San Diego Tuberculosis Risk Assessment

- Use this tool to identify asymptomatic persons for latent TB infection (LTBI) testing.
- **Do not repeat testing** unless there are **new risk factors** since the last negative test.
  If initial negative screening test occurred prior to 6 months of age, repeat testing should occur at age 6 months or older.
- Do not treat for LTBI until active TB has been excluded:
  For patients with TB symptoms or 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 5 boxes below are checked.

☐ **Close contact** to someone with infectious TB disease during lifetime

☐ **Foreign-born** person from a country with an elevated TB rate
- 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
- Interferon Gamma Release Assay is preferred over Tuberculin Skin Test for foreign-born persons ≥2 years old

☐ **US-born** person and
- ☐ lives in or visits a country with an elevated TB rate or
- ☐ crosses the US-Mexico border frequently or
- ☐ eats queso fresco or other unpasteurized dairy from Mexico.

- If resources require prioritization within this group, prioritize patients with at least one medical risk for progression

☐ **Immunosuppression**, current or planned
HIV infection, organ transplant recipient, treated with TNF-alpha antagonist (e.g., infliximab, etanercept, others), steroids (equivalent of prednisone ≥15 mg/day for ≥1 month) or other immunosuppressive medication

☐ **History of homelessness, incarceration, or drug abuse**
For children, this includes close or frequent contact to individuals with these risk factors

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.

Patient Name: _____

Date of Birth: _____

Provider Name: _____

Provider Signature: _____

Assessment Date: _____

See the **TB Risk Assessment User Guide** for more information about using this tool.

Adapted for local use from the California Tuberculosis Risk Assessment available on the PROVIDERS page at www.ctca.org

Dec 2017

San Diego TB 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

If health system resources do not allow for testing of all foreign-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 ≤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.

Immunosuppression

The exact level of immunosuppression that predisposes to increased risk for TB progression is unknown. The threshold of steroid dose and duration used here are based on data in adults and in accordance with Advisory Committee on Immunization Practices recommendations for live vaccines in children receiving immunosuppression.

United States Preventive Services Task Force

The USPSTF has recommended testing persons born-in or former residents of a country with an elevated TB rate and persons who live in or have lived in high-risk congregate settings such as homeless shelters and correctional facilities. USPSTF did not review data supporting testing among close contacts to infectious TB nor among persons who are immunosuppressed because these persons are recommended to be screened by public health programs or by clinical standard of care.

Mandated testing

Certain populations may be mandated for testing by statute, regulation, or policy. This risk assessment does not supersede any mandated testing.

Children

This TB risk assessment may be used in children. The San Diego Pediatric TB Task Force (Subcommittee of American Academy of Pediatrics, CA Chapter 3 Infectious Disease Committee) has a similar TB risk assessment. See Appendix of "Updated Guidelines for the Screening and Management of Tuberculosis in San Diego County 2017," available at: http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/tuberculosis_control_program/guidelines_additional_resources.html.

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 foreign-born persons when all foreign-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.

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 infectious TB cases, high TB prevalence in travel location, non-tourist travel).The duration of at least 3 consecutive weeks 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.

San Diego TB 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 foreign-born persons ≥2 years old

Because IGRA has increased specificity for TB infection in persons vaccinated with BCG, IGRA is preferred over the TST in these persons ≥2 years of age. IGRAs can be used in children <2 years of age, however, there is an overall lack of data in this age group, which complicates interpretation of test results. In BCG vaccinated immunocompetent children with a positive TST, it may be appropriate to confirm a positive TST with an IGRA. If IGRA is not done the TST result should be considered the definitive result. 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. 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, lymphadenopathy, hemoptysis or excessive fatigue.

Decision to test is a decision to treat

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

Emphasis on short course for treatment of LTBI

Shorter regimens for treating LTBI 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, although the 12 week regimen is not recommended for children <2 years of age, those on antiretroviral medications, or during pregnancy. Drug-drug interactions and contact to drug resistant TB are frequent reasons these regimens cannot be used.

Shorter duration LTBI treatment regimens

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

*The CDC currently recommends DOT for this regimen; however, data has shown that SAT is noninferior to DOT in the United States. Many clinicians are using SAT or modified DOT.
**11-12 doses in 16 weeks required for completion.

CDPH 12-dose isoniazid + rifapentine regimen fact sheet: available on the California Tuberculosis Branch website at: https://www.cdph.ca.gov/tbcb

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 3 months from the initial evaluation.

Abbreviations: DOT = Directly observed therapy; **SAT** = Self-administered therapy; **IGRA** = Interferon gamma release assay (e.g., QuantiFERON-TB Gold, T-SPOT.TB); **BCG** = Bacillus Calmette-Guérin; **TST** = tuberculin skin test; **LTBI** = latent TB infection