



Resource 3-1: Updated Guidelines for Detection and Treatment of Latent and Active Tuberculosis

Latent tuberculosis infection: Definition and scope of problem

- Found in a person who has acquired the TB bacillus but is without signs or symptoms of active TB and is unable to spread the disease to others. Usually the person has a positive TB skin or serological testing. Subsequent chest x-ray is usually normal, but occasionally shows abnormalities suggestive of prior TB. The lifetime risk for active tuberculosis among patients with a history of a positive tuberculin skin test result is between 5% to 10%.

Source- <http://www.cdc.gov/tb/education/corecurr/default.htm>, accessed 12.13.11.

Candidates for TB Testing
Have spent time with a person known or suspected to have active TB disease
Have HIV infection or another condition that weakens the immune system and puts them at high risk for active TB disease
Have symptoms of active TB disease
Are from a country where active TB disease is very common (most countries in Latin America and the Caribbean, Africa, Asia, Eastern Europe, and Russia); or
Live somewhere in the United States where active TB disease is more common such as a homeless shelter, migrant farm camp, prison or jail, or some nursing homes)
Inject illegal drugs

Source- <http://www.cdc.gov/tb/topic/testing/default.htm>, accessed 12.12.11.

Reactive Mantoux Tuberculin Skin Test (TST)	
Induration in mm	Risk factors
=> 5 mm	HIV, close contacts with active pulmonary TB, CXR c/w previous TB infection such as calcified granuloma, injection drug use
=> 10 mm	Foreign-born where TB endemic, poor access to health care, residential or correctional facilities, < 4 years of age, groups likely TB exposed, DM or other condition that increases risk of TB (excluding HIV)
=> 15 mm	No TB risk factors

Source- <http://www.cdc.gov/tb/publications/factsheets/testing/skintesting.htm>, accessed 12.12.11.

Glossary of Terms- Tuberculosis Skin Test	
Term	Definition
Anergy testing	Giving skin tests of substances other than TB to determine if person does not react to PPD because of weakened immune system
BCG (bacilli Calmette-Guerin)	Vaccine against TB infection given in many countries; low risk of causing false positive TST
Booster phenomenon	Often seen in elders where, even if infected long ago, have an initial negative TST but a positive test when retested up to one year later. This occurs as the first test “boosts” the immune response.
Two-step testing	Strategy used to distinguish a booster reaction (caused by TB infection that occurred many years ago) from a reaction caused by recent infection. A person with a negative TST is retested in 1-3 weeks. A positive reaction with test 2 likely represents a boosted reaction, not recent infection.

Source-<http://www.cdc.gov/tb/education/corecurr/default.htm>, accessed 12.12.11.

TB Blood Tests: interferon-gamma release assay (IGRA) tests for TB infection (Trade names- QuantiFERON®-TB Gold test (QFT-G), QuantiFERON®-TB Gold In-Tube test (GFT-GIT), T-SPOT®.TB)

Potential Benefits of IGRA Testing for TB Infection
<ul style="list-style-type: none"> • Only one visit to healthcare provider to draw the blood • Results can be available in 24 hours or less (T-SPOT.TB) • TST results can be influenced by healthcare provider-influenced issues such as method of test application (inappropriate PPD injection technique) and interpretation (misinterpretation of results as positive of negative). These problems are avoided with serological testing. • Results are not affected by prior BCG (bacille Calmette-Guérin) vaccination
Use of IGRA Testing for TB infection Recommended in the Following Situations
<ul style="list-style-type: none"> • Preferred for testing persons from groups that typically have low rates of returning to have tuberculin skin tests read and for those who have received Bacille Calmette-Guérin (BCG) as a vaccine or as cancer treatment. • Can be used instead of or with TST in all situations in which the CDC recommends tuberculin testing. • IGRA testing is significantly more expensive than TST; this factor must be kept in mind when choosing the most appropriate test.
When Use of IGRA Testing is Not Recommended
<ul style="list-style-type: none"> • For testing children younger than 5 years, TST is preferred vs IGRA. To increase diagnostic sensitivity in this age group, however, some experts recommend using an IGRA as well as the tuberculin skin test.

Source- *MMWR Morb Mortal Wkly Rep.* 2010;59(RR-5):1-28.

Differential Diagnosis and Treatment of TB		
	Latent TB infection	TB disease
Differential Diagnosis	No symptoms	Cough, bloody sputum, weakness, fatigue, weight loss
	Positive skin test or serological testing	Positive skin test or serological testing
	Normal CXR	CXR c/w TB
	Normal sputum	Sputum c/w TB
Treatment	<p>Combination regimen of isoniazid (INH) and rifapentine (RPT) administered weekly for 12 weeks as directly observed therapy (DOT)</p> <p>Alternative- .Standard regimen of 9 months of INH daily without DOT</p>	<p>Usually treated with “triple therapy” using a combination of the following medications, with expert consultation, bearing in mind patterns of local resistance</p> <ul style="list-style-type: none"> • INH • Rifampin • Ethambutol • Pyrazinamide • Streptomycin

Source- http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6048a3.htm?s_cid=mm6048a3_w, accessed 12.12.11.