

New tuberculosis test more than skin deep

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A new screening process for tuberculosis (TB) infections in Canadian prisons could mean that more than 50 per cent of those screened won't undergo unnecessary treatment due to false positives.

According to research by Wendy Wobeser and medical resident Ilan Schwartz, a test for TB using interferon-gamma release assays (IGRA) will detect a pre-existing TB infection, or latent TB, that might not present itself for many years, or until the body becomes weakened by another source.

"It's fairly uncommon that latent TB will reactivate – only about a 10 per cent chance," says Dr. Wobeser, the study's lead author and an infectious diseases expert at Queen's. "That said, given the crowding in corrections facilities, the mass exposure of inmates to TB could be disastrous."

The IGRA test was developed in the last 10-15 years and diagnoses a latent TB infection. The body's immune system is provoked with a small amount of protein from the TB virus and if the body has previously been infected then a reaction will occur and the patient's blood will test positive for TB.

The pre-existing tuberculosis skin test (TST) for TB has been used for over 100 years but comes with two main limitations.

- The current test requires two visits to determine the results: one to perform the test and then another visit a couple of days later to read the results.
- Depending on the patient's exposure to other mycobacteria or the BCG vaccine, the current TB test can give many false positives.

The study group included representation from Public Health Agency of Canada (PHAC), Public Health Ontario (PHO), Correctional Services Canada (CSC) and the local [public health agency](#). Inmates were tested at a Canadian intake

institution before moving on to different corrections facilities. Ninety-six inmates tested positive for TB via the TST test. Only 31 of these inmates were confirmed as true latent TB infection when using the IGRA test.

"What I found surprising was just how much discordance there was between the TST and IGRA tests," says Dr. Schwartz, who was a medical resident at Queen's when he started this research. "Historically, all of those who tested TB-positive by the TST test would have been subjected to 12 months of drug treatments that can have considerable side effects."

IGRA tests can't prove that latent TB infections will progress into active TB until the patient begins to show symptoms. Better tools to predict who will go on to develop active (and potentially infectious) TB are being actively pursued.

"It's such a slow disease progression that it's hard for us to say with certainty who will actually go on to develop TB," says Dr. Wobeser. "I hope that this [test](#) will eventually be used in corrections and is able to reduce people who might otherwise be treated unnecessarily for latent TB."

Provided by Queen's University

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