevalence of TB in the facility or place of employment

BCG

- In persons vaccinated with BCG, we would skin test (Mantoux method) and use the same guidelines as listed above in interpreting the results
- There is no reliable method of distinguishing tuberculin reactions caused by BCG from those caused by natural infections

Measles vaccination may temporarily suppress tuberculin reactivity. TB testing may be given prior to or on the same day as the MMR vaccine. IF MMR has been given recently, postpone the TB test until 4-6 weeks after administration of MMR. If giving MMR simultaneously with tuberculin skin test, you may want to use the Mantoux test, not a multiple puncture test, because the latter, if results are positive, require confirmation (unless vesiculation occurs) which would have to be postponed 4-6 weeks.

When the skin test is read as positive, the person is to have a chest x-ray and clinical exam. The major justifiable reason for continued screening is to find infected individuals and to prevent disease in persons found infected. Therefore, *preventive therapy for infected persons must receive as high priority as the actual screening program*. Medication for this is supplied, by the Tuberculosis Control Program, through the local health departments.