

TB Elimination

Tuberculosis: General Information

What is TB?

Tuberculosis (TB) is a disease caused by germs that are spread from person to person through the air. TB usually affects the lungs, but it can also affect other parts of the body, such as the brain, the kidneys, or the spine. A person with TB can die if they do not get treatment.

What are the Symptoms of TB?

The general symptoms of TB disease include feelings of sickness or weakness, weight loss, fever, and night sweats. The symptoms of TB disease of the lungs also include coughing, chest pain, and the coughing up of blood. Symptoms of TB disease in other parts of the body depend on the area affected.

How is TB Spread?

TB germs are put into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks, or sings. These germs can stay in the air for several hours, depending on the environment. Persons who breathe in the air containing these TB germs can become infected; this is called latent TB infection.

What is the Difference Between Latent TB Infection and TB Disease?

People with latent TB infection have TB germs in their bodies, but they are not sick because the germs are not active. These people do not have symptoms of TB disease, and they cannot spread the germs to others. However, they may develop TB disease in the future. They are often prescribed treatment to prevent them from developing TB disease.

People with TB disease are sick from TB germs that are active, meaning that they are multiplying and destroying tissue in their body. They usually have

symptoms of TB disease. People with TB disease of the lungs or throat are capable of spreading germs to others. They are prescribed drugs that can treat TB disease.

What Should I Do If I Have Spent Time with Someone with Latent TB Infection?

A person with latent TB infection cannot spread germs to other people. You do not need to be tested if you have spent time with someone with latent TB infection. However, if you have spent time with someone with TB disease or someone with symptoms of TB, you should be tested.

What Should I Do if I Have Been Exposed to Someone with TB Disease?

People with TB disease are most likely to spread the germs to people they spend time with every day, such as family members or coworkers. If you have been around someone who has TB disease, you should go to your doctor or your local health department for tests.

How Do You Get Tested for TB?

There are tests that can be used to help detect TB infection: a skin test or TB blood tests. The Mantoux tuberculin skin test is performed by injecting a small amount of fluid (called tuberculin) into the skin in the lower part of the arm. A person given the tuberculin skin test must return within 48 to 72 hours to have a trained health care worker look for a reaction on the arm. The TB blood tests measures how the patient's immune system reacts to the germs that cause TB.

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What Does a Positive Test for TB Infection Mean?

A positive test for TB infection only tells that a person has been infected with TB germs. It does not tell whether or not the person 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.

What is Bacille Calmette–Guèrin (BCG)?

BCG is a vaccine for TB disease. BCG is used in many countries, but it is not generally recommended in the United States. BCG vaccination does not completely prevent people from getting TB. It may also cause a false positive tuberculin skin test. However, persons who have been vaccinated with BCG can be given a tuberculin skin test or TB blood test.

Why is Latent TB Infection Treated?

If you have latent TB infection but not TB disease, your doctor may want you to take a drug to kill the TB germs and prevent you from developing TB disease. The decision about taking treatment for latent infection will be based on your chances of developing TB disease. Some people are more likely than others to develop TB disease once they have TB infection. This includes people with HIV infection, people who were recently exposed to someone with TB disease, and people with certain medical conditions.

How is TB Disease Treated?

TB disease can be treated by taking several drugs for 6 to 12 months. It is very important that people who have TB disease 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 germs that are still alive may become resistant to those drugs. TB that is resistant to drugs is harder and more expensive to treat. In some situations, staff of the local health department meet regularly with patients who have TB to watch them take their medications. This is called directly observed therapy (DOT). DOT helps the patient complete treatment in the least amount of time.

Additional Information

CDC. Questions and Answers About TB
<http://www.cdc.gov/tb/publications/faqs/default.htm>

<http://www.cdc.gov/tb>

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The Difference Between Latent TB Infection and TB Disease

What is TB?

Tuberculosis (TB) is a disease caused by a germ called *Mycobacterium tuberculosis* that is spread from person to person through the air. TB usually affects the lungs, but it can also affect other parts of the body, such as the brain, the kidneys, or the spine. When a person with infectious TB coughs or sneezes, droplet nuclei containing *M. tuberculosis* are expelled into the air. If another person inhales air containing these droplet nuclei, he or she may become infected. However, not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and TB disease.

What is Latent TB Infection?

Persons with latent TB infection do not feel sick and do not have any 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. **Persons with latent TB infection are not infectious and cannot spread TB infection to others.**

Overall, without treatment, about 5 to 10% of infected persons will develop TB disease at some time in their lives. About half of those people who develop TB disease will do so within the first two years of infection. For persons whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is considerably higher than for persons with normal immune systems.

Of special concern are persons infected by someone with extensively drug-resistant TB (XDR TB) who later develop TB disease; these persons will have XDR TB, not regular TB disease.

A person with latent TB infection

- Usually has a skin test or blood test result indicating TB infection
- Has a normal chest x-ray and a negative sputum test
- Has TB bacteria in his/her body that are alive, but inactive
- Does not feel sick
- Cannot spread TB bacteria to others
- Needs treatment for latent TB infection to prevent TB disease; however, if exposed and infected by a person with multidrug-resistant TB (MDR TB) or extensively drug-resistant TB (XDR TB), preventive treatment may not be an option

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 later when their immune system becomes weak.

The general symptoms of TB disease include

- Unexplained weight loss
- Loss of appetite
- Night sweats
- Fever
- Fatigue
- Chills

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The symptoms of TB of the lungs include

- Coughing for 3 weeks or longer
- Hemoptysis (coughing up blood)
- Chest pain

Other symptoms depend on the part of the body that is affected.

Persons with TB disease are considered infectious and may spread TB bacteria to others. If TB disease is suspected, persons should be referred for a complete medical evaluation. If it is determined that a person has TB disease, therapy is given to treat it. TB disease is a serious condition and can lead to death if not treated.

A person with TB disease

- Usually has a skin test or blood test result indicating TB infection
- May have an abnormal chest x-ray, or positive sputum smear or culture
- Has active TB bacteria in his/her body
- Usually feels sick and may have symptoms such as coughing, fever, and weight loss
- May spread TB bacteria to others
- Needs treatment to treat TB disease

Additional Information

1. American Thoracic Society (ATS) and CDC. Diagnostic standards and classification of tuberculosis in adults and children. (PDF) *Am J Respir Crit Care Med* 2000; 161. <http://ajrccm.atsjournals.org/cgi/content/full/161/4/1376>
2. CDC. Questions and Answers About TB. <http://www.cdc.gov/tb/publications/faqs/default.htm>
3. CDC. Multidrug-Resistant Tuberculosis (MDR TB). <http://www.cdc.gov/tb/publications/factsheets/drtb/mdrtb.htm>
4. CDC. Extensively Drug-Resistant Tuberculosis (XDR TB). <http://www.cdc.gov/tb/publications/factsheets/drtb/xdrtb.htm>

<http://www.cdc.gov/tb>

Tuberculosis Facts – You Can Prevent TB

What is TB?



“TB” is short for a disease called tuberculosis. TB is spread through the air from one person to another. TB germs are passed through the air when someone who is sick with **TB disease** of the lungs or throat coughs, speaks, laughs, sings, or sneezes. Anyone near the sick person can breathe TB germs into their lungs.

TB germs can live in your body without making you sick. This is called **latent TB infection**. This means you have only inactive (sleeping) TB germs in your body. The inactive germs cannot be passed on to anyone else. However, if these germs wake up or become active in your body and multiply, you will get sick with TB disease.

When TB germs are active (multiplying in your body), this is called **TB disease**. These germs usually attack the lungs. They can also attack other parts of the body, such as, the kidneys, brain, or spine. TB disease will make you sick. People with **TB disease** may spread the germs to people they spend time with every day.

How do I know if I have been infected with TB germs?

If you have been around someone who has **TB disease**, you should go to your doctor or your local health department for tests.

There are two tests that can be used to help detect TB infection: a skin test or special TB blood test. The skin test is used most often. A small needle is used to put some testing material, called tuberculin, under the skin. In 2-3 days, you return to the health care worker who will check to see if there is a reaction to the test. In some cases, a special TB blood test is given to test for TB infection. This blood test measures how a person’s immune system reacts to the germs that cause TB.

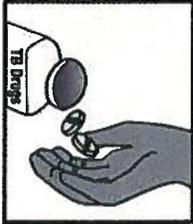


To tell if someone has **TB disease**, other tests such as chest x-ray and a sample of sputum may be needed.

What should I do if I have TB?



If you have latent TB infection, you may need medicine to prevent getting TB disease later. Usually, only one drug is needed to treat latent TB infection. It is important that you take your medicine exactly as you are told.



TB disease can also be treated by taking medicine. It is very important that people who have TB disease finish the medicine, and take the drugs exactly as they are told. If they stop taking the drugs too soon, they can become sick again. If they do not take the drugs correctly, the germs that are still alive may become difficult to treat with those drugs.

It takes at least six months to one year to kill all the TB germs. Remember, you will always have TB germs in your body unless you kill them with the right medicine.

People who are more likely to get sick from **TB disease** include:

- people with HIV infection (the virus that causes AIDS);
- people who have been recently infected with **TB** (in the last two years)
- people who inject illegal drugs;
- babies and young children;
- elderly people;
- people who were not treated correctly for TB in the past; and
- people with certain medical conditions such as diabetes, certain types of cancer, and being underweight.

These things make your body weaker. When your body is weaker, it is difficult to fight TB germs.

**Protect your family and friends from TB –
Get tested and take all your TB drugs!**



DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
Division of Tuberculosis Elimination

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When TB germs are active (multiplying in your body), this is called **TB disease**. These germs usually attack the lungs. They can also attack other parts of the body, such as, the kidneys, brain, or spine. **TB disease** will make you sick. People with **TB disease** may spread the germs to people they spend time with every day.

If the **TB disease** is in your lungs, you may:

- cough a lot,
- cough up mucus or phlegm ("flem"),
- cough up blood, or
- have chest pain when you cough.

You should always cover your mouth when you cough!

If you have **TB disease**, you may also:

- feel weak,
- lose your appetite,
- lose weight,
- have a fever, or
- sweat a lot at night.

These are symptoms of **TB disease**. These symptoms may last for several weeks. Without treatment, they usually get worse.

If you get **TB disease** in another part of the body, the symptoms will be different. Only a doctor can tell you if you have **TB disease**.

How do I know if I have latent TB infection or TB disease?

If you have been around someone who has **TB disease**, you should go to your doctor or your local health department for tests.

There are two tests that can be used to help detect latent TB infection: a skin test or a special TB blood test. The skin test is used most often. A small needle is used to put some testing material, called tuberculin, under the skin. In 2-3 days, you return to the health care worker who will check to see if there is a reaction to the test. In some cases, a special TB blood test is given to test for TB infection. This blood test measures how a person's immune system reacts to the germs that cause TB.



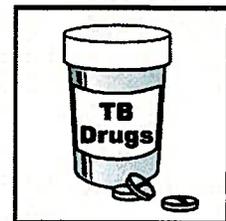
Other tests are needed to show if you have TB disease. An x-ray of your chest can tell if there is damage to your lungs from TB. TB disease may be deep inside your lungs. Phlegm ("flem") you cough up will be tested in a laboratory to see if the TB germs are in your lungs.

If TB disease is in your lungs or throat, you can give TB germs to your family and friends. They can get sick with TB disease. You may have to be separated from other people until you can't spread TB germs. This probably won't be for very long, if you take your medicine as your health care provider instructs.

Can TB be treated?

If you have **TB infection**, you may need medicine to prevent getting TB disease later. This is called "preventive" treatment.

TB disease can also be treated by taking medicine. It is very important that people who have **TB disease** finish the medicine, and take the drugs exactly as they are told. If they stop taking the drugs too soon, they can become sick again. If they do not take the drugs correctly, the germs that are still alive may become difficult to treat with those drugs.



It is very important that you take your medicine as your doctor recommends. It takes at least six months to one year to kill all the TB germs.

Protect your family and friends from TB — take all your TB drugs!



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