

# Frequently asked questions

# 1. What is TB?

TB is short for Tuberculosis, an airborne, treatable disease caused by the bacteria Mycobacterium tuberculosis. TB can be categorized as either a latent infection or active disease. A latent infection is a state of continual immune response to the bacteria where the individual, in most cases, does not feel ill and is not infectious.

TB bacteria become active if the immune system can't stop them from growing. This is known as active TB. The most common type of active TB is pulmonary TB. Pulmonary TB is when bacteria multiply in the lungs anytime from the start of infection to years later. The activation of bacteria and their resulting proliferation manifests into a myriad of symptoms and the possibility of contagion.

TB can infect other parts of the body and is known as extra-pulmonary TB. Other parts of the body that are sometimes infected include the lymph-nodes or bone. With extra-pulmonary TB, infecting others is not a worry. However, unfortunately, if not treated properly, all forms of TB can be fatal.

# 2. What are the symptoms of TB?

The symptoms of tuberculosis (TB) vary depending on which part of the body is affected. TB disease usually develops slowly, and it may take several weeks before somed notices they're unwell. Symptoms might not begin until months or even years after initial infection.

TB disease in the lungs may cause symptoms such as

- a bad cough that lasts 3 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
- no appetite
- chills
- fever
- sweating at night

Less commonly, TB infections develop in areas outside the lungs, such as the small glands that form part of the immune system (the lymph nodes), the bones and joints, the digestive



system, the bladder and reproductive system, and the brain and nerves (the nervous system).

Symptoms of extra-pulmonary TB infection can include:

- persistently swollen glands
- abdominal pain
- pain and loss of movement in an affected bone or joint
- confusion
- · a persistent headache
- fits (seizures

TB affecting other parts of the body is more common in people who have a weakened immune system.

# 3. How is TB transmitted?

TB is an airborne disease which means it spreads through the air. When an individual with active TB disease of the lungs or throat coughs, sneezes, speaks or sings, tiny particles originating from the infected sputum in the lungs can be spread and inhaled by other people nearby.

When a person breathes in TB bacteria, the bacteria can settle in the lungs and begin to grow. From there, they can move through the blood to other parts of the body, such as the kidney, spine, and brain.

TB is NOT spread by:

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

However, bacteria can stay alive in the air for several hours in closed spaces where fresh air circulation and sunlight are blocked, posing risk of infection for those in the same space, especially if they are there for a prolonged period of time.

Therefore, close contacts of TB patients, including close friends and family, are at greatest risk of becoming infected.



# 4. How is TB diagnosed?

Two tests exist to test for the presence of a TB infection:

- the TB skin test (TST) or Mantoux test
- a blood test to detect for the existence of TB bacteria in the body

Testing usually occurs eight weeks after one's last contact with an individual with pulmonary TB.

The TB skin test requires two visits to a healthcare provider. During the first visit, a small amount of a substance called PPD tuberculin is injected into the skin of your forearm. If you have a latent TB infection, your skin will be sensitive to PPD tuberculin and a small, hard red bump will develop at the site of the injection, usually within 48 to 72 hours of having the test. If you have a very strong skin reaction, you may need a chest X-ray to confirm whether you have active TB disease.

If you do not have a latent infection, your skin will not react to the Mantoux test. However, as TB can take a long time to develop, you may need to be screened again at a later stage. If you've had the BCG vaccination, you may have a mild skin reaction to the Mantoux test. This does not necessarily mean you have latent TB.

The TB blood test consists of blood being drawn and sent to the lab for testing.

A positive skin and/or blood test indicates an INFECTION with TB bacteria. A TB infection does NOT indicate a latent TB infection or the progression to TB disease. An TB active disease diagnosis must then be made through the medical evaluations.

Most individuals will experience inactive TB bacteria for the entirety of their lifetime.

# Diagnosis of Latent TB Infection

A diagnosis of latent TB infection is made if a person has a positive TB test result and a medical evaluation does not indicate TB disease. The decision about treatment for latent TB infection will be based on a person's chances of developing TB disease by considering their risk factors.

#### Diagnosis of TB Disease

TB disease is diagnosed by medical history, physical examination, chest x-ray, and other laboratory tests.

## Extra-pulmonary TB

Several tests can be used to confirm suspected extrapulmonary TB, such as: a CT scan, MRI scan or ultrasound scan, endoscopy, urine and blood tests, or biopsy.



# 5. How is TB treated?

When TB bacteria become active (multiplying in the body) and the immune system can't stop the bacteria from growing, this is called TB disease. TB disease will make a person sick. People with TB disease may spread the bacteria to people with whom they spend many hours.

It is very important that people who have TB disease are treated, finish the medicine, and take the drugs exactly as prescribed. If they stop taking the drugs too soon, they can become sick again; if they do not take the drugs correctly, the TB bacteria that are still alive may become resistant to those drugs. TB that is resistant to drugs is harder and more expensive to treat.

TB disease can be treated by taking several drugs for 6 to 9 months (although the WHO approved a 4-month regimen last year).

Although a TB patient may feel better after the first few weeks of treatment, bacteria can remain alive in the body for up to six months. Thankfully, very few people experience serious side effects from TB drugs while minor ones include vomiting, nausea, loss of appetite, joint pain and skin rash.

# 6. What is DR-TB?

Sometimes drug-resistant TB occurs when bacteria become resistant to the drugs used to treat TB. This means that the drugs usually used to treat TB can no longer kill the TB bacteria.

Drug-resistant TB (DR TB) is spread the same way that drug-susceptible TB is 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.

## MDR-TB:

MDR-TB, multidrug-resistant TB, is defined by resistance to the two most commonly used drugs in the current four-drug (or first-line) regimen, isoniazid and rifampin. It is the result of interrupted, erratic, or inadequate TB therapy, and its spread is undermining efforts to control the global TB epidemic. Drug-resistant TB develops when the long, complex, decades-old TB drug regimen is improperly administered, or when people with TB stop taking their medicines before the disease has been fully eradicated from their body. Once a drug-resistant strain has developed, it can be transmitted directly to others just like drug-susceptible TB. There are over half a million cases of drug-resistant TB each year. MDR-TB is



such a global health threat because the medicines are very expensive, take years to work, and ultimately inadequate to stop the disease and its spread.

Antimicrobial resistance is dangerous in all its forms, however, MDR-TB yields a global threat to health and economic development. A recent report from a UK parliamentary group stated over the next 35 years, multidrug-resistant tuberculosis will kill 75 million people and could cost the global economy a cumulative \$16.7 trillion — the equivalent of the European Union's annual output.

#### XDR-TB:

Extensively drug-resistant tuberculosis, or XDR-TB, is a strain of tuberculosis, airborne and infectious, that is resistant to four commonly-used anti-TB drugs. Until the US FDA approval of pretomanid as part of the BPaL regimen, there was no reliable cure for XDR-TB. XDR-TB has been confirmed in 127 countries around the world and represents about six percent of all MDR-TB cases. XDR-TB is emerging as an extremely deadly and costly global health threat that the world must mobilize rapidly to tackle.