



Tuberculosis (TB)

What is Tuberculosis (TB)?

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. Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and TB disease. If not treated properly, TB disease can be fatal.

What is latent TB infection?

People with latent TB infection do not feel sick and have no symptoms. They are infected with *M. tuberculosis*, but do not have TB disease. The only sign of TB infection is a positive reaction to the tuberculin skin test or TB blood test. People with latent TB infection are not infectious and cannot spread TB infection to others. They can be treated with medication to prevent TB disease from developing.

What is TB Disease?

In some people, TB bacteria overcome the defenses of the immune system and begin to multiply, resulting in the progression from latent TB infection to TB disease. Some people develop TB disease soon after infection, while others develop TB disease weeks, months or even years later when their immune system becomes weak. TB disease is treatable and curable, usually by taking several medications for six to nine months. Left untreated, serious illness or even death can occur.

What are the symptoms?

Symptoms of TB 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 three weeks or longer
- pain in the chest
- coughing up blood or sputum (phlegm from deep inside the lungs)

Other symptoms of TB disease are:

- weakness or fatigue
- weight loss
- loss of/no appetite
- chills
- fever
- sweating at night



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

How is TB spread?

TB bacteria are 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, speaks, or sings. People nearby may breathe in these bacteria and become infected. When a person breathes in TB bacteria, the bacteria can settle in the lungs and begin to grow.

TB is NOT spread by:

- shaking someone's hand
- sharing food or drink
- touching bed linens or toilet seats
- sharing toothbrushes
- kissing

People with TB disease are most likely to spread it to people they spend time with every day. This includes family members, friends, and coworkers or schoolmates.

How is TB diagnosed?

TB blood tests use a blood sample to find out if you are infected with TB bacteria. Only one visit is required to draw blood for the test and results are typically available in three to four days.

The TB skin test may also be used to find out if you are infected with TB bacteria. A health care worker will inject a small amount of testing fluid (called tuberculin or PPD) into the skin on the lower part of your arm. After two or three days, you must return to have your skin test read by the health care worker. You may have swelling where the tuberculin was injected. The health care worker will measure this swelling and tell you if your reaction to the test is positive or negative. A positive reaction usually means that you have been infected by someone with TB disease

If you have recently been infected with TB bacteria, your TB skin test reaction may not be positive yet. You may need a second skin test eight to 10 weeks after the last time you spent time with the person with TB disease. This is because it can take several weeks after infection for your immune system to react to the TB skin test. If your reaction to the second test is negative, you probably do not have TB infection.

Can TB be prevented?

Many people who have latent TB infection never develop TB disease. But some people who have latent TB infection are more likely to develop TB disease than others.



Those at high risk for developing TB disease include:

- People with HIV infection
- People who became infected with TB bacteria in the last 2 years
- Babies and young children
- People who inject illegal drugs
- People who are sick with other diseases that weaken the immune system
- Elderly people
- People who were not treated correctly for TB in the past

If you have latent TB infection and you are in one of these high-risk groups, you should take medicine to keep from developing TB disease. There are several treatment options for latent TB infection. You and your health care provider must decide which treatment is best for you. If you take your medicine as instructed, it can keep you from developing TB disease. Because there are less bacteria, treatment for latent TB infection is much easier than treatment for TB disease. A person with TB disease has a large amount of TB bacteria in the body. Several drugs are needed to treat TB disease.

For detailed information regarding prevention of TB with vaccination:

Centers for Disease Control and Prevention (CDC):

<https://www.cdc.gov/tb/topic/basics/vaccines.htm>