

# Virginia Tuberculosis (TB) Risk Assessment

For use in individuals 6 years and older

First screen for TB Symptoms:  None (If no TB symptoms present → Continue with this tool)

Cough  Hemoptysis  Fever  Weight Loss  Poor Appetite  Night Sweats  Fatigue

If TB symptoms present → Evaluate for active TB disease

Use this tool to identify asymptomatic **individuals 6 years and older** for latent TB infection (LTBI) testing

- Re-testing should only be done in persons who previously tested negative and have new risk factors since the last assessment
- A negative Tuberculin Skin Test (TST) or Interferon Gamma Release Assay (IGRA) does not rule out active TB disease

Check appropriate risk factor boxes below.

TB infection testing is recommended if any of the risks below are checked.

If TB infection test result is positive and active TB disease is ruled out, TB infection treatment is recommended.

**Birth, travel, or residence in a country with an elevated TB rate  $\geq$  3 months**

- Includes countries other than the United States (US), Canada, Australia, New Zealand, or Western and North European countries
- IGRA is preferred over TST for non-US-born persons  $\geq$  2 years old
- Clinicians may make individual decisions based on the information supplied during the evaluation. Individuals who have traveled to TB-endemic countries for the purpose of medical or health tourism  $<$  3 months may be considered for further screening based on the risk estimated during the evaluation.

**Medical conditions increasing risk for progression to TB disease**

Radiographic evidence of prior healed TB, low body weight (10% below ideal), silicosis, diabetes mellitus, chronic renal failure or on hemodialysis, gastrectomy, jejunioileal bypass, solid organ transplant, head and neck cancer

**Immunosuppression, current or planned**

HIV infection, injection drug use, organ transplant recipient, treatment with TNF-alpha antagonist (e.g., infliximab, etanercept, others), steroids (equivalent of prednisone  $\geq$  15 mg/day for  $\geq$  1 month) or other immunosuppressive medication

**Close contact to someone with infectious TB disease at any time**

**None; no TB testing indicated at this time**

Patient Name \_\_\_\_\_

Provider Name \_\_\_\_\_

Date of Birth \_\_\_\_\_

Assessment Date \_\_\_\_\_

# Virginia Tuberculosis Risk Assessment User Guide

## Avoid testing persons at low risk

Routine testing of low-risk populations is not recommended and may result in unnecessary evaluations and treatment because of falsely positive test results.

### Prioritize persons with risks for progression

Prioritize patients with at least one of the following medical risks for progression:

- diabetes mellitus
- smoker within past 1 year
- end stage renal disease
- leukemia or lymphoma
- silicosis
- cancer of head or neck
- intestinal bypass/gastrectomy
- chronic malabsorption
- low body weight (10% below ideal)
- history of chest x-ray findings suggestive of previous or inactive TB (no prior treatment). Includes fibrosis or non-calcified nodules, but does not include solitary calcified nodule or isolated pleural thickening. In addition to LTBI testing, evaluate for active TB disease.

## US Preventive Services Task Force recommendations

The USPSTF has recommended testing persons born in, or former residents of, a country with an elevated tuberculosis rate and persons who live in, or have lived in, high-risk congregate settings such as homeless shelters and correctional facilities. Because the increased risk of exposure to TB in congregate settings varies substantially by facility and local health jurisdiction, clinicians are encouraged to follow local recommendations when considering testing among persons from these congregate settings. USPSTF did not review data supporting testing among close contacts to persons with infectious TB or among persons who are immunosuppressed because these persons are recommended to be screened by public health programs or by clinical standard of care.

## Virginia Department of Health recommendations

This risk assessment has been customized according to the Virginia Department of Health's (VDH) TB Program recommendations. Providers should check

with local TB control programs, or the VDH TB Program at (804) 864-7906 for local recommendations.

## Mandated testing and other risk factors

Several risk factors for TB that have been used to select patients for TB screening historically or in mandated programs are not included among the components of this risk assessment. This is purposeful in order to focus testing on patients at highest risk. However, certain populations may be mandated for testing by statute, regulation, or policy. This risk assessment does not supersede any mandated testing. Examples of these populations include: healthcare workers, residents or employees of correctional institutions, substance abuse treatment facilities, homeless shelters, and others.

## Age as a factor

Age (among adults) is not considered in this risk assessment. However, younger adults have more years of expected life during which progression from latent infection to active TB disease could develop. Some programs or clinicians may additionally prioritize testing of younger, non-US-born persons when all non-US-born are not tested. An upper age limit for testing has not been established but could be appropriate depending on individual patient TB risks, comorbidities, and life expectancy.

## Young children

This risk assessment tool is intended for individuals  $\geq 6$  years old. A risk assessment tool created for use in children  $< 6$  years old can be found on the VDH website: <http://www.vdh.virginia.gov/tuberculosis-and-newcomer-health/screening-testing/>

## Foreign travel

Travel to countries with an elevated TB rate may be a risk for TB exposure in certain circumstances (e.g., extended duration, likely contact with persons with infectious TB, high prevalence of TB in travel location, non-tourist travel). The duration of at least 3 consecutive months to trigger testing is intended to identify travel most likely to involve TB exposure. TB screening tests can be falsely negative within the 8-10 weeks after exposure, so are best obtained 8-10 weeks after return from travel. A list with countries with an elevated TB rate can be found here: <http://www.vdh.virginia.gov/tuberculosis-and-newcomer-health/screening-testing/>

# Virginia Tuberculosis Risk Assessment User Guide – *continued*

## When to repeat a test

Re-testing should only be done in persons who previously tested negative, and have new risk factors since the last assessment. In general, this would include new close contact with an infectious TB case or new immunosuppression, but could also include foreign travel in certain circumstances.

## When to repeat a risk assessment

The risk assessment should be administered at least once. Persons can be screened for new risk factors at subsequent preventive health visits.

## IGRA preference in BCG vaccinated

Because IGRA has increased specificity for TB infection in persons vaccinated with BCG, IGRA is preferred over the TST in these persons. Most persons born outside the US have been vaccinated with BCG.

## Previous or inactive tuberculosis

Chest radiograph findings consistent with previous or inactive TB include fibrosis or non-calcified nodules, but do not include a solitary calcified nodule or isolated pleural thickening. Persons with a previous chest radiograph showing findings consistent with previous or inactive TB should be tested for TB infection. In addition to TB infection testing, evaluate for active TB disease.

## Negative test for TB infection does not rule out active TB disease

It is important to remember that a negative TST or IGRA result does not rule out active TB disease. In fact, a negative TST or IGRA in a patient with active TB disease can be a sign of extensive disease and poor outcome.

## Symptoms that should trigger evaluation for active TB disease

Patients with any of the following symptoms that are otherwise unexplained should be evaluated for active TB disease: cough for more than 2-3 weeks, fevers, night sweats, weight loss, hemoptysis.

## How to evaluate for active TB disease

Evaluate for active TB disease with a chest x-ray (CXR), symptom screen, and if indicated, sputum acid-fast bacilli (AFB) smears, cultures and nucleic acid amplification testing. A negative TST or IGRA does not rule out active TB disease.

## Decision to test is a decision to treat

### Emphasis on short course for treatment of TB infection

Shorter regimens for treating TB infection have been shown to be more likely to be completed and the 3-month 12-dose regimen has been shown to be as effective as 9 months of isoniazid. Use of these shorter regimens is preferred in most patients. Drug-drug interactions and contact to drug-resistant TB are typical reasons these regimens cannot be used.

### Shorter duration TB infection treatment regimens

Medication	Frequency	Duration
Rifampin	Daily	4 months
Isoniazid + Rifapentine*	Weekly	12 weeks**

\*VDH recommends Directly Observed Therapy (DOT)

\*\*11-12 doses in 16 weeks required for completion

### Patient refusal of TB infection treatment

Refusal should be documented. Offers of treatment should be made at future encounters with medical services. Annual chest radiographs are not recommended in asymptomatic persons. If treatment is later accepted, TB disease should be excluded and CXR repeated if it has been > 3 months from the initial evaluation.