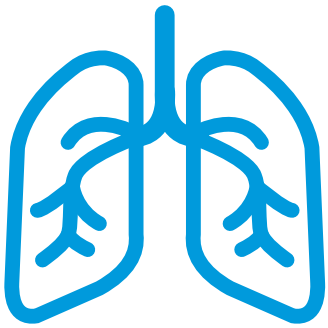


LATENT TB. ACTIVE CONCERN.

A GUIDE FOR PATIENTS

Tuberculosis Program
Virginia Department of Health

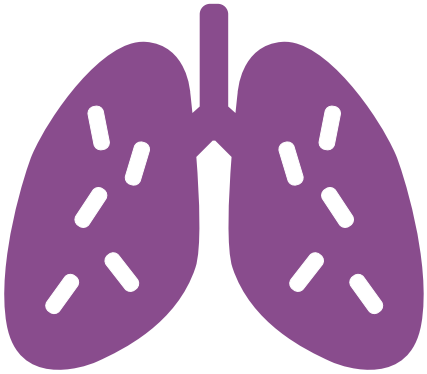
This patient resource is intended to provide information on latent tuberculosis infection (LTBI), including background of the condition, how it is diagnosed, and how it is treated. While this resource was designed to be useful for all patients, we hope it will be particularly useful for those who have been diagnosed with LTBI, those who are at increased risk for TB, those who have been exposed to TB, those who work in high-risk TB settings, as well as their family members, friends, and other close contacts.

For additional information, please visit our website at https://www.vdh.virginia.gov/tuberculosis/.

I. **BACKGROUND**

WHAT IS **LATENT TUBERCULOSIS INFECTION (LTBI)?**

Latent tuberculosis infection (LTBI) is a condition where people become infected with the bacteria that causes tuberculosis (TB), but do not get sick like those with active TB disease. LTBI is sometimes referred to as "sleeping TB", as the TB bacteria are in the body but are inactive, and not growing. Because the body's immune system is able to fight off the TB bacteria, a person with LTBI does not have any symptoms, does not feel sick, and cannot spread TB bacteria to others.

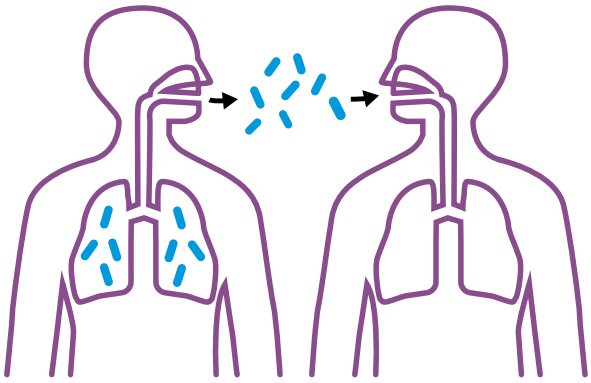


TB is a preventable and treatable disease caused by a bacteria called *Mycobacterium tuberculosis (M. tuberculosis)*. However, not everyone who becomes infected with *M. tuberculosis* develops active TB disease. The bacteria usually attacks the lungs, but can attack any part of the body. Symptoms can be different depending on where the disease attacks the body. These symptoms can include a cough lasting greater than 3 weeks, weakness, fever, night sweats, chest pain, and coughing up blood. If untreated, active TB disease can cause death.

Although with LTBI, bacteria are inactive, they remain alive in your body and can become active if untreated. When this happens, you can develop active TB disease, which will make you very sick. So, it is very important to complete LTBI treatment to prevent yourself from developing active TB disease.

HOW DO YOU **GET LTBI?**

TB bacteria spreads through the air from one person to another when someone who is sick with active TB disease speaks, coughs, laughs, sings, or sneezes. The TB bacteria can be released into the air and if you are near this person when this happens, you may breathe in these bacteria and become infected.



Active TB disease is most commonly spread among people who see each other every day and have close contact with each other – such as family members, friends, coworkers, or schoolmates.

If you were born outside of the United States, you may have received the bacille Calmette–Guérin (BCG) vaccine as a child. This vaccine prevents infants and young children from developing severe forms of TB. However, it does not provide lifelong protection from TB. See Part II to learn how you can get tested for TB even if you received the BCG vaccine as a child.

WHO IS AT RISK FOR **DEVELOPING ACTIVE TB DISEASE?**

Although only 5-10% of people with LTBI will develop active TB disease if their LTBI is untreated, about 80% of active TB cases in the United States are due to untreated LTBI. Additionally, some people who have LTBI are more likely to develop active TB disease than others.

YOU CANNOT GET TB FROM:

- Sharing foods or beverages
- Shaking hands
- Hugging
- Touching toilet seats

People at high risk for developing active TB disease generally fall into two categories:

1. People who were recently infected (within two years from exposure) with TB bacteria;

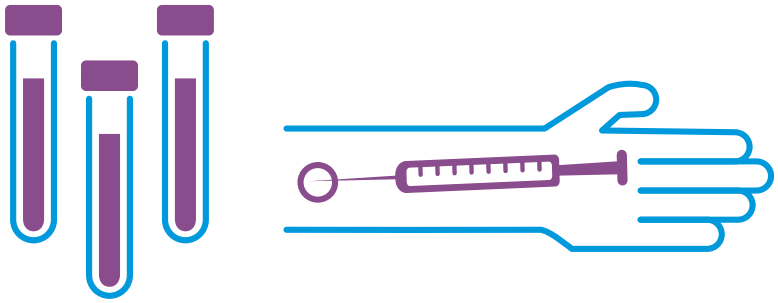
2. People with the following conditions, which weaken the immune system:
   - HIV infection
   - Substance use, particularly injection drug use
   - Specialized treatment for rheumatoid arthritis or Crohn's disease
   - Organ transplants
   - Severe kidney disease
   - Head and neck cancer
   - Diabetes
   - Medical treatments, such as use of corticosteroids
   - Silicosis
   - Low body weight

3. Additionally, children, especially those under age five, have a higher risk of developing active TB disease once infected.

SHOULD I **GET TESTED FOR TB?**

You should get tested if:

- You have spent time with someone who is known or thought to have active TB disease;
- You have symptoms of active TB disease;
- You were born in, have lived in, or have traveled often to countries where active TB disease is common;
- You have HIV or another condition that weakens your immune system;
- You use injection drugs;
- You work or live in large group settings where TB is common, such as homeless shelters, correctional settings, or nursing homes.



HOW DO I **GET TESTED FOR LTBI?**

To get tested for LTBI, there are two options – the TB blood test and the TB skin test. You can get a TB skin or blood test from your doctor or the local health department. Your healthcare provider will tell you which test is best for you, and should include a plan for follow-up care if you are diagnosed with active TB disease or LTBI.

TB BLOOD TESTS

The TB blood tests, also known as interferon gamma release assays (IGRAs), require one visit to your healthcare provider. Your provider will draw a sample of your blood and send it to a laboratory to determine if you are infected with TB bacteria. An IGRA is the preferred TB test for those who have received the BCG vaccine, and for those who have trouble returning for the required follow up visit of the TB skin test.

- A positive IGRA test means that you are infected with TB bacteria. However, you will need follow up tests to determine if you have LTBI or active TB disease.
- A negative IGRA means that your blood did not react to the test and that LTBI and active TB disease are unlikely.

TB SKIN TESTS

Like the TB blood test, the TB skin test or tuberculin skin test (TST) is a test conducted by your healthcare provider to determine if you have been infected with TB bacteria. For this test, your healthcare provider will inject a small amount of tuberculin, a testing protein, into the lower part of your arm. Then, after 48-72 hours, you will return to your healthcare provider to measure any reaction you may have where the tuberculin was injected. Based on the measurement of any reaction and your medical history, your healthcare provider will determine if the test is positive or negative.

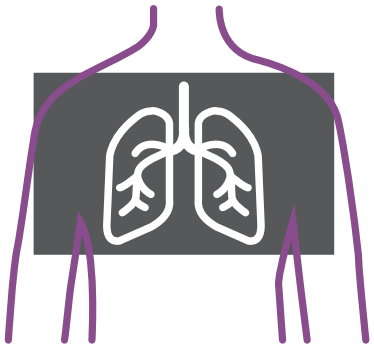
- A positive TST means that you are infected with TB bacteria. However, you will need follow up tests to determine if you have LTBI or active TB disease.
- A negative TST means that your body did not react to the test and that LTBI and active TB disease are unlikely.

FOLLOW UP TESTING

If you were recently exposed to TB, you may need a second TB test 8-10 weeks after your exposure, as it may be too soon for your body to produce a positive response. If the second test is negative, then you likely do not have LTBI or active TB disease.

If you have active TB disease, you will likely be offered an HIV test to determine your HIV status. This is important for your treatment and care.

If your IGRA or TST is positive, your healthcare provider will need to do additional tests to find out if you have LTBI or active TB disease. This usually includes a chest x-ray to look for signs of active TB disease in your lungs, but may also include a sputum sample if you have a cough. As TB is not always in your lungs, your healthcare provider may also take other samples.



Please note, LTBI and active TB disease are reportable conditions in Virginia, so your healthcare provider will need to report any positive results to the local health department. However, these test results will remain confidential, and you cannot be fired from a job, or experience any impact to your immigration status.

III. **TREATMENT**

We understand being diagnosed with LTBI can be overwhelming and leave you with many questions. We want to reassure you that **LTBI can be treated** and this LTBI treatment can prevent you from developing active TB disease. While active TB disease can also be treated, if developed, you will likely feel very sick and could spread TB to others. So, treating LTBI can keep you and your family, friends, and coworkers healthy and safe.

HOW IS **LTBI TREATED?**

There are several treatment options available to you to treat LTBI. Your healthcare provider will work with you to identify the most appropriate treatment options based on your current health status and other medications you are taking.

Currently, the Centers for Disease Control and Prevention (CDC) and the National Tuberculosis Controllers Association (NTCA) recommend short-course treatments. These options allow you to complete your treatment in three or four months. If these options are not appropriate, then your healthcare provider will have you take six or nine months of treatment. Here are the possible treatment options:

- Three months of once-weekly isoniazid plus rifapentine (3HP)
- Four months of daily rifampin (4R)
- Three months of daily isoniazid plus rifampin (3HR)
- Six or nine months of isoniazid (6H or 9H, respectively)

As mentioned in earlier sections, there are some populations or groups of individuals that are at much higher risk for progression to active TB disease when exposed. These include infants, children, and people living with HIV. These populations may be given treatment if they have been exposed to TB, even if their TB test is negative, due to the increased risk. Please discuss this with your healthcare provider if you or your child is in one of these populations.

We recognize that LTBI treatment takes longer than treatment for many other bacterial infections, like pneumonia, that you may have had. This is because the TB bacteria is much slower growing than many other bacteria, and so it requires longer treatment. However, LTBI treatment is simpler and quicker than treatment for active TB disease. Remember that taking your complete treatment exactly as your healthcare provider tells you is the only way to prevent LTBI from developing into active TB disease.

WHAT DO I NEED TO KNOW **ABOUT LTBI TREATMENT?**

Depending on your treatment option, you will take medications either daily or weekly. It is very important that you take your medications exactly as your healthcare provider tells you, including taking the entire dose at the right time, and completing the full course. The medication works best at preventing development of active TB disease if you take it correctly.

Additionally, depending on the treatment option, you may need to meet with your healthcare provider to take your medicines. This is called directly observed therapy (DOT). DOT can be helpful as your healthcare provider can answer questions, address any side effects, and ensure you complete your treatment as soon as possible.

HORMONAL CONTRACEPTIVES AND ALCOHOL USE DURING LTBI TREATMENT

If you are currently taking hormonal contraceptives (birth control pills, implant, Nuvaring, Patch, depo provera, progesterone only pills), please note that TB medications can impact how well these medications work. Please discuss this with your healthcare provider and also use barrier methods, such as condoms, to prevent pregnancy.

Drinking alcohol, such as beer, liquor, or wine, while taking TB medicines can be dangerous. Please discuss any alcohol use with your healthcare provider.

WHY SHOULD I TAKE MEDICINE **IF I DON'T FEEL SICK?**

Even though you may not feel sick and cannot spread TB to others, as long as you have TB bacteria in your body, they have the potential to make you sick. The only way to get rid of TB bacteria is to take your complete course of LTBI treatment.

WHAT IF I **MISS A DOSE OF MY LTBI MEDICINE?**

If you forget to take a dose of your LTBI medicine, tell your healthcare provider at your next appointment. Make sure you do not take the extra dose, as taking more than one prescribed dose at a time is not recommended.

If you miss two weeks or more of your LTBI medicine, make an appointment with your healthcare provider as soon as possible to determine how to move forward with your LTBI treatment plan.

DO THE **MEDICATIONS HAVE SIDE EFFECTS?**

While most people are able to tolerate LTBI treatment medications very well, there are some common side effects. Most of these side effects are minor, but some may require immediate medical attention. Depending on the treatment regimen you are put on, you may experience the following:

- Orange-red discoloration of saliva, urine, tears, and other bodily fluids – this is normal and may fade over time
- Fatigue

If you experience serious side effects during your treatment, please contact your healthcare provider immediately. Serious side effects include:

- Dizziness or lightheadedness
- Loss of appetite
- Flu-like symptoms (e.g., fever, chills, headaches, dizziness, musculo-skeletal pain)
- Severe diarrhea or light-colored stools
- Shortness of breath
- Feelings of sadness or depression
- Fever
- Unexplained weight loss
- Brown urine (color of coffee or cola)
- Yellowish skin or eyes
- Rash
- Persistent tingling or prickling sensation of hands and feet
- Persistent tiredness or weakness lasting 3 or more days
- Stomach pain
- Easy bruising or bleeding
- Joint pain
- Nausea
- Vomiting
- Itching

WHAT COULD HAPPEN **IF I DO NOT COMPLETE MY TREATMENT?**

If you do not complete your full treatment course of LTBI medicines, the TB bacteria will remain in your body and can progress to active TB disease. Again, the only way to get rid of TB bacteria is to take your complete course of LTBI treatment.

WHAT HAPPENS **AFTER I COMPLETE MY TREATMENT?**

Once you complete your LTBI treatment, you will receive treatment completion documentation from your healthcare provider. This documentation will include TB test results, chest x-ray results, the names, dosage, and duration of your treatment medications, and your healthcare provider's information.

Make sure to keep this documentation in a safe and secure place, as you will need to present this documentation in the future whenever TB screening is requested. As any future TB test will remain positive, you don't need to be tested for TB in the future. However, always make sure to pay close attention to any of the signs or symptoms of active TB disease mentioned previously. Call your healthcare provider if you develop any signs or symptoms of active TB disease.

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Latent TB. Active Concern.
Tuberculosis Program

The Virginia Department of Health TB Program aims to prevent, treat, and eliminate TB to protect the health and promote the well-being of all people in Virginia.

For additional information, please visit our website at https://www.vdh.virginia.gov/tuberculosis/ or contact us at 804-864-7906 or tuberculosis@vdh.virginia.gov

VDH VIRGINIA DEPARTMENT OF HEALTH

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