ACHA Guidelines: Tuberculosis Risk Assessment and Management

Frequently Asked Questions

Revised April 2025

After releasing the 2012 version of the ACHA Guidelines: Tuberculosis Screening and Targeted Testing of College and University Students, the ACHA Vaccine Preventable-Diseases Committee (VPD) Tuberculosis Workgroup (TB Workgroup) received numerous questions with common themes, which prompted the development of this Frequently Asked Questions (FAQ) document. References are included where they exist. Readers are encouraged to refer to cited works for elaboration of the answers below. When research does not exist or is inconclusive, our answers are consensus- and practice-based. Not all answers will apply to all colleges and universities. Each institution should make decisions about their TB programs based on their individual circumstances and in consultation with additional resources such as state and local TB program officials to determine the most appropriate course of action for their specific patient populations.

Version information: *FAQs originally published March 2012; updated November 2022, July 2024, and April 2025. Note that the April 2025 version was changed to mirror the new organization of the Guideline. This revision also reflects the same terminology of "inactive TB infection" and "active TB disease" now used in the Guideline.*

Factors to Consider in Implementing a TB Risk Assessment Program

Q1: The effort and costs to implement a tuberculosis (TB) screening and targeted testing policy that meets ACHA's TB guidelines can be significant. We have not been aware of a case of active TB disease on our campus for several years. What are the arguments to support the need for a TB policy on our campus? Should we screen all students on campus or just those at higher risk (e.g., international students from countries with a high burden of TB)?

A1: Expenses associated with active TB disease include the direct cost of diagnosis and treatment of the case and many unmeasured societal costs. Other costs include infrastructure, diagnosis and surveillance, epidemiologic follow up, personal costs borne by patients and others for lost time, disability and death as well as cost of secondary transmission. In addition, adverse publicity, liability, and allegations of negligence could present significant problems for an institution without

a policy, especially since existing screening and treatment recommendations are widely implemented elsewhere. As such, the costs to manage a single case of disease may easily exceed the costs to screen for and test high-risk populations. Preventing disease through early diagnosis and treatment of TB (infection and disease) is a feasible strategy to reduce the cost of TB. The ACHA TB Guidelines suggests screening the entire incoming student population, testing those at increased risk, and providing appropriate follow-up care for students diagnosed with inactive TB infection or active TB disease. Therefore, extending screening as a baseline for all incoming students, not just international students, may capture others at risk (examples- foreign born domestics, students who regularly travel to visit relatives in high-risk countries, students who volunteer in high-risk settings). ***References: 1, 2a-d, g, h, 3c-e, h, j, 4a-g, 5, 6, 7, 8***

Q2: How can health centers with only a single nurse or a very small staff implement a TB screening/targeted testing program?

A2. Smaller schools often have a very small health center, with few nursing staff. Some of these centers are directed by nurses, with no physician or clinician on site. These clinics are likely to have a limited budget and may have no laboratory locally to provide IGRA tests. All schools implementing or managing a TB screening/targeted testing program should be familiar with the *CDC Core Curriculum on Tuberculosis: What the Clinician Should Know* and *Latent Tuberculosis Infection: A Guide for Primary Health Care Providers.* A policy and procedure should be developed to identify the target population to be tested, the time frame for testing, the process, costs, follow-up procedures and requirements for students who do not follow the procedure. In developing a program, screening can be done as part of a student's matriculation process. Also, the nurse may contact the local public health official in charge of TB control for advice and referral. If no public health services are available locally, another medical provider may be willing to provide testing and follow-up. Medical follow-up will be necessary for positive results will likely include a TB symptom check, chest x-ray, and patient education. ***References: 2b, 2c, 2k, 3a, 3d, 6***

Screening

Q3: How often will the "high incidence countries list" in ACHA's TB guidelines be updated?

A3. The ACHA list of countries that have a high burden of TB is derived from data provided by the World Health Organization (WHO). It is updated regularly when new incidence rates are published by WHO, usually every one to two years. You may access the WHO Global Health Database at https://www.who.int/data/gho if you wish to view current data and other country-specific information. Note: The WHO database may not include all countries or locations, such as Taiwan. Thus, the high-incidence countries list should be used for guidance only and schools should supplement their list with their own information in consultation with local public health or other experts. ***References: 3n, 4a, 4d-f, 7***

Q4: Why does ACHA use incidence rates instead of prevalence rates and why did ACHA select the incidence rate of 20 cases/100,000 population/year?

A4. Incidence rates reflect recent new cases of disease and are a more accurate representation of active TB disease occurring in the country. Prevalence rates reflect the general burden of disease in the population. Both are valid measures and can be used to guide screening programs. Most countries with incidence rates greater than 20 cases/100,000 population also have prevalence rates above this level. In addition, the U.S. Centers for Disease Control and Prevention (CDC) uses incidence rates in most guidance regarding persons at higher risk for exposure to tuberculosis. An incidence rate of 20 cases/100,000 population/year is a cut-off commonly seen in the relevant literature. While some authorities would favor screening people from any country with an incidence rate higher than the U.S. (about 3 cases/100,000), the TB Workgroup felt that limiting screening to students arriving from countries designated as being at either moderate or high risk was reasonable. In general, countries with incidence rates of 20-100 cases/100,000 are usually considered to be "moderate" risk, and countries below this level are considered to be at "low" risk. ***References: 2 b, 4a, 4g-i, 9,10***

Q5: What should we require of students returning from study abroad/travel to high incidence countries?

A5. Students who travel to areas of the world where tuberculosis is endemic should be considered for screening when they return. The risk of infection depends on the duration of travel, the level of contact with the local population, and other factors. Colleges and universities are advised to consult with their local public health departments and/or a travel health provider for guidance.

Some experts recommend both pre-departure and post-travel testing for travelers who will be in endemic areas for greater than one month if they will have close contact with the local population or work in high-risk settings (health care, refugee camps). This would apply to students in many clinical programs. Students should discuss their specific travel circumstances with a health care provider who can determine the appropriate evaluation. ***References: 2 b, c; 3d, 3n, 4a, 5, 6***

Targeted Testing and Clinical Evaluation

Q6: In what circumstance should I choose a TST and in what circumstance should I use an IGRA in my choice of initial test for inactive TB infection?

A6. Health care personnel are encouraged to use TB blood tests to screen for inactive TB infection; however, selection of the most suitable test or combination of tests for detection of *M. tuberculosis* infection should be based on the reasons and the context for testing, test availability, and overall cost of testing. A TST is an acceptable alternative, especially in situations where an IGRA is not available, too costly, or too burdensome. IGRAs are approved for all ages. IGRAs can be used if:

1. Individuals are likely to be infected with TB
2. Individuals have a low or intermediate risk of disease progression

3. If individual **either has a history of BCG vaccination or is unlikely to return to have their TST read (strong recommendation, moderate-quality evidence)**
4. Testing facility does not have a staff member who is appropriately trained and skilled in placement and reading of TSTs

References: 2c, 3d, 3f, 3m, 3n, 4b, 4c, 14

Q7: TSTs are less costly; can we use a TST and then do an IGRA for positive TST?

A7. Routine testing with both TST and IGRA is **not** recommended. However, getting a subsequent IGRA may be useful in the following situations: 1) When additional evidence of infection is required to encourage acceptance and adherence (e.g., an individual who believes their positive TST is due to BCG). A positive IGRA might prompt greater acceptance of treatment for inactive TB infection as compared with a positive TST alone. 2) When a person has a low risk of both infection and progression from infection to active TB disease. Requiring a positive result from the second test as evidence of infection increases the likelihood that the test reflects true infection. In addition, repeating an IGRA or performing a TST might be useful when the initial IGRA result is indeterminate, borderline, or invalid and a reason for testing persists. ***References: 2, 2c, 3, 3d, 3m, 3n, 4c, 7, 8, 19***

Q8: If TST is positive, but IGRA is negative, is a chest x-ray needed?

A8. Any positive TB screening test should be followed by a check for TB signs and symptoms and a chest x-ray to rule out active TB disease. If any signs and symptoms of active TB disease exist, further testing (typically including a sputum evaluation) should be done. Both the TST and the IGRA can be negative in both inactive TB infection and active TB disease. Test results are never a substitute for sound clinical judgment. A positive TST can represent four scenarios: inactive TB infection, a false positive test, a result of the BCG vaccination or an atypical mycobacterial infection. If the individual has a positive TST, and the decision is made to do an IGRA which turns out to be negative, it is still recommended to do a chest x-ray given the TST or IGRA tests can be negative in a person with inactive TB infection or active TB disease. In addition, consider repeating the (same type/version) IGRA at a future time (e.g., 3-12 months) to make sure the patient has not had a recent TB exposure. This should be decided on a case-by-case basis. ***References: 2c, 3d, 3L, 3m, 17, 18***

Q9: If a chest x-ray is needed, how many views are needed?

A9. The posterior-anterior (PA) view is the standard view used for the detection of TB-related chest abnormalities in an asymptomatic individual older than five years. In HIV infected or immunocompromised individuals, a two-view chest x-ray is recommended. Other views, such as a lateral or lordotic view or additional studies (example: CT scan) may be requested by the health care provider or the radiologist interpreting the x-ray to clarify any inconsistencies. ***References: 2, 2a, 2d pg49***

Q10: Can T-SPOT.TB be used interchangeably with QFT-G/QFT-GIT? How is it different from QFT?

A10. Either the T-SPOT.TB or the QuantiFERON tests can be used to test individuals for inactive TB infection. Most experts suggest that there is no convincing data that one test is consistently better than another and test choice should be based on availability, price, and convenience. There is a "wobble" (conversion/reversion) phenomenon in which a positive result close to the cut-off point on one occasion may have a different result if retested by the same test. Thus, in cases in which subsequent or serial IGRA testing is done, the T-SPOT.TB should not be used interchangeably with the QuantiFERON tests (i.e., the same test should be used on the same individual over time). Significance between-study variability in the test characteristics of both the QuantiFERON and T-SPOT.TB tests are noted in numerous studies.https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-023-08008-2
References: 2, 2a, 2c, 2g, 2h, 2k, 3, 3a, 3d, 3h, 3l, 3m, 12, 13, 14, 15, 17, 18, 19

Q11: Are IGRAs sometimes negative in patients with active TB disease? How common are false negatives?

A11. Yes, IGRAs can be negative in patients with active TB disease. Reasons for false negative results include: incorrect blood sample collection, improper specimen handling, recent tuberculosis exposure, or immunosuppressive conditions. Older age, HIV co-infection, and non-Hispanic white race/ethnicity have also been associated with false negative IGRA results. There is no gold standard test for inactive TB infection or culture-negative active TB disease. Furthermore, any assessment of negative and/or positive predictive value is dependent on the prevalence of the disease in the population of interest. Both the WHO and the CDC recommend not using IGRAs as rule-out tests for active TB disease. If clinically warranted and in coordination with local health department or other experts, consider additional work up (e.g. sputum analysis/smears and chest x-ray) to avoid delay in diagnosis and poor outcomes. Estimates of IGRA sensitivity have varied widely and are dependent on interpretive criteria used to define test positivity. In general, the pooled QFT-GIT sensitivity is reported to be around 80-84% while the T-SPOT.TB sensitivity is estimated to be around 88-95%. The sensitivity of both tests is higher in developed, low-incidence countries such as the U.S. ***References: 2c, 2e, 3d, 3m, 5, 7, 11, 12, 13, 16***

Q12: When determining who should be tested after a possible exposure (e.g. travel to a high incidence country, work/volunteer in homeless shelter, mission trip, etc.), what criteria is used to determine a significant exposure?

A12: The degree of communicability of TB from one person to another depends on many factors:

- Intimacy of exposure
- Frequency and duration of the exposure
- Quantity of bacilli discharged
- Infectivity of the bacilli
- Infectiousness of the TB patient
- Ventilation

- Exposure of the bacilli to sun or ultraviolet light
- Opportunities for aerosolization through coughing, sneezing, talking, or singing
- Immune status of the person being exposed

References: 2, 2a, 2b, 2e, 2g, 2i, 3, 3a, 3h, 3l, 3o, 3p, 5, 6, 15

Q13: Should written documentation of prior positive TST or IGRA be required and if so, should foreign documents be accepted?

A13. Any institution that tests for inactive TB infection, including academic institutions, should require *written* documentation of previous test results (e.g. actual lab report). Foreign documents that are translated into English may be accepted. A TST that was not measured and recorded in mm of induration should be repeated. ***References: 2e, 3l, 3n***

Q14: For incoming students with a documented past positive TB screening test, should written documentation of a negative chest x-ray be accepted or should the chest x-ray be repeated?

A14. A positive TST or IGRA test only indicates whether the person has been exposed to TB organisms.

A student with a prior positive test for inactive TB infection (TST or IGRA), a negative TB symptom check, and written documentation of a negative chest x-ray done after the TB test can be cleared. The chest x-ray does not need to be repeated unless clinically warranted (e.g. positive TB symptom check or known recent exposure). For incoming students, some schools require that the chest x-ray be done within the past year. ***References: 2e, 3, 7***

Q15: What if a student reports a history of positive TB tests (TST/IGRA) but has no documentation.

A15. Another test (IGRA preferred) should be administered. Subsequent IGRAs can be performed on people with previously positive IGRA results. Repeating a TST in someone who reports a severe reaction to a previous TST should not be done. ***References: 2, 2c, 2k, 3, 3d, 3e, 7, 13***

Q16: Are chest x-rays repeated annually?

A16. No. Repeated chest x-rays are not recommended unless symptoms or signs of active TB disease develop or unless recommended by a healthcare provider. To exclude a diagnosis of active TB disease, persons with a positive test for inactive TB infection should receive a TB symptom check, a single baseline chest x-ray and medical evaluation to exclude active TB disease. The medical evaluation should include a history, physical exam and review of symptoms, keeping in mind that approximately 20% of all TB cases are extrapulmonary and will not be identified on a chest x-ray. ***References: 2c, 3d, 3o, 3p, 7, 13, 14***

Q17: What should be considered when testing incoming health care professional students for inactive TB infection?

A17. For infection prevention and control purposes, health care professional students are subject to the same guidelines as health care personnel. If they will share air space with patients, health care professional students should be tested for inactive TB infection upon matriculation, unless they have documentation of a prior positive test for inactive TB infection. ***References: 2c, 3d, 3L, 3o, 3p, 6***

Q18: How often should TB testing be repeated for healthcare professional students?

A18. After initial testing as described above, CDC does not recommend annual testing. However, it may be required by their program or clinical site. Students who have documentation of a positive test and/or treatment for inactive TB infection or active TB disease should have a TB symptom check annually. ***References: 2c, 3d, 3L, 3o, 3p, 6***

Treatment Management

Q19: What should be done with a student who reports prior treatment for inactive TB Infection but has no documentation?

A19. It is often difficult to assess whether a student who gives a verbal report of treatment for inactive TB infection or disease was adequately treated with the appropriate medications for the right amount of time. This is important information to ascertain, when possible, because inadequately treated TB can give rise to drug-resistant TB. However, we sometimes see situations where students just cannot get documentation of their treatment. Gather as many details about their treatment as possible and document this information in the student's health record. Include the country where treated, results of a chest x-ray, duration of treatment, frequency of dosing, dates of treatment, and name of medication. It may become clear that the student was treated appropriately and further treatment is not warranted. In other cases, little to no information will be available. Based on assessed risk factors, additional treatment or follow-up may be recommended, depending on the patient's risk for progression. Consultation with local/state public health staff and/or infectious disease specialists is recommended.
References: 2, 2a, 2b, 2g, 2h, 3a, 3c, 3h, 3n, 6

Q20: What strategies are most effective for students with inactive TB infection to accept treatment?

A20. Success in motivating students to accept and to complete treatment is critical to achieve the full potential of a screening program. Some students will be motivated to protect their own health while others are motivated to reduce their risk of progression to active TB disease (e.g., individuals with HIV, diabetes or conditions requiring immunosuppressants). Others will respond to concerns about transmission to loved ones (e.g., family members) or close contacts (e.g.,

healthcare setting). Reducing barriers to treatment by providing flexible clinic hours, reducing waiting times for patients, and spending time with patients to listen to their concerns, counsel and educate them, can all make a difference. The addition of an IGRA test may be useful when an initial TST is positive and additional evidence of infection is required by the patient to encourage treatment for inactive TB infection. This approach may be helpful for students with a history of BCG vaccination who are skeptical of an inactive TB infection diagnosis based on TST alone. ***References: 2, 2a, 2b, 2g, 2h, 2k, 3a, 3c, 3h, 5***

Q21: Should anything be done with students who have inactive TB infection but decline treatment?

A21. Respect the student's decision without being judgmental and always leave open the option for future treatment should they change their mind. The health care provider should fully explain the risks and benefits of treatment to the student, including the risk of progression to active TB disease, future conditions that might increase the risk of progression (e.g., rheumatoid arthritis, Crohn's disease, or immunosuppressant medications such as biologics) and document the conversation in the student's health record. Keep in mind that inactive TB infection is not infectious and treatment is not mandatory from a public health perspective. Regardless of whether the patient opts for treatment for inactive TB infection, serial or repeat chest radiographs are not indicated unless the patient develops signs or symptoms suggestive of active TB disease. ***References: 2, 2a, 2b, 2g, 2k, 3a, 3h***

Q22: What is the proper procedure for health care professional students who have had a diagnosis of inactive TB infection (prior or current)?

A22. Health care professional students with documentation of a positive test for inactive TB infection and subsequent negative chest x-ray and negative TB symptom check, with/without documentation of a completed course of treatment for inactive TB infection or active TB disease, should have a TB symptom check upon matriculation. Inactive TB infection treatment is strongly encouraged. If the HCP student with inactive TB infection has not completed treatment, they should evaluate the risks and benefits of treatment and have a TB symptom check annually. The annual symptom check is also an opportunity for the student to be reminded that they should seek medical attention if they develop TB symptoms, especially if they have a medical condition that puts them at higher risk for disease progression. Also, the untreated student should inform any new medical provider they see or establish care with, regarding their untreated inactive TB infection status. ***References: 2b-h, 3d, 3f-i, 3L, 3p, 6***

Public Health Response for Active TB Disease Case(s) including Contact/Exposure Investigation

Q23: When determining who should be tested after a known exposure to an active TB disease case, what criteria should be used to determine who is a close contact?

A23. CDC defines “contact” as "a person who has spent time with a person with infectious TB." CDC recommends that persons should get tested for TB if they have spent time with a person known or suspected of having active TB disease, if they have HIV infection, or if they have another condition that weakens their immune system and puts them at higher risk for active TB disease. When managing a case, colleges and universities are encouraged to consult with local public health departments and other TB experts to determine how best to apply this information to their specific patient populations. CDC indicates that persons who had prolonged, frequent, or intense contact with a person with TB while he or she was infectious are considered to be exposed. Close contacts are more likely to become infected with *M. tuberculosis* than contacts who see the person with TB less often. CDC indicates that exposure related to households, congregate living settings, or cough-inducing medical procedures, are designated as higher risk. Because knowledge is insufficient for providing exact recommendations, cut-off points for duration of exposure are not included. State and local program officials should determine cut-off points after considering published results, local experience, and these guidelines.
References: 2, 2a, 2b, 2e, 2g, 2i, 3, 3a, 3h, 3l, 3o, 3p, 5, 6, 15

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