

Testing for TB Infection

Tuberculosis (TB) is a disease that is spread through the air from one person to another. There are two kinds of tests that are used to determine if a person has been infected with TB bacteria: the tuberculin skin test and TB blood tests.

A positive TB skin test or TB blood test only tells that a person has been infected with TB bacteria. It does not tell whether the person has latent TB infection (LTBI) or has progressed to TB disease. Other tests, such as a chest x-ray and a sample of sputum, are needed to see whether the person has TB disease.

Tuberculin skin test: The TB skin test (also called the Mantoux tuberculin skin test) is performed by injecting a small amount of fluid (called tuberculin) into the skin in the lower part of the arm. A person given the tuberculin skin test must return within 48 to 72 hours to have a trained health care worker look for a reaction on the arm. The health care worker will look for a raised, hard area or swelling, and if present, measure its size using a ruler. Redness by itself is not considered part of the reaction.

Positive skin test: This means the person's body was infected with TB bacteria. Additional tests are needed to determine if the person has latent TB infection or TB disease. A health care worker will then provide treatment as needed.

Negative skin test: This means the person's body did not react to the test, and that latent TB infection or TB disease is not likely.

TB blood tests: TB blood tests (also called interferon-gamma release assays or IGRAs) measure how the immune system reacts to the bacteria that cause TB. An IGRA measures how strong a person's immune system reacts to TB bacteria by testing the person's blood in a laboratory. Two IGRAs are approved by the U.S. Food and Drug Administration (FDA) and are available in the United States: QuantiFERON®–TB Gold In-Tube test (QFT-GIT) and T-SPOT®.TB test (T-Spot)

- **Positive IGRA:** This means that the person has been infected with TB bacteria. Additional tests are needed to determine if the person has latent TB infection or TB disease. A health care worker will then provide treatment as needed.
- **Negative IGRA:** This means that the person's blood did not react to the test and that latent TB infection or TB disease is not likely.

There is no problem with repeated IGRAs.

Candidates for TB Screening

The following groups are at high risk of TB infection or progression to TB disease, once infected. Screening of groups other than those listed here is of low yield and diverts resources from high-priority activities. Such screening is not recommended and will not be endorsed or supported by the Division of TB Control:

- close contacts of persons with known or suspected active tuberculosis disease
- persons infected with or at risk of being infected with HIV
- persons who inject illicit drugs or other locally identified high-risk substance users
- persons who have medical risk factors known to increase the risk for TB disease (e.g. diabetes, chronic kidney disease, immunosuppressive therapy)
- residents and volunteers of high-risk congregate settings (e.g. correctional institutions, nursing homes, mental institutions, other long-term residential facilities)
- health care workers who serve high-risk groups

- foreign-born persons, including children, who have recently arrived (within 5 years) from countries that have a high TB incidence or prevalence (Asia, Africa, Latin America)
- some medically underserved, low-income populations
- locally-identified racial, ethnic minority populations
- infants, children, and adolescents exposed to adults in high-risk categories

Testing for TB in BCG-Vaccinated Persons

Many people born outside of the United States have been [BCG-vaccinated](#). People who have had a previous BCG vaccine may receive a TB skin test. In some people, BCG may cause a positive skin test when they are not infected with TB bacteria. If a TB skin test is positive, additional tests are needed.

IGRAs, unlike the TB skin tests, are not affected by prior BCG vaccination and are not expected to give a false-positive result in people who have received BCG.

Diagnosis of Latent TB Infection or TB Disease

If a person is found to be infected with TB bacteria, other tests are needed to see if the person has TB disease. TB disease can be diagnosed by medical history, physical examination, chest x-ray, and other laboratory tests. TB disease is treated by taking several drugs as recommended by a health care provider.

If a person does not have TB disease, but has TB bacteria in the body, then latent TB infection is diagnosed. The decision about treatment for latent TB infection will be based on a person's chances of developing TB disease.

Diagnosis of TB Disease

People suspected of having TB disease should be referred for a medical evaluation, which will include Medical history, Physical examination, Test for TB infection (TB skin test or TB blood test), Chest radiograph (X-ray), and Appropriate laboratory tests

<http://www.cdc.gov/tb/topic/testing/default.htm>