

BCCDC Clinical Prevention Services Decision Support Tool: Non-Certified Practice - Tuberculosis Screening

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TUBERCULOSIS SCREENING

Practice Update

The <u>Canadian TB Standards</u>, 8th edition has updated tuberculosis (TB) terminology used in practice to more accurately reflect the importance of testing and treating <u>TB infection</u> (also known as latent TB infection) and <u>TB disease</u> (also known as active TB disease). The terms "TB infection" and "TB disease" are used in this document and elsewhere in the <u>BCCDC Provincial TB Manual</u> (1).

Practice Summary

Focus

Nursing professionals can improve equitable access to TB care through the application of trauma informed practice¹ and cultural safety² principles in all client interactions. The TB Screening Decision Support Tool (DST) provides direction on:

- 1. TB screening indications
- 2. TB tests to complete based on the information gathered from the TB history and TB risk assessment
- 3. Follow-up and referrals based on the TB screening results
- 4. Infection prevention and control measures to implement during TB screening activities

Even with the availability of effective treatment, rates of TB remain universally tied to the social determinants of health and health inequities. TB disease continues to disproportionately affect individuals born outside of Canada, <u>Indigenous Peoples</u>, and people experiencing <u>homelessness or under-housed</u> populations³.

Practice Level

The <u>BC College of Nurses and Midwives</u> (BCCNM) lists TB screening as a restricted activity and provides limits and conditions on nursing practice (5). BCCNM Scope of Practice documents for Licensed Practical Nurses (LPN), Registered Nurses (RN), and Registered Psychiatric Nurses (RPN) state that nurses who administer purified protein derivative (LPN, RN, RPN) or order a chest x-ray (RN, RPN) for TB screening:

- must possess the competencies established by the BC Centre for Disease Control (BCCDC)
- follow the decision support tool (DST) established by the BCCDC

Site Applicability

All health authorities in BC are engaged in TB screening activities. This includes public or community health centres, outreach clinics, correctional facilities, some physician offices and acute care settings. It also applies to private organizations such as residential treatment programs, shelters and travel clinics as well as some pharmaceutical and research settings.

¹ For more details on trauma informed practice, refer to <u>Helping Families</u>, <u>Helping Systems: A Trauma-Informed</u> <u>Practice Guide for Working with Children, Youth and Families</u> (2).

² For more details on culturally safe care, refer to the BCCNM Practice Standard: <u>Indigenous Cultural Safety, Cultural</u> <u>Humility, and Anti-Racism</u> (3).

³ For more details on TB health inequity in Canada, refer to <u>The Time is now: CPHO Spotlight on Eliminating</u> <u>Tuberculosis in Canada</u> (4).

Key Points

- <u>Mycobacterium tuberculosis complex</u> is a group of mycobacteria that can cause TB disease in humans. Transmission is primarily airborne, from person-to-person. It usually infects the lungs, but can occur anywhere in the body. It is preventable and curable.
- Diagnosis and treatment of TB disease is the first priority in TB prevention and care. A second important priority is diagnosing and treating TB infection in people with TB risk factors in order to prevent TB disease.
- The <u>tuberculin skin test</u> (TST) and <u>interferon gamma release assay</u> (IGRA) are both TB screening tests with clinical limitations. The results MUST be interpreted in the context of the reason for screening, a person's risk assessment, and clinical evaluation, which may include a chest x-ray (CXR).
- For clients with untreated TB infection and ongoing risk factors, consider revisiting <u>TB Preventive</u> <u>Treatment</u> (TPT) as part of a persons' ongoing care plan. <u>Reactivation TB disease</u> is the majority of TB <u>cases</u> in BC, which can be prevented with short, safe, and effective TPT regimens.
- Trauma-informed, culturally safe and linguistically tailored care are an essential part of TB screening. (6,7).

RISK ASSESSMENT

Practice Statement

The TB risk assessment outlines information required for efficient and effective TB screening and appropriate client referral to BCCDC TB Services (TBS). It provides information regarding potential TB exposure and/or infection, and the risk for the development of TB disease.

Identify any barriers to care before initiating the assessment, including the need for translation services and/or a support person. Clearly outline the purpose of the TB risk assessment, what the client can expect at the appointment and the role of the health care provider.

Consider strategies to build rapport and trust:

- Ensure confidentiality, promote cultural safety, and engage in compassionate communication by asking open-ended questions in a non-judgmental manner.
- Invite questions throughout the assessment and avoid technical jargon and stigmatizing language⁴.
- Acknowledge and validate people's concerns and promote client-centred care. For example, consider a person's health and social needs and recognize that TB screening in some circumstances may require multiple visits.

⁴ Refer to the STOP-TB Partnership <u>Words Matter Language Guide</u>, 2nd ed (8) and the <u>BCCDC COVID-</u> <u>19 Language Guide</u> (9).



Screening Indications

TB screening programs support populations who are at increased risk of exposure to and development of TB disease. The <u>Population-based TB Screening section</u> outlines specific recommendations.

In BC, TB screening is indicated for:

- people presumed to have TB disease.
- people at increased risk for TB infection (see Table 1).
- people at increased risk for the development of TB disease (see Table 2).
- people undergoing immigration medical surveillance screening (see <u>Table 12</u>).
- employees, students, and volunteers in some workplace settings (see Table 7a).

Fee for testing is applicable for:

- International travellers to a country with a <u>high TB incidence</u>, unless clear contact or exhibiting symptoms. See <u>Travellers</u> screening recommendations for details.
- Persons requiring testing for an educational program, a volunteer position, or for employment.
- Persons who self-refer that do not meet the criteria for testing without cost.

History

Practice Statement

Gathering a relevant TB history including details related to past testing results, treatment, exposure and <u>bacille Calmette-Guerin</u> (BCG) vaccination, impact decisions on what TB tests to consider. For example, the TB history will help determine when to use a TST, a CXR and/or an IGRA.

The following is considered relevant information to collect for a "TB History" and is outlined in Part 2 of the <u>TB Screening Form</u>:

- Prior history of TB disease and treatment
- Prior history of TB infection and treatment
- Prior TB screening test results
- History of BCG vaccination and/or BCG scar
- Country of origin and date of arrival to Canada
- Recent contact (within the past 2 years) to a person with TB disease. Refer to <u>Section 7</u> and <u>Section</u> <u>8</u> for <u>contact tracing</u> principles and the assessment and follow-up of TB contacts.
- Historical contact (more than 2 years ago) to a person with TB disease (if known, include <u>source</u> <u>case</u>, approximate date and other relevant details).

Risk Factors

Practice Statement

The risk of TB exposure related to having been born, traveled to or resided in a country with a high TB incidence* can be difficult to determine based on the changing rates of TB over time. Canada, the United States, Australia, New Zealand, and countries in western or northern Europe are not considered areas with a high TB incidence.

* annual number of new cases in a specified time period for a particular country, region or setting.

In BC, clients screened for TB who report birth, residence or travel of a specific type in:

- A country with a TB rate of 50/100 000 or more should be considered relevant to the TB risk assessment.
- Use the <u>WHO TB country, regional and global profiles for TB</u> to identify high TB incidence countries (TB disease rate of 50/100 000).

Table 1: Risk factors for TB exposure and TB infection*

•	Recent or historical close contact to a case of		
	respiratory TB disease, especially if under the		
	age of 5 or PLWH		
•	Born in a high TB incidence country*	Tra	avel to a country with a high TB
•	Persons who inject drugs (PWID) [†] and/or use	inc	cidence*
	inhaled crack/cocaine substances (10,11)		
		•	For more than 3 months.
Liv	e, work or spend time in regions or settings		
wh	ere TB exposure may be increased related to:		or
•	A community's historical experience with TB $(6)^{\Omega}$	•	With very high-risk contact (e.g.,
•	A high incidence of TB disease related to a TB		direct patient care in a hospital,
	cluster or outbreak (12)§		prison, homeless shelter, refugee
•	The experience of homelessness or being under		camp, underserved inner city
	housed (i.e., shelters, no fixed address)		neighbourhood) (7).
•	Residence in a congregate living setting (e.g.,		
	correctional facility, treatment programs)		

* Consider exposure risk factors since the last negative TST result or TB treatment date, as applicable.
 A country with a TB rate of 50 per 100 000.

† Although precise estimates are not available, people who inject drugs appear to have a higher risk of TB infection. Multiple factors likely impact this risk such as co-morbid conditions, undernutrition and social factors. In addition, people who inhale crack or cocaine often have lung damage that increases their risk. Ω TB rates can vary dramatically within regions in Canada and BC, with some areas experiencing recurrent TB clusters and outbreaks due to historical and current inequities related to colonialism.

§ TB clusters and outbreaks are uncommon in Canada and BC. However, they are more likely to occur in populations or settings experiencing social and health inequities.



Table 2:	Risk factors	for developing	TB disease	e if infected with TB*
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Very High Risk⁺	High Risk	Moderate Risk
People living with HIV (PLWH)	Chronic kidney disease on dialysis or end-stage	• Diabetes mellitus (all types)
 TB contact within the past 2 years, especially if child less than 5 years old or adolescent Silicosis 	 Transplant recipients (related to immune- suppressant treatment and underlying chronic disease) Some cancers (lung, sarcoma, leukemia, lymphoma, gastrointestinal, head and neck) Abnormal CXR – fibronodular disease 	 Heavy alcohol consumption (3 drinks/day or more) Cigarette smoker (1 pack/day) Abnormal CXR- granuloma (may reflect healed TB) Underweight (less than 90% ideal body weight or BMI less than 20)
	Receiving immunosuppressant drugs:	,
	 Biologics such as <u>tumour necrosis factor</u> <u>alpha inhibitors</u> (TNFi) and/or other disease modifying anti-rheumatic drugs (DMARDs) 	
	• Steroid treatments equivalent to 15 mg or more per day for 1 month or longer	

* This table is modified from the <u>Canadian TB Standards</u>, <u>Chapter 4</u>, <u>Table 2</u>. Risk of TB disease and the incidence rate ratio of TB disease among different populations stratified by risk.

◆ PLWH and children less than 5 years old are candidates for <u>window period prophylaxis</u> (WPP). Refer to <u>Table 11</u> for further information.

Signs and Symptoms Evaluation

Practice Statement

Interpret a person's signs and symptoms of TB disease in the context of the reason for screening, their risk assessment and TST result, since TB symptoms are non-specific and may be caused by other medical conditions. This will support appropriate referrals for CXR and the decision to collect sputum samples.

Additionally, gather a person's history of their reported symptoms, including trends or patterns. For example, a person with ongoing respiratory symptoms and limited response to multiple courses of antibiotics requires diagnostic tests to investigate TB disease.

Systemic Signs & Symptoms	Respiratory TB Disease	Non respiratory TB disease
 Fever * Night sweats * 	Systemic signs and symptoms	Systemic signs and symptoms
Loss of appetite (anorexia)Unexplained weight loss	 Cough (dry or productive) for more than 2-3 weeks, with/without fever 	 Pain, swelling, and/or dysfunction of the involved body site(s)
Fatigue	Bloody sputum (hemoptysis)	(i.e., swollen lymph hode)
	Chest pain	
	Shortness of breath	
	 Abnormalities on CXR⁺ 	

* May be absent in the very young and elderly

◆ Radiographic presentation can be atypical in the very young, old or immune compromised.

Physical Assessment

A physical assessment may be appropriate in certain situations, such as when clients present with symptoms of TB disease and/or they are being screened as a recent contact. For example, temperature, weight, and/or noting site and size of lymph node(s).

Infection Prevention and Control

Generally, most people undergoing TB screening are asymptomatic. However, if there is a high degree of clinical evidence of TB disease, for example, a person with TB signs and symptoms who is being screened due to recent contact to a person with TB disease, appropriate infection prevention and control measures should be implemented. Refer to <u>Appendix B Infection Prevention and Control</u> for guidance and refer to <u>Symptomatic TB Screening</u> for details on clinical management.

Note: For clients in the community, consult with TBS or your local CD unit if considering placing someone on isolation. If a client is placed on isolation, it is important to have clear communication with the client and a follow-up plan to determine when to end airborne precautions.



SCREENING TESTS

Practice Statement

In BC, two types of TB screening tests are used to help clinicians determine the presence of TB infection: the Tuberculin Skin Test (TST) and Interferon Gamma Release Assay (IGRA). Both tests have limitations as they do not directly measure TB infection, rather, they work by measuring a host's immune response to antigens found in *Mycobacterium tuberculosis*. Neither test can distinguish between TB infection and TB disease. Neither test is confirmatory.

Therefore, TB screening tests are important and helpful tools, but a diagnosis of TB infection involves interpreting the test result in the context of clinical details (e.g., risk assessment, signs and symptoms evaluation and diagnostic tests).

Tuberculin Skin Test

In general, a TST is the test most often used to screen for TB infection in BC. There are circumstances where a TST is not required to complete TB screening, or, it is contraindicated to administer the test, or an IGRA is the preferred test. For information on administering a TST, refer to <u>Appendix A</u>.

Approach to TB skin testing:

- 1. Consider the reason for TB screening and review the applicable <u>Population-based TB Screening</u> <u>section</u> to determine if a TST is recommended.
- 2. If a TST is recommended, review the following to determine if a TST is appropriate for your client.

Contraindications:

- TUBERSOL® should not be administered to clients with **a** prior acute allergic reaction, including anaphylaxis to TUBERSOL® or to any components of the formulation or container.
- Severe injection site reaction to a previous TST (e.g., necrosis, blistering, or ulcerations).

Precautions:

- Those with extensive burns or eczema present over TST testing sites, because of the greater likelihood of adverse or severe reactions or difficulty measuring induration. If localized, consider using alternate sites (see <u>Appendix A</u>, Figure A-1). If extensive, avoid administering TST and consult TBS for guidance.
- If client reports past positive TST but there is no documentation: Look for historical TB
 documentation in your agency EMR, the provincial TB database or ask the client if they have a
 record of their previous TST result. If the client is unable to provide a clear description of the
 positive TST, use your clinical judgement to determine if a TST is appropriate.

No clinical utility⁵ in performing TST

Clear history of previous TB disease or TB Infection, whether treated or not; current diagnosis of TB disease or documented previous positive TST or a previous reactive IGRA.

 If a TST is appropriate for your client, refer to <u>Table 5: Special Considerations for TST and IGRA</u> for guidance on client scenarios that may impact the timing of the TST and/or the need for repeat testing.

⁵ If a health care provider decides that a TST is truly positive, there is no clinical utility in performing a TST in the future, so long as the test was properly performed, read and interpreted (13).

TST Results

A TST result, considered in context with other clinical factors, is used to help determine if further testing (e.g., CXR) and referral to TBS is required. Not all positive TST results indicate TB infection nor lead to treatment, and not all negative TST results indicate an absence of TB infection (<u>See Section 4(a)</u>).

Persons with TB infection may display a wide range of induration sizes and multiple factors impact the cut-off threshold of the TST result.

- Review **Table 4** for information on the TST reaction size and cut-off thresholds in various populations.
- Review <u>Table 5: Special Considerations for TST and IGRA testing</u> for information on clinical factors such as immune suppressing treatment or recent vaccination that may impact a result.

TST Documentation

Measure and document the TST result as per <u>Appendix A.</u> TST results are documented in millimeters (e.g., 12 mm). Do not use decimal points.

Document the results of the TB risk assessment, signs and symptoms and other relevant clinical data and refer to TBS.

Practitioner Alert!

Clients with clearly documented positive TST results should not have this test again.

Table 4: TST cut-off threshold points *

TST			
reaction	Situations where the TST reaction size may be considered positive		
(mm)			
5 mm or more	 People living with HIV infection * Children less than 5 years and at high risk for TB infection (e.g., close contact to a case of TB disease)* Contacts to a case of TB disease within the past two years Fibronodular disease on CXR (evidence of healed, untreated TB) Prior to organ transplant † and immunosuppressive therapy^Ω Prior to receipt of: ^Ω biologic drugs (e.g., TNFi) and/or other DMARDs immunosuppressant drugs (e.g., steroid treatments equivalent to 15 mg or more per day for 1 month or longer) 		
10 mm or more	 All others, including (but not limited to): Diabetes (controlled or uncontrolled) Malnutrition (less than 90% of ideal body weight) Current tobacco smoker (any amount) Daily consumption of greater than 3 alcoholic drinks Silicosis Hematologic malignancies (lymphomas and leukemia) and certain carcinomas (i.e., cancers of head, neck, lung and/or gastrointestinal tract) Any population considered at low risk of TB disease 		

* Baseline IGRA testing is recommended for renal patients. Refer to <u>BC Renal TB Screening</u> <u>Guidelines</u> (e.g., Kidney Care Patients Not on Dialysis, Peritoneal dialysis or Hemodialysis).

◆ If client is a contact, consider WPP (refer to Section 8: Assessment and Follow Up of TB Contacts).

† Transplant programs in BC recommend using an IGRA for those greater than 2 years of age.

 Ω The preference is to complete TB screening prior to the start of immunosuppressive therapy. However, if the client is already receiving treatment, the same TST cut-off threshold applies.

Interferon Gamma Release Assay

An IGRA is recommended by TBS in specific circumstances or populations (see the <u>Physician IGRA</u> <u>Guidelines</u>). For example, to support the diagnosis of TB infection in Indigenous or foreign-born persons with BCG vaccination. In addition, some provincial programs have TB screening guidelines recommending IGRA for their clients who are at increased risk for exposure and progression to TB disease. For general information on IGRAs see <u>Section 4(a)</u>.

It is important to emphasize that IGRA:

- cannot distinguish between TB infection and TB disease.
- is not confirmatory.
- is not a "better" test but is a supplementary test to aide clinicians in evaluating for TB infection.

Direct IGRA testing (without doing a TST first) is recommended for some clients, but generally the decision to offer an IGRA is made by TBS and other specialty practice areas.

If previous IGRA testing is identified during the TB assessment, the <u>Population-based TB Screening</u> <u>section</u> will offer guidance on next steps. For clients previously offered TPT that declined treatment, revisit the recommendation with clients.

If IGRA testing is recommended for a client, refer to **Table 5 for special considerations for TST and IGRA testing**. The <u>Nurse IGRA Guidelines</u> provide further details on the ordering process and <u>IGRA</u> <u>testing sites in BC.</u>

Special Considerations for TST or IGRA testing

Practice Statement

Some client scenarios may affect the sensitivity of a TST or IGRA. However, do NOT delay these tests if a client has a time-sensitive medical need. Repeat testing may be considered for some clients with a high likelihood of TB infection* and a potential false-negative TST or IGRA.

Table 5: Special considerations for TST or IGRA testing (continued on next page)

Client Scenario	TB Infection Testing (TST or IGRA)	Refer to TBS		
 History of BCG vaccination(s). Common cold, mild illness (with or without fever). Pregnant or breast or chest feeding. Immunized within the previous 4 weeks with vaccines not specified below. Low dose steroid treatments (less than 15 mg). 	Proceed with testing, these do not interfere with the result.			
Immune compromised due to medical condition or treatment (e.g.) steroid treatments equivalent to 15 mg or more per day for 1 month or longer may suppress TST and IGRA reactivity.	 Proceed with testing if screening due to: a time-sensitive medical need, or; the client is on chronic immune suppressing treatment (e.g. long-term steroid treatment). Otherwise, wait until 4 weeks after treatment completion. 	 If screening due to medical need: Obtain CXR Refer, regardless of test result 		
TB exposure in the last 2-8 weeks. It can take 2-8 weeks after a TB exposure to reliably respond to tuberculin or IGRA testing, if infected.	Proceed with testing as per <u>Section 8 Assessment and</u> Follow-Up of TB Contacts			
TST and IGRA performed in the same month. Theoretically, a previous TST may "boost" a subsequent IGRA result if the IGRA is collected within 1 month of TST.	Proceed with testing. TBS will factor in timing of testing, as appropriate.			
* Clients with a high likelihood of TB infection are those with recent close contact with a person with infectious TB disease or those born in a high TB incidence country who are starting biologics or other immune suppression treatment.				

Table 5: Special considerations for TST or IGRA testing continued

Client Scenario	TB Infection Testing	Repeat Testing	Refer to TBS
Current or recent (within 4 weeks) major viral infection. Major viral infections (e.g., measles, mumps and varicella) have the potential to impact cell-mediated immunity (14).	Proceed with testing at anytime after a major viral infection if screening due to a time-sensitive medical need. Otherwise, defer testing until 4 weeks after the resolution of symptoms.	Repeat testing may be considered for clients with a high likelihood of TB infection*	If screening due to a medical need: • Obtain CXR • Refer, regardless of test result
Current or recent (within 4 weeks) severe COVID-19 infection. There is limited evidence that severe COVID-19 infection impacts cell- mediated immunity and IGRA or TST results (15–17). There is a theoretical potential to impact cell-mediated immunity.	Proceed with testing at anytime after a severe COVID-19 infection.	a negative TB infection test result within 4 weeks of: • major viral infection	If screening due
Live attenuated, replicating vaccines given by injection within the past 4 weeks. ⁴ Only the measles vaccine has been shown to increase the likelihood of false-negative TST results, but it is prudent to follow the same 4- week guideline for other injectable live-virus vaccines (13).	 Proceed with testing on the same day or 4 weeks after a live attenuated, replicating vaccines given by injection** At any time following vaccination if: screening due to time-sensitive medical need, or; if the opportunity to perform the TST in the future might be missed. 	 severe COVID-19 infection injectable live- virus vaccine COVID-19 vaccine A repeat TST or 	OR if a positive TST result:
Current or recent (within 4 weeks) COVID-19 vaccine. There is a theoretical risk (no direct evidence) that mRNA or viral vector vaccines could temporarily affect cell-mediated immunity, resulting in false-negative TST or IGRA test results (18).	Proceed with testing on the same day or anytime before or after a COVID-19 mRNA or viral vector vaccine.	IGRA would occur 4 weeks after the resolution of symptoms or administration of the vaccine.	Refer to TBS

* Clients with a high likelihood of TB infection are those with recent close contact with a person with infectious TB disease or those born in a high TB incidence country who are starting biologics or other immune suppression treatment.

• Exception: Smallpox and Mpox (IMVAMUNE®) is a non-replicating live attenuated vaccine that contains genetically modified orthopoxvirus that has lost its ability to replicate in human cells. Mpox vaccine can be given any time before or after TST or IGRA (19).



DIAGNOSTIC TESTS & REFERRALS

Chest X-Ray

Practice Statement

A CXR is an important part of the TB screening process, but it is not always required. The <u>Population-based TB Screening section</u> will outline CXR recommendations based on the reason for screening and information gathered in the TB assessment.

If ordering a CXR for clients with a high degree of clinical evidence for TB disease, collect 1 stat sputum specimen for <u>acid-fast bacilli</u> (AFB), plus two additional AFB specimens. See <u>Symptomatic TB Screening</u>.

Pre-existing CXR

In some circumstances, a recent CXR may be used for referral to TBS. Refer to **Table 6: Timeframes for** use of a pre-existing CXR and when to order a new one.

CXR Contraindications

If a client is pregnant or possibly pregnant, consult TBS or a most responsible provider (MRP) to determine if a shielded CXR is indicated. CXR may be deferred until after delivery for most asymptomatic clients. In lieu of a shielded CXR, TBS may recommend sputum specimen testing, or defer screening if not deemed essential.

CXR Limitations

Abnormal CXR findings are not all specific for TB therefore additional tests, such as sputum specimen testing and a relevant TB risk assessment, are required to confirm or exclude TB disease.

Practitioner Alert!

CXR views:

- For children less than 5 years of age and people living with HIV infection, order posterioranterior (PA) and lateral CXR views
- Order PA view only for all other clients

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Table 6: Timeframes for use of a pre-existing CXR and when to order a new CXR

If the <u>Population-based TB Screening section</u> recommends a CXR, in some situations, a recent CXR may be appropriate to include as part of the referral to TBS.

Client Scenario				
Symptomatic				
Contact with a NEW positive TST; or reactive IGRA result 	A new CXR is required.			
Client Scenario	·			
Asymptomatic and reason for screening is:	Use CXR* from past 6 months	New CXR required		
Contact less than 5 years old		Yes ♦		
Contact greater than 5 years old • with a previous positive TST/IGRA; or • prior TB treatment		Yes, at 8-week post- exposure assessment		
Medical risk factors	Yes	*		
PLWH		Yes ♦		
Work, school or volunteer	Yes	*		
Congregate living	Yes	*		
Immigration	If CXR* completed in Canada valid for the initial Medical Su	a from the past 9 months, it is irveillance assessment.		

* If prior CXR is abnormal (e.g. showing evidence of pneumonia) a new CXR is required.

Order PA and lateral views.

Referral to BCCDC TB Services

All clients requiring a CXR must be referred to TBS. If applicable, follow your health authority's policy for how to submit a referral.

A complete referral includes:

- TB screening documentation and results
- A recent CXR or imaging (See Table 6 above)

Further recommendations from TBS will follow. Delays should be expected with incomplete referrals as they will be returned to the clinician to obtain missing documentation, results, CXR or imaging.

Sputum Collection

Practice Statement

Mycobacterial culture is the gold standard method for the detection of respiratory TB disease. Proper collection and processing of respiratory specimens is essential in providing valid results for lab confirmation of the *Mycobacterium tuberculosis* complex by either nucleic acid amplification testing (NAAT) or culture.

When to collect three sputum samples:

- The client has signs and symptoms of respiratory TB disease (see <u>Table 3</u>)
- The client has a CXR result suggestive of TB disease
- The client has HIV infection and is newly TST positive and/or IGRA reactive (see HIV section)
- The client has or is presumed to have <u>non-respiratory</u> TB disease (concurrent respiratory TB disease needs to be ruled out; CXR would be indicated as well)

Practitioner Alert!

Collect 1 stat sputum specimen for AFB plus two additional AFB specimens when a client:

- Has a high degree of clinical evidence for TB
 - TB exposure risk and TB symptoms or CXR findings suggestive of TB
 - o See Symptomatic TB Screening
- Has TB exposure risk and barriers to care impact ability to return for sputum collection.

Sputum Collection Practices

- Collect three sputum specimens for AFB smear and culture. See <u>Appendix C</u> for information on sputum collection processes and <u>Appendix D</u> for guidance on sputum induction.
- For client education resources, see the <u>Client Education Resources</u>.
- For access to lab requisitions, see the <u>Health Care Professional Resources</u>.

HIV Testing

Offer an HIV test to all clients tested for or diagnosed with TB disease (see <u>HIV Testing Guidelines for</u> <u>the Province of British Columbia</u>). For clients referred for IGRA testing, offer an HIV test at the same time.

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POPULATION-BASED TB SCREENING

Recommendations provided here will be appropriate in most but not every situation. Consult TBS when there is uncertainty on TB screening for individual clients.

The <u>TB Screening Form</u> provides the framework for TB screening, and acts as referral pathway for TBS to communicate recommendations.

- Incomplete information may result in a delayed response time.
- The reason for screening code must be clear on all TB screening documentation, as this greatly influences the interpretation of the screening assessment by the TB clinician.

A TB risk assessment and TB signs and symptom evaluation is required for ALL TB screening.

The following tables outline further testing recommendations for TB infection or TB disease.

Practitioner Alert!

Follow Figure 1. Symptomatic TB screening for any client presenting with TB signs or symptoms.

Screening for Work, School or Volunteers

If a referral to TBS is not indicated, a nurse may provide a client with TB clearance documentation for work, school or volunteer screening.

Employees, Volunteers or Student settings include: Corrections, Shelters, Drop-In Centres, Addiction Treatment Centres, Licenced Child Care Facilities, and Public Service Employees. Each Health Authority determines which Public Service Employee groups require TB screening.

For work, school or volunteer TB screening includes a risk assessment and symptoms evaluation. Refer to <u>Tables 1, 2</u> and <u>3</u>.

			Plan if:		
Client Scenario Timeframe for TB Screening TST *		TST *	TST negative No TB exposure * No symptoms	TST positive and/or TB symptoms	
Employee or Volunteer	Upon hire or pre- requisite for volunteering or program admission. At the discretion of			Refer to TBS	
Student	 At the discretion of the employer, organization or institution. 	Yes, if appropriate [§]	Provide TB clearance and documentation to the client.	 CXR^Ø required Sputum required if symptomatic 	
Health Care Worker ^{† Ω}	 Upon the first hire in BC. Repeat testing for workplace TB exposures. 				
Health Care Volunteer †	 TST is not required. TB symptom checks for volunteering with vulnerable groups are recommended (e.g., neonatal intensive care or dialysis units). Refer to <u>Symptomatic TB Screening</u> for volunteers with symptoms. 				

Table 7a: TB Screening for work, school or volunteers with NO TB testing or treatment history

* A two-step TST at baseline is recommended if no prior TST or previous TB treatment.

♦ If recent exposure was less than 8 weeks ago refer to <u>Table 11</u> for further TB screening guidance.

† Recommendations based on review of local epidemiology in BC health care facilities (20).

 Ω Defined as all workers in a healthcare institution.

§ See TST section to determine if a TST is contraindicated or inappropriate.

Ø Refer to <u>CXR section</u> and <u>Table 6</u> for use of pre-existing CXRs and CXRs during pregnancy.



Table 7b: TB Screening for work, school or volunteers with historical TB testing or treatment

Clients with prior TB infection or treatment, require a risk and symptom assessment to rule out TB disease and provide TB clearance. Those with untreated TB infection and ongoing risk factors are at higher risk of progression to TB disease. TB screening also provides an opportunity to discuss TPT completion with clients.

Client Scenario*			Current TB assessment and screening plan♦		
TB HISTORY: Ne	gative test results		Plan: Screen per Table 7a (above)		
Client Scenario*			Current TB assessment and screening plan ♦		
TB HISTORY: Prior TPT (or TPT not indicated)		16.	16.		
TST	IGRA	Treatment	 NO new exposure 	 NEW exposure[†] 	
Positive	Non-Reactive	No	and	or	
Positive	Not done	Yes	NO TB symptoms	TB symptoms	
Positive or Negative or Contraindicated or not done	Reactive	Yes	Plan: No TST indicated. Provide TB clearance.	Plan: Refer to TBS. Include CXR ^Ω and if symptomatic, collect sputum.	
Client Scenario*	•	•	Current TB assessment and screening plan +		
TB HISTORY: Untreated TB infection		If: • NO new risk factors	If:		
TST	IGRA	Treatment	and	or	
Positive and/or Contraindicated	Not done	No	 NO new exposure and NO TB symptoms 	 NEW exposure[†] or TB symptoms 	
Positive	Reactive	No	Plan: No TST indicated. Provide TB clearance. This is an opportunity to discuss TPT completion.	Plan: Refer to TBS. Include CXR^{Ω} and if symptomatic, collect sputum.	

* For timeframes for TB screening refer to Table 7a.

• Refer to <u>Tables 1, 2</u> and <u>3</u> for a list of TB risk factors for exposure and progression to TB disease and symptoms of TB disease.

† If recent exposure was less than 8 weeks ago refer to <u>Table 11</u> for further TB screening guidance.

 Ω Refer to <u>CXR section</u> and <u>Table 6</u> for use of pre-existing CXRs and CXRs during pregnancy.

Clients with Medical Risk Factors

For people with medical risk factors, TB screening includes a risk assessment and symptoms evaluation. Refer to <u>Tables 1, 2</u> and <u>3</u>.

Table 8: TB Screening for Clients with Medical Risk Factors

SCREENING PATHWAY – No history of TB testing or treatment					
Clients	Timeframe to initiate TB screening	TST	IGRA	CXR*	Refer to TBS
BC Renal Agency clients⁺	Within 1 month of their 1st chronic dialysis start or upon referral for a Living Donor Transplant.	No	Yes	Yes	Yes
Transplant recipient [†]	Prior to receiving transplant.	lf under 2 years old	lf 2 years or older	Yes	
Living solid organ transplant donor †Prior to donating organ. Proceed with TB testing if TB exposure identified.NoYe		Yes	Yes†	Yes	
Newly diagnosed HIV positive (see <u>Table 10</u>)	At baseline.		TBS may		
Pre-biologics client $^{\Omega}$	Prior to starting treatment, if possible.		as a sequential test.		
Immunosuppressant drugs [§]	Only repeat if new TB risk factors NOT new biologic or change in regimen.	Yes	See <u>Physician</u> IGRA	Yes	
Other immune compromising conditions ^Ø	At baseline		<u>Guidelines</u> .		
SCREENING PATHWAY	- History of TB testing or t	reatment			

Refer clients with prior TB disease or documented TB infection with or without treatment to TBS and include pertinent clinical information (see <u>TB Screening Form</u>) and a recent CXR*. TBS will review the information and effectiveness of treatment (if applicable) and arrange follow-up or clearance as needed.

* Refer to <u>CXR section</u> and <u>Table 6</u> for use of pre-existing CXRs and CXRs during pregnancy.

◆ Refer to the <u>BC Renal Agency Tuberculosis Screening and Follow-Up Guidelines</u> for further details.

† Transplant specialists follow specific provincial workflows to assess for TB risk factors and recommend appropriate diagnostic tests and referral to TBS, as needed. Transplant Specialists often order a CXR. Examples: acute leukemia, pre-bone marrow transplants, solid organ transplant donors and recipients. Ω Taking (or about to begin) treatment with immune suppressing therapies such as TNF-alpha inhibitors or disease-modifying anti-rheumatic drugs. Refer to Table 4.

Ø Determined by clinical judgement or TBS consultation. Diabetes is a known risk factor for developing TB disease, but the condition on its own is not a reason to refer to TBS if the TST is negative.

[§] Taking (or about to begin) chemotherapy or steroids (equivalent of 15 mg or more per day for 1 month or longer). Refer to <u>Table 4</u>.

Congregate Settings

Practice Statement

The most important step of TB prevention in congregate settings is completing a risk assessment and symptom evaluation to **rule out TB disease** before admission into a facility. Testing for TB infection with a TB Skin Test (TST) should not delay or impact admission. Refer to <u>Tables 1, 2</u> and <u>3</u>.

Consider further TB care for the following clients at a time that **does NOT impact** their entry into the facility

- People with untreated TB infection that would benefit from TB Preventive Treatment (TPT).
- People with risk factors for TB exposure that would benefit from testing for TB infection.

Table 9	: TB	Screening	for	Congregate	Settings
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Clients / Setting		Rule out TB Disease	TST* for TB Infection	CXR [•] Indications	Refer to TB Services
Entering an acute, short- term [†] in-patient withdrawal management program			No	If symptomatic	If chest X-ray (CXR) done
Entering a long-term drug and alcohol treatment services program		Yes, complete a risk assessment ^Ω and symptom evaluation before admission	Not required for admission [§]	If symptomatic	
Entering a long-term adult residential care facility ^Ø (e.g.) Long-Term Care, Acquired Injury, Community Living, Mental Health			No	If symptomatic	
Correctional	Short-term sentence (under 2 years)	Yes, complete a risk assessment	Yes, in select populations (See <u>PHSA</u> <u>Policy)</u>	If new TST	
FacilityLong-term sentence (2 years or longer)and symptom evaluation at after admission		evaluation at or after admission	Yes At admission	symptomatic	

* Previous TST results valid if within past 6 months and no new TB risk factors, signs, or symptoms.

♦ Refer to <u>CXR section</u> and <u>Table 6</u> for use of pre-existing CXRs and CXRs during pregnancy. †Typical stays are approximately 1 week.

 Ω For clients with prior untreated TB infection, counsel the client on their individual TB risk and the importance of seeing a health care provider if TB symptoms develop.

[§] Testing for TB infection should never delay program entry since people with TB infection can not transmit TB to others. Refer to Practice Statement above.

^Ø It is recommended that both Licensed or Unlicensed facility types include screening for TB disease if the transition to the new setting is for <u>long-term care services</u> (i.e. typically greater than 3 months). This recommendation does not apply to <u>short-stay services</u>.

People Living with HIV

Practice Statement

All people living with HIV (PLWH) should be screened for TB at the time of their HIV diagnosis. TB disease can occur at any stage of HIV infection, although the risk increases with more advanced immunodeficiency (21). Effective antiretroviral treatment (ART) dramatically reduces the risk of TB disease in PLWH, however, the risk remains greater than that among the general population (21). TPT and ART act independently to decrease the risk of TB disease. The use of both treatments is recommended for people living with TB infection and HIV.

For PLWH, **baseline** TB screening includes a TB risk assessment, TB signs and symptoms evaluation and a review of historic and new TST, IGRA, and/or CXR results. **Future** TB screening should be completed based on exposure or TB symptoms (22).

- An annual risk assessment is recommended for PLWH who have a history of a negative TB screening test and have a high risk for ongoing exposure^Ω (21).
- **PLWH who have untreated TB infection** should be aware of the signs and symptoms of TB and to seek medical attention if symptoms occur. The importance of TPT should be revisited as part of their overall care plan.
- IGRA may be recommended as an adjunct test to TST in the following situations:
 - (1) PLWH with CD4 count less than 200 cells/mm3 who are TST-negative.
 - (2) PLWH with a history of contact with infectious TB disease and who are TST-negative (22).

Table 10: TB Screening for People Living with HIV

Reason for Scre	eening	Timeframe to initiate screening	Test for TB Infection *	Test for TB Disease	Refer to TBS
Person newly diagnosed with	HIV	At time of diagnosis	TST and if indicated, IGRA⁺	Order CXR [†] If TST or IGRA positive and CXR abnormal, OR if CD4 less than 200 cells/mm3, collect sputum for AFB x 3	Yes
PLWH and TB symptoms		High priority, see <u>Figure 1</u>			
PLWH and confirmed contact to infectious TB High priority, see Table 11 disease High priority, see Table 11		y, see <u>Table 11</u>			
PLWH with a negative testing history	on ART	Annual risk	TST and if	If new TST positive, order CXR [†] If CXR abnormal, collect sputum for AFB x 3	lf CXR done
and high risk for ongoing TB exposure Ω ART	IGRA+	Regardless of TST result, order CXR [†] If CXR abnormal, collect sputum for AFB x 3	Yes		

SCREENING PATHWAY – History of TB testing or treatment

Refer clients with prior TB disease or documented TB infection with or without treatment to TBS and include pertinent clinical information (see <u>TB Screening Form</u>), a recent CXR and collect sputum if CXR abnormal or symptomatic. TBS will review the information and effectiveness of treatment (if applicable) and provide recommendations.

* Among PLWH not receiving antiretroviral therapy (ART) with a CD4 less than 200 cells/mm3 and with a negative TST or IGRA, re-testing after ART has been established and CD4 cell counts increase to greater than 200 cells/mm3 is recommended if the person's risk for TB infection is elevated (e.g. known previous contact) (3).

♦ T-SPOT is preferred if CD4 less than 200 cells/mm³ (2).

† Order PA and lateral views.

 Ω A high risk for ongoing exposure is defined as experiencing homelessness or being under-housed or living in a congregate setting where a person was diagnosed with TB disease in the past 1-2 years (E.g., shelter, correctional facility). If needed, connect with your CD or outreach teams to determine local TB epidemiology. It also includes travel to a moderate or high TB incidence country for more than 3 months within the past 2 years.

Symptomatic TB Screening

Practice Statement

Symptomatic TB Screening requires appropriate and urgent referrals to TBS.

For example:

- a person with known TB exposure risk and persistent respiratory symptoms despite multiple courses of antibiotic treatment, exhibits a high degree of clinical evidence for TB disease.
- a person being evaluated for non-respiratory TB is at increased risk for respiratory TB and prompt TB evaluation is necessary.
- a person with no TB exposure risk and non-specific TB symptoms (e.g. fatigue) is NOT considered having a high degree of clinical evidence for TB disease.

Refer to Figure 1: Management of clients with a high degree of clinical evidence for TB disease.

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Figure 1: Management of clients with a high degree of clinical evidence for TB disease

Signs or symptoms of TB disease (see <u>Table 3</u>) AND Risk factors for the exposure to & development of TB disease (see <u>Table 1</u> & <u>Table 2</u>)

- Complete TB risk assessment and documentation.
- Consult TBS Nurse Consultants (604-707-5678) or your local CD unit to confirm a clinical care plan and to discuss infection control and prevention recommendations.

Clinical care plan*	Airborne Precautions
Order diagnostic tests	
 at least 1 hour apart If possible, collect 1 x sputum STAT 	For clients in a facility: Consult Infection Control Practitioner (ICP) team and attending physician for further direction.
 If unable to spontaneously produce sputum, consult TBS. Gastric lavage is typically recommended in young children, and induced sputum for adults. 	For clients in community: Request the client to self-isolate until TBS or your local CD unit has been consulted. Ensure
 See <u>Sputum collection</u> section CXR: posterior-anterior (PA) views Order both PA and lateral views if less than 5 years old or PLWH Consult TBS if client is pregnant Offer an HIV test 	 communication with the client regarding their isolation plan. This includes: Masking (surgical mask) Home isolation If there are essential medical appointments, alert other health care providers of the recommended precautions
Note: Cases of non-respiratory TB disease should be assessed for respiratory TB disease (3 sputum samples and CXR).	Refer to <u>Appendix B</u> for more on Infection Prevention and Control recommendations. Section 1.1 outlines indications for airborne precautions.

* The use of TST or IGRA alone for the diagnosis of TB disease (as a rule-in or rule-out test for TB) in adults is NOT recommended. To support the diagnosis of TB disease in children, the TST or IGRA may be used, in addition to other testing. See the <u>Canadian TB Standards</u>, <u>Chapter 9</u>, <u>Pediatric TB</u> (23).

Contacts to TB Disease in the Past Two Years

Practice Statement

Clients exposed to a person with infectious TB disease in the past two years are at risk of TB infection (see <u>Table 1</u>). While any exposure to infectious TB brings risk, in practice, almost all transmission occurs with close, prolonged or repeated contact over days or months (12).

Amongst contacts, risk for progression to severe forms of TB disease is highest among children (less than 5 years) and PLWH (see <u>Table 2</u>) (3). Prompt evaluation of high-risk priority contacts is key. Low priority contacts only need a single TST 8 weeks after the last date of contact.

Refer to <u>Section 7</u> and <u>Section 8</u> for more information on contact tracing principles and clinical follow-up of contacts.

Consultation Recommendations

Consult with the TBS Nurse Consultants:

- For any contacts who are symptomatic (see <u>Table 3</u>) or who reside in other Regional Health Authorities.
- If there is ongoing exposure and concern that the source case has not been effectively selfisolating. A discussion on extending the infectious period and delaying the 8-week post-exposure assessment would be appropriate.

Consult with the First Nations Health Authority for any contacts residing in First Nations communities.

For contacts, a TB risk assessment includes history, risk factors and a signs and symptom evaluation. Refer to Tables 1, 2 and 3.

Cor	ntacts	At time of screening, consult with TBS on WPP *	Recommend Initial TST *	CXR (see Table 8)	Refer to TBS
	Under 6 mos	Yes	Consult with TBS		Yes,
Children [†]	Under 5 yrs & Over 6 mos	Outside lower mainland, refer to primary HCP	Yes	Yes	obtain weight
People living with	On ART	No	Yes	 Yes, if new TST positive If abnormal CXR[§], collect sputum for AFB x 3 (one STAT) 	
HIV (PLWH)	Not taking ART	Yes	If indicated, adjunct IGRA ^Ω	 Yes, order CXR[§] regardless of TST result Collect sputum for AFB x 3 (one STAT) 	Yes, if TST positive
Other immu compromis competent	ine ed & immune	No	Yes	Yes, if new TST positive	and/or CXR done
Transient/n populations	narginalized	No	Yes, if feasible, but the priority is ruling out TB disease. If client is unable to return for TST read, offer sputum & CXR or consider IGRA at 8 weeks.		

Table 11: TB Screening for contacts to infectious TB disease within the past 2 years

SCREENING PATHWAY – History of TB testing or treatment

For contacts with prior TB disease or documented TB infection with or without treatment conduct an initial assessment and if asymptomatic and not a candidate for WPP, advise CXR at least 8 weeks after the last date of contact and refer to TBS.

* For more information about WPP during contact tracing see Section 8.

• If initial TST negative, 2nd TST at least 8 weeks from date of last exposure (unless contraindicated). Low priority contacts only need a single TST 8 weeks after the last date of contact (see Section 7).

† Children less than 5 years are always classified as high-risk priority contact regardless of the nature of the contact to a person with infectious TB (i.e. household, close, non-household, casual). A CXR should always be included in their initial assessment, regardless of the TST result and/or the timing of the initial assessment (i.e. if the initial assessment is more than 8 weeks since exposure, both a TST and CXR are required). Ω If TST is negative IGRA may be recommended as an adjunct test (22). T-SPOT is preferred if CD4 less than 200 cells/mm³ (22). § Order PA and lateral views.

Indigenous Peoples

Past and present constructs of colonialism continue to impact the health and well-being of Indigenous people and contribute to increased rates of TB Infection and TB disease within First Nations communities. In 2022, the BCCNM released their <u>Indigenous cultural safety</u>, <u>cultural humility</u>, <u>and anti-racism practice</u> <u>standard</u>. The purpose of this standard is to set clear expectations for how BCCNM registrants are to provide culturally safe and anti-racist care for Indigenous clients. The BCCNM states "Nurses must continually seek to improve their ability to provide culturally safe care for Indigenous clients."

<u>Chapter 12 of the Canadian TB Standards</u> (6) provides "An introductory guide to TB care to improve cultural competence for health care workers and public health professionals serving Indigenous Peoples of Canada." The Standards call on health care workers providing services on Indigenous lands and/or working with Indigenous Peoples to educate themselves and acknowledge the role of ongoing colonization, personal and systemic racism, and privilege as they relate to health equity in TB care delivery, and take steps to prevent their harmful effects.

In BC, people who self-identify as Indigenous are eligible for annual routine screening at no cost regardless of place of residence (see <u>Screening Indications</u>). Additionally, as a part of ongoing surveillance and preventative measures, the First Nations Health Authority (FNHA) recommends annual and enhanced screening guidelines for Indigenous people and persons living and working within First Nations communities.

For further information on these screening guidelines, programming and/or consultation, please refer to <u>FNHA TB Services</u> or call 1-844-364-2232 or email <u>FNHATB@fnha.ca</u>.

Immigration Medical Surveillance Screening

Medical surveillance is a required medical check-up for a person who has newly arrived in Canada to check that their inactive TB has not progressed to TB disease. Immigration, Refugees and Citizenship Canada (IRCC) define inactive TB as an assessment that a person may have had TB in the past, or have TB infection, or have been exposed to TB bacteria. It is usually based on IGRA or CXR results and/or history of TB or treatment information reviewed during the immigration medical examination (IME). Medical surveillance ensures that proper investigation and treatment can be provided, which in turn helps protect the health and safety of people in Canada (24). Inactive TB is the only medical condition for which medical surveillance is currently required. See <u>Section 4(a) Immigration Medical Surveillance Program</u> for more details.

Practice Statement

In the context of immigration screening, a key component of the TB risk assessment is prioritizing a detailed history of TB diagnosis, treatment and/or known close exposure. This information helps TBS determine if prior treatment was satisfactory or if the client remains at risk of progression to TB disease. BCG vaccination or travel history are less important in the context of immigration screening.

For immigration medical surveillance screening, a TB risk assessment should include a TB diagnosis and treatment history, risk factors and a signs and symptom evaluation. Refer to <u>Tables 1, 2</u> and <u>3</u>.

Medical Surveillance Visit	Risk screen and symptom evaluation to rule out TB disease	Test for TB Infection	Test for TB Disease	Refer to TBS
Initial visit	Yes, include detailed diagnosis & treatment history, if relevant If symptomatic* follow <u>Symptomatic TB</u> <u>Screening</u> guidance	No	 If asymptomatic*: CXR once medical insurance coverage[†] active Order 3 sputum for AFB^Ω If symptomatic* follow Symptomatic TB Screening guidance 	Yes
Follow-up Visit	Review sputum smear and recommendations. Follow-u infection.	culture results, (ip recommendat	CXR reports, and the TBS phys ions may include testing or trea	ician atment of TB

Table 12: Immigration Medical Surveillance Screening

* TBS will cover the cost of testing for TB disease if the client is symptomatic and does not have MSP.
 ◆ CXR and sputum results completed in BC within the last 9 months are valid for the initial visit, as long

as the client is asymptomatic. Please indicate on the referral that recent results exist in BC. † Refugees have immediate medical coverage through the Interim Federal Health Program for refugees. MSP coverage is active 90 days after arrival in BC. Other clients may have medical coverage through a private insurance provider, as they are not eligible for MSP.

 Ω Sputum samples must be submitted to Public Health Units or Outpatient Hospital Labs using a <u>BCCDC</u> <u>Public Health Laboratory Mycobacteriology/TB Requisition form</u>.

Travellers

See appropriate sections of this DST for the management of travellers who are immune compromised, starting immune suppressing therapy, symptomatic, a PLWH, or who self-identify as a contact to a person with TB disease outside of Canada.

For travellers, a TB risk assessment includes reviewing TB history, risk factors and symptoms, and if appropriate, a physical examination, for the following travellers to moderate or high TB incidence countries:

- Any travel with very high-risk contact, particularly direct patient contact in a hospital or indoor setting, and potentially work in prisons, homeless shelters, refugee camps or under-served inner-city neighbourhoods.
- Three months or more of travel to a country with a TB incidence of 400 or more per 100,000 population
- Six months or more of travel to a country with a TB incidence of 200-399 per 100,000 population
- Twelve months or more of travel to a country with a TB incidence of 100-199 per 100,000 population

Use the WHO TB country, regional and global profiles for TB to determine a country's TB incidence.

Recommendation: Complete a single post-trip TB screening assessment at least 8 weeks after returning to Canada (7).

Table 13: TB screening for Travellers

Clients	Timeframe to initiate Screening	TST	CXR*	Refer to TBS
Under 6 months of age		If indicated, consult TBS for interpretation of results	If TST positive and/or under 5 years of age and high risk for TB	Yes, if TST completed
6 months up to 5 years of age	at least 8 weeks after returning to Canada	Yes*	infection (e.g. WPP)	Yes, if TST
5 to 16 years of age 16 years of		Yes	If TST positive and/or symptomatic	and/or CXR
age and older				

SCREENING PATHWAY – History of TB testing or treatment

For clients who have prior TB disease or documented TB infection with or without treatment, recommend CXR at 8 weeks post-trip assessment if they are a close contact to a person with infectious TB disease, especially if at high risk for progression to TB disease.

* Refer to <u>CXR section</u> and <u>Table 6</u> for use of pre-existing CXRs and CXRs during pregnancy.

* Consult TBS for interpretation of TST results for children with history of BCG vaccination.

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CLIENT AND FAMILY EDUCATION

Practice Statement

Client and family education is an important part of TB screening and nursing care. Your organization may have TB specific resources, but at a minimum, a review of the following key topics is recommended.

Table 14: Client and Family Education

Pre-Test Discussion HealthlinkBC Health file 51d, TB Skin Test

- The purpose of the screening and diagnostic tests and why they are being recommended
- The difference between TB infection and TB disease
- Window periods and timing for repeat testing if necessary
- How the test is done
- When to expect results (ensure up to date contact information)
- Significance of TST and IGRA results

Post-Test Discussion HealthlinkBC Health file 51a, Tuberculosis

Greater than 10mm	Less than 10mm
If TST is greater than 10mm, advise the client: not to have this test done again 	If referral to TBS required: Inform the client that their TST result and clinical information will be reviewed by TBS to determine next steps
 of the need to do a CXR to rule out TB disease that this TST result does not exclude the client from school, work, treatment centres or volunteering to keep their TST result in a safe place for future reference 	If providing clearance: Inform the client that their TST result indicates no evidence of TB infection. Advise the client to keep their TST result in a safe place for future reference.

Follow-up Discussion of TBS Recommendations

Topics may include, but are not limited to:

- TBS assessment and recommendation (e.g., TPT offer)
- Risk factors that could increase the chances of developing TB disease
- Signs and symptoms of TB disease
- When to contact a health care provider
- If a client declines TPT, remind them they can contact their health care provider anytime to talk about TPT again.
- Reinforce that changes in their health (e.g., new medical conditions, medications that lower the immune system, or TB exposures) may require TB screening in the future.

* Some clients receive all of their follow-up at a BCCDC TB clinic and therefore the local health authority does not need to review TBS recommendations with the client.

Client Education Resources

- <u>Translated Resources</u> on BCCDC website includes client handouts on TB, TB Infection (previously LTBI), Active TB Disease, TB tests and TB medication
- Video: "<u>How to get a good sputum sample for your tuberculosis test</u>" video in English. Additional languages on the <u>BCCDC's YouTube channel</u>
- HealthlinkBC Healthfiles: <u>TB | TB Skin Test | Sputum Testing for TB | Home Isolation</u>
- FNHA TB Services Educational Resources

HEALTH CARE PROFESSIONAL RESOURCES

Related Guidelines & Practice Standards

- BCCDC TB Manual
- BCCNM Indigenous Cultural Safety, Cultural Humility, and Anti-Racism practice standard
- BC Renal Hemodialysis Guideline: Tuberculosis Screening & Follow-Up
- Canadian TB Standards, 8th edition
- FNHA TB Services Community Programming Guide
- HIV Testing Guidelines for the Province of British Columbia
- <u>Nurse IGRA Guidelines</u>
- Physician IGRA Guidelines
- <u>Helping Families, Helping Systems: A Trauma-Informed Practice Guide for Working with</u> <u>Children, Youth and Families</u>

Related Forms & Practice Tools

- <u>BCCDC Mycobacteriology/tuberculosis requisition</u>
- BCCDC TB Screening Form & Documentation Guide
- BCCDC TB chest x-ray only requisition
- BCCDC Quick Reference Guide TB skin testing
- PERISKOPE TB
- The Online TST/IGRA Interpreter, Version 3.0

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