

Tuberculosis (TB) Screening in Long Term Care and Retirement Homes

Frequently Asked Questions

1. Why are TB skin tests (TSTs) no longer recommended for residents over age 65?

The Canadian TB Standards, 7th edition (CTS 2014) advises that residents of Long Term Care Institutions undergo baseline posterior-anterior and lateral chest x-rays. If the resident has documented results of a prior TST, these should be transcribed into their record. However, if no prior TST results are available, the decision to perform a routine baseline TST is controversial as the primary purpose of TSTs on admission to long term care is to establish a reliable baseline TST for comparison to repeat TSTs in the event that the resident is exposed to an infectious TB case in the facility.

Routine TSTs upon admission are no longer recommended for clients over 65 years of age. As people reach old age, the TST may become increasingly unreliable and difficult to interpret. In this population, the TST may not become positive even after a significant TB exposure. As well, unless there is a documented 2-step TST on record, testing after exposure may result in the "boosting effect" being misinterpreted as a true conversion.

Most critically, even for elderly individuals who do convert to a positive TST following a TB exposure, prophylaxis is often not possible, due to their decreased ability to tolerate the hepatotoxicity of Isoniazid (INH). For an elderly person exposed to infectious TB, the most important follow-up is ruling out active TB via careful evaluation of symptoms, CXR, and where indicated, 3 sputum samples taken at least 1 hour apart.

Clients ≤ 65 years of age who have a positive TST are more likely to be candidates for TB prophylaxis. In addition to the symptom review for active pulmonary TB disease and chest x-rays, a 2-step TST is required for those ≤ 65 years of age, unless a previous TST is known to be positive.

2. What is a 2-step skin test for TB?

This consists of 2 TSTs usually performed within 1 to 4 weeks of each other. A 2-step TST, rather than a single TST, is generally only indicated at the initial assessment of someone who will be having repeat TSTs at regular intervals. For example, a 2-step TST is recommended for health care workers at the start of employment, to help reduce the chance of a newly-positive TST in the future being misinterpreted as conversion when the TST is repeated. The 2-step TST needs to be performed only once if properly done and documented (Canadian Tuberculosis Standards 7th ed.CTS 2014).

Over decades, the immune response (i.e. a positive TST) related to a remote TB or BCG exposure can go "dormant". A single TST may elicit a negative result; however, re-stimulates the immune recognition so that a 2nd TST at a later time will elicit a much greater response. The reason for a 2-step TST is to detect this "booster effect" at the beginning of TST monitoring (using a 2-step TST), as otherwise it could be confused later on with a true TST conversion.

3. What is recommended for residents being transferred from another facility?

Prior to transfer, the resident should be carefully reassessed for signs and symptoms of active TB, including failure to thrive. This should also include a review of the chest x-ray previously done upon admission to the facility or any more recent radiology. You may wish to use the active TB screening checklist for clinicians to guide the symptom and chest x-ray review. If there are any indications of possible active TB, a repeat chest x-ray, sputum testing, and any other necessary investigations should be done to rule out active pulmonary TB disease before the resident is transferred.

4. What if a new employee/volunteer had a 2-step TST done, but the 1st and 2nd steps were done more than 4 weeks apart?

According to the Canadian TB Standards, the 1st and 2nd step of a 2-step TST should be done 1-4 weeks apart. Less than 1 week does not allow enough time to elicit the phenomenon, more than 4 weeks allows the possibility of a true TST conversion to occur if the person had an exposure to infectious TB in the interim. However, the 2nd test can be accepted up to 1 year later as long as no exposure to active TB occurred within the time in between.

5. What if an employee/volunteer has never had a 2-step TST done, but had a 1-step TST done within this past year?

If the previous TST result was positive (≥ 10 mm), no further skin testing should be done. The person should proceed with a physical exam and a chest x-ray to rule out active TB disease.

If the previous TST was negative, another 1-step can now be done and accepted as the 2nd step of a 2-step TST as long as it is within a 1-year period from the time of the 1st step. It is important to assess the likelihood that the employee was exposed to active TB since the last TST. If an exposure is suspected, the 2nd TST should be done at least 8 weeks after the TB exposure in order to provide a reliable baseline for future assessments.

6. A resident had a CXR done 2 months ago but now has symptoms that could be due to active pulmonary TB. Should a repeat CXR be done prior to admission to our facility?

Yes. If the resident has symptoms suggestive of active TB (i.e. cough lasting longer than three weeks, unexplained weight loss, fever, chills, night sweats, fatigue), a current chest x-ray should be done to rule out active pulmonary TB disease. In addition, 3 sputum samples should be collected at least one hour apart and submitted to the Public Health Laboratory for testing (Acid Fast Bacilli and Culture). Before admitting the resident, all sputum results should be negative and active pulmonary TB disease ruled out. If the resident has already been admitted to the facility, refer to the *Recommendations for TB Screening in Long Term Care and Retirement Homes*, specifically the section regarding "Management of Residents with Suspected Active TB Disease".

7. How long is a CXR valid for (seniors on a wait list)?

If a CXR and physician's assessment was done for the LTC application and TB was ruled out within the past 6 months, then the only thing that needs to be updated "within the 90 days prior to admission" is a repeat physician's assessment that nothing has changed in the person's condition in relation to TB signs and symptoms or TB exposure; if there are no changes then a CXR does not have to be repeated. Conversely, if there is any clinical concern, the CXR must be repeated and active TB ruled out prior to admission.

8. Is a portable CXR acceptable?

A standard CXR is always better than a portable one. A senior who is able to attend a doctor's appointment should be able to go to a radiology clinic (but a portable, though it should never be the first option, is better than nothing).

9. If a staff person has received the BCG vaccine in the past do they still need a TST?

Yes. TB skin testing is required for staff who have received BCG vaccines in the past. Many people who have had a BCG have a negative TST as adults. They may have a positive TB skin test if the BCG was given after infancy. However it is also possible for this positive TST to have been caused by TB infection, especially if the person was born in or travelled to a country with high rates of TB. It is worth remembering that countries with much higher rates of TB than Canada also use BCG routinely. Thus, adults with a positive skin test who had a BCG vaccination should still be carefully evaluated for possible latent TB infection (LTBI), and be offered treatment for LTBI if appropriate.

The following resources may be helpful in interpreting a positive TST:

- On-Line TST/IGRA interpreter may be found at <http://www.tstin3d.com/>
- BCG World Atlas – A Database of Global BCG Practices and Policies may be found at <http://www.bcgatlas.org>
- International TB rates by country at <http://www.phac-aspc.gc.ca/tbpc-latb/index-eng.php>