

WHAT IS TUBERCULOSIS

Tuberculosis (TB) is a disease caused by a group of mycobacteria part of the mycobacterium tuberculosis complex (*M. tuberculosis*, *M. bovis*, *M. africanum*, *M. microti*, *M. canetti*, *M. Pinnipedii*, *M. mungi*).

TB is spread through the air from one person to another. The bacteria are passed through the air when a person with active TB disease of the lungs or throat coughs, sneezes, speaks or sings. People nearby may breathe in the bacteria and become infected.

Not everyone infected with TB bacteria becomes sick. Individuals who are infected but not sick have what is referred to as latent TB infection. People with latent TB infection do not have any symptoms and cannot spread TB disease to others. However, they can go on to develop TB disease.

When TB bacteria are actively multiplying in your body this is called active TB disease. The bacteria usually attack the lungs but may also attack other organs such as the kidneys, brain or spine. People with active TB disease may spread bacteria to people around them and develop symptoms such as:

- Bad cough lasting 3 weeks or longer
- Chest pain
- Coughing up blood or sputum
- Weakness, fatigue
- Reduced appetite and weight loss
- Chills, fever, night sweats

Most people with latent TB disease can be treated so that they do not develop active TB disease. People with active TB disease can be treated with proper medical help.

WHO SHOULD BE TESTED FOR TUBERCULOSIS

You should be test for TB if:

- You are exposed to non-human primates.
- You are working with mycobacteria part of the mycobacterium tuberculosis complex.
- You have spent time with a person known or suspected to have active TB disease.
- You have a condition that weakens your immune system (immunosuppressive medication, chemotherapy, HIV).
- You have symptoms of active TB disease.
- You are from an area of the world where active TB disease is common (Latin America, the Caribbean, Africa, Asia, Eastern Europe and Russia) or spend time where TB disease is common (homeless shelters, drug-treatment centers, health care clinics, jails or prisons)

TUBERCULOSIS TESTS

TB skin test

The TB skin test (Mantoux test) is commonly used to find out if you have been exposed to TB bacteria. A small amount of testing fluid, called tuberculin, is injected intradermal. The test is read 48 and 72 hours after the injection. If you have swelling where the tuberculin was injected, the swelling will be measured to determine if your reaction is positive or negative. A positive reaction usually means that you have been exposed to TB bacteria.

If you were vaccinated with BCG vaccine (a vaccine for TB that is often used in countries where TB is common) you may have a positive reaction to the TB skin test.

To determine whether the positive reaction to the skin test is due to infection with TB bacteria a blood test will be performed.

TB blood test

A blood test is available to find out if you are infected with TB bacteria. The test measures the response of TB proteins when they are mixed with a small amount of blood. Examples of the tests include QuantiFERON®-TB Gold (QFT-G) and T-Spot® TB test.

The results of the TB blood test are not affected by prior BCG vaccination.

If you have a positive reaction to the TB blood test, you must be treated preventatively to avoid developing active TB disease.

TREATMENT OF TUBERCULOSIS

If you have latent TB infection, you need to be treated preventatively so that you do not develop active TB disease. It is important that you complete the 6 to 9-month treatment as prescribed.

People with latent TB infection must know the symptoms of active TB disease. If these symptoms develop, a doctor must be seen right away.

Active TB disease can almost always be treated. It is important to take all the medicine prescribed even if you have no more symptoms.

If the treatment is not completed or if you do not take your medicine regularly, the TB bacteria will continue to grow and you will remain sick. The bacteria may also become resistant to the medication you are taking.

PREVENTION AND CONTROL OF TUBERCULOSIS IN NON-HUMAN PRIMATES

Because tuberculosis is a zoonotic disease that can be devastating and terminal in non-human primates (NHPs), and may be transmitted from humans to NHPs, it is necessary to establish measures for the prevention and control of this pathogen.

Prevention

Preventive measures are required to protect NHPs and personnel who come in contact with NHPs that may be harboring *Mycobacterium tuberculosis* complex. These measures include:

1. Quarantine of all NHPs entering McGill university facilities as per Standard Operating Procedure.
2. Husbandry and sanitation practices that are designed to prevent the spread of pathogens including tubercle bacilli such as the use of tuberculocidal disinfectants and the minimization of aerosols in animal rooms.
3. Monitoring procedures for tuberculosis such as routine tuberculin skin testing and necropsy of all NHPs that die or are euthanized.

Protection of personnel

1. Personal protective equipment requirements are to be adhered to at all times.
2. All personnel who work with or around NHPs are required to participate in the Occupational Health program.
3. Biosafety precautions must be taken when dealing with a diagnosed tuberculous NHP, a NHP that is tuberculosis suspect and when collecting and handling samples to be cultured for tubercle bacilli.

Tuberculous NHPs

1. When a clinical diagnosis of tuberculosis is made in a NHP, it is immediately euthanized and submitted for necropsy.
2. Euthanasia may be delayed if the animal is of great value to a research project but only if it can be isolated to minimize the spread of tubercle bacilli to other NHPs or humans.