

Tuberculosis (TB)

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Topic Overview

What is tuberculosis?

Tuberculosis (TB) is an infection caused by slow-growing bacteria that grow best in areas of the body that have lots of blood and oxygen. That's why it is most often found in the lungs. This is called pulmonary TB. But TB can also spread to other parts of the body, which is called extrapulmonary TB. Treatment is often a success, but it is a long process. It takes about 6 to 9 months to treat TB.

Tuberculosis is either latent or active.

- **Latent TB** means that you have the TB bacteria in your body, but your body's defenses (immune system) fight the infection and try to keep it from turning into active TB. This means that you don't have any symptoms of TB right now and can't spread the disease to others. If you have latent TB, it can become active TB.
- **Active TB** means that the TB bacteria are growing and causing symptoms. If your lungs are infected with active TB, it is easy to spread the disease to others.

Exams and Tests

Diagnosing active TB in the lungs

Doctors diagnose active tuberculosis (TB) in the lungs (pulmonary TB) by using a medical history and physical examination and by checking your symptoms (such as an ongoing cough, fatigue, fever, or night sweats). Doctors will also look at the results of:

- Sputum cultures. Testing mucus from the lungs (sputum culture) is the best way to diagnose active TB. If TB bacteria grows from your samples, sensitivity testing is done on the bacteria. These tests will show which medications will kill the bacteria. Results of sensitivity tests can take between 1 and 6 weeks because TB-causing bacteria grow very slowly. Your doctor may start treatment before results are returned if it's likely that you have TB.
- Chest X-rays. A chest X-ray cannot diagnose active TB. A chest X-ray usually is done if you have:
 - A positive tuberculin skin test (also called a TB skin test, PPD test, or Mantoux test).
 - Symptoms of active TB, such as a persistent cough, fatigue, fever, or night sweats.
 - An uncertain reaction to the tuberculin skin test because of a weakened immune system, or to a previous bacille Calmette -Guerin (BCG) vaccination.

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Why It Is Done?

The TB test(s) is not used as a general population screen but is used to screen particular populations at high-risk for TB exposure, such as:

- Those with diseases or conditions that weaken their immune systems, such as those with HIV or AIDS, that make them more vulnerable to a TB infection
- those who are in confined living conditions such as nursing homes, schools, and correctional facilities
- healthcare workers and others whose occupations bring them in close contact with those who may have active TB
- those who have been in close contact with someone who has an active case of TB;

- those who come from or have lived for a period of time in a foreign country where TB may be more common.

The TB skin test is also used sometimes as part of a routine examination prior to starting school or a new job. Since mothers can pass TB to their unborn children, pregnant women are sometimes screened.

The TB skin test is used to help diagnose latent TB infection or active disease. If your doctor suspects that you have active tuberculosis, other tests, such as chest X-rays and [AFB cultures](#), are used to confirm the diagnosis.

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How to Prepare

No special preparation is needed before having this test.

Talk to your Doctor about any concerns you have about the need for the test, its risks, or how it will be done.

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How It Is Done

For Blood sample Test

The health professional drawing your blood will:

- Wrap an elastic band around your upper arm to stop the flow of blood. This makes the veins below the band larger so it is easier to put a needle into the vein.
- Clean the needle site with alcohol.
- Put the needle into the vein. More than one needle stick may be needed.
- Attach a tube to the needle to fill it with blood.
- Remove the band from your arm when enough blood is collected.
- Apply a gauze pad or cotton ball over the needle site as the needle is removed.

Apply pressure to the site and then a bandage

For Sputum Sample Test

Sputum Samples are collected in sterilised bottles as provided by the lab.

Montaux Test

An injection is applied on the forearm and patient is advised not to apply water on that specific spot for 48 Hrs.

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Results

Results from the physical exam may include:

Normal

- The sounds your lungs make while you breathe are normal.
- You do not have a cough or a fever.
- There are no signs of TB infection outside the lungs (extrapulmonary TB).

Abnormal

- The sounds your lungs make while you breathe indicate a problem.
- You have a cough or a fever.

Results from Montaux Test

Doctor will interpret your test results by looking at the injection site on your forearm at 48 or 72 hours (in most cases). A positive result will form a red and swollen circle at the site of the injection. The size (diameter) of the swollen raised circle determines whether exposure to TB has occurred. The size that is considered positive varies with the health status and age of the individual

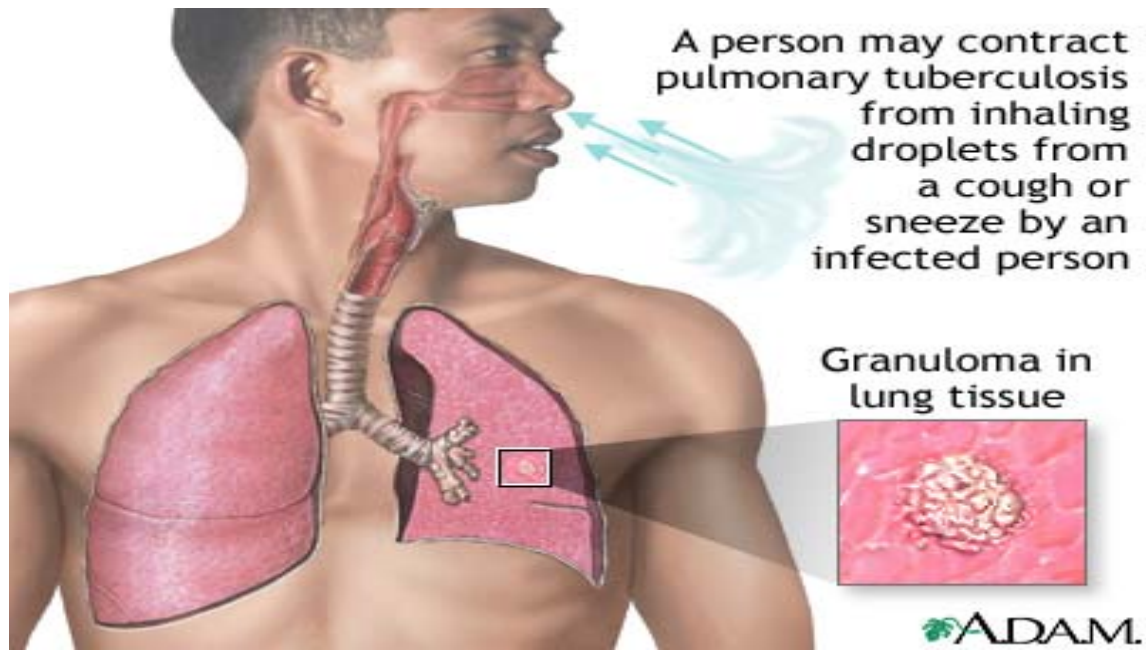


IMAGE: Showing Lung TB



IMAGE 2: SHOWING MANTOUX TEST

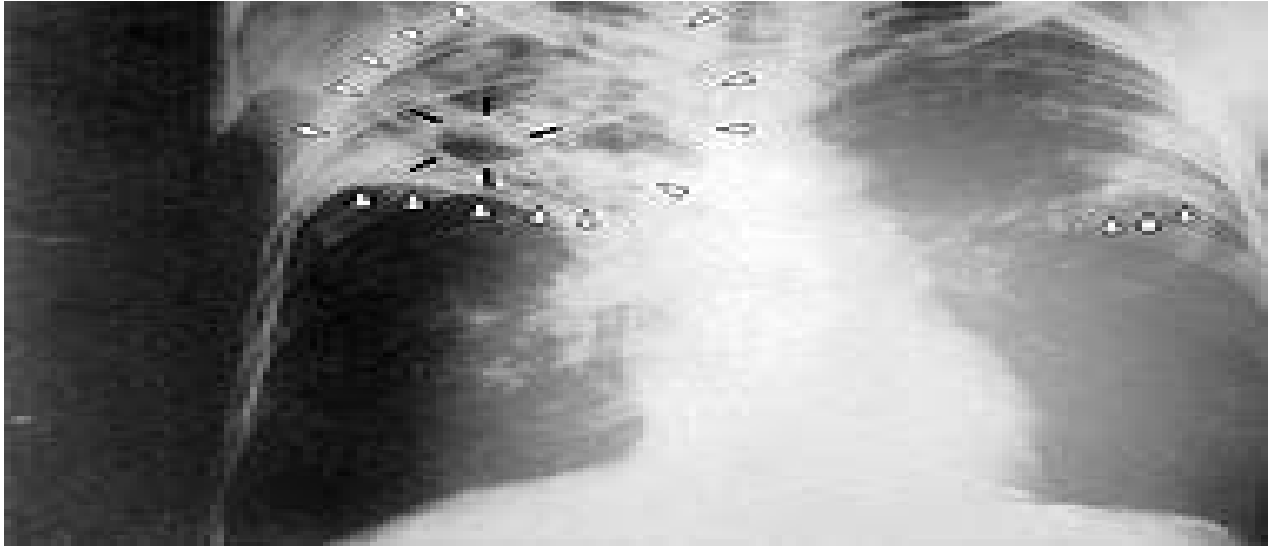


IMAGE 3: X-RAY SHOWING TB

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