



## What is preventative tuberculosis treatment?



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## What is preventative tuberculosis treatment?

Preventative tuberculosis treatment is medical treatment for people who are healthy, but who carry TB bacteria (TB is short for tuberculosis). The treatment is given to reduce the risk of the bacteria making people sick from tuberculosis later.

**People on preventative TB treatment are not sick from tuberculosis. They cannot infect others with tuberculosis.**

## What does it mean to carry TB bacteria without being sick?

Most people who get infected by TB bacteria do not fall sick. The TB bacteria remain “asleep” in their bodies. The immune defence system keeps the bacteria asleep. You can carry TB bacteria in your body for your entire life without ever falling sick from tuberculosis.

A very large number of people have dormant (sleeping) TB bacteria in their bodies. The World Health Organization estimates that globally, one in three people carry such bacteria. Only one out of ten of those who carry TB bacteria develop tuberculosis.

Carrying TB bacteria without being sick is known as having latent tuberculosis or latent tuberculosis infection (LTBI).

A person with latent tuberculosis:

- Is not sick from tuberculosis, and cannot infect others
- A skin test (Mantoux) or blood test shows that the person carries TB bacteria
- But a test from sputum or expectorate is negative (it shows nothing out of the ordinary)

## Why is TB medication given to people who do not have tuberculosis?

Preventative treatment with TB medicines is given to kill dormant (sleeping) TB bacteria in the body, in order to reduce the risk of becoming sick later.

The treatment makes it less likely that the person will develop tuberculosis later. To prevent means to hinder. This is why the treatment is called preventative treatment.

## Should everyone infected by TB bacteria take preventative treatment?

No, only those who have a particularly high risk of getting sick later. Those who are recommended to have such treatment are first and foremost:

- children and young people
- people with low immunity
- people on medication that weakens the immune system
- people with certain other diseases (such as diabetes and kidney failure)
- people who are HIV-positive
- people who are underweight (very thin)
- people who have been infected in the previous two years or less

If you belong to one of these groups, your immune system may be too weak to keep the bacteria “asleep”, and the risk of bacteria “waking up” and making you sick with tuberculosis is increased. Doctors therefore often recommend preventative TB treatment for anyone who belongs to one (or more) of these groups. Particularly if it is likely that you became infected during the last two years, as the risk of becoming sick is greatest in the first two years after becoming infected.

Sometimes people are recommended to take preventative medicines even if they don't belong to one of the risk groups. And some people are not recommended to take preventative medicines, even if they do belong to one of the risk groups. The doctor decides in each individual case whether a person should be recommended to take preventative treatment or not. The doctor bases the recommendation on a total assessment of the person's state of health and situation.

Some of those who carry TB bacteria will be recommended to see their doctor for regular check-ups for a period of time, but not to take preventative medicines. Through regular assessment, the doctor can follow up on a person's state of health. If there are any signs of the “sleeping TB bacteria” developing into active TB, the doctor will discover this and make sure that treatment is started immediately.

If you develop symptoms of tuberculosis, you must see your doctor immediately. Do not wait until the next check-up! The following are symptoms of tuberculosis:

- coughing that lasts for 2–3 weeks or longer
- loss of appetite
- weight loss (you become thinner)
- feeling weak and tired
- having fever over a period of time
- sweating at night
- swelling or lumps in the throat, armpits or groin.

The most common form of tuberculosis is lung TB, but one can also get TB in other parts of the body. Only TB of the lungs can be transmitted to others.

**Preventative TB treatment is voluntary. If you choose to take preventative treatment, it is very important that you complete the treatment.**

## Can I get TB later in life even if I have completed preventive TB treatment?

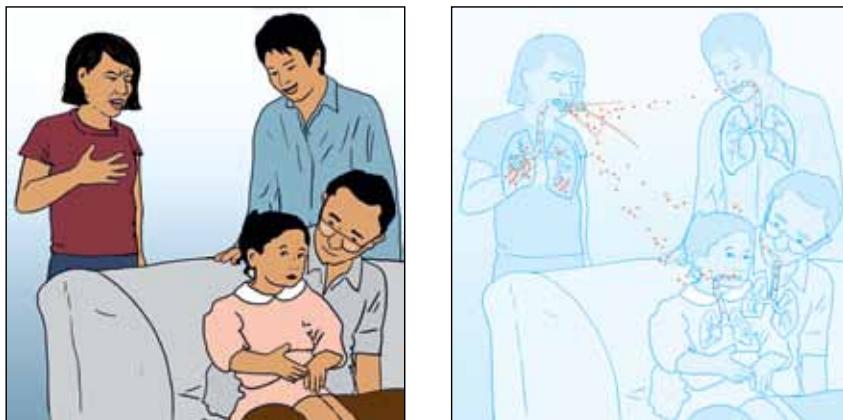
Preventative TB treatment makes it less likely that you will develop tuberculosis. It is estimated that the treatment halves the risk of falling sick from tuberculosis later in life. But even with preventative treatment, there is no absolute guarantee that you will not develop tuberculosis later.

A small number of TB bacteria can remain in the body after you have completed the treatment. In rare cases, these bacteria can “wake up” and make you sick at a later point.

It is also possible to be re-infected by tuberculosis. Preventative treatment only works on the bacteria you already have in your body during the treatment. It cannot protect you from being re-infected and perhaps becoming sick from “new” bacteria later in life. Preventative treatment does not make you immune to tuberculosis.

## How do you get infected with TB bacteria?

TB bacteria are spread through the air via droplets that are too small to be seen with the naked eye. When we cough, sneeze or speak, droplets travel from our lungs via our nose and mouth into the air. The droplets from the lungs of a person who has transmittable lung TB contain TB bacteria. If you breathe in this air, droplets containing TB bacteria may enter your lungs.



TB bacteria can enter your body if you breathe in the same air as a person who has the disease.

## Who can get infected by TB bacteria?

People who are in close contact **over a period of time** with someone who has transmittable TB of the lungs are at risk of becoming infected with the TB bacteria. TB bacteria do not transmit easily. It is therefore more likely to be infected by someone one lives with or has had close contact with over time. **But a person who has taken effective TB medications for two weeks cannot infect you.**

There are people with tuberculosis in every country in the world. Tuberculosis is most common in Asia, Africa, Latin America and Eastern Europe; therefore it is more likely that people from these areas are infected with tuberculosis.

Even if you have been vaccinated with BCG, you can be infected and develop TB disease. The BCG vaccine protects children against serious forms of tuberculosis, but it does not protect effectively against getting infected with TB bacteria.

## Why are so many people afraid of tuberculosis?

Lack of knowledge leads to fear of TB infection and TB disease. Many people know too little about the infection and the disease, and the difference between being infected with TB (having latent TB) and being sick with TB.

Lack of knowledge leads to fear and prejudice. Sometimes, people are afraid to eat with someone if they think that person has tuberculosis. They may even be afraid to talk to them, because they think they might get infected. It can be difficult to make other people understand that you are not sick, and that you cannot infect them, even if you are on preventative TB treatment. When they learn more about tuberculosis and how TB bacteria can be passed on from one person to another, people become less afraid.

You are not obliged to tell others that you are receiving preventative TB treatment.

**People on preventative TB treatment are not sick from tuberculosis.  
They can therefore not infect others.**

## How do I get preventative TB treatment?

If you choose to take preventative treatment, a personal treatment plan will be prepared for you. This is so that your treatment can be adapted to your individual needs.

The treatment plan will usually be prepared before the treatment begins, at a meeting between your doctor, the TB coordinator, and you. Sometimes, municipal health service staff or other health workers also take part in this meeting. At this meeting, you will also get to know who to ask if you have any questions during your treatment period.



Treatment plan meeting

You are free to bring a family member or a friend to the meeting. You also have the right to use an interpreter if needed. In this case, the health personnel arrange for an interpreter to be brought in.

Regular TB treatment and preventative TB treatment involve some of the same medicines. But normally, preventative treatment involves a shorter treatment period. Usually, two types of medication (rifampicin and isoniazid) are taken every day for three months. Sometimes, the treatment period is six months, with only one type of medication (isoniazid). One is usually asked to take blood tests after two weeks, and again after six weeks.

Some patients are given the medicines and take them without any day-to-day supervision. Others have the medicines brought to them every day by a health worker. This is called directly observed therapy, or DOT. Some patients get DOT during the initial treatment period, but take the medication on their own at home for the rest of the time.

### **Treatment without DOT**

Patients who take the medicines on their own are usually given medication to last them a week at a time. Some people remember to take their medicines regularly without any problems, but for others this can be more of a challenge. If you don't always remember, it may help to set an alarm or to leave notes for yourself. If you are uncertain about how or when you should take the medication, or have any other questions, please contact the TB coordinator or your doctor.

### **Treatment with DOT**

DOT (directly observed treatment) provides support for the patient throughout the treatment period, and ensures that the treatment is completed. You may not feel like taking your medication every day, particularly if there are side effects. Or you may forget. In order for the treatment to work, the medicine must be taken every day and the course of treatment must be completed. DOT ensures that this happens. DOT also means that a health worker can observe the effect and possible side effects of the medicine on you, and give you advice about these side effects and about the treatment in general.

What is the best DOT arrangement for you depends on your everyday life and your life situation. For example, if you work, you can ask the health worker to bring the medicine to your home before you go out in the morning. If you don't want to let health workers into your home, you can ask to go elsewhere for the medication, such as the nearest hospital, your regular doctor's (fastlege) surgery/office, or some other public health centre.



If there is a change in your situation or your needs during the treatment period, you can ask for changes to your treatment plan.

#### Preventative TB medication and other medicines

TB medication can make other medicines less effective. You must therefore tell your doctor about any other medicines you take.

#### Contraceptive pills do not protect against pregnancy while you are on rifampicin

You must therefore use other contraceptive methods, such as a condom or an intrauterine device ("coil" or "spiral").

### Possible side effects of the medication

Preventative TB medication sometimes gives side effects: while fighting the TB bacteria, the medication can have undesired effects on other parts of the body. This section gives you information about side effects and what you can do about them.

Patients have different reactions to the medicines. **Most patients on preventative TB treatment have no problems with side effects**, but some do. Such side effects usually decrease (become less of a problem) when the body gets used to the medication. This normally takes two to four weeks. Sometimes the side effects even disappear altogether.

Serious side effects are very rare, but they can occur. It is therefore very important that you report any pains or other side effects you experience to your doctor, your TB coordinator, or district nurse.

In rare cases, TB medications can cause a liver infection (hepatitis). For your doctor to be able to monitor how your liver is tolerating the medications, you will have several blood tests during the course of the treatment. In rare cases, it is necessary to terminate the treatment or to take a break.

**Visit your doctor immediately if** the whites of your eyes become yellow (jaundiced), if you have bad stomach pains, if you start to feel very nauseous (sick), if you vomit, if you experience fatigue (you become extremely unenergetic), or if a rash develops over large areas of your body.

**Alcohol:** Both alcohol and preventative TB medication are metabolised (“digested”) in the liver. If you drink alcohol while on a course of preventative TB treatment, you increase the risk of liver damage. If you want to drink alcohol, you should discuss this with your doctor first.

**Painkillers:** Some types of painkillers (those which contain paracetamol) are also metabolised in the liver. If you need to use painkillers, please discuss with your doctor which ones you should take and what the safe limits are.

Patients must pay themselves for medicines to treat side effects. Even if preventative treatment is free, the cost of medicines for side effects is not covered.

**It is important that you continue to take the medicine even of you experience side effects that make you feel sick.**

### Common side effects

The side effects we describe in this section are uncomfortable, but they are not dangerous. We also share advice from patients and health workers on how to treat these side effects without spending a lot of money. The suggestions are safe, and they do not make the TB medicines any less effective. If the methods suggested here do not help you, please contact your TB coordinator, your doctor or a district health nurse for more advice.

The most common side effects of TB medication are:

- Nausea (feeling sick)
- Red urine
- Digestive problems (stomach pains, hard or loose stools)
- Itching and rashes
- Fever
- Pain and swelling in the joints and the rest of the body
- Numbness; pins and needles in your hands and feet
- Feeling of weakness and tiredness
- Headaches

## Nausea

The medication can make you feel nauseous (sick). Sometimes, it can even make you throw up. Ensuring that you eat regularly may help. Try to eat small amounts with short intervals between each meal. Eating a little when you take the medicine may also help. (Even if you are generally recommended to take the medication on an empty stomach, it is ok to take it with a little food, if you feel this helps the nausea.) If you suffer badly from nausea, it is also possible to get medicines to treat it.



Patients have given this advice for coping with nausea:

- Suck on a piece of ginger, or put ginger in your tea or food
- Drink black tea before you take the medicine
- Drink small amounts of fruit juice now and then
- Suck on a piece of lime or lemon
- Put a little sugar in your mouth

## Red urine

All bodily fluids can turn red, pink or orange when you take preventative TB medicines. This is not dangerous. The reason is that the medication rifampicin contains red colouring.



## Stomach pains, hard or loose stools

Preventative TB medication can influence the bacteria that regulate digestion. This gives some patients stomach pains, and it may cause hard or loose stools.



Advice from patients and health workers about how to avoid hard stools:

- Eat dried fruit, especially prunes
- Eat soaked linseed
- Drink plenty of water
- If necessary, take a laxative (medicine for constipation) bought from a pharmacy
- Try to be physically active

If you have loose stools, this advice may help:

- Avoid drinking milk
- Avoid drinks containing a lot of sugar
- Eat products that contain live lactic acid bacteria
- Take lactic acid bacteria capsules

## Itching and rashes

Some patients on preventative TB treatment experience bad itching. The itching is caused by an allergic reaction to the medicines. Talk to your TB coordinator, your doctor or your district health nurse if you suffer this reaction. Your doctor may be able to prescribe an allergy medicine (anti-histamine tablets) that can help against the itching.



If the symptoms are not too bothersome, you can try this advice:

- Use a mild, unperfumed soap and unscented skin cream
- Use a non-prescription cream that helps against itching
- Put Aloe Vera (directly from the plant or in the form of Aloe Vera skin cream) on your itching skin
- For itching of the lower body, try light, loose-fitting underwear, preferably made from cotton

## Pain and swelling of the joints and other parts of the body

Some patients find that preventative TB medication causes pain in the joints and other parts of the body. If you experience this and find it bothersome, you should discuss it with your doctor. Your doctor can also give you advice about using painkillers. Many patients report that massage helps the pain.

## Numbness; “pins and needles” in the hands and feet

Some patients experience numbness, or a feeling of having pins and needles in their hands and feet. Some people can also feel as if they have pillows under their feet, making it difficult to walk steadily. This is called polyneuropathy. This condition can be prevented by giving patients vitamin B6 (pyridoxine) together with the TB medication.



## Headache

Some patients who take preventative TB medicines get headaches. If you get headaches, changing the time at which you take the medicines can help. If you wish to take painkillers for the headaches, you should discuss it with the doctor first.

## Feeling of weakness and tiredness

TB medication can also make you feel weak and tired. If it does, try taking the medication before you go to bed at night rather than in the morning. This may help reduce the discomfort.

**LHL (The Norwegian Heart and Lung Patient Organisation)**

Telephone: +47 22 79 90 00 | Fax: +47 22 22 50 37

Visiting address: Storgata 33 A, 6. etg, 0184 Oslo

P.O.Box 8766 Youngstorget, 0028 Oslo, Norway

post@lhl.no, www.lhl.no

**Preventative TB treatment is voluntary and free  
in Norway.**

**A person undergoing preventive TB treatment  
has TB bacteria in the body, but is not sick from  
tuberculosis. He or she cannot infect others with  
tuberculosis.**

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