

Recommendations for Tuberculosis Screening in Students Attending Alabama Four-Year Colleges and Universities

Purpose: To identify tuberculosis (TB) disease (active TB) or latent TB infection (LTBI) in students matriculating at colleges and universities in Alabama. Individuals with active TB are required by Alabama law to be treated for TB or to remain isolated to protect others from the disease. Individuals with LTBI are advised to be treated to reduce their risk of developing active TB in the future.

International students from countries with a high burden of TB (as determined by the World Health Organization) are at considerably higher risk and should be screened before being allowed to matriculate. Extended travel or residency in a high burden area may also warrant screening, regardless of the student's country of birth.

Recommendations: The Alabama Department of Public Health (ADPH) and the Alabama Tuberculosis Medical Advisory Council recommend that all colleges and universities devise policies and procedures to assure that all first-time students (undergraduates, graduate, transfer, English-language program) are evaluated for TB prior to attending classes. Each student who is determined to be part of an at-risk population for developing TB must present the results of a TB skin test (Mantoux PPD) or blood assay for *Mycobacterium tuberculosis* (i.e., Quantiferon Gold or T-Spot) within two months prior to matriculation. It is the right and responsibility of each institution to determine whether they will accept skin test results from an outside facility or require testing at an affiliated clinic.

Recommended Guidelines to Screen for Tuberculosis in Students in Alabama Colleges and Universities:

1. Screening will begin with an evaluation using a TB risk assessment questionnaire (Appendix A).
2. Students with TB risk factors identified on the TB risk assessment form will undergo a TB screening interview to evaluate for signs and symptoms of active disease. Relevant symptoms include, but are not limited to:
 - A persistent cough (3 weeks or more in duration)
 - Bloody sputum
 - Fever
 - Night sweats
 - Weight loss or loss of appetite
3. Students deemed to be at high risk for TB after using the risk assessment form and interview will have a TB skin test (TST) placed. The college or university may accept documentation of skin tests placed at outside facilities if they are placed and results documented in the student's medical record within two months of matriculation.
 - The Mantoux test is the only acceptable TB skin test. Inject 0.1 ml of purified protein derivative (PPD) tuberculin containing 5 tuberculin units (TU) intradermally into the volar (inner) surface of the forearm. The TB skin test must be interpreted 48-72 hours after injection.

- The test is interpreted by measuring the transverse diameter of induration across the forearm (perpendicular to the long axis).
- TB skin test results are measured and recorded in millimeters of induration. If no induration is present, "0 mm" should be recorded. Only induration is measured; redness or bruising does not indicate infection. A positive test is indicated by the degree of induration in conjunction with an individual's risk factors for TB.
- TB skin test results will be interpreted according to the following criteria:

5 mm or greater is positive in:

- Persons with HIV infection
- Persons with recent close contact with a person who has infectious TB
- Persons who have a prior chest x-ray suggestive of previous TB
- Persons with organ transplants and other immunosuppressed persons (receiving the equivalent of 15 mg/d of prednisone for 1 month or longer)

10 mm or greater is positive in:

- Recent arrivals (i.e., within the last 5 years) from high-burden countries
- Injection drug users
- Mycobacteriology laboratory personnel
- Residents, volunteers or employees of high-risk congregate settings
- Healthcare workers
- Persons with the following clinical conditions that place them at high risk: silicosis, diabetes mellitus, chronic renal failure, some hematological disorders (e.g., leukemias and lymphomas), other specific malignancies (e.g., carcinoma of the head or neck and lung), low body weight (10 % below the ideal), gastrectomy or jejunoileal bypass, and chronic malabsorption syndromes

15 mm or greater is positive in:

- All persons with no known risk factors for TB

4. Certain FDA-approved serological tests may be substituted for Mantoux TSTs. Consult with ADPH Tuberculosis Control Program for approved tests.
5. The student health facility and/or clinician must notify the ADPH Tuberculosis Program Manager promptly of individuals with signs or symptoms of active disease regardless of skin test status. Those individuals should be referred to appropriate healthcare providers for further evaluation and management.
6. A history of BCG vaccination does not preclude TB skin testing and has no bearing on skin test interpretation.

7. Individuals with a documented previous positive TB skin test should not receive another skin test. These individuals are required to have a chest X-ray to rule out active disease. If the chest X-ray is abnormal and indicative of tuberculosis, a readable copy of the film and an official radiology report must be provided to the local health department. If there is no documentation of the previous positive skin test, the skin test may be repeated.
8. Students from the United States or other low risk areas for TB infection need not be screened routinely with TB skin testing. However, low risk students entering the health professions or working in facilities which place them at risk for developing TB infection or disease should be screened with TB skin testing before potential exposure as well as periodically thereafter.
9. Students with positive TB skin tests must have a chest X-ray performed to evaluate for active TB disease.
10. Required chest X-rays may be performed by student health services, the local health department, or at an outside facility. If a chest X-ray is abnormal and indicative of tuberculosis, a readable copy of the film and an official radiology report must be provided to the local health department. Active TB disease **must** be excluded. The local health department will perform additional testing for individuals with a chest X-ray that is suspicious for TB.

Any person with a positive skin test and signs of active TB must not attend class or work until cleared by the Alabama Department of Public Health.

11. School authorities should establish a mechanism to provide medication for latent TB infection and encourage individuals with a positive TB skin test and negative chest X-ray to take medication for latent TB infection if no contraindications exist. There are no restrictions on attending class, work, or campus activities for persons with latent TB infection.

TUBERCULOSIS RISK QUESTIONNAIRE

FOR COLLEGE AND UNIVERSITY STUDENTS

Yes No 1) To the best of your knowledge, have you ever had close contact with anyone who is sick with tuberculosis (TB)?

Yes No 2) Were you born in a country **not** listed below?
Country of birth: _____

Yes No 3) Have you travelled or lived for more than one month in any country or countries **not** listed below?
List countries: _____

American Region

Canada	Saint Lucia
Jamaica	United States of America
Saint Kitts and Nevis	Virgin Islands (USA)

European Region

Belgium	Luxembourg
Denmark	Malta
Finland	Monaco
France	Netherlands
Germany	Norway
Greece	San Marino
Iceland	Sweden
Ireland	Switzerland
Italy	United Kingdom
Liechtenstein	

Western Pacific Region

American Samoa	Australia
New Zealand	

If the answer to **any** of the above questions is **YES**, the Alabama Department of Public Health **strongly recommends** that you have a tuberculin skin test to check for latent tuberculosis infection. Your college or university may require you to have a skin test or blood test before matriculation. Please note: If you previously have had a positive tuberculin skin test or blood test and written documentation of the result, you do not need another test.