

PHARMACY

Drug Information

Medications for Tuberculosis Treatment



What is Tuberculosis (TB)?

Tuberculosis is an infection caused by the bacteria *Mycobacterium tuberculosis*. Infection can occur by breathing in droplets containing bacteria that are sprayed into the air when an infected person coughs or sneezes.

There are two types of tuberculosis:

1. **Active Tuberculosis**
An infection with TB bacteria which presents symptoms. It is possible to spread the infection when you have untreated active tuberculosis.
2. **Latent Tuberculosis**
An infection with TB bacteria but with NO symptoms.

What are the Common Symptoms and Signs of Tuberculosis?

- Coughing for more than three weeks, and may be accompanied by blood-stained phlegm
- Fever
- Cold sweats at night
- Weight loss
- Pain in the chest

Your doctor may do an X-ray of your chest to observe for any unusual signs in your lungs, or a phlegm test to check for the presence of the tuberculosis bacteria under the microscope.

What are the Medications Used to Treat Tuberculosis?

Type of Tuberculosis	Medication Name
Active Tuberculosis	Usually a combination of the following four medications: <ul style="list-style-type: none"> • Rifampicin • Isoniazid • Ethambutol • Pyrazinamide
Latent Tuberculosis	Either: <ul style="list-style-type: none"> • Isoniazid, or • Rifampicin

What is the Duration of Treatment?

Treatment generally stretches across a period of 6 to 9 months. For active tuberculosis, the first two months usually consists of a combination of the four medications stated in the above table, and the remaining 4 to 7 months is completed using the two medications, Rifampicin and Isoniazid.

It is important to complete the entire course of medication, even when you start feeling better during the treatment. This ensures that the TB bacteria in your body is fully destroyed.



How Do the Medications Work?

Anti-tuberculosis medications are antibiotics that are specifically effective against the TB bacteria. These medications can complement one another to destroy TB bacteria.

How are the Medications Administered/Taken?

- These medicines are available in tablets or capsules. They are taken by mouth usually once a day.
- It is best to take the medications on an empty stomach, at least half an hour before food. However, if you are having stomach discomfort, you may wish to take them after food instead.
- Take your medications at the same time every day to maintain steady amounts of the medication in your bloodstream.
- If you miss a dose, take the missed dose as soon as you remember. Never take a double dosage of medication to make up for the missed dose.

Direct Observation Therapy (DOT)

- DOT refers to a healthcare worker or trained volunteer supervising the patient taking each dose of tuberculosis medications.
- Depending on your condition, you may need to attend DOT sessions to help you complete your course of treatment.
- The number of DOT sessions can range from daily to three times a week.

Can the Medications Be Taken/Administered with Other Medications?

- It is important that you inform your doctor or pharmacist if you are taking other medications – including those for existing medical conditions, chronic medications, oral contraceptives (birth control pills), over-the-counter medicines, supplements and traditional/herbal remedies – as they may interact with TB medications.

Are There Any Special Precautions That I Need to Take?

- Before starting tuberculosis treatment, please inform your doctor if you:
 1. Have pre-existing medical conditions such as kidney and/or liver problems, gout or previous allergy reactions
 2. Consume alcohol regularly
 3. Intend to conceive or breastfeed while taking this medication
 4. Are pregnant or breastfeeding
- Do not miss any dose of medication. This may lead to a relapse of tuberculosis, or a condition with a more resistant form of tuberculosis. In such cases, a longer duration of treatment may be needed.
- Avoid alcohol. Alcohol when taken together with Isoniazid, Rifampicin and Pyrazinamide may increase the risk of liver problems.
- Oral contraceptives may not work while you are on Rifampicin. Use a combination of different birth control methods to prevent unplanned pregnancy.
- If you have active tuberculosis, you are advised to stay at home for the first two weeks of your treatment. This is to avoid further spread of the bacteria, as you are more likely to be able to infect others with the TB bacteria during this period.
- If you need to leave the house, wear a surgical mask in public spaces and avoid crowded places. Avoid close contact with anyone who may have low immunity (including elderly, young children, pregnant women).
- After undergoing at least two weeks of effective treatment, you are generally considered non-infectious, provided that you continue with the remaining treatment.

What are the Important Side Effects and What to Do if You Experience These Side Effects?

Drug	Side Effect	Management
All TB drugs	Liver Inflammation <ul style="list-style-type: none"> Persistent nausea and vomiting Abdominal pain Yellowing of eyes/skin 	Seek medical attention immediately.
	Allergic Symptoms <ul style="list-style-type: none"> Persistent itching Rashes Facial swelling Shortness of breath 	Seek medical attention immediately.
	Flu-like Symptoms <ul style="list-style-type: none"> Fever Chills Feeling tired or weak 	Inform your doctor immediately.
	Unexplained Bruising or Bleeding	Inform your doctor immediately.
Rifampicin	Orange-Red Discolouration of Bodily Fluids <ul style="list-style-type: none"> Urine Tears Sweat 	This is a normal reaction by your body to the medicine. Do not be alarmed.
Ethambutol	Visual Changes <ul style="list-style-type: none"> Inability to distinguish red-green colours Blurred vision Eye pain Loss of vision 	Stop taking the medications and seek medical attention immediately.
Isoniazid	Nerve Problems <ul style="list-style-type: none"> Numbness Tingling sensations on your hands and feet 	Continue taking your medications and inform your doctor at your next visit. Taking Pyridoxine (Vitamin B6) will help to prevent or lessen this effect.

Do I Need Regular Monitoring When Taking These Medicines?

There are some tests that are required to better monitor and manage possible side effects from treatment of tuberculosis. These include:

- Regular blood tests, especially to monitor your liver function
- Eye tests to monitor your vision

What Else Can I Do to Manage This Condition?

1. Active Tuberculosis

If you have active tuberculosis and have close, regular contact with family members or friends, encourage them to visit a doctor to test for tuberculosis.

2. Latent Tuberculosis

If you have latent tuberculosis, early detection and undergoing appropriate treatment can help to prevent your loved ones from getting active tuberculosis in the future.

How Do I Store These Medications?

- Store your medication in a cool, dry place away from heat, moisture and direct sunlight.
- Please keep all medications out of reach of children.

If you have any problem with your treatment, please contact your doctor, pharmacist or nurse clinician.



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