

Tuberculosis: overview of symptoms, causes, and treatment

[Health & Medicine](#), [Disease](#)



Bacteria are microscopic single celled organisms that thrive in diverse environments. They can live within soil, in the ocean and inside the human gut. The three basic bacterial shapes are spherical, bacillus and spiral.

Tuberculosis (TB) is a bacterial infection that spreads through inhaling tiny droplets from the coughs or sneezes of an infected person. It mainly affects the lungs, but it can affect any part of the body, including the abdomen glands, bones and nervous system. When a person becomes infected with tuberculosis, the bacteria in the lungs multiply and cause pneumonia along with chest pain, coughing up blood, and a prolonged cough. In addition, lymph nodes near the heart and lungs become enlarged. As the TB tries to spread to other parts of the body, it is often interrupted by the body's immune system is unable to fight TB or if the bacteria break through the scar tissue, the disease returns to an active state with pneumonia and damages the kidneys, bones and the meninges that line the spinal cord and brain.

A WHO report shows that India has the highest number of TB resistant strains in the world, and a person infected with the bacteria is estimated to transmit it to an estimated 15 people within a year. (World health organisation, 2009) This trend is in line with the current state of bacterial resistance in the country which has been criticised for its high level of corruption, lack of sanitation and generally low adherence of patients.

Symptoms: The symptoms of tuberculosis (TB) depend on where the infection occurs and usually develops slowly. The symptoms might not begin until months after an individual is initially infected. In some cases the infection does not cause any symptoms, which is known as latent TB. It's

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called active TB if an individual has symptoms. General symptoms of TB may include lack of appetite, weight loss and high temperature. An individual may also experience night sweats and extreme tiredness or fatigue. Most infections affect the lungs, which can cause persistent cough that lasts more than three weeks and usually brings up phlegm, which may be bloody breathlessness that gradually gets worse.

Causes: Tuberculosis is caused by an organism called *Mycobacterium tuberculosis*. The bacterium spreads from person to person through microscopic droplets released into the air. This can happen when someone with the untreated, active form of tuberculosis coughs, speaks, sneezes, spits, laughs or sings. Therefore, it is important for healthcare providers to have their face masks and gloves on, when nursing a person with TB, so that they do not catch the infection. Most people with active TB who have had appropriate drug treatment for at least two weeks are no longer contagious.

Treatments: Testing and treatment for latent TB may be recommended for people who require treatment that will weaken their immune system, such as long term corticosteroids, chemotherapy or TNF inhibitors. This is because there is a risk of the infection becoming active. Treatment for latent TB generally involves either taking a combination of rifampicin and isoniazid for three months, or isoniazid on its own for six months. However, if an individual is diagnosed with active pulmonary TB, they will be given a six month course of a combination of antibiotics. The usual course of treatment is two antibiotics (isoniazid and rifampicin) for six months and two additional antibiotics (pyrazinamide and ethambutol) for the first two months.