



Tuberculosis Testing: From Routine to Risk Based

Wisconsin Department of Health Services
Division of Public Health, Tuberculosis Control and Prevention Program

In accordance with the CDC 2005 published guidelines for prevention of tuberculosis (TB) transmission in healthcare settings, the Wisconsin TB Program recommends moving from the traditional yearly TB testing for all healthcare personnel to a protocol for testing based upon the risk of encountering TB. For many healthcare workers (HCWs) and patients, TB **screening** is what is mandated – not a specific test.

What is risk-based screening?

Risk-based screening is a method to determine, based on the level of TB risk in the facility, how frequently HCWs 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 three TB screening risk classifications are low risk, medium risk, and potential ongoing transmission. The classification of low risk should be applied to settings in which persons with TB disease are not expected to be encountered, and therefore, exposure to *M. tuberculosis* is unlikely. The classification of medium risk should be applied to settings in which the risk assessment has determined that HCWs will or will possibly be exposed to persons with TB disease or to clinical specimens that might contain *M. tuberculosis*. The classification of potential ongoing transmission should be temporarily applied to any setting (or group of healthcare workers) if evidence suggestive of person-to-person transmission of *M. tuberculosis* has occurred in the setting during the preceding year.

For facility risk assessment, it is recommended to use [CDC's Tuberculosis Risk Assessment Worksheet \(Appendix B and C\)](#). These worksheets can be found at website: <http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf>. For information regarding TB rates in Wisconsin and by county go to <https://www.dhs.wisconsin.gov/tb/data.htm>.

Risk-based testing should be based on: a) risk at work; b) personal and home risk factors; c) risk at activities other than home and work; and d) TB incidence at home, work, and outside activities.

The Wisconsin TB Program's testing protocol for healthcare workers (HCWs):

1. All HCWs should have a baseline test at one point in their career (usually done upon hire or per facility policy). Documentation of previous tests can be accepted, regardless of how long ago if they have no additional risk factors since that test.
1. All HCWs complete a symptom screen and risk assessment upon hire.
2. All HCWs has a yearly symptom screen, annual risk assessment, education on TB signs and symptoms, what to do if those symptoms occur, and how to notify employer of contact with a person with TB disease.



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3. Those with a positive test should be evaluated to rule out active disease (i.e., chest x-ray and medical evaluation). Once active disease has been ruled out treatment for latent infection should be offered.
4. Those at high risk are tested before (if possible) and after exposure to known TB.

Baseline test

A baseline test can be either a two-step tuberculin skin test or one blood assay test for *M. tuberculosis* (BAMT). According to CDC guidelines if two TB skin tests are completed within 12 months, this can be considered a valid two-step TB skin test. A TST is not required if there is:

- Written documentation of a positive TST (first or second step).
- Written documentation of a negative two-step TST and no additional risk factors since the test results.
- A documented history of active TB disease.

Serial testing recommendation

Once a HCW in a low-incidence area has a documented baseline test that is negative, that person does not need serial testing or annual testing unless they develop risk factors. Results of documented testing may be accepted upon employment. A repeat test is not required unless there was exposure subsequent to the original testing.

HCWs transferring from low-risk to low-risk settings. After a baseline result for infection with *M. tuberculosis* is established and documented, serial testing for *M. tuberculosis* infection is not necessary. HCWs should complete a symptom screen and risk assessment upon hire. HCWs in low-risk settings do not need to be included in the serial TB screening program.

HCWs transferring from low-risk to medium-risk settings. After a baseline result for infection with *M. tuberculosis* is established and documented, annual TB screening (including a symptom screen and TST or BAMT for persons with previously negative test results) should be performed.

Specific Wisconsin Consideration

Wisconsin is a low incidence TB state. Repeated TB testing of HCWs in low-risk settings is not recommended because those results can be conflicting. The TST in low-risk settings is not reliably predictive for TB infection due to the prevalence of Non-TB Mycobacterium (NTM) in the environment. Wisconsin estimates that >50% of TST-positives in low risk individuals in Wisconsin are false-positive. A positive TST in low-risk HCW is ≥ 15 mm induration (not 10mm). For US-born individuals in low-risk areas like Wisconsin, it is probably preferred to do an IGRA rather than a TST because an IGRA is more predictive than the TST. Another consideration is the newest recommendation by the National TB Controllers Association



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(NTCA) that states for HCWs requiring serial testing, a higher cut-off ($>1.1\text{IU/mL}$ for QFT-GIT) be used as opposed to 0.35IU/mL to be considered a positive result.

It should be understood that there is often no “one size fits all” type of answer. The specific and unique conditions of individuals being evaluated and diagnosed with TB must be considered at all times.

Resources

Source: Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, MMWR, 2005. Available at
<http://cdc.gov/tb/publications/guidelines/infectioncontrol.htm>