

At Risk Medical Conditions Tuberculosis Screening

FNIHB Alberta Region advises tuberculosis screening for those individuals with medical conditions that suppress the immune system and therefore put them at greater risk for TB infection developing into TB disease. These risks are identified in the Canadian Tuberculosis Standards and are divided into high risk, moderate risk, slightly increased risk and low risk. (See attached table from Canadian TB Standards 7th Edition.)

Initial Screening for High Risk Medical Conditions

High risk conditions to be screened include:

- AIDS
- HIV Infection
- Transplantation (related to immune suppressing drug therapies)
- Silicosis
- Chronic renal failure requiring hemodialysis or is related to diabetes
- Carcinoma (head & neck and hematological malignancies)
- Abnormal chest x-ray showing fibro-nodular disease (in absence of treatment)
- Previous inadequately treated TB disease
- Tumor necrosis factor (TNF) alpha inhibitors While TNF inhibitors in the Canadian TB Standards are considered a moderate risk, in Alberta all those taking these drugs are considered for prophylaxis and are therefore categorized for practical purposes as high risk.

Initial Screen

The first time an individual is assessed relating to the high risk condition, use the algorithm titled, At Risk TB Screening Algorithm, High Risk. If a TB assessment was completed prior to the at risk medical condition diagnosis the TB assessment should be repeated using the algorithm.

The initial screen should include a referral to TB Control for any TST positive clients in the high risk group.

Initial Screening for Moderate Risk Medical Conditions

Moderate risk conditions to be screened include:

- Treatment with glucocorticoids (≥ 15 mg/day for 1 month or longer)
- Diabetes mellitus

Initial Screen

The first time an individual is assessed relating to the moderate risk condition, use the algorithm titled, At Risk TB Screening Algorithm, Moderate Risk. If a TB assessment was completed prior to the at risk medical condition diagnosis the TB assessment should be repeated using the algorithm.

All clients in this category should be screened but not all will require a referral to TB Control. Referral to TB control should only be made if the client has symptoms of TB or if a TST positive client is under the age of 60 years and is very dedicated to completing prophylaxis.

Subsequent Ongoing Follow Up for High and Moderate Risk Conditions

Subsequent screening will depend on the outcome of the initial assessment.

1. If an individual accepts and completes prophylaxis they will need no further follow up or screening (unless re exposed to TB).
2. If a TST positive client declines, does not complete or is not recommended prophylaxis, they should be followed in the community every 6 months or sooner if they experience deterioration in their health. This is a community generated activity and would not require a referral to TB control for subsequent screens unless the client has developed symptoms or a new interest or ability to take treatment for their LTBI They should be followed in the community using the Ongoing Follow up Algorithm. A recall system should be put into place to ensure those requiring regular assessment are brought forward.
3. Some at risk conditions could possibly resolve thus lessening the risk for TB infection developing into TB disease. When doing a follow up screen for someone who has
 had cancer (head and neck)
 been treated with immune suppressing medication
the first step is to determine if this risk still exists for the client. If the issue has resolved the client no longer needs surveillance for TB. For these clients TB education should be reinforced and they should be reminded to seek care if TB symptoms occur.

Slightly Increased Risk Conditions

- Under weight (<90% ideal body weight, BMI < 20)
 - Heavy alcohol consumption (\geq 3 drinks per day)
 - Abnormal chest x-ray showing granuloma
 - Cigarette smoker (1 pack/day)
- Those with slightly increased risk conditions do not require regular screening. These risks should however be kept in mind when assessing clients with respiratory symptoms suspicious for TB.

Risk Factor	Estimated risk for TB relative to people with no known risk factor
High risk	
Acquired immunodeficiency syndrome	110-170
Human immunodeficiency virus infection	50-110
Transplantation (related to immune-suppressant therapy)	20-74
Silicosis	30
Chronic renal failure requiring hemodialysis	10 – 25
Carcinoma of head and neck	11.6
Recent TB infection (≤ 2 years)	15
Abnormal chest x-ray – fibronodular disease	6 - 19
Moderate risk	
Tumor necrosis factor alpha inhibitors	1.5 – 45.8
Treatment with glucocorticoids (> 15 mg/day)	4.6 – 7.7
Diabetes mellitus	2 – 3.6
Young age when infected (0-4 years)	2 – 2.5
Slightly increased risk	
Heavy alcohol consumption (≥ 3 drinks per day)	3 -4
Underweight (BMI ≤ 20)	2-3
Cigarette smoker (1 pack/day)	1.8 – 3.5
Abnormal chest x-ray – granuloma	2
Low Risk	
Person with positive TST, no known risk factor, normal chest x-ray	1
Very low risk	
Person with positive two-step TST (booster), no other known risk factor and normal chest x-ray	0.5