To schedule an appointment for a QFT-IT test at the Health District:
SRHD Public Health Clinic. . . . . (509) 324-1600

For information on Spokane Regional Health District's TB services:
SRHD Public Health Clinic. . . . . (509) 324-1600

For additional information about the QFT-IT test:
SRHD Laboratory . . . . . (509) 324-1440

Additional information may be found at:

- **Centers for Disease Control and Prevention**
  www.cdc.gov/mmwr/pdf/rr/rr5905.pdf
- **Spokane Regional Health District**
  www.srhd.org/topics/tb.asp

SRHD Laboratory
1101 West College Avenue, Room 210
Spokane, WA 99201-2095
(509) 324.1440 | TDD 324.1464

February 2012

SPOKANE REGIONAL HEALTH DISTRICT

Laboratory
1101 West College Avenue, Room 210
Spokane, WA 99201-2095

New testing service announcement

Healthcare Provider Information

Screening Test for **Tuberculosis**

If you are tired of...

- Confusing results due to TST placement errors and reading biases?
- Missed TST readings?
- Unnecessary costs due to false positives?
- Cross reactions with BCG vaccinated clients?
- Boosting effects?

Then this is the test for you!

QuantiFERON-TB Gold In Tube (QFT-IT)

- **Replaces the 100+ year old skin test**
- **Only requires one patient visit**
- **Has greater sensitivity and specificity**
- **Eliminates most false positives**

SPOKANE REGIONAL HEALTH DISTRICT

QuantiFERON-TB Gold In Tube (QFT-IT) Tuberculosis Test

What is QFT-IT?

QuantiFERON-TB Gold In Tube (QFT-IT) is the *new* blood test for detection of immune response to tuberculosis infection. As a modern alternative to the 100+ year old tuberculin skin test (TST), QFT-IT provides clinicians with unprecedented accuracy and convenience as a TB diagnostic tool. Studies have shown an overall sensitivity of 89.0% compared to 76.0% for the TST. Specificity is 99.2% versus 65.9% for the TST. Therefore, most false positives are eliminated with the QFT-IT test.

How does it work?

The QFT-IT is an indirect test for M. tuberculosis infection, based on the measurement of a cell mediated immune response to peptide antigens that simulate mycobacterial proteins. These proteins, ESAT-6, CFP-10, and TB7.7 are absent from all BCG strains and from most non-tuberculosis mycobacteria. Individuals infected with M. tuberculosis complex organisms usually have lymphocytes in their blood that recognize these and other mycobacterial antigens. There is a Nil antigen that serves as the patient's internal negative control and a Mitogen protein that serves as the patient's internal positive control. The recognition process involves the generation and secretion of the cytokine, interferon-gamma (IFN-g). The QFT-IT test accurately measures IFN-g response in a sensitive ELISA.

Indications for Use

QFT-IT can be used:

- In all circumstances in which the TST is currently used, such as:
  - ✓ occupational surveillance
  - ✓ contact investigation
  - ✓ immigrants and other high-risk populations
- In place of a TST,
- And, as a diagnostic tool with high specificity.

A positive result should prompt the same evaluation and management as a positive TST.

Interpretation of Results

Negative:
Same interpretation as the TST, no further evaluation unless indicated by clinical judgment.

Positive:
Same interpretation as the TST. Radiographs and medical evaluation indicated.

Indeterminate:
QFT-IT may be indeterminate due to several reasons (e.g., patient anergy, high IFN-γ background levels, insufficient mixing of tubes, over-energetic shaking of tubes, longer than 16 hours from collection to incubation, incorrect temperature storage prior to incubation). Redraw suggested in 4-6 weeks.

Specimen Collection and Handling

- Collect 1 mL of blood in each of three QFT-IT blood collection tubes; shake tubes ten (10) times just firmly enough to ensure that the entire inner surface has been coated with blood.
- Label tubes with patient's identification, date and time of collection.
- Tubes must arrive at the SRHD Lab within 16 hours of collection **OR**
- Incubate tubes at 37°C for 16-24 hours; plasma stable for 3 days between 2-27°C **OR**
- Incubate tubes as above, then centrifuge for 15 minutes; plasma stable for 28 days at 2-8°C.

Where to Send the Sample

- Specimens must be transported according to appropriate packaging and shipping regulations. Specimen shippers are provided.
- Include the SRHD Lab QFT-IT requisition. A copy of the requisition can be mailed, faxed, or emailed upon request.
- Contact the SHRD Lab at (509) 324-1440 for specific information on days specimens are accepted and for holiday schedules.

Deliver specimen from 8:00am–3:30pm to:
Spokane Regional Health District
Laboratory, Room 210
1101 West College Avenue
Spokane, WA 99201-2095

Specimens can be collected by the Health District; see reverse side for information.

Limitations

- A patient's ability to respond to antigens is dependent on their immune system.
- Medical treatments or conditions that impair immune function can potentially reduce IFN-g response and prevent detection of a specific response to the peptide antigens.
- Some specimens may not have sufficient lymphocytes to detect specific IFN-g response. As with a negative TST result, a negative QFT-IT result alone might not be sufficient to exclude *M. tuberculosis* infection in these individuals.
- Some individuals may have high background levels of IFN-g or heterophile antibodies that interfere with detection of responses to ESAT-6, CFP-10 and TB7.7.
- A diagnosis of Latent TB Infection (LTBI) requires that tuberculosis disease must be excluded by medical evaluation including an assessment of current medical and diagnostic tests for disease as indicated.