

Auckland Regional Public Health Service

Rātonga Hauora ā Iwi o Tamaki Makaurau



Working with the people of Auckland, Counties Manukau and Waitemata

Fact Sheet - Tuberculosis

What is TB?

Tuberculosis (TB) is a disease caused by a bacterium (germ) called *Mycobacterium tuberculosis* (occasional cases are caused by *Mycobacterium bovis*). The disease spreads from person to person through the air. TB usually affects the lungs ('pulmonary TB'), but it can also affect other parts of the body, such as lymph nodes, brain, kidneys, bowel, or bones ('extrapulmonary TB').

How is TB spread, and can I catch it easily?

TB germs are expelled into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks or sings. These germs can stay in the air for several hours, especially in enclosed spaces. Persons breathing in air containing TB germs can become infected. However, TB is not easy to catch – it usually takes many hours of close contact with a person who has infectious TB, for close contacts to be infected. The initial infection with the TB germ is called latent TB infection (LTBI). Only 10% of people who have LTBI go on to develop active TB disease at some stage in their lives – therefore 90% of people with LTBI will never develop active TB disease.

What is the difference between latent TB infection (LTBI) and TB disease?

People with **latent TB infection (LTBI)** have TB germs in their bodies, but they are not sick, because the germs are not active. The germs are dormant or 'asleep'. People with LTBI are **not infectious** to others and do not have symptoms of TB disease. However, they do have a small risk of developing TB disease in the future. For this reason, LTBI is often treated, to reduce the person's chance of developing TB disease in the future. The risk of developing active TB disease is higher within the first two years of becoming infected, and for people whose immune systems are weak (for example, people with HIV/AIDS, cancer, kidney disease, diabetes, or who are taking chemotherapy or long term steroid treatment).

People with **TB disease** (active TB) are sick from TB germs that are active in their body. They usually have symptoms of TB disease. People with TB disease of the lungs or throat are capable of spreading the germ and are **infectious** to others. TB disease can be cured by taking special TB medication. TB disease is a serious condition, and should be diagnosed and treated early. Anyone who has symptoms of TB disease should see their family doctor (GP) as soon as possible.

What are the symptoms of latent TB infection (LTBI)?

A person with latent TB infection (LTBI) has no symptoms.

What are the symptoms of TB disease?

The general symptoms of TB disease include unexplained weight loss, unexplained fever, loss of appetite, sweating (especially at night), and feeling tired or weak all the time. The symptoms of TB disease of the lungs also include prolonged coughing (a persistent cough lasting 3 weeks or more, and not getting better), coughing up of blood (or blood in the spit), chest pain and shortness of breath. The symptoms of TB disease elsewhere in the body depend on the part of the body affected (for example, enlarged lymph nodes or glands if the TB disease is in the lymph nodes). People with TB disease may have no symptoms early on in the course of the disease, but usually develop at least some or all of the symptoms above as the disease progresses.

What should I do if I have spent time with someone with latent TB infection (LTBI)?

A person with LTBI is not infectious – they cannot spread germs to other people. You do not need to be tested if you have spent time with someone with LTBI.

What should I do if I have been exposed to someone with TB disease?

If you have spent time with someone recently diagnosed with TB disease, especially someone with TB disease of the lungs or throat, you will usually need to be tested. People with TB disease are most likely to spread the infection to those closest to them with whom they spend a lot of time, such as family members or close co-workers or close schoolmates. Not all co-workers or schoolmates will need to be tested – it depends on how infectious the person with TB disease is, and how much contact they had with their co-workers or schoolmates while they were infectious. Once people with TB disease are taking TB medication, they quickly become non-infectious to others, and can return to work or school.

<p>If you are in the greater Auckland region and you believe you are a close contact of a person with TB disease, you should contact the Auckland Regional Public Health Service (ARPHS) directly on (09) 623-4600, and tell us that you think you may be a contact of a TB case.</p>

How do people get tested for latent TB infection (LTBI) and TB disease?

The test most commonly used to diagnose latent TB infection (LTBI) is the tuberculin skin test (sometimes called a Mantoux test). The skin test involves injecting a very small amount of tuberculin fluid into the skin in the lower part of the arm. The result of the tuberculin skin test must be read (measured) after 72 hours by a trained health care worker, who looks for a reaction of a certain size on the arm. Blood tests for TB infection, such as the QuantiFERON®-TB Gold test, have also been developed recently. However, this test is not yet in routine use in New Zealand.

Tests for TB disease include chest X-rays, sputum (spit) tests, blood tests, urine tests and biopsies (for example, sending a sample of a lymph node to the laboratory for examination).

What does a positive tuberculin skin test mean?

A positive tuberculin skin test (Mantoux test) only confirms that a person has been infected with TB germs. It does not tell us whether or not the person has active TB disease. A person with a positive tuberculin skin test always needs a chest X-Ray, blood and urine tests, and possibly other additional tests, to confirm whether or not the person has TB disease.

What about BCG vaccination? Doesn't that prevent TB?

BCG (Bacille Calmette-Guérin) is a vaccine for TB disease. BCG does not completely prevent people from getting TB, but it is effective at preventing serious extrapulmonary TB disease in newborn babies. In New Zealand until the 1980s, all 13 year olds were given skin tests, and then those who did not have LTBI were given BCG. This universal vaccination was stopped, in New Zealand as in many other developed countries, because TB disease had become less common, and the disadvantages of vaccinating the whole population outweighed the advantages.

BCG vaccination is now only given to children under five years of age. It is offered to newborn infants from families or population groups at high risk of TB disease.

Why is latent TB infection (LTBI) treated?

If you have latent TB infection (but not TB disease), your doctor may still advise you to take medication to prevent you from developing TB disease. The decision to offer someone treatment for LTBI is based on their likelihood of developing TB disease. Some people are more likely than others to develop TB disease once they have latent TB infection. This includes people who have been recently exposed to TB disease, and people with certain chronic medical conditions or taking certain medications.

How is TB disease treated?

TB disease can be cured. To be cured, people with TB disease must take special TB medications regularly for 6 to 12 months (or even longer). It is very important that people with TB disease finish their course of medication, and take the medications exactly as prescribed. If they stop taking the medications too soon, they often become ill again. If they do not take the medications correctly, any TB germs that are still alive may become resistant. TB that is resistant to one or more first-line medications is harder and more expensive to treat. In New Zealand, public health nurses supervise TB treatment in the community and meet regularly with patients. Often the nurse will give the medication to the patient and watch them take it. This is called directly observed therapy (DOT). DOT ensures that medication is taken exactly as intended and without any breaks in treatment. This has been shown to maximise cure rates and to minimise the development of drug resistant strains of TB.

What role does the Auckland Regional Public Health Service (ARPHS) play?

Tuberculosis is a notifiable disease in New Zealand. Any doctor who diagnoses a case of TB disease is required to notify the local public health service. Auckland Regional Public Health Service (ARPHS) is the public health service for the greater Auckland region. Treatment is prescribed by the person's TB specialist (a chest or infectious diseases specialist). The responsibility of ARPHS is to assist and supervise all Auckland residents with TB to complete their treatment, and to follow up any close contacts who may need testing.

If you have any concerns please contact **Auckland Regional Public Health Service** on
(09) 623 4600