

**Ottawa Public Health
Communicable Disease Program
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**TUBERCULOSIS (TB) SCREENING
AND
CONTACT MANAGEMENT
GUIDELINES**

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The Communicable Disease Program follows all cases of active
Tuberculosis in the city of Ottawa.

*Taken from *Canadian Tuberculosis Standards, 5th Edition, 2000*

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TUBERCULIN SKIN TESTING

A tuberculin skin test (TST) is used to determine the presence of tuberculosis (TB) infection or disease. The Mantoux, an intradermal test, is the most accurate, consistent and reliable method. It differs from the BCG vaccination given to prevent TB.

Administration

- Draw up antigen into the syringe just before use to reduce risk of oxidation.
- Use 0.1 ml of 5 tuberculin units (5-TU) of purified protein derivative (PPD) injected intradermally on the volar aspect of the forearm.
- The injection should raise a small wheal of 5 mm diameter, which will disappear within the next 15 minutes.
- After opening a vial, date it. Discard in one month because oxidation and degradation may reduce the potency. The vial should be kept in the dark as much as practical, except when withdrawing fluid.

Reading

- Reading should be performed 48 to 72 hours after administration by a trained health professional.
- Measure induration (not redness). Blistering, which can occur in 3% to 4% of subjects with positive tests, should be noted.
- Use your finger to identify the edges of the induration.
- Then use the tip of a ballpoint pen pushed at a 45-degree angle toward the site of the injection. The tip will stop at the edge of the induration.
- The transverse diameter (to the long axis of the forearm) should be measured and recorded in **millimeters** (mm). Recordings of “negative”, “doubtful”, or “positive” are not acceptable.
- Approximately 2% to 3% of persons tested will have localized redness or rash (without induration), which occurs within the first 12 hours. These are allergic reactions, are not serious and do not indicate tuberculosis infection.

Contraindications

- Severe blistering tuberculin reaction in the past
- Documented active tuberculosis **or** a clear history of treatment for TB infection **or** TB disease in the past

Considerations

- Extensive burns or eczema on both forearms (use back of shoulder blade)
- Major viral infections (measles, chickenpox, mononucleosis): reschedule at least one month after resolution of disease
- Live-virus vaccinations (measles, mumps, rubella, chickenpox, oral polio, yellow fever): schedule skin test the same day or at least one month after receiving the vaccine
- Patients can be tuberculin tested even under the following circumstances:
 - have recently been vaccinated but with non-live virus vaccines
 - are pregnant
 - have received BCG vaccination in the past
 - give a history of a positive tuberculin skin test but this is not documented

SCREENING (no known contact with TB)

1. Assess as a candidate for screening

HIGH RISK GROUPS	
High risk groups for screening for Latent TB Infection (LTBI): <ul style="list-style-type: none">• people who have lived or traveled in high prevalence (endemic) areas (call 724-4108 for current list)• homeless and under housed• aboriginal Canadians• elderly• people in residential settings, long term care & correctional facilities• persons at risk of occupational exposure e.g. health care workers	Risk factors for development of active TB: <ul style="list-style-type: none">• HIV infection• history of active TB without adequate treatment• abnormal chest x-ray (CXR) with fibronodular disease or granuloma• immunosuppressed e.g. cancer, transplantation, chronic renal failure, diabetes, silicosis• underweight (< 90% of ideal body weight)• recent TB infection (≤ 2 years)• age when TB infected (≤ 5 years old)• new entrants to Canada, within the first 5 years after arrival from high prevalence (endemic) country (call 724-4108 for current list)

2. Assess if two-step skin test is indicated

Note: If there is documentation of a negative tuberculin skin test during the preceding 12 months, a single-step test may be given.

Indications for two-step testing

- Tuberculin skin testing to be conducted at regular intervals; e.g. health care workers or long-term stays in endemic areas
- Residents on admission to long-term care facilities and correctional facilities

Scheduling a Two-Step Tuberculin Skin Test

1. Administer initial test.
2. Read test in 48-72 hours.
3. Record results in mm.
4. If result is not significant, schedule second test 1-4 weeks later.
5. Administer second test.
6. Read in 48-72 hours.
7. Record results in mm.



Health Canada
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Tuberculin Skin Test Form

Client Demographic Information		* Indicates required information
*Community Name:		
*Client's Name:		
	(Last Name, First Name, Middle Initial)	Alternate Name
*Unique Identifier: (OHIP #)		*DOB: YYYY-MM-DD
Panorama Identifier:		*Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Undifferentiated
Band Number:		

Tuberculin Screening Questions (to be completed by the Community Health Nurse- look in client chart for previous TSTs or TB history)

Please answer these screening questions by checking (✓) where appropriate:

- | | YES | NO |
|--|--------------------------|--------------------------|
| 1. Have you/has your child had tuberculosis disease? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Have you/has your child ever had a TB skin test on their forearm that caused a blister? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Have you/has your child ever had a TB Skin test that caused a bump equal to or greater than 10 mm (size of a dime)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Have you/has your child had a live vaccine in the past 4 weeks? (measles, mumps, & rubella, varicella, or yellow fever) | <input type="checkbox"/> | <input type="checkbox"/> |

If the client answers YES to ANY of the above 4 questions then they should NOT have a tuberculin skin test.

Consent for Tuberculin Skin Test (TST)

- ☐ I have read or had explained to me information about the TST.
- ☐ I have had the chance to ask questions, which were answered to my satisfaction.
- ☐ I understand the risks and benefits associated with this test.
- ☐ I am aware that personal health information collected on this form may be shared with another doctor or nurse if that is required for my care.
- ☐ I consent to having the TST done and I am aware that I am required to return for reading of the test in 48-72 hours.

*Form of Consent: ☐ Written ☐ Verbal

*Relationship: ☐ Parent ☐ Client ☐ Substitute Decision-Maker

Print Name of Person Giving Consent:

Signature of Person Giving Consent:

Date:

Relationship:

*Reason for Testing (check (✓) one box only)

- ☐ Contact tracing ☐ Pre-Admission screening ☐ Employment screening ☐ Routine screening

Test Specification		
*Date of Test: YYYY/MM/DD		
*Time of Test:	_____ : _____	
Dose:	Route:	Site: <input type="checkbox"/> Inner aspect of the forearm <input type="checkbox"/> Other: _____
Lot #		
Expiry Date:		
<input type="checkbox"/> Step 1 of 2 <input type="checkbox"/> Step 2 of 2 <input type="checkbox"/> Not applicable		
Print Name of Provider:	Signature of Provider:	

Test Results	
*Date of Reading: YYYY/MM/DD	
*Time of Reading:	_____ : _____
*Induration:	_____ mm (mm measurement is mandatory for all results) For interpretation of the results see the CHART on the back of this form
*Check only one: <input type="checkbox"/> Positive → Report Directly to Zone TB/CDC Nurse <input type="checkbox"/> Negative <input type="checkbox"/> Not Read	
Follow Up:	<input type="checkbox"/> No follow up required <input type="checkbox"/> Repeat TST <input type="checkbox"/> Inform TB/CDC Nurse / Physician <input type="checkbox"/> Chest X-Ray
Print Name of Provider:	Signature of Provider:

After reading and recording the test result, fax this page to the appropriate number below and place this form in the client's chart.

Zone	Positive Test Results	Negative Test Results
Moose Factory Zone	FAX: 1-705-360-4129	FAX: 1-613-952-0177
Southern Ontario Zone	FAX: 1-519-751-6456	FAX: 1-613-952-0177
Sioux Lookout Zone	*Call TB control nurse: 1-807-737-1802	FAX: 1-807-737-2143
Thunder Bay Zone	FAX: 1-807-343-5345	FAX: 1-613-952-0177

Interpretation of Tuberculin Skin Test Results

Tuberculin Reaction Size (mm Induration)	Situation in Which Reaction is Considered Positive
0 - 4 mm	HIV infection with immune suppression AND the expected likelihood of TB infection is high For example: patient is from a population with a high prevalence of TB infection, is a close contact of an active contagious case. Or have an abnormal chest x-ray
5 - 9 mm	Close contact of active contagious case HIV infection Children suspected of having tuberculosis disease Abnormal chest x-ray with fibronodular disease Other immune suppression: TNF-alpha inhibitors, chemotherapy
> 10 mm	All others

Positive Tuberculin Skin Test Please answer these positive TST questions by checking (✓) where appropriate. Write comments in the nursing notes section and sign and date.

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> Cough | <input type="checkbox"/> Fever |
| <input type="checkbox"/> Contact with someone who has had TB | <input type="checkbox"/> Weight loss |
| <input type="checkbox"/> Fatigue | <input type="checkbox"/> Night sweats |
| <input type="checkbox"/> Hemoptysis | |
| <input type="checkbox"/> Previous BCG vaccine | If YES, date of BCG vaccine: _____ |
| <input type="checkbox"/> Any medical illness such as diabetes, HIV or other immunosuppressant (such as chemotherapy) | If YES, please list here: _____ |

Nursing Notes check (✓) each item when completed. Write comments in the nursing notes section and sign and date. Additional comments may be made in the client's chart.

WAIT 15 minutes after test

- | | |
|---|---|
| <input type="checkbox"/> Teaching re: signs & symptoms of reaction to the TST | <input type="checkbox"/> Instructed client to return for reading in 48-72 hours |
| <input type="checkbox"/> Teaching re: management of minor side effects | <input type="checkbox"/> Next appointment scheduled for: _____ |
| <input type="checkbox"/> Identified serious reactions and how to manage | |

Comments:

Nurse's Signature: _____

Date (YYYY/MM/DD): _____

Zone	Positive Test Results	Negative Test Results
Moose Factory Zone	FAX: 1-705-360-4119	FAX: 1-613-952-0177
Southern Ontario Zone	FAX: 1-519-761-6456	FAX: 1-613-952-0177
Sioux Lookout Zone	*Call TB control nurse: 1-807-737-1802	FAX: 1-807-787-2143
Thunder Bay Zone	FAX: 1-807-343-5348	FAX: 1-613-952-0177

Contraindications	<ul style="list-style-type: none"> Active disease (requires multi-drug treatment) Previous history of adverse reaction to drug (including INH- associated hepatic injury) Acute liver disease: (HbsAg positivity is not contraindications unless associated with chronic active hepatitis). 	<ul style="list-style-type: none"> Jaundice Hypersensitivity to rifamycins 	
Prophylaxis	Isoniazid (INH) - *Do not use alone for active TB disease.	Rifampin - Second alternative when there are INH contraindications, intolerance or resistance	Pyridoxine
Precautions	<ul style="list-style-type: none"> Receiving phenytoin (Dilantin) or carbamazepine (Tegretol) will require dosage adjustment because INH blocks their excretion by the liver Pregnancy in an HIV negative woman: reconsider postpartum Pregnancy in an HIV positive woman, for whom preventive treatment is indicated: therapy should be initiated immediately, <i>not</i> delayed until after delivery 	<ul style="list-style-type: none"> Urine, stool, saliva, sweat and tears will turn reddish orange. Inform patients to prevent unnecessary anxiety. Soft contact lenses should not be worn during rifampin therapy as they may become permanently stained. Efficacy of oral contraceptives may be decreased and alternative or additional contraceptive measures should be used. 	
Monitoring	<ul style="list-style-type: none"> Educate individuals regarding the symptoms of hepatotoxicity and to report symptoms such as unexplained anorexia, nausea, vomiting, fatigue or weakness >3 days duration, abdominal discomfort, dark urine, scleral icterus, rash, fever or numbness or tingling of the hands or feet. Clinical monitoring monthly Baseline liver function tests^A Follow-up liver function tests^B Although there are no fixed rules regarding when to discontinue INH on account of hepatotoxicity, generally speaking, if symptoms are thought to be due to INH toxicity, the drug should be stopped; and if the aminotransferase levels exceed 3-5 times the upper limit of normal, consideration should be given to stopping the drug. Re-starting INH may be considered; consult with an infectious disease specialist 	Same as for INH follow-up	

^A *Canadian Tuberculosis Standards* (2000), (<http://www.hc-sc.gc.ca/hpb/lcdc/publicat/cts-ncla00/index.html>) recommends baseline AST before INH is started.

American Thoracic Society and U.S. CDC recommend AST o ALT and serum bilirubin at baseline if there is HIV infection, history of liver disease, alcoholism, or pregnancy.

^B *Canadian Tuberculosis Standards* (2000) recommends regular monitoring in those with pre-existing liver disease, history of ethanol abuse or age > 35 years (e.g., at 1, 2, 3, 6 and 9 months).

American Thoracic Society and U.S. CDC recommend if baseline results are abnormal or patient is pregnant, postpartum within 3 months of delivery, at high risk of adverse reactions or has symptoms of adverse reactions.