TUBERCULOSIS SURVEILLANCE & PROCEDURE FOR ADMINISTERING TB

I. PURPOSE

i. Conduct a surveillance program with respect to tuberculosis (TB) in workers;
ii. Identify persons with active infectious TB;
iii. Identify persons with TB infection at risk for active TB; and
iv. Establish a system that would allow the identification and prevention of tuberculosis.

II. APPLICABILITY

This applies to all employees. The first part of the directive (Preplacement) applies only to those who are newly employed or new to the facility (i.e., volunteers).

The remainder of this directive applies to all persons carrying on activities including those students, volunteers, physicians, nursing staff and contract workers who work directly with residents and in areas where residents/clients congregate.

This does not apply to residents of the facility or to visitors.

When hiring contract workers or training students, our facility will inform the supplying agency/school that the agency/school is responsible for following this directive with regard to preplacement TB skin testing and follow-up. The supplying agency/school should inform the long-term care facility as to whether or not the worker/student has had the TB skin test (the supplying agency/school should record the results in millimeters of induration).

Volunteers

Volunteers are defined as unpaid persons who have ongoing, regular direct resident contact and who are on record with the facility as volunteers. The following must be taken into consideration:

- Duration of contact with residents.
- Type of contact with residents (i.e. working in tuck shop, feeding, reading).
- Frequency of contact with residents.

When people come to the facility on an infrequent basis (i.e. to provide holiday entertainment), they are not considered to be volunteers for the purposes of this directive.

III. PREPLACEMENT

The employer must ensure that the assessment below is initiated either preplacement, or within 14 days of that time by the long-term care facility.

i. For persons whose status is unknown, do a two-step Mantoux skin test with PPD 5TU. No preparations other than PPD/5TU may be used. Size of induration in millimeters
should be recorded on worker’s confidential health record and on the worker’s yellow immunization card.

ii. For persons with documented results of a two-step TB skin test in millimeters of induration, accept this as the baseline test result for the worker. If this baseline test result was positive, the Assistant Executive Director or designate should ascertain whether the worker had, in the past, been evaluated by his/her physician when the positive test result occurred.

iii. Persons who have had a previous bacilli Calmette-Guerin (BCG) vaccine may still be at risk of infection. Do a two-step skin test on persons with a history of BCG vaccine unless the results of a previous Mantoux test are available in millimeters induration.

iv. Persons with a history of a documented severe positive reaction after a Mantoux skin test should be considered positive reactors. No further skin testing is recommended. Their confidential health record should reflect that they are positive reactors, and they should be informed about signs and symptoms of tuberculosis. The worker should be also be reminded that they must report signs or symptoms that could be due to tuberculosis to the Assistant Executive Director or designate.

v. For persons known to be tuberculin positive or persons who are found to be tuberculin skin test positive when tested in i. or iii. above, further assessment should be done by a physician, expect as noted in ii. above.

In general, if an employee tests positive and is symptomatic, the employee should not work until he/she has been cleared by his/her physician. If the employee tests positive, but is asymptomatic, the employee may continue to work while waiting for clearance by his/her physician. When the individual circumstance warrants consultation, the Nipigon District Memorial Hospital will work with the local Medical Officer of Health to determine whether an employee may work while undergoing investigation of the positive test result.

The employee is responsible for reporting any symptoms of active TB to the Assistant Executive Director or designate.

NOTE: Pregnancy does NOT contraindicate performance of Mantoux skin test. However, if a pregnant woman considered to be at high risk of TB infection is skin tested and is negative, she should be retested following pregnancy to ensure that her test result is negative.

IV. CONTINUING SURVEILLANCE

The facility will consult with the local Medical Officer of Health regarding the need for routine repeat skin testing, based on the rates of tuberculosis in that community.

Routine repeat chest x-rays are not recommended in the assessment of positive reactors.

V. CONTACT WITH AN ACTIVE CASE

An active case is defined as a person with active respiratory tuberculosis, whose sputum shows acid-fast bacilli on direct smear, and who has been treated with appropriate chemotherapy for less than two weeks (or longer without clinical response).

All cases of TB and all converters should be reported to the local Medical Officer of Health.

The following procedures apply to all persons who have contact with an active TB case:

i. FOR ALL MANTOUX NEGATIVE PERSONS who have contact with an active case, the Assistant Executive Director or designate must:

- Give a single Mantoux skin test as soon as possible.
- If skin test is negative, repeat the test 3 months following the last exposure to the case.
- If the result is still negative, no further action is needed.
• If result is **positive**, the person should be referred to his/her own physician and section VI of this directive should be reviewed by the person responsible for communicable disease surveillance in workers.
• If skin test is **positive**, and most likely as a result of the exposure, this indicates conversion has occurred some time since the baseline test. The person should be referred to his/her own physician as further investigation and management (i.e. chest x-ray or INH prophylaxis) may be recommended.

ii. **FOR ALL MANTOUX POSITIVE PERSONS** who have contact with an active case, the Assistant Executive Director or designate must:

• Inform the person about the symptoms of TB.
• Advise the person to be aware of any disease symptoms in themselves.
• Inform the person that any symptoms of TB must be reported to their immediate supervisor.
• Inform the person that he/she should also consult with his/her own physician if symptoms occur as further investigation (i.e. chest x-ray) may be recommended.

iii. **FOR PERSONS OF UNKNOWN STATUS**

• Administer the two-step TB skin test.
• If skin test is **negative**, repeat the test 3 months following the last exposure to the case.
• If the result is still negative, no further action is needed.
• If result is **positive**, the person should be referred to his/her own physician and section VI of this directive should be reviewed by the person responsible for communicable disease surveillance in workers.

If a contract worker or student has contact with an active case in the long-term care facility the Assistant Executive Director or designate must:

• Notify the agency/school:
  o that the person has been exposed, and
  o that the agency/school must follow up the case.
• Notify the Medical Officer of Health of the exposure in order that appropriate follow-up may be arranged.

If the contract worker has no supplying agency the Assistant Executive Director or designate must:

• Notify the worker and the Medical Officer of Health of the exposure and the need for follow-up.

VI. **PERSONS WHO CONVERT TO MANTOUX POSITIVE ( CONVERTERS)**

A converter is defined as a person whose tuberculin test changes from negative to positive within the previous 24 month period, with an increase of at least 6 mm in induration diameter.

The person should be referred to a physician for assessment and treatment in accordance with current guidelines. Converters should be reported to the Medical Officer of Health.

When testing is done after a known contact with a potential transmitter, consider any person with induration 5 mm or greater as possibly infected with tubercle bacilli and follow-up.
INFORMATION SHEET ON TUBERCULOSIS (TB) TESTING

WHY DO I NEED A TB SKIN TEST?

The Ministry of Health requires that you have a TB skin testing before or within 14 days of starting employment in a nursing home or home for the aged. The skin test results help the long-term care facility know what your TB status is at the time of employment. This is important for two reasons: 1) it helps ensure that new employees do not put colleagues or residents at risk in the event that they have TB, and 2) the test provides a baseline in the event that you are exposed to TB.

WHAT IS A TB TEST?

The TB skin test is an injection, just under the skin of your forearm, of PPD (purified protein derivative) of killed tubercle bacilli. The skin test cannot give you tuberculosis, but, will show if, in the past, you have been exposed to the bacteria that causes TB.

WHAT CAN I EXPECT TO FEEL AFTER THE SKIN TEST?

You may have some swelling or redness where the injection was given or you may have no reaction at all. The size of the swelling will vary from person to person, but is usually 10-20 mm. When your arm is examined to check the result of the test, only the localized swelling or thickening where you had the injection is important. You will have either a positive or negative reaction to the skin test.

If you have had a positive TB skin test in the past, inform the health practitioner prior to the test.

WHY DO I HAVE TWO SKIN TESTS?

If you have a negative response to the first injection, you will be given a second injection. This is because some people may have been injected in the past, but since this was some years ago, the first skin test is negative. In this case, a second test will give you a positive reaction.

DOES A POSITIVE REACTION MEAN THAT I HAVE TUBERCULOSIS?

Not necessarily. A positive reaction means that you have been exposed to tuberculosis at some time in your life. If you have a positive test result you will be referred to your family doctor for assessment (i.e. chest x-ray). In most cases, people who are well will require nothing further.
PROCEDURE FOR ADMINISTERING TB MANTOUX SKIN TESTING

1.0 STANDARD

The two-step Mantoux test will be used for all preplacement Tuberculin Surveillance. Two-step Mantoux testing is effective in establishing an accurate baseline for ongoing surveillance. It involves two tests done 7-21 days apart when the first test is negative.

2.0 DEFINITIONS

2.1 Erythema
Redness of skin produced by congestion of capillaries.

2.2 Induration
Area where skin is thickened and may feel hard.

2.3 Converter
Someone who, upon repeat testing, shows a change in reaction. This indicates new infection.

3.0 MATERIALS REQUIRED

3.1 Alcohol Swabs
3.2 1 ml Tuberculin syringes with 5/8” needle
3.3 Vial of 5TU PPD (purified protein derivative)
3.4 An opened vial of 5TU PPD expires in one month. Not opening date on the vial and store in refrigerator.
3.5 Adrenaline readily available in case of rare anaphylactic reaction.
3.6 Millimeter ruler

4.0 PROCEDURE

4.1 Explain the procedure to the worker. Provide fact sheet. Obtain written consent.

4.2 Check the worker’s health record for previous test results. If there is a previous positive reaction, a further skin test is not done. BCG is not a contraindication to TB skin testing, unless there has been a documented severe reaction.

4.3 Explain when worker can expect a reaction to appear.

4.4 Wash hands.

4.5 Instruct worker to sit up and extend arm and support it on a flat surface, with the flexor surface exposed.

4.6 Cleanse the flexor surface of the forearm about 4” from elbow with alcohol to protect the wheal from potential infection.

4.7 Draw up 0.1 m of tuberculin using 5TU PPD.

4.8 Allow the skin to dry completely before administering the injection to avoid inactivating the antigen.

4.9 Hold worker’s forearm with one hand and stretch taut the cleansed skin with your fingers.

4.10 With your free hand, hold the needle at a 15 degree angle to the worker’s forearm, with its bevel up.

4.11 Insert the needle about 4” from elbow and 3 mm below the epidermis. Stop when the bevel is under the skin.

4.12 Inject the antigen slowly and gently; you should feel some resistance as you so this a wheal of 6-10 mm diameter should form as you inject the solution.

4.13 If the needle moves freely and no wheal forms, you have injected the antigen too deeply; withdraw the needle and administer another test dose at least 2” from the first site.

4.14 Withdraw the needle, and apply gently pressure to the injection site. Don’t rub the site to avoid irritating underlying tissues which may affect test results.

4.15 Dispose of syringe/needle in SHARPS.

4.16 Do not perform skin test in areas with excessive hair, acne, dermatitis or insufficient subcutaneous tissue.

4.17 Pregnancy is not a contraindication for Mantoux skin testing.

4.18 If the degree of induration following the first test is 0-9 mm: Do a second tuberculin skin test in the other arm 7-21 days after.

4.19 If the finding, following the first test, is 10 mm or more of induration: Record this result in mm, consider this as “positive” and do NOT do a second test.
5.0 INTERPRETATION OF RESULTS

5.1 Test site to be interpreted by the person that performs the test only 48-72 hours post test.
5.2 Gently palpate to determine the area of induration.
5.3 Using mm ruler – measure the maximum transverse diameter of the induration only (not the area of erythema).
5.4 Erythema with no induration should be ignored.
5.5 Interpretation of results depends whether the skin test is done for routine screening or if the worker is a contact of a known case of pulmonary tuberculosis.

5.5.1 Negative Reaction

A negative tuberculin reaction is one in which the induration measures 0-9 mm.

(For the purpose of this directive, 5-9 mm is considered positive for those who are contacts of active TB cases, for immunosuppressed persons and those with abnormal chest x-rays).

5.5.2 Positive Reaction

A positive tuberculin reaction is one in which the induration measures 10 mm or more. Only induration, not erythema, is significant. A positive reaction indicates infection with Mantoux tuberculosis complex, non-tuberculosis mycobacteria or BCG.

Note that induration of 5-9 mm is considered positive under the following conditions:

- The testing is done after a contact with an active tuberculosis case.
- The individual is infected with HIV or has risk factors for HIV infection with an unknown HIV status.
- The person has a chest x-ray consistent with old tuberculosis.

5.5.3 Persons who convert to Mantoux Positive (Converters)

All converters to Mantoux positive must be reported to the Public Health Department.

6.0 DOCUMENTATION

6.1 Record the administration and interpretation of each of the tests on the worker’s health record in mm of induration.