

Patient Management With Previous Positive TB Tests or Treatment

Wisconsin Department of Health Services

Division of Public Health, Tuberculosis Control and Prevention Program

Guidance for Persons with Previous Positive TST/IGRA and/or Previous TB/TB Infection		
If evaluation or test results show that a contact has the following:		Then take these actions:
A prior positive TB skin test, with or without prior treatment		Test with an IGRA if the contact is age 2 or older; the IGRA is equally sensitive and more specific for TB infection.
A prior positive TB blood test and has not been treated for TB infection		The decision to treat should be made on an individual basis. Considerations for the decision include: <ul style="list-style-type: none"> • Medical conditions and risk factors putting the contact at risk for TB disease. • The duration and intensity of exposure.
A prior positive TB blood test and has been treated for TB infection		The decision to treat again should be made on an individual basis. Considerations for the decision include: <ul style="list-style-type: none"> • Medical conditions and risk factors putting the contact at risk for TB disease. • The duration and intensity of exposure.
A history of prior treatment for TB		The decision to treat again should be made on an individual basis. Considerations for the decision include: <ul style="list-style-type: none"> • Previous treatment for TB infection. • Medical conditions and risk factors putting the contact at risk for TB disease. • The duration and intensity of exposure.
Symptoms consistent with TB disease		Fully evaluate for TB disease.
No symptoms consistent with TB disease, negative or indeterminate TST or IGRA	Immuno-compromised or <5 years old	<ul style="list-style-type: none"> • Evaluate with a physical examination and chest X-ray; TST and IGRA may not be valid due to compromised or immature immune system. • If chest X-ray or physical exam is indicative of TB disease, treat for TB disease. • If not, provide window prophylaxis until 10 weeks after last exposure to infectious person, and then test again.
No symptoms consistent with TB disease, newly positive TST or IGRA	Immuno-compromised or <5 years old	<ul style="list-style-type: none"> • Evaluate with a physical examination and chest X-ray. • If chest X-ray or physical exam is indicative of TB disease, treat for TB disease. • If not, provide full course of LTBI treatment even if previously treated.
No symptoms consistent with TB disease, negative or indeterminate TST or IGRA	Normal immune system	<ul style="list-style-type: none"> • Test again 10 weeks after last exposure to infectious person.

Definition of abbreviations: CXR = chest X-ray; LTBI = latent tuberculosis infection; TB = tuberculosis; TST = tuberculin skin test; IGRA = interferon-gamma release assay

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If evaluation or test results show that a contact has the following:		Then take these actions:
No symptoms consistent with TB disease, positive TST or IGRA	Normal immune system	<ul style="list-style-type: none"> • May provide full course of LTBI treatment. • Decision to treat must be based on thorough evaluation of contact’s health and risk factors.
Documented prior positive test results (TST/IGRA)		<ul style="list-style-type: none"> • Educate about the signs and symptoms of TB disease. • Administer TB symptom screening and risk assessment questionnaire. • Symptomatic individuals should be fully evaluated for TB disease: <ul style="list-style-type: none"> ○ Obtain a chest X-ray. ○ Collect sputum specimens if patient is coughing or if chest X-ray abnormal. • Follow-up TSTs or IGRAs and serial CXR are unnecessary for: <ul style="list-style-type: none"> ○ Persons who have positive test results for TB infection. ○ Persons who have had TB disease ruled out. ○ Persons who refuse or are unable to receive treatment for LTBI. ○ Persons who have completed treatment for LTBI or disease.
Previous LTBI or TB disease		<ul style="list-style-type: none"> • Do TST or IGRA only if there is no documentation of a prior test. • Educate about the signs and symptoms of TB disease. • Administer TB symptom screening and risk assessment questionnaire. • Symptomatic individuals should be fully evaluated for TB disease: <ul style="list-style-type: none"> ○ Obtain a chest X-ray. ○ Collect sputum specimens if patient is coughing or if chest X-ray is abnormal. • Obtain prior treatment status of a patient with a history of LTBI or TB disease, including detailed documentation of: <ul style="list-style-type: none"> ○ Drugs taken. ○ Duration of treatment. ○ History of adverse reactions. ○ Reasons for discontinuing treatment. ○ Prior drug susceptibility results. ○ Drug-resistance patter of the source case who infected this person, if known.

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Chest X-ray Evaluation (see terms below)

- Stable abnormality
 - No change from previous radiographs.
 - Fully calcified, discrete, nodular lesions without fibrosis likely represent granulomas and pose a lower risk for future progression to TB disease.
 - Persons with evidence suggestive of healed, primary TB disease (i.e., calcified solitary pulmonary nodules, calcified hilar lymph nodes, and apical pleural capping) are not at increased risk for TB disease.
- Fibrotic lesions vs. “Old TB”
 - “Old TB” cannot be differentiated from active TB disease based on radiographic appearance alone.
 - Persons who have lesions consistent with findings of “old” TB disease on a chest radiograph and have a positive TST reaction or positive IGRA results should be considered high-priority candidates for treatment of LTBI, but only after TB disease is excluded by obtaining three respiratory specimens for AFB smear, PCR and culture.

Common Terminology on a Radiologist’s Report	
Consolidation	Often referred to as an ill-defined opacity.
Cyst/cavity	Focal spaces or “holes” in the lung; both indicate the absence of lung tissue; a cavity being more likely to be TB, and generally indicative of greatest infectiousness.
Granuloma	A small, calcified nodule, usually not indicative of active disease.
Interstitial opacity (including infiltrates)	Fibrosis: may or may not be active disease and requires further evaluation. Miliary: many tiny nodules resembling millet seeds scattered throughout. Nodule: well-defined opacity. Parenchymal opacity: usually not indicative of active disease. Peribronchovascular thickening.
Lymphadenopathy	Enlarged lymph nodes seen as soft tissue densities; usually more indicative of active disease in a child.
Nodule/mass	Discrete opacity measuring 2 to 30 mm; a nodule greater than 30 mm is considered a mass often indicative of a carcinogenic process.

Source: Tuberculosis Nursing: A Comprehensive Guide to Patient Care, 2nd Edition, v. 06/13/11, page 35

Bacille Calmette-Guerin Vaccine (BCG)

- IGRA is the preferred diagnostic test in individuals with a history of BCG vaccination as it does not react to BCG vaccination. Patients will tend to believe a blood test over a skin test.
- A history of BCG vaccination is not a contraindication for tuberculin skin testing, nor does it influence the indications for a TST.

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- Administer and measure TSTs in BCG-vaccinated individuals in the same manner as in those with no previous BCG vaccination.
- Tuberculin reactivity caused by BCG vaccination wanes with time but can be boosted with a TST.
- BCG-vaccinated individuals with a positive IGRA or a TST reaction ≥ 10 mm of induration should be considered for LTBI treatment, especially any of the following:
 - Individuals continually exposed to populations with a high prevalence of TB (e.g., some health care workers, employees and volunteers at homeless shelters and workers at drug treatment centers).
 - Individuals who were born in (or have lived in) in a country with a high prevalence of TB.
 - Individuals exposed to someone with infectious TB, particularly if that person has transmitted TB to others.

Resources:

Tuberculosis Nursing: A Comprehensive Guide to Patient Care, Second Edition 2011, 217 pages.

<http://www.tbcontrollers.org/resources/tb-nursing-manual/>

Core Curriculum on TB: What the Clinician Should Know, CDC 6th edition 2013.

http://www.cdc.gov/tb/education/corecurr/pdf/corecurr_all.pdf

Treatment of Tuberculosis and Tuberculosis Infection in Adults and Children, 149. Pp 1359-1374, 1994 (being revised). <http://www.thoracic.org/statements/resources/mtpi/tbchild1-16.pdf>

Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection, MMWR 6-9-2000 MMWR 2000;49(No.RR-6). <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4906a1.htm>

Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, MMWR 12-16-2005. <http://www.cdc.gov/mmwr/PDF/rr/rr5415.pdf>

Treatment of Tuberculosis, MMWR 6-20-2003. <http://www.cdc.gov/mmwr/pdf/rr/rr5211.pdf>

Red Book. American Academy of Pediatrics. 29th edition. 2012.