Latent Tuberculosis Infection (LTBI): FAQ's

Risk Assessment

What is a tuberculosis (TB) risk assessment?

- A TB risk assessment is a set of questions that assesses a client's risk for TB infection.
- The Wisconsin TB Program Risk Assessment Questionnaire (F-02314) has questions to assess risk for TB infection. If the patient answers "yes" to any of the questions, further evaluation and testing by interferon gamma release assay (IGRA) or tuberculin skin test (TST) should be performed.

When is a TB risk assessment recommended?

- A TB risk assessment questionnaire should be administered even if testing, such as IGRA or TST, is mandated by law, credentialing body, or facility policy. The TB risk assessment is necessary for interpretation of TST and IGRA results.
- For circumstances in which testing is not mandated, a TB risk assessment should be administered and the client should be tested only if risk is identified.

What is the TB risk for public health nurses in Wisconsin?

- The TST cut-off for public health nurses is 15 mm if there are no risk factors identified by the TB risk assessment questionnaire.
- If a public health nurse is working with patients with TB disease using proper respiratory precautions, they do not need additional TB testing.
- There is occupational risk for TB exposure when a public health nurse works directly with a client with infectious pulmonary TB without using appropriate respiratory precautions. If an exposure occurs, baseline testing and evaluation should be performed as soon as possible. Repeat evaluation and IGRA or TST at 8–10 weeks after the last exposure if the initial result is negative. See Tuberculosis Screening and Testing: Health Care Personnel (P-02382) for more details.

Are individuals who reside in long-term care facilities, group homes, homeless shelters, or correctional facilities considered to have a high-risk for TB infection?

- Simply residing in a congregate setting is not a risk factor for TB infection. **For elevated risk, the congregate setting must be in an area with high TB prevalence.**
- There are currently no congregate settings in Wisconsin that are at high risk for TB infection or transmission. Consult the Centers for Disease Control and Prevention (CDC) website or Wisconsin TB Program website for state and local TB epidemiology data. High-risk congregate settings occur in Alaska, California, Florida, Hawaii, New Jersey, New York, Texas, and Washington, D.C.

Testing for TB Infection

What are the next steps to take after a positive TST or IGRA?

- Please see the following Wisconsin TB Program publications:
  - Positive TST: What's Next? (P-02288)
  - Positive IGRA: What's Next? (P-01182)

Is there screening and guidance available for screening and testing health care personnel?

- Please see the following Wisconsin TB Program publication: Tuberculosis Screening and Testing: Health Care Personnel (P-02382)

Is there guidance available for screening and testing in long-term care facilities?

- Please see the following Wisconsin TB Program publication: Tuberculosis Screening and Testing: Residents of Adult Long-Term Care Facilities (P-02382A)

Is a two-step baseline tuberculin skin test still recommended?

- The Wisconsin TB Program recommends baseline testing with an IGRA instead of TST.
- If TST is used, a two-step TST should be performed for a baseline if there is not a documented TST within the last 12 months. **This is the only time that a two-step TST is performed.**

Can IGRAs be used for testing children ages two to five years?

- There are new guidelines recommending that IGRAs be used to test children two years and older. (American Academy of Pediatrics. [Tuberculosis.] Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. Red Book 2018-2021. Report of the Committee on Infectious Diseases. 31th ed. Elk Grove Village, IL.: 834.)

What test should be performed for an individual that may have received the Bacillus Calmette-Guérin (BCG) vaccine?

- Nearly every child in the developing world receives BCG vaccination at birth. The main purpose of the BCG vaccine is to prevent TB meningitis in infants.
- The BCG vaccination may cause a positive TST but does not cause a positive IGRA. The Wisconsin TB Program strongly recommends performing IGRA instead of TST for individuals with possible history of BCG vaccination.
- See the BCG World Atlas for a map of detailed information on current and past BCG practices around the world.

Retesting

How long after a positive IGRA test should a confirmatory IGRA or TST be performed?

- At this time, there are no specific guidelines for repeat confirmatory testing. Providers should check for underlying health concerns that may affect immune system response and test results. Wait until other health concerns are addressed before retesting.
- One recent study suggests that, on average, positive T-SPOT®.*TB* test results are more likely to resolve if the patient is retested 90 days or more following the initial test. (Rego, et al., 2018. Utility if the T-SPOT®.*TB* test's borderline category to increase test resolution for results around the cut-off point. Tuberculosis 108 (2018) 178-185).

Should a positive TST be followed up with an IGRA test?

- IGRA tests provide an equally sensitive, but much more specific test of the body's immune response to *Mycobacterium tuberculosis* complex. The BCG vaccination does not affect IGRA results.
- If IGRA testing will follow a TST, the IGRA should be drawn at the time the TST is administered or 3–6 months later to avoid boosting.

Test Interpretation

How are QuantiFERON numeric values interpreted, taking into account patient risk?

- The laboratory will report a positive QuantiFERON result if either of the TB antigen minus nil (TB1/TB2 Ag minus nil) values is 0.35 or more. The Thanassi study recommends that clinicians retest low-risk individuals with initial QuantiFERON results less than 1.11 IU/mL. TB antigen values between 0.36 and 1.1 IU/mL were found to represent a "borderline" range in which high rates of reversion occurred (Thanassi W. et al. 2012. Delineating a retesting zone using receiver operating characteristic analysis on serial QuantiFERON tuberculosis test results in U.S. Healthcare workers. Pulm Med. 2012: 291294).
- See the Positive IGRA: What's Next? (P01182) publication for more details or call the Wisconsin TB Program to discuss numeric results and risk.

The TST cut off for "recent" immigrants is 10mm. What is the definition of "recent"?

- Previously, the CDC definition of "recent" was less than five years, but this is no longer the case.
- Currently, the 10 mm TST cut off is used for any individual who is from a high prevalence country.

LTBI Reporting and Follow-up

Is there a case definition for LTBI in Wisconsin?

- Yes, the case definition is in the Communicable Disease Case Reporting and Investigation Protocol: Latent Tuberculosis Infection (P-02303).

Should a single positive TST or IGRA result be reported?

- Yes, a single TST or IGRA result meets the criteria for a "suspected" case of LTBI. Suspected LTBI occurs when the laboratory criteria are met (positive IGRA or TST and negative cultures if a specimen is collected), but there is insufficient clinical information.

When a positive QuantiFERON or TST result is received in the Wisconsin Electronic Disease Surveillance System (WEDSS) staging area, what should the local health department do with the report?

- First check to see if the patient and/or Disease Incident (DI) already exists in WEDSS. If so, upload the result into the corresponding DI. If not, create a new person and new LTBI DI. The default resolution status will be "suspect".
- The Wisconsin TB Program recommends local health department follow-up for the following types of patients with positive TST or IGRA:
  - Exposed to someone with known infectious TB and/or part of an ongoing contact investigation
  - Immigrant or refugee with a TB Class B designation
  - Part of a locally identified high-risk group (e.g., born in a high TB prevalence country)
  - Likely to be infected and high risk for progression to active TB disease

Wisconsin TB Dispensary

Are baseline liver function tests (LFTs) required for LTBI treatment, as stated on the Initial Request for Medications (F-00905) form?

- The Wisconsin TB Program requires baseline liver function tests (AST, ALT, and bilirubin) for all preventative LTBI regimens that are funded through the Wisconsin TB Dispensary program.
- Baseline testing can reveal underlying issues that would warrant careful monitoring during treatment.

For low-risk individuals, how do local health departments manage treatment and follow-up if there are cost concerns? Will the Wisconsin TB Dispensary cover these costs?

- Only individuals that meet the case definition for LTBI and have risk for TB infection should be offered treatment.
- The Wisconsin TB Dispensary program can cover diagnostic and treatment expenses for uninsured and underinsured individuals with high risk for TB infection.
- In general, the Wisconsin TB Dispensary program does not cover costs for evaluation and testing for employment purposes.

Question not answered here? Contact us!

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