

# Adult Tuberculosis Risk Assessment

- Use this tool to identify asymptomatic **adults** for latent TB infection (LTBI) testing.
- **Do not repeat testing** unless there are **new risk factors** since the last test.
- Do not treat for LTBI until active TB disease has been excluded:  
*For patients with TB symptoms or an abnormal chest x-ray consistent with active TB disease, evaluate for active TB disease with a chest x-ray, symptom screen, and if indicated, sputum AFB smears, cultures and nucleic acid amplification testing. A negative tuberculin skin test or interferon gamma release assay does not rule out active TB disease.*

## LTBI testing is recommended if any of the boxes below are checked

- Birth, travel, or residence** in a country with an elevated TB rate for at least 1 month
  - Includes any country other than the United States, Canada, Australia, New Zealand, or a country in western or northern Europe
  - If resources require prioritization within this group, prioritize patients with at least one medical risk for progression (see the Adult Tuberculosis Risk Assessment User Guide for this list).
  - Interferon Gamma Release Assay is preferred over Tuberculin Skin Test for non-U.S.-born persons  $\geq 2$  years old
- Immunosuppression**, current or planned  
HIV infection, organ transplant recipient, treated 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 during lifetime

## Treat for LTBI if LTBI test result is positive and active TB disease is ruled out.

- None**; no TB testing is indicated at this time.

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

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

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

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

See the Adult Tuberculosis Risk Assessment User Guide (pages 2-3) for more information about using this tool.

# Adult Tuberculosis Risk Assessment User Guide

## Avoid testing persons at low risk

Routine testing of persons without risk factors is not recommended and may result in unnecessary evaluations and treatment because of falsely positive test results.

## Prioritize persons with risks for progression

If health system resources do not allow for testing of all non-U.S. born persons from a country with an elevated TB rate, 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
- body mass index  $\leq 20$
- 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.

## United States Preventive Services Task Force (USPSTF)

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. The 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.

## Children

This risk assessment tool is intended for adults. For screening children consult the American Academy of Pediatrics, Red Book Online, Tuberculosis is available online at: <https://redbook.solutions.aap.org/chapter.aspx?sectionid=189640207&bookid=2205> or contact the state TB Program at (406) 444-0273.

## Local recommendations

Montana is a low-incidence state for TB. Testing should only be conducted in those with risk factors or where testing is mandated (see next subheading). LTBI is reportable in Montana. If a diagnosis of LTBI is made, the case should be reported to local public health using the Montana LTBI Reporting Form found on DPHHS' TB webpage.

## 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-U.S.-born persons when not all non-U.S.-born are 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.

## 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 1 consecutive month to trigger testing is intended to identify travel most likely to involve TB exposure. TB screening tests can be falsely negative within the 8 weeks after exposure, so are best obtained 8 weeks after return from travel.

### 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 or low-risk persons with no risk factors. Low-risk persons should only be considered positive with two positive screening tests. New risk factors 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 United States 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 LTBI. In addition to LTBI testing, evaluate for active TB disease.

### Negative test for LTBI 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, and hemoptysis.

### How to evaluate for active TB disease

Evaluate for active TB disease with a chest x-ray, symptom screen, and if indicated, sputum AFB smears, cultures and nucleic acid amplification testing. A negative tuberculin skin test or interferon gamma release assay does not rule out active TB disease

### Most patients with LTBI should be treated

Persons with risk factors who test positive for LTBI should generally be treated once active TB disease has been ruled out. However, clinicians should not feel compelled to treat persons who have no risk factors but have a positive test for LTBI.

### Emphasis on short course for treatment of LTBI

Shorter regimens for treating latent TB infection have been shown to be as effective as 9 months of isoniazid, and are more likely to be completed. 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 LTBI treatment regimens

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

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

### Patient refusal of recommended LTBI treatment

Refusal should be documented. Recommendations for treatment should be made at future encounters with medical services. If treatment is later accepted, TB disease should be excluded and CXR repeated if it has been more than 6 months from the initial evaluation; or more than 3 months if there is immunosuppression, or the prior CXR was abnormal and consistent with potentially active TB disease.

### Resources

Fact Sheets for LTBI Regimens, Isoniazid+Rifapentine, Rifampin, and Isoniazid are available from CDC <https://www.cdc.gov/tb/publications/ltbi/treatment.htm>

U.S. Preventive Services Task Force Latent TB Infection Screening Recommendations are available on the [U.S. Preventive Services Task Force website](https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/latent-tuberculosis-infection-screening).  
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### Abbreviations

AFB= acid-fast bacilli BCG= Bacillus Calmette-Guérin  
CXR= chest x-ray DOT= directly observed therapy  
IGRA=interferon gamma release assay LTBI= latent TB infection  
MDR =multiple drug resistant NAAT= nucleic acid amplification testing  
SAT= self-administered therapy TST= tuberculin skin test