Selecting a Test for Latent TB Infection (LTBI)

IGRA is preferred; TST is acceptable

Interferon gamma release assays (IGRAs), such as Quantiferon or T-Spot TB, are preferred over the tuberculin skin test (TST) because of increased specificity and lack of need for a second visit for reading the test. A TST is acceptable when an IGRA is not available, too costly or too logistically difficult to obtain.

IGRA in non-U.S.-born

IGRA is especially helpful in persons who have previously been BCG (Bacillus Calmette-Guerin)-vaccinated (most persons born outside the U.S.) For non-U.S. born, immunocompetent, BCG-vaccinated persons with a positive TST, IGRA can be used to confirm or rule out LTBI (i.e., consider TST positive and IGRA negative to not be LTBI). Exceptions might include situations where infection is highly likely such as among recent known contacts to active TB cases where transmission has been confirmed in other contacts with similar level of exposure.

IGRA in children

Because IGRA has increased specificity for TB infection in children vaccinated with BCG, IGRA is preferred over the tuberculin skin test for non-U.S. born children ≥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 perform an IGRA to confirm the LTBI diagnosis (i.e., consider TST positive and IGRA negative to not be LTBI). If IGRA is not done, the TST result should be considered the definitive result.

Testing persons with very high risk for progression

In patients with a very high risk for progression if infected (e.g., TNF-α inhibitor use, HIV infection, organ transplant) some experts perform a second test if the first test is negative, using a positive on either test to determine LTBI status. Patients with a CD4 count of <200 cells/μL should be retested when their CD4 count is ≥200 cells/μL.

Testing persons without TB risk factors

Although testing persons without risk factors is discouraged, when it cannot be avoided for administrative or policy reasons (e.g., previously negative healthcare workers who have no known new TB exposure), using two tests might be appropriate: if the first test is positive, a second test (TST or IGRA) can be performed using a negative on either test to determine LTBI status.

Serial testing

Choice of LTBI test for serial testing programs such as for occupational health should consider additional factors such as test performance and TB risk. This choice should be informed by discussion with local TB control programs.

Definition of a positive tuberculin skin test

The definition of a positive tuberculin skin test depends on a person's prior probability of having LTBI and the person's risk of developing active TB.

≥5 mm of induration

- Persons known or suspected to have HIV infection.
- Recent contacts to an active case of pulmonary or laryngeal TB.
- Persons with fibrotic changes seen on chest radiograph consistent with TB.
- Immunosuppressed individuals

≥10 mm of induration

- All persons except those in above

NOTE: The CDC recommends using a 15 mm cutoff for low risk reactors. However, in California, using a 10mm cutoff is the standard due to the higher incidence of TB in the state compared to other parts of the US.

For more in-depth information on LTBI testing, see:

- California TB Controllers Association, Interferon Gamma Release Assay (IGRA) Clinical Guidelines in California: http://ctca.org/menus/cdph-ctca-joint-guidelines.html
- ATS/IDSA/CDC Practice Guidelines: Diagnosis of Tuberculosis in Adults and Children, available at the following URL: www.cdc.gov/tb/publications/guidelines/testing.html