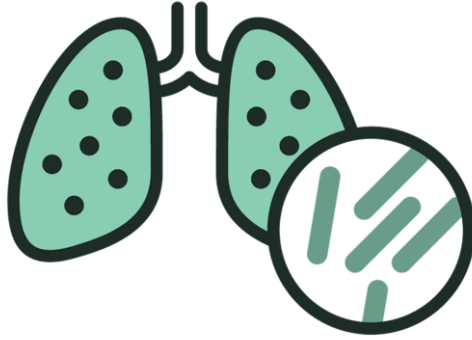




مدينة الملك فهد الطبية  
King Fahad Medical City



## Common Questions (QTB)

## **What is latent TB?**

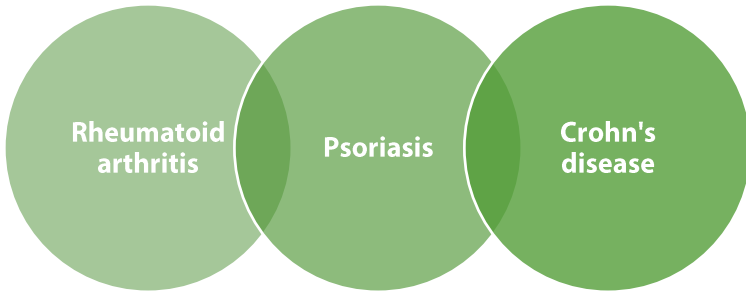
Latent TB occurs when you have the bacterium that causes TB in your body, but symptoms are not present. If you are diagnosed with latent TB there is a chance that the bacteria may cause disease in the future, so you are likely to be offered treatment to prevent this from happening.

## **Why is this important to me?**

Autoimmune diseases arise when your immune response is inappropriately directed against substances and tissues normally present in your body.



## Common examples of autoimmune diseases are:



## Tumor necrosis factor (TNF) blocker therapy

Is an effective treatment for a growing number of autoimmune diseases, but also significantly increases the risk of latent TB infection progressing to active TB disease. As a result, testing patients with an autoimmune disease for TB infection is an extremely important precautionary measure before initiating TNF blocker therapy.

## **What is QFT?**

QuantiFERON-TB Gold In-Tube (OFT) is a blood test that can help diagnose tuberculosis (TB) infection. A new class of immune system tests called interferon-gamma release assays (IGRA), OFT is a major scientific advance over the 100-year-old skin test (Mantoux or tuberculin skin test), giving greater accuracy and a more reliable result.

## **In what situations should QFT be used?**

QFT can be used in all situations in which the skin test has been used in the past. QFT can also be used to confirm a positive skin test.

1. TB screening of health-care workers.
2. QFT-G usually can be used in place of (and not in addition to) the TST.

3. TB screening for latent TB infection before commencing a patient with autoimmune disease on TNF blockers therapy.
4. Arrangement for IGRA testing should be made prior to blood collection to ensure that the blood specimen is collected in the proper tubes and that testing can be performed within the required timeframe.

### **What does QFT involve?**

A specimen of blood is collected and sent to the laboratory for analysis.

## How does QFT work?

OFT is a laboratory test that uses special blood collection tubes coated with antigens (small, non-infectious portions of the TB bacterium) for blood collection and subsequent testing, these antigens are very specific for detecting TB infection.

When the blood of an individual infected with TB comes in contact with these antigens, a chemical messenger called interferon-gamma is released by the white blood cells.

💡 OFT results are based on the amount of interferon-gamma that is produced in the tubes.

## How are QFT results interpreted?

Proper assessment of suspected TB infection takes into consideration your medical history and diagnostic findings, of which the OFT result is an essential component.

Your medical practitioner or nurse is in the best position to advise you on what an OFT result means in your situation.

However, in most circumstances:

- a **positive** OFT result suggests that TB infection is **likely**.
- a **negative** QFT result suggests that TB infection is **unlikely**.
- an **indeterminate** result, which is uncommon, may suggest the need for **further investigation** or **repeating the test**.

## **How long before I get the results?**

QFT-G is performed every two weeks, results will be ready in 14 days.

## **What are the limitations of the Tuberculin Skin Test (TST)" in individuals with HIV infection?**

The TST is widely used in the assessment of individuals with suspected TB - despite its well-known limitations. A variety of factors, other than infection with *M. tuberculosis*, are known to induce a positive TST, these include Bacille Caimette-Guerin (BCG) vaccination, exposure to non-tuberculous mycobacteria, the inherent inability of the test to distinguish a current infection from



past resolved infection and subjectivity when reading the test results.

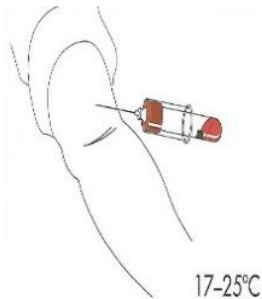
💡 **False positive** results often lead to unnecessary treatment for TB infection with possible detrimental side effects.

### **The TST has poor sensitivity for detecting active TB in HIV positive individuals. Is QFT any better?**

In HIV infected individuals OFT has been shown to be more sensitive than the TST. Studies have shown that the sensitivity of OFT (in HIV positive patients with active TB) is 77-85% compared to 15-46% for the TST. Unlike the TST, OFT is not subject to boosting, as it is not affected by prior BCG vaccination, and most non-tuberculous mycobacteria (except *M. marinum*, *M. szulgai* and *M. kansasii*).

## Blood collection and tube handling technique

- **Blood collection**



Collect 1 mil. Into each tube on needle for 2-3 seconds after flow ceases. Repeat tube if not close to black fill line.

- **Tube shaking**



Immediately after filling tubes, shake them ten (10) times, just firmly enough to ensure inner surface of tube is coated with blood, to solubilize antigens on tube wall.

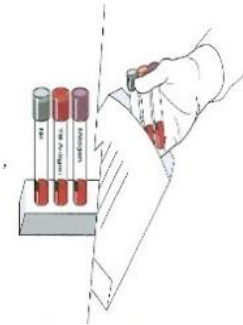


Tubes should be between 17-25°C at time of blood filling.



Over-energetic shaking may cause gel disruption and could lead to aberrant results.

- **Incubation/ Shipping**



**Option 1: Incubate at collection**

**site.** Incubate tubes at collection site (upright at 37°C for 16-24 hours) then ship to lab at 4-27°C. Record as “Incubated”.

**Option 2: Incubate at laboratory.** Ship tubes to laboratory at 17-27°C (blood must be incubated at 37°C as soon as possible and within 16 hours of collection). Record as “not incubated”.

# لأن الوعي وقاية ..

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