

Interferon Gamma Release Assay (IGRA) TB Tests

Provider Information and Guidelines for Interpretation

What is it?

Interferon Gamma Release Assays (IGRAs) are blood tests for detection of infection to *M. tuberculosis*, as occurs in active tuberculosis (TB) and latent tuberculosis infection (LTBI).

If not detected and treated, LTBI may later develop into TB disease. The IGRA measures the patient's immune reactivity to *M. tuberculosis*, the bacterium that causes TB. The IGRA tests most commonly available are the QuantiFERON Gold In-Tube (QFT-IT) and T-SPOT tests.

What are the advantages of IGRA?

Requires only a single patient visit to conduct the test.

Prior BCG (Bacillus Calmette-Guérin) vaccination does not cause a false-positive IGRA test result.

Does not cause booster phenomenon which can happen with repeat tuberculin skin tests (TSTs).

Is less subject to reader bias and error when compared to the TST.

What are the disadvantages?

Blood samples must be processed within 8-30 hours after collection.

Errors in collecting or transporting the blood specimens or in running and interpreting the assay can decrease the accuracy of IGRAs.

Less sensitive in immunocompromised populations and young children < 5 years old.*

*Some experts report that IGRA is reliable in children as young as 3 or 4 years old.

Like the TST, the IGRA is a useful but imperfect diagnostic aide. It should not replace clinical judgment.

When should I use IGRA?

IGRAs are the preferred TB screening test in the following situations:

- Children \geq 5 years old; however, some experts report that IGRA tests can be used reliably in children as young as 3 or 4 years.
- Children who have received BCG vaccine.
- Children unlikely to return for the TST reading.

When should I use both TST and IGRA?

If there is an increased risk of progression of latent TB infection (such as in a patient who is immunocompromised either from a medical condition or medications) consider both IGRA and TST and take either positive as evidence of infection.

Also consider using both TST and IGRA for:

- Patients with suspected TB or symptoms of TB.
- Patients with HIV infection or other immunosuppressed condition or medications.

Is IGRA covered by Medi-Cal?

YES! As of March 1, 2014, Medi-Cal removed the age restriction on Medi-Cal reimbursement of IGRA tests for children under 5 years old. *“The minimum patient age for reimbursement with CPT-4 codes 86480 (tuberculosis test, cell mediated immunity antigen response measurement; gamma interferon) and 86481 (tuberculosis test, enumeration of gamma interferon-producing T-cells in cell suspension) is lowered from 5 to 0 years.”*

How do you interpret IGRA test results?

Negative: Same interpretation as negative TST – no further TB evaluation unless indicated by clinical judgment.

Positive: Same interpretation as positive TST. Radiograph and medical evaluation indicated.

Indeterminate: Repeat IGRA or place TST per patient and provider preference.

Can IGRAs be done at the same time as receiving vaccinations?

Similar to TST, live virus vaccines might affect IGRA test results. However, this effect has not been studied.

The CDC recommends that IGRA testing in the context of live vaccine administration be done as follows:

- Either on the same day as vaccination with the live-virus vaccine, OR
- 4 - 6 weeks after administration of the live-virus vaccine.

How do IGRAs work?

IGRA measures a person's immune response to *M. tuberculosis*. White blood cells that are infected with *M. tuberculosis* will release interferon-gamma (IFN- γ) when mixed with antigens derived from *M. tuberculosis*.

The antigens include ESAT-6 and CFP-10, and TB7.7(p4) proteins specific to *M. tuberculosis complex*. These antigens are not found in BCG strains or *M. avium*.

The IGRA results are based on the amount of IFN- γ that is released. Additional tests such as chest radiograph are needed to exclude TB disease and confirm the diagnosis of LTBI.

Where can I get or order an IGRA?

IGRAs are now available through many commercial laboratories with provider prescription. You should advise patients to check with the individual draw stations of these laboratories, as they often have specific days that they draw and process the IGRA tests.

Additional Information

Centers for Disease Control and Prevention. Updated Guidelines for Using Interferon Gamma Release Assays to Detect *Mycobacterium tuberculosis* Infection, United States. *MMWR* 2010; 59 (No.RR-5)

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