

2-Step Mantoux Tuberculin Skin Testing (TST)

Quick Reference

How to Perform TST

Please refer to SMDHU 'Mantoux Skin Test' resource for full instructions, illustrations, precautions and contraindications.

- Administer 0.1 mL of 5 tuberculin units of purified protein derivative (PPD), injected intradermally on volar aspect of the forearm, approaching from a 5-15 degree angle. The 6-10 mm wheal will disappear in 10-15 minutes
- Record the time, date, lot number, expiry date and dose of PPD injected and the site of injection.
- Direct client to return to have the test read after 48 -72 hours by a trained health care provider.
- MEASURE THE INDURATION, NOT ERYTHEMA across the width of the arm (transverse diameter of the long axis of the forearm). Record reading in millimeters not as "positive" or "negative". Redness with no induration is recorded as '0' mm.

A TST is most useful in aiding in the diagnosis of Latent Tuberculosis (TB) infection, but is not as helpful in diagnosing active TB infection.

2-Step TST

Why Do 2-Step TST

- To assist with establishing a true baseline result for people who will have serial TSTs in future.
- A positive TST may gradually wane over the years. The initial TST completed as part of the 2-step process may stimulate the immune response, and a more significant reaction may occur when the person is retested 1-4 weeks later. This delayed response is called the 'booster' phenomenon, but represents the accurate baseline.
- If a baseline is not measured through 2-step TST, a more significant reaction on subsequent tests may be interpreted as a recent TB infection when in fact the more significant reaction may represent the 'booster' phenomenon and accurate baseline.

Who Should Have 2-Step TST

2-step TST is for individuals who have a higher risk of being exposed to TB in their workplace or day-to-day environment. They may then have subsequent TSTs conducted at regular intervals or in the event of an exposure to contagious TB.

For example:

- health care professionals
- corrections staff
- shelter staff
- residents of long-term care facilities

The 2-step protocol needs to be performed only ONCE if properly performed and documented. It never needs to be repeated. Any subsequent TST can be one step, regardless of how long it has been since the last TST.

How to Do 2-Step Testing

The same materials and techniques of administration and reading should be used.

- If the first test is **not positive** (see table below for definition of positive), a second TST is administered 1-4 weeks later. For most low-risk persons, positive is > 10mm. Less than 1 week does not allow enough time to elicit the ‘booster’ phenomenon.
- If the first test is **positive**, a second TST should not be administered.
- If either the first or the second TST is **positive**:
 - The person should be referred for medical evaluation and chest x-ray.
 - The person does not need a TST in the future, as there is no clinical utility for future tests. The test does not stratify the risk of TB infection by size of reaction when it is positive. They are all just classified as positive.

Interpretation of tuberculin test

Situation In Which Reaction Is Considered Positive	
Tuberculin reaction size (mm induration)	0-4 HIV infection with immune suppression AND the expected likelihood of TB infection is high (e.g. patient is from a population with a high prevalence of TB infection, is a close contact of an active contagious case, or has an abnormal chest x-ray)
	5-9 <ul style="list-style-type: none"> • close contact of active contagious case • children suspected of having tuberculosis disease • abnormal chest x-ray with fibronodular disease • other immune suppression—TNF-alpha inhibitors, chemotherapy
	≥10 All others

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Refer to a physician with TB expertise if:

- child (< 5 years)
- pregnant
- immunocompromised
- contact of drug-resistant TB
- abnormal chest x-ray
- history of liver disease
- history of alcohol/substance abuse/misuse

TST for a Contact of Active TB

Who is Tested for Contact Investigation

Contacts are identified by public health and provided with documentation for further follow-up through public health or their family doctors. Because of the complexity of an active case and contact investigation, interpretation of TST results of contacts should be done in consultation with public health or a physician with tuberculosis expertise.

Reporting Requirements

PERSONS WITH SUSPECTED OR DIAGNOSED ACTIVE TUBERCULOSIS
AND
ALL PERSONS WITH LATENT TUBERCULOSIS INFECTION ARE
REPORTABLE TO PUBLIC HEALTH

Tuberculosis Medication

TB MEDICATIONS FOR LATENT TB TREATMENT AND ACTIVE TB TREATMENT ARE AVAILABLE FREE THROUGH PUBLIC HEALTH