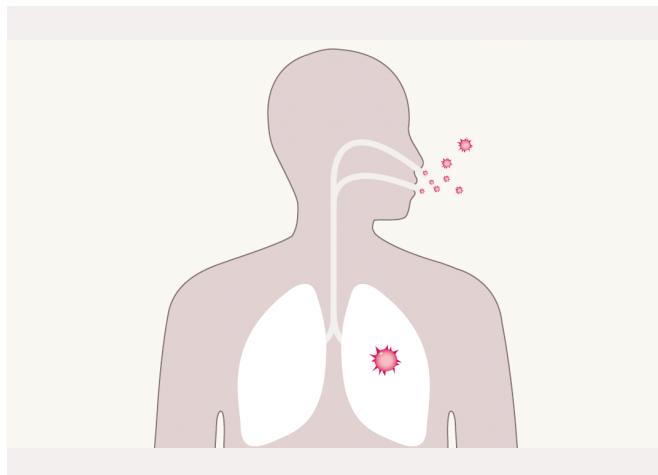


Factsheet Tuberculosis

Key points

- Tuberculosis (TB) is an infection that usually affects the lungs.
- It can be very serious, particularly for people living with HIV who have a low CD4 count.
- TB can be treated and cured.



Tuberculosis (TB) is an infection caused by bacteria. It usually affects the lungs, but can affect other parts of the body, including the stomach, bones and nervous system. It is a serious illness, but it can be cured.

TB is a significant cause of illness and death in people with HIV around the world. In the UK, it is one of the most common AIDS-defining illnesses. Although overall cases of TB in Europe have fallen in recent years, new cases in people living with HIV increased between 2011 and 2015.

TB is caused by a bacterium called *Mycobacterium tuberculosis* (*M.Tb*). It can be transmitted when someone with TB in their lungs coughs or sneezes, expelling the bacteria in little droplets.

The TB bacterium sometimes causes illness soon after the initial exposure, but usually a healthy immune system can prevent the TB bacterium from causing disease. If someone is ill because of TB, this is called active TB.

"Active TB can cause a large increase in HIV viral load."

When TB remains in the lungs but is kept under control by the immune system, this is called latent TB. People with latent TB are not infectious to others. However, the bacteria in the [lungs](#) may cause disease years later, and this is called reactivation TB.

People living with HIV are at greater risk of becoming ill with TB when first exposed to the bacteria. If they have a weakened immune system, this makes them much more likely to develop reactivation TB.

Symptoms of TB

TB most often affects the lungs, causing symptoms such as:

- a cough lasting for more than three weeks (often with phlegm, which may have blood in it)
- loss of appetite
- [weight loss](#)
- tiredness
- night sweats
- fever
- swellings in the neck
- breathlessness that gets worse over time.

The bacteria may spread to other parts of the body, causing symptoms including a persistent headache, pain and stiffness in the joints, swollen glands over a long period, confusion and stomach pain. TB in other parts of the body is more common in people with a low [CD4 cell count](#).

Without treatment, TB is a potentially life-threatening condition.

Active TB can cause a large increase in HIV [viral load](#) in people not taking HIV treatment, which usually decreases again once the TB is properly treated.

Preventing TB

For HIV-negative people there is a live vaccine against TB known as the BCG vaccine. This is only given to people under 35, as it does not work well in adults. It should not be given to people living with HIV, because there is a small chance that it might cause a TB-like illness.

Simple measures, like opening windows, can reduce the risks of TB transmission. Although TB is infectious, it is not as contagious as illnesses such as the common cold. You need to spend a lot more time in close contact with someone with active TB to be at risk of infection. People are most at risk if they live in close contact, especially in crowded conditions, and if they have a weakened immune system. This may be from a low CD4 cell count, but can also include people who are very young or very old, or who have poor health for other reasons, including a poor [diet](#), or [alcohol](#) or [drug use](#).

It is important to avoid close contact with people who have active TB until they are non-infectious. If you think you have been exposed to TB, you should see your doctor as soon as possible.

Tests for TB

There are several ways to test for TB. If you have symptoms of TB in the lungs, your doctor may arrange for you to have a chest X-ray and for a sample of phlegm to be examined in a laboratory.

If you do not have symptoms, there are several different types of test that can check for latent TB. One of these is a skin test called a PPD test (or Mantoux test) and a positive test result means that you have been exposed to TB. However, some people living with HIV do not respond to skin tests such as the PPD test, because of immune damage. If you have had the BCG immunisation against TB, you may get a positive result with the PPD test even though you have not been exposed to TB.

A new, quicker and more reliable blood test has been developed called an interferon gamma release assay (IGRA). This is the test that the current British HIV Association (BHIVA) guidelines recommend for people living with HIV who need to be tested for latent TB. If your CD4 cell count is under 200, you may have both an IGRA and a Mantoux test.

Tests for TB outside the lungs include blood and urine tests, CT and other scans, and biopsy.

Treating TB

If you are living with HIV and have latent TB infection, the British HIV Association (BHIVA) guidelines recommend a course of the anti-TB drug isoniazid for six months or a combination of the anti-TB drugs rifampicin and isoniazid for three months. This preventive treatment has been shown to reduce the risk that you will develop active tuberculosis. Starting HIV treatment will also reduce the chance of TB reactivating.

It is recommended that all people living with HIV and TB start HIV treatment as soon as their TB is diagnosed, if they are not already taking it. If your CD4 cell count is less than 50, you will start treatment for TB and wait 8 to 12 weeks before starting HIV treatment. This is to reduce the chance of drug interactions and a sudden inflammatory reaction to the presence of TB bacteria. This reaction can be caused by the revival of the immune system after starting HIV treatment (see below).

[Active TB is treated with a combination of antibiotics.](#) Successful treatment usually requires at least six months of therapy, without missing doses. Like HIV treatment, it is very important that TB treatment is taken as prescribed. The recommended treatment in the UK will usually include the anti-TB drugs rifampicin and isoniazid.

You should no longer be infectious after two weeks of treatment for TB, but it is important that you continue with your treatment until the end of the course.

Like HIV, the TB organisms can develop resistance to drugs, and some strains are resistant to several different drugs. These strains can cause very serious disease called multidrug-resistant TB (MDR-TB), and can be transmitted to others. MDR-TB can usually be treated successfully after identifying which drugs the organisms are still susceptible to. Some strains of TB are resistant not only to first-line drugs, but also to many of the second-line drugs as well. This is called extensively drug-resistant TB (XDR-TB), and many of the cases seen so far have been in people living with HIV. Normal prevention methods can reduce the risk of MDR- and XDR-TB.

A lot of care is needed if using TB and HIV treatment at the same time.

Firstly, some anti-HIV drugs can interact with anti-TB drugs. There are other options of effective anti-HIV drugs you can take instead.

Secondly, receiving HIV treatment when you have active TB can cause what's called an [immune reconstitution inflammatory syndrome \(IRIS\)](#). This can make you ill and involve unpleasant symptoms. This may affect you when you start HIV treatment.

Doctors sometimes recommend treatment using something called DOTS – Directly Observed Therapy, Short-course. This means you may have your treatment at hospital or somewhere else where a healthcare professional can make sure your drugs are taken at the right time and for the whole course. This helps ensure the treatment is as effective as possible.

Find out more

TB and HIV Basic leaflet with pictures

How TB is passed on Basic leaflet with pictures

The lungs Simple factsheet