

Massachusetts Tuberculosis Risk Assessment User Guide

Avoid testing persons at low risk

Testing among low risk populations in the absence of new exposure is not recommended, and may result in unnecessary evaluations and treatment because of falsely positive test results.

Among persons born outside the US, prioritize patients with risk for progression

If health system resources do not allow for testing of all persons born in 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 ≤ 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 latent TB infection testing, evaluate for active TB disease.

United States Preventive Services Task Force (USPSTF) recommendation

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 infectious TB nor among persons who are immunosuppressed because it is recommended to screen these persons as part of public health programs or as a clinical standard of care.

Local recommendations

Local epidemiologic circumstances, recommendations and mandates should also be considered in testing decisions. Local public health programs can customize this risk assessment according to local recommendations.

Mandated testing and other risk factors

Several risk factors for TB that have been used to select patients historically or in mandated programs for TB screening are not included among the 3 components of this risk assessment. This is purposeful in order to focus testing on patients at highest risk. However, specific populations may be locally mandated for testing by regulation or policy. This risk assessment does not supersede any locally mandated testing. Examples of these populations include: healthcare workers, residents or employees of correctional institutions, homeless shelter guests and staff, 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.

Children

This risk assessment tool is valid for children. A pediatric-focused risk assessment tool is also available and may be used, if preferred.

Travel outside the United States

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 infectious TB cases, high TB prevalence in travel location, non-tourist 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. In general, this would include new close contacts of an infectious TB case or someone with new immunosuppression, but could also include persons with 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 persons with a history of BCG vaccination or who are from countries where BCG vaccination is routinely practiced. Most persons born outside the United States have been vaccinated with BCG. The TST is acceptable if the patient is able to return to the provider for the reading, and the test is administered and read by a trained provider.

Chest X-ray and medical evaluation required to rule out active TB and diagnose latent TB infection

A medical evaluation and chest radiograph help differentiate between latent TB infection and TB disease. Active disease must be excluded before treatment for latent TB infection is initiated because failure to do so may result in inadequate treatment and development of drug resistance.

Previous or inactive tuberculosis

Chest radiographic 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 latent TB infection. In addition to latent TB infection testing, evaluate for active TB disease.

Negative test for latent 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. In fact, a negative TST or IGRA in a patient with active TB 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.

BCG = Bacillus Calmette-Guerin; **DOT** = Directly observed therapy; **IGRA** = Interferon gamma release assay (e.g., QuantiFERON-TB Gold, T-SPOT.TB); **LTBI** = latent TB infection; **MDPH** = Massachusetts Department of Public Health; **TST** = tuberculin skin test

Decision to test requires commitment to connect patients with evaluation and treatment resources

Because testing of persons at low risk of latent TB infection should not be done, persons who test positive for latent TB infection should generally be treated once active TB disease has been ruled out with a symptom screen, chest radiograph and, if indicated, sputum smears, cultures, and nucleic acid amplification testing. However, clinicians should not be compelled to treat low risk person with a positive test for latent TB infection.

Emphasis on short course for treatment of latent TB infection

Shorter regimens for treating latent 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. However, drug-drug interactions and contact to drug resistant TB are frequent reasons these regimens cannot be used.

Shorter duration latent TB infection treatment regimens

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

*MDPH recommends DOT for this regimen.

Report latent TB infection to the Massachusetts Department of Public Health

Latent TB infection and Active/Suspected Active TB disease are reportable conditions (105 CMR 300.000). Case reporting forms are on-line: www.mass.gov/dph/tb

Document Risk Assessment and latent TB infection test results in the [electronic] medical record

Results ideally should be easily retrievable from the medical record.