

Health Care Professional Programs

Postgraduate Medicine students – See [Postgraduate Medicine TB Screening](#)

Tuberculosis is a bacterial infection acquired by breathing in Mycobacterium bacilli in droplets released from the lungs or airways of an infected individual, usually through coughing or sneezing. In 90% of infected individuals the bacilli remain inactive and progression to active (infectious) disease never occurs – this is called **latent TB infection**. About 10% of infected individuals develop **active TB disease**, most commonly affecting the lungs. Symptoms of pulmonary TB include persistent cough or fever lasting more than three weeks, bloody sputum (hemoptysis), night sweats, and unexplained weight loss. Both latent TB infection and active TB disease can be cured with antibiotic medication.

Latent TB infection is diagnosed with a tuberculin skin test (TST) or IGRA test (Quantiferon or T-Spot). A negative TST usually means there is no infection but can also occur after recent infection (it takes three to eight weeks after exposure for the skin test to become positive), or in individuals with a weak immune system (for example, due to HIV infection or active TB disease). A positive TST usually indicates latent TB infection but can also occur after BCG vaccination or infection with other TB-like bacteria. Individuals with a positive TST should not have a repeat TST.

Faculty of Health Sciences TB requirements for Health Professional programs:

Protection with N95 mask: Administered by the Safety Office – [N95 Respirator Education and Fit Testing](#)

Screening prior to program start:

- Learners are required to have a baseline two-step TST unless they have a documented two-step test from any time in the past or a documented positive TST or other positive TB history. A two-step TST requires four visits to a HCP – step one is planted day one and read 2-3 days later, step two is planted between 7 days and 12 months after step one (ideally 7-28 days) and read 2-3 days later. An additional single TST is required if a previous negative two-step test was completed before March 1st the year of program entry. Note a TST must be given either BEFORE or at least 28 days AFTER a live vaccine (MMR, Varicella). IGRA serology may be submitted as an alternative to skin testing ONLY by international visiting elective students.
- Learners with a documented positive TST or other positive TB history (positive IGRA test or blistering TST reaction, or previous diagnosis and/or treatment for active TB disease or latent TB infection) are required to submit a chest x-ray report dated subsequent to the positive TB history. Students with a normal chest x-ray and no symptoms of active TB disease are not contagious and will be fully cleared for participation in clinical activities.

Continuing surveillance:

Post-exposure: [Post-exposure TB update form](#)

Students with baseline negative TB screening who are exposed to active (infectious) TB during their program are required to have a TST eight or more weeks post-exposure. Students who convert to a positive TST during their program must be cleared by the Health Screening Office before they may return to clinical activities.

Annual screening:

- Previous negative TB screening: [Previous negative TB update form](#). Students complete a risk assessment questionnaire (see next page) and a single TST will be required only for students with significant unprotected exposure to an individual with TB disease or with clinical placements in high-risk settings (note some placement sites may require a more recent TST; students are responsible to be aware of their placement site's requirements).
- Previous positive TB screening: [Previous positive TB update form](#). Students complete an update form to verify they have no symptoms of active TB disease.

For more information click on:

[OHA/OMA Tuberculosis Surveillance Protocol for Ontario Hospitals](#)

[Hamilton Public Health tuberculosis reporting guidelines and resources](#)

[Tuberculosis FAQ Public Health Agency of Canada](#)

[Canadian Tuberculosis Standards 7th Edition](#)

Questions? Contact the Health Screening Office: MDCL 3514, (905) 525-9140 ext 22249, hrsadmin@mcmaster.ca

TB risk assessment questionnaire: This is a useful tool for students to refer to at any time during their program

TB Exposures: Do any of the following apply since your last negative TST?

- Yes No 1. Significant exposure to an individual with active (infectious) TB disease
- Yes No 2. Clinical placement in health care facility with high risk of exposure to infectious TB disease
- Yes No 3. Lived or worked in a country with a high incidence of TB

If “**Yes**” applies to one or more questions, a single TST is required eight or more weeks post-exposure.

Notes on questionnaire:

1. Significant exposure: Lived with or had an intimate relationship with someone with active TB, or notified by Occupational Health or Public Health Services about possible exposure to active TB disease.
2. Annual TST recommended for learners involved in intermediate-risk activities in health care facilities not considered low risk, and those involved with high-risk activities in all health care settings.
 - Health care facilities not considered low risk: ≥ 200 beds and ≥ 6 active TB cases annually, or < 200 beds and ≥ 3 active TB cases annually.
 - Intermediate-risk activities include regular direct patient contact on units (such as emergency departments) where patients with respiratory TB disease may be present. High-risk activities include cough-inducing procedures such as sputum induction, bronchoscopy, administration of aerosolized therapies, respiratory therapy, chest physiotherapy, autopsy, morbid anatomy and pathology examinations, bronchoscopy and designated mycobacterium laboratory procedures
3. Rate of TB can be found in first column (incidence including HIV) in report from World Health Organization:
http://www.who.int/tb/publications/global_report/gtbr2017_annex4.pdf?ua=1

Exposure criteria for post-travel TB testing:

- ≥ 1 month of travel to TB incidence country $\geq 30/100,000$ population with high-risk contact, particularly direct patient contact in a hospital or indoor setting, but possibly including work in prisons, homeless shelters, refugee camps or inner-city slums.
- ≥ 3 months of travel to TB incidence country $> 400/100,000$ population
- ≥ 6 months of travel to TB incidence country $200-399/100,000$ population
- ≥ 12 months of travel to TB incidence country $100-199/100,000$ population