

FAQs for Employers Providing Tuberculosis Screening

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Who needs a TB test?

Employee tuberculosis (TB) testing should be completed according to the Michigan Occupational Code, and MIOSHA (Michigan Occupational Safety and Health Administration) [1] and LARA (Licensing and Regulatory Affairs) [2] regulations, which are based on the 2005 CDC guidelines [3]. The Michigan Department of Health and Human Services (MDHHS) recommends TB testing for all employees who have the potential for exposure to *M. tuberculosis* through air space shared with persons with infectious TB.

In the 2005 CDC Guidelines [3], health-care settings are defined as places where health care is delivered. The term “healthcare setting” includes inpatient settings, outpatient settings, TB clinics, settings in correctional facilities in which health care is delivered, settings in which homebased health-care and emergency medical services are provided, and laboratories handling clinical specimens that might contain *M. tuberculosis*.

MIOSHA [1] and LARA [2] require TB testing for employees working in the following settings:

- Inpatient health care settings
 - Patient rooms
 - Airborne infection isolation (All) rooms
 - Emergency departments
 - Intensive care units
 - Surgical suites
 - Laboratories and laboratory procedure areas
 - Bronchoscopy suites
 - Sputum induction or inhalation therapy rooms
 - Autopsy suites
 - Embalming rooms
- Outpatient health care settings
 - TB treatment facilities
 - Medical offices
 - Ambulatory-care settings
 - Dialysis units
 - Dental-care settings
- Long term care (LTC) settings
 - Nursing homes (licensed)
 - County medical care facilities (licensed)
 - Hospital long term care units (licensed)
 - Homes for the aged (licensed)
 - Assisted living (not licensed)
 - Independent living (not licensed)
- Other health care settings
 - Hospice agencies and residencies (licensed)

- Residential settings
 - Adult foster care homes (licensed)
- Child care settings (persons who have contact with children at least four hours per week or more than two consecutive weeks)
 - Child placing agencies
 - Child care homes
 - Child care center
- Chemical dependency settings
 - Private alcohol and chemical dependency hospital
 - Residential treatment facility

Who is considered an “employee” for the purposes of TB screening?

Employees are persons who are paid or unpaid, including part-time, temporary, contract, and full-time employees should be included in the TB screening program.

Where can I get a TB test?

We encourage employees to work with their employers to determine how occupational screening is done at their individual company and location. Your [local county health department](#) also offers TB testing.

Who pays for occupational TB screening?

Employers in covered workplaces shall offer a TST at no cost to employees; this includes current potentially exposed employees and new employees prior to exposure. Employees must not bear any cost for TB testing. If an employer requires TB testing, then the test must be offered at a convenient time and place and the employee shall be paid for time and travel. Employees cannot be made to pay and be reimbursed. Your [local county health department](#) also offers TB testing, and TSTs generally range from \$10 - \$25 per test. This price is set by the local county health department.

Do I need documentation of my TB test before I begin work?

According to MIOSHA, baseline TB screening should be offered within ten days of hire, and prior to occupational exposure [1].

How often are TB tests needed?

TB testing frequency should be based on a facility’s annual risk assessment. Risk-based screening is a method to determine how frequently employees should receive a TB test. An annual facility risk assessment should be completed and be based on risk factors, such as the number of TB cases encountered, characteristics of the population encountered in the facility, procedures performed in the facility, and presence of an infection control plan.

The risk assessment worksheet is found in Appendix B of the 2005 CDC recommendations [3]. For information regarding TB rates in Michigan and by county, [click here](#). See [Table 1](#) in this document, or Appendix C in the 2005 CDC recommendations [3] for interpretation of the risk assessment to determine screening frequency.

What type of TB tests are acceptable?

There are two types of TB tests [4] currently available:

1. Tuberculin skin test (TST) [5]
2. Interferon-Gamma Release Assay (IGRA) [6]

Based on recent recommendations [7], either a TST OR a IGRA are considering acceptable for serial testing in low-risk populations. Testing with a TST AND IGRA (for example, placing a TST first and then ‘reflexing’ with an IGRA if TST is positive) is generally NOT RECOMMENDED. Consult the MDHHS TB Program if you feel an employee should receive both tests.

What is baseline TB screening?

Baseline TB screening is the act of establishing a point with which to compare subsequent TB tests, to identify a potential work exposure. In Michigan, baseline screening must be offered within ten days of hire, and prior to occupational exposure. There are two components to baseline TB screening:

1. Assessing for current symptoms of active TB disease
2. Testing for LTBI using either two-step TSTs or a single IGRA

What is the two-step TB skin test?

Two-step TSTs involve the administration and reading of two TSTs, placed 1-3 weeks apart. Two-step testing should only be done upon hire to establish a baseline and is not necessary when using an IGRA. According to the 2005 CDC guidelines [3], if a TST has been completed and read as negative within the past 12 months, this can be considered a valid first test in two-step TSTs. See [Figure 1](#) in this document for more information regarding two-step TSTs.

Why are two-step TSTs needed?

Two-step testing is necessary to obtain an accurate baseline when using the TST. The reason this is necessary is because of a condition referred to as Booster Phenomenon. Booster Phenomenon can occur when someone who was infected with TB in the past has a TST placed years after being infected. Because their body is so used to living with TB infection, when an initial TST is placed the person’s immune system does not react. However, if a second TST is placed 1-3 weeks later it “boosts” the persons immune system and a positive reaction will result. This positive reaction does not represent a recent infection, rather it is read as an old infection and a boosted reaction. See [Figure 2](#) in this document for more information regarding the Booster Phenomenon.

Can employees opt to have a chest x-ray instead of a TB test?

While a chest x-ray is useful when evaluating someone for active TB disease, it does not identify latent TB infection (LTBI). [Go to this question](#) in the document to learn the difference between LTBI and active TB disease. A TB test can indicate if someone has been infected with the TB bacteria in their lifetime.

An employee's baseline TB test result allows the employer to compare subsequent TB test results, if necessary, to identify a potential work exposure. For this reason, the MDHHS TB program does not recommend a chest x-ray unless the employee has a positive TB test or is symptomatic for TB.

What if the employee has a previously positive TB test and/or has previously completed TB therapy?

A TB test will remain positive, even after treatment has ended and the bacterium are cleared from the body. For this reason, if the employee has documentation of a prior positive TB test and/or completion of TB or LTBI therapy, they do not need to repeat a TB test. Instead, the employee should complete a chest x-ray to exclude TB disease.

After the initial chest x-ray, a sign and symptom questionnaire ([an example can be found here](#)) [8] should be administered annually. If symptomatic, the employee should complete a chest x-ray and continue evaluation for TB disease.

If the person cannot provide documentation of a positive TB test and/or completion of TB therapy, it is appropriate to administer a TB test to establish a baseline. See [Table 2](#) in this document for more information.

Are chest x-rays required annually for employees with history of a previously positive TB test and/or have previously completed TB or LTBI therapy?

After the initial chest x-ray upon hire, additional annual chest x-rays are not recommended. If the employee reports signs and symptoms [8] of TB disease, they should complete a chest x-ray and continue evaluation for TB disease. See [Table 2](#) in this document for more information.

What is considered a current chest x-ray?

Because people with TB infection can activate at any time, there are no guidelines on what can be considered a current chest x-ray. The 2005 CDC recommendations suggest you use an "interpretable copy within a reasonable time frame, such as six months" [3]. However, risk factors such as travel to a TB endemic country or compromised immune systems should also be taken into consideration when considering when a chest x-ray is current.

What is considered a current TB test?

Because people can be exposed and infected with TB at any time, there are no guidelines on what can be considered a current TB test. Many policies consider a TB test result within the past 6-12 months to be current.

Who can administer, read, and interpret TSTs?

According to MIOSHA, “Administering, reading, and interpreting of the tuberculin skin test shall be performed by a qualified individual as described in the CDC Guidelines.” [1] [3]

This includes persons whose healthcare license/certificate allows them to administer intradermal medications within their scope of practice. Healthcare license/certificates which allow administration and reading of a TB skin test include:

- Certified or Registered Medical Assistants (CMA or RMA)
- Licensed Practical Nurse (LPN)
- Registered Nurse (RN)
- Advanced Registered Nurse Practitioner (ARNP)
- Physician Assistant (PA)
- Medical Doctor or Doctor of Osteopathy (MD or DO)

Interpreting a TB skin test requires reviewing the patient’s risk factors and millimeters of induration. Using this information, the health care provider determines if the TB test result is positive or negative. ARNPs, PAs, DOs and MDs are the only health care providers who can diagnose a patient with TB infection or disease. If you would like to be certified in TST administration, reading, and interpreting, please visit our [Online Portal](#) and register for a TST Workshop training.

What happens if someone is found to have a positive TB test?

The employee must have a chest x-ray and should be referred to a medical provider for further evaluation.

What is the difference between TB infection and TB disease?

TB Infection: The person has a positive TB test and a chest radiograph not suggestive of TB. They do not have symptoms, are not contagious and may continue working as normal. They should talk to a medical provider about taking medication to prevent them from developing active TB disease.

Active Pulmonary TB Disease: The person has a positive TB test, and often an abnormal chest radiograph suggestive of TB and signs and symptoms of TB. They may be contagious and may produce specimens that grow TB in culture. They should not return to work until cleared by a medical provider. TB found outside of the lungs is usually not contagious.

For more information about the difference between LTBI and TB disease, [please go here](#) [9].

What happens if someone is diagnosed with active TB?

The [local county health department](#) will be involved with the employee’s care and will determine when the employee is able to return to work. The county health department may also perform a workplace evaluation to test coworkers if possible transmission occurred.

Table 1: Risk classifications and frequency of screening

Adapted from Appendix C, 2005 CDC Recommendations [3]. Risk classifications for work settings and recommendations of frequency of screening for *Mycobacterium tuberculosis* infection among employees.

Setting	Risk Classification		
	Low Risk	Medium Risk	Potential Ongoing Transmission
Outpatient and nontraditional facility-based	< 3 TB patients/year	≥ 3 TB patients/year	Evidence of ongoing <i>M. tuberculosis</i> transmission, regardless of setting
Group residential facilities or homes			
Inpatient < 200 beds			
Inpatient ≥ 200 beds	< 6 TB patients/year	≥ 6 TB patients/year	
TB treatment facilities	<ul style="list-style-type: none"> • Persons who will be treated have LTBI and not TB disease • A system is in place to promptly detect and triage persons who have signs or symptoms of TB disease to a setting in which persons with TB disease are treated • No cough-inducing or aerosol-generating procedures are performed 	<ul style="list-style-type: none"> • Persons with TB disease are encountered • Criteria for low-risk are not met 	
Laboratories	Where clinical specimens that might contain <i>M. tuberculosis</i> are not manipulated	Where clinical specimens that might contain <i>M. tuberculosis</i> might be manipulated	
Recommended Screening Frequency			
Baseline two-step TSTs or one IGRA	Yes, upon hire		
Serial TST or IGRA	No	At least every 12 months	As needed in the investigation
TST or IGRA upon unprotected exposure to <i>M. tuberculosis</i>	Perform a contact investigation (administer one TST or IGRA as soon as possible, if the result is negative, give a second test [TST or IGRA – whichever one was used for the first test] 8-10 weeks after the end of exposure)		

Table 2: Indications for employee TB screening

Adapted from Box 1, page 29, 2005 CDC Recommendations [3]. Common situations for new employees. Use **either** a TST **or** IGRA as your baseline screening tool; **never mix tests for serial screening**.

Situation	TB Screening	
	New Hire	Established Employee
No previous TB test	Two-step TSTs or one IGRA	Screen per facility risk assessment
Previous positive TB test (no documentation)	Two-step TSTs or one IGRA	
Previous BCG vaccination	Two-step TSTs or one IGRA	
Previous negative TB test > 12 months before new employment (documented or not)	Two-step TSTs or one IGRA	
≥ 2 negative TSTs, but most recent TST given > 12 months before new employment (with documentation)	Single TST or one IGRA	
Previous negative TB test given ≤ 12 months before new employment (with documentation)	Single TST (no IGRA necessary)	
Previous positive TST result and/or history of TB treatment given ≤ 12 months before new employment (with documentation)	One chest x-ray	Sign and symptom review annually

Figure 1: Two-step tuberculin skin tests process

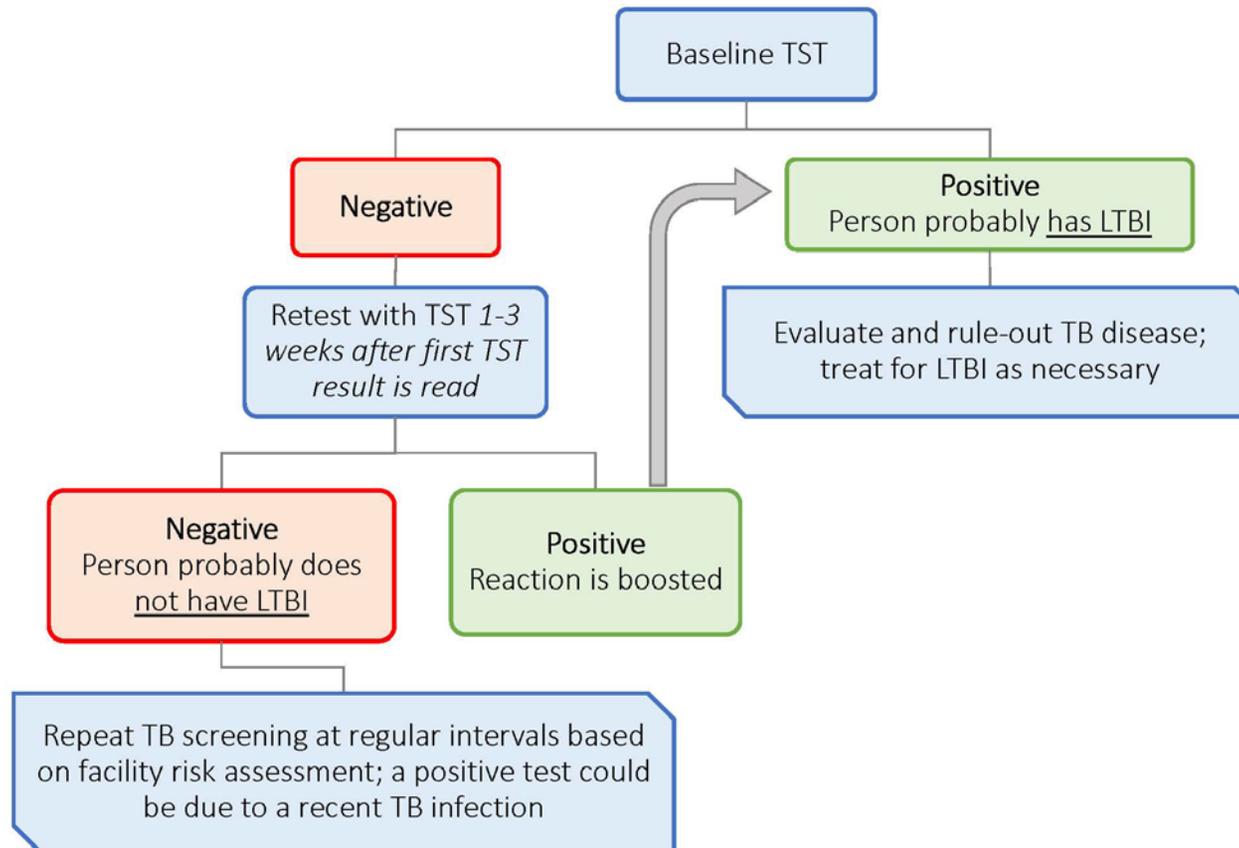
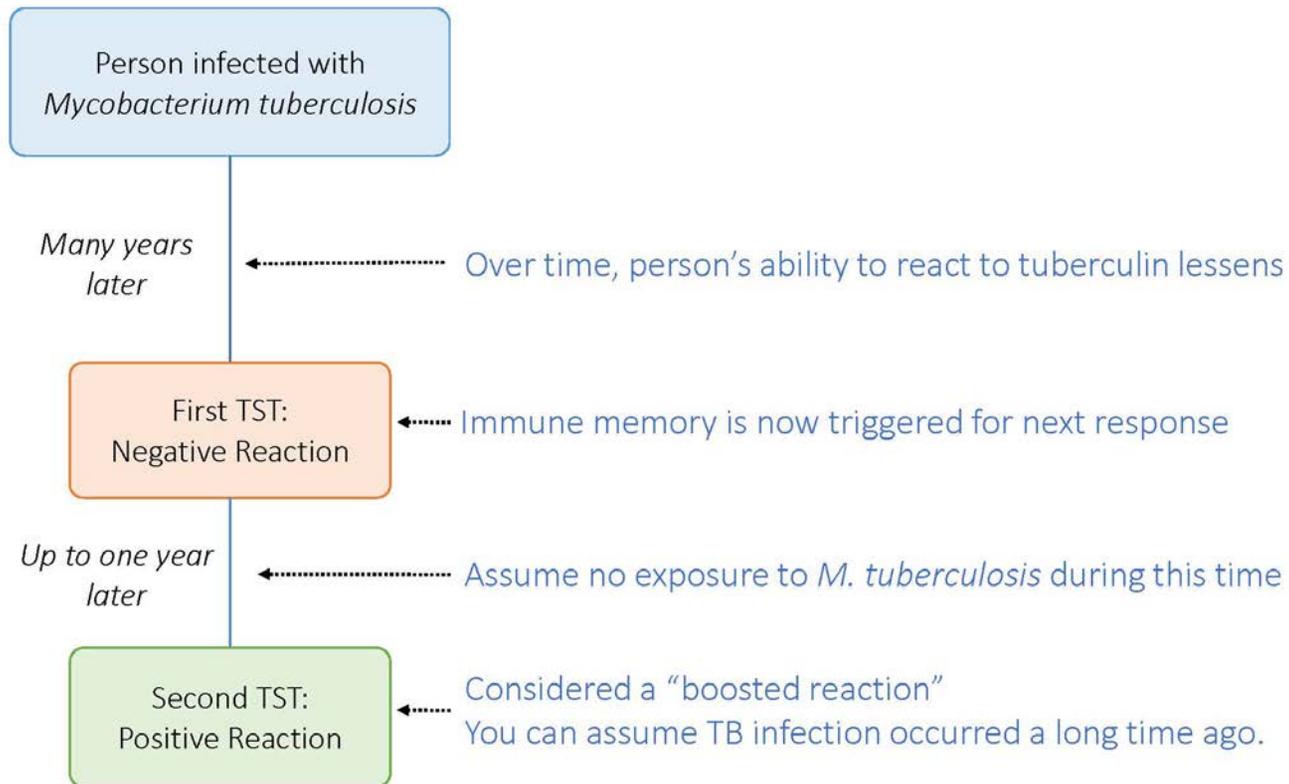


Figure 2: Booster phenomenon timeline



References

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- [2 Michigan Department of Licensing and Regulatory Affairs, "Provider FAQs: How often do I have to have a physical and Tuberculosis (TB) test completed?," [Online]. Available: <http://www.michigan.gov/lara/0,4601,7-154-54182-221155--F,00.html>. [Accessed 13 December 2017].
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- [9 Centers for Disease Control (CDC) and Prevention, "The Difference Between Latent TB Infection and TB Disease," November 2011. [Online]. Available: http://www.michigan.gov/documents/mdhhs/4._The_Difference_Between_LTBI_and_Active_Disease_551802_7.pdf. [Accessed 13 December 2017].

Contact Information

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