

What is tuberculosis?

Tuberculosis is an infectious disease that can cause infection in your lungs or other tissues. It commonly affects your lungs, but it can also affect other organs like your spine, brain or kidneys. The word “tuberculosis” comes from a Latin word for "nodule" or something that sticks out.

Tuberculosis is also known as TB. Not everyone who becomes infected with TB gets sick, but if you do get sick you need to be treated.

If you're infected with the bacterium, but don't have symptoms, you have inactive tuberculosis or latent tuberculosis infection (also called latent TB). It may seem like TB has gone away, but it's dormant (sleeping) inside your body.

If you're infected, develop symptoms and are contagious, you have active tuberculosis or tuberculosis disease (TB disease).

The three stages of TB are:

- Primary infection.
- Latent TB infection.
- Active TB disease.

How common is tuberculosis?

About 10 million people became ill with TB throughout the world, and about 1.5 million people died from the disease in 2020. TB was once the leading cause of death in the U.S. but the number of cases fell rapidly in the 1940s and 1950s after researchers found treatments.

Statistics show that there were 7,860 tuberculosis cases reported in the U.S. in 2021. The national incidence rate is 2.4 cases per 100,000 people.

Are there different kinds of tuberculosis?

In addition to active or inactive, you might hear about different kinds of TB, including the most common, pulmonary (lung) tuberculosis. But the bacterium can also affect other parts of your body besides the lungs, causing extrapulmonary tuberculosis (or TB outside of the lung). You might also hear about systemic miliary tuberculosis, which can spread throughout your body and cause:

- [Meningitis](#), an inflammation of your brain.
- Sterile pyuria, or high levels of white blood cells in your urine.
- Pott's disease, also called spinal tuberculosis or tuberculosis spondylitis.
- [Addison's disease](#), an adrenal gland condition.

- Hepatitis, a [liver](#) infection.
- Lymphadenitis in your neck, also called scrofula or TB lymphadenitis.

Symptoms and Causes

What causes tuberculosis?

TB is caused by the bacterium *Mycobacterium tuberculosis*. The germs are spread through the air and usually infect the lungs, but can also infect other parts of the body. Although TB is infectious, it doesn't spread easily. You usually have to spend a lot of time in contact with someone who is contagious in order to catch it.

How is tuberculosis spread?

TB can be spread when a person with active TB disease releases germs into the air through coughing, sneezing, talking, singing or even laughing. Only people with active pulmonary infection are contagious. Most people who breathe in TB bacteria are able to fight the bacteria and stop it from growing. The bacterium becomes inactive in these individuals, causing a latent TB infection.

As many as 13 million people in the U.S. have latent TB. Although the bacteria are inactive, they still remain alive in the body and can become active later. Some people can have a latent TB infection for a lifetime, without it ever becoming active and developing into TB disease.

However, TB can become active if your [immune system](#) becomes weakened and cannot stop the bacteria from growing. This is when the latent TB infection becomes active TB. Many researchers are working on treatments to stop this from happening.

What are the signs and symptoms of tuberculosis?

People with inactive TB do not exhibit symptoms. However, they may have a positive skin reaction test or blood test.

Those with active TB can show any of the following symptoms:

- Bad [cough](#) (lasting longer than two weeks).
- [Pain in your chest](#).
- [Coughing up blood](#) or sputum (mucus).
- Fatigue or weakness.
- Loss of appetite.
- [Weight loss](#).
- [Chills](#).
- [Fever](#).
- Night sweats.

Diagnosis and Tests

What kinds of tests are used to diagnose tuberculosis?

There are two kinds of screening tests for TB: the Mantoux tuberculin skin test (TST) and the blood test, called the interferon gamma release assay (IGRA).

For the TST, a healthcare provider will inject a small amount of a substance called purified protein derivative (PPD) under the skin of your forearm. After two to three days, you must go back to the healthcare provider, who will look at the injection site.

For the IGRA, a healthcare provider will draw blood and send the sample to the lab.

Further tests to determine if an infection is active or if your lungs are infected include:

- Lab tests on sputum and lung fluid.
- [Chest X-ray](#).
- [Computed tomography \(CT\) scans](#).

How do I know if I should get tested for tuberculosis?

You may want to get tested for TB if:

- You are a resident or employee in group settings where the risk is high, such as jails, hospices, skilled nursing facilities, shelters and other healthcare facilities.
- You work in a mycobacteriology laboratory.
- You've been in contact with someone who's known or suspected to have TB disease.
- Your body's resistance to illness is low because of a weak immune system.
- You think you might already have TB disease and have symptoms.
- You're from a region or have lived in a region where TB disease is prevalent, such as Latin America, the Caribbean, Africa, Asia, Eastern Europe and Russia.
- You've injected recreational drugs.
- Your healthcare provider recommends testing.

Others who are at risk for TB include:

- People with immature or impaired immune systems, such as babies and children.
- People with kidney disease, diabetes, or other chronic (long-term) illness.
- People who have received organ transplants.
- People being treated with chemotherapy for cancer or other types of treatments for immune system disorders.

The incidence rates for minority groups in the U.S. are higher than the incidence rates for whites.

Management and Treatment

How is tuberculosis treated?

TB infection and disease is treated with these drugs:

- Isoniazid (Hyzyd®).
- Rifampin (Rifadin®).
- Ethambutol (Myambutol®).
- Pyrazinamide (Zinamide®).
- Rifapentine (Priftin®).

You must take all of the medication your provider prescribes, or not all of the bacteria will be killed. You will have to take these medications for as long as you're told — sometimes up to nine months.

Some forms of TB have become resistant to medications. It's very important and likely that your provider will use more than one drug to treat TB. It's very important to finish your entire prescription.

Complications/side effects of treatment

Some people have side effects from the drugs used to treat TB that may include:

- Skin rashes and other reactions.
- [Nausea](#) and stomach upset.
- Itchy skin.
- Yellow skin or eyes ([jaundice](#)).
- Dark urine.

Talk to your provider about any side effects because some might mean that you're experiencing liver damage.

How soon after starting treatment for active TB will I feel better?

It will probably take weeks before you start having more energy and fewer days with symptoms. However, it will take longer than that to complete your treatment. You'll need to take your medications for at least six to nine months.

Can tuberculosis be cured?

Yes, TB is curable.

Prevention

What can you do to prevent spreading tuberculosis?

You usually have to be in contact with someone with active TB for a long time before becoming infected. It helps to follow infection prevention guidelines like:

- Washing your hands thoroughly and often.
- Coughing into your elbow or covering your mouth when you cough.
- Avoiding close contact with other people.
- Making sure you take all of your medication correctly.
- Not returning to work or school until you've been cleared by your healthcare provider.

In the hospital, the most important measures to stop the spread of TB are having proper ventilation and using the correct types of personal protective equipment.

Is there a vaccine to prevent tuberculosis?

Some countries (but not the U.S.) use a TB vaccine called Bacillus Calmette-Guerin (BCG). The vaccine is mostly given to children in countries with high rates of TB to prevent meningitis and a serious form of TB called miliary tuberculosis. The vaccine may make skin tests for TB less accurate.

Outlook / Prognosis

What is the outlook (prognosis) for someone with tuberculosis?

If you have tuberculosis and you're treated, your outlook is good if you've followed directions and taken your medications for as long as you should and in the way you were told.

Living With

When should I see my healthcare provider?

If you've been exposed to TB, you should talk to your healthcare provider right away. They can help you make a decision about getting tested. That decision is more important if you've developed any symptoms of illness that could mean you're contagious. Remember, even though tuberculosis can be treated, it can also be fatal if it's not treated.

