

Tuberculosis

Also Known as: TB

What is Tuberculosis?



Tuberculosis (TB) is caused by a bacterium called *Mycobacterium tuberculosis*. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal.

Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and TB disease.

Latent TB Infection

TB bacteria can live in the body without making someone sick. This is called latent TB infection. In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. People with latent TB infection do not feel sick and do not have any symptoms. People with latent TB infection are not infectious and cannot spread TB bacteria to others. However, if TB bacteria become active in the body and multiply, the person will go from having latent TB infection to being sick with TB disease.

TB Disease

TB bacteria become active if the immune system cannot stop them from growing. When TB bacteria are active (multiplying in the body), this is called TB disease. People with TB disease are sick. They may also be able to spread the bacteria to people they spend time with every day.

Many people who have latent TB infection never develop TB disease. Some people develop TB disease soon after becoming infected (within weeks) before their immune system can fight the TB bacteria. Other people may get sick years later when their immune system becomes weak for another reason.

For people whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is much higher than for people with normal immune systems.

How is it Spread?

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

Signs and Symptoms

Symptoms of TB Disease depend on where in the body the TB bacteria are growing. TB bacteria usually grow in the lungs (pulmonary TB). TB disease in the lungs may cause symptoms such as:

- § A bad cough that lasts 3 weeks or longer
- § Coughing up blood or sputum
- § Pain in the chest

Other symptoms of TB disease are:

- § Weakness or fatigue
- § No appetite
- § Fever
- § Weight loss
- § Chills
- § Sweating at night

Symptoms of TB disease in other parts of the body depend on the area affected.

Diagnosis



There are two kinds of tests that are used to determine if a person has been infected with TB bacteria: the tuberculin skin test and TB blood tests.

A positive TB skin test or TB blood test only tells that a person has been infected with TB bacteria. It does not tell whether the person has Latent TB Infection (LTBI) or has progressed to TB Disease. Other tests, such as a chest x-ray and a sample of sputum, are needed to see whether the person has TB disease.

Treatment

Medications are the cornerstone of tuberculosis treatment. But treating TB takes much longer than treating other types of bacterial infections.

With tuberculosis, antibiotics must be taken for at least six to nine months. The exact drugs and length of treatment depend on age, overall health, possible drug resistance, the form of TB (latent or active) and the infection's location in the body.

Prevention

It generally takes a few weeks of treatment with TB medications before a person is not contagious anymore. If an individual has active TB they should follow these tips to prevent spreading it to family and friends:

- § **Stay home.** Don't go to work or school or sleep in a room with other people during the first few weeks of treatment for active tuberculosis.
- § **Ventilate the room.** Tuberculosis germs spread more easily in small closed spaces where air doesn't move. If it's not too cold outdoors, open the windows and use a fan to blow indoor air outside.
- § **Cover mouth.** Use a tissue to cover mouth when laughing, sneezing, or coughing. Put the dirty tissue in a bag, seal it and throw it away.
- § **Wear a mask.** Wearing a surgical mask when around other people during the first three weeks of treatment may help lessen the risk of transmission.

Finish the entire course of medication. This is the most important step to take for protection from tuberculosis. When stopping treatment early or skipping doses, TB bacteria have a chance to develop mutations that allow them to survive the most potent TB drugs. The resulting drug-resistant strains are much more deadly and difficult to treat.



For more sources of information on this topic visit:

ST. CLAIR COUNTY HEALTH DEPARTMENT www.scchealth.co

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES www.michigan.gov/mdhhs

CENTERS FOR DISEASE CONTROL AND PREVENTION www.cdc.gov

THE MAYO CLINIC www.mayoclinic.org