

Tuberculosis

Frequently Asked Questions

1. What is tuberculosis?

Tuberculosis or TB is an infectious disease caused by a bacteria called *Mycobacterium Tuberculosis*. The bacteria can enter the body, usually the lungs, and make a person sick by damaging the tissues that it reaches.

2. How do you get TB?

When a person with TB of the lungs coughs, shouts or sings, TB bacteria is expelled into the air. The bacteria is carried within tiny, invisible droplets of moisture that can float in the air for several hours. Any person who inhales these droplets can become infected with TB. It does not matter if that person is rich or poor, educated or illiterate, malnourished or obese. The person who breathes in the TB bacteria will have TB infection.

TB is not caused by perspiration drying on one's back, by over-exertion or fatigue.

TB is not caused by smoking or pollution—although these clearly damage the lungs.

TB is not caused by poor nutrition, - although this could make a person who inhales a TB bacterium more likely to develop TB disease.

TB is not transmitted through food or drinks or using other utensils.

TB is acquired through exposure to someone sick with active TB of the lungs.

3. What is TB infection?

If you have spent some time at home, in school, at work or elsewhere, with someone who has active TB of the lungs, you may have unknowingly inhaled the TB bacteria. If you have breathed in the TB germ, then you have been “infected” (you have TB infection). This is different from TB disease. IN TB infection the TB bacilli do not cause tissue damage. Unlike those with TB disease, persons with TB infection do not have any symptoms. If their immune systems are normal, only one out of ten persons with TB infection will later develop signs and symptoms of TB disease. The other nine out of ten will have no manifestations of TB disease and will remain healthy. If HIV infection, cancer, malnutrition, immunity-suppressing drugs or other conditions have weakened their immune systems, the TB-infected persons will soon develop active TB disease.

4. How do you know if you have TB infection?

If you have been in contact with someone diagnosed to have active pulmonary TB, you can be tested for TB infection. The recommended test for TB infection is the tuberculin skin test using the Mantoux method where the tuberculin (or PPD) is injected into the skin. This is read after 48 to 72 hours. The skin tests using the multiple-prong or prick devices are not recommended.

Your doctor must read the skin test and if this is found to be positive, he must look for evidence of typical tissue damage caused by TB by ordering a chest x-ray. If your tuberculin skin test is positive but you have no symptoms and your chest x-ray is normal, then you have TB

infection. If you have findings on chest x-ray compatible with Tb and your skin test is positive, then you have TB disease particularly if you have symptoms that suggest active pulmonary TB (see TB disease).

5. Is TB infection contagious?

No. TB infection is not infectious to others. In TB infection, there has not been enough tissue damage (unlike in TB disease) to cause symptoms. A person with TB infection does not have bacteria in his or her lungs that can be coughed out into the air and infect others.

6. Does TB infection have to be treated?

Not all persons with TB infection are given treatment by their physicians. Only one out of ten persons with TB infection will eventually develop TB disease (become sick with the symptoms of TB). Unfortunately it is impossible to identify which person who becomes TB infected will be the one who later develops TB disease. But it is possible to treat the person with TB infection with an anti-TB medication to eliminate the chances of developing TB disease.

The medication used to treat infection (isoniazid or INH) can cause liver toxicity particularly in older individuals. This must be weighed against the benefit of treating TB infection (elimination of the 10% chance of developing TB disease).

Some individuals with TB infection may choose not to be treated. These persons should be informed about the symptoms of TB disease and should be instructed to visit physician for evaluation should they ever develop these symptoms.

7. What is TB disease?

When the infecting TB bacteria are not neutralized by a person's immune system, they can multiply and travel to other parts of the body. The fight between these TB germs and the body's immune system can result in tissue destruction in the body part that the bacteria reach. This will produce the symptoms and signs of TB disease. Although any part of the body can be involved, the body site most commonly affected with TB disease is the lung (pulmonary TB). TB disease outside the lungs and throat is not contagious.

When someone with active TB (disease) of the lungs or throat coughs or sings, the TB germs are propelled into the surrounding air ready to infect the next person who inhales them. The phlegm or sputum coughed out by these persons may show the TB bacteria if examined under the microscope (smear-positive cases). These are the most infectious cases of TB and must be treated and cured to stop the spread of TB in our communities.

8. What are the symptoms of TB disease?

- cough that does not go away for 3 weeks
- coughing up blood
- prolonged fever
- night or afternoon sweats
- constant tiredness
- loss of weight and loss of appetite

Any person who develops these symptoms must be evaluated by their physician for the possibility of TB disease.

9. What are the tests for TB disease?

1. Sputum examination for Acid-Fast Bacilli (AFB smear).

This is done by smearing a sample of coughed-up phlegm (sputum) on a glass slide, treating this with special dyes and then examining the specimen under a microscope. If TB bacilli are seen then the patient has active TB disease. It is best to have three separate sputum specimens examined to increase the likelihood of finding these bacilli. Unfortunately these Acid-Fast Bacilli are not always seen on sputum examination even in persons with active lung TB.

2. Chest x-rays

This may be helpful in cases when the Acid-Fast Bacilli are not seen on sputum examination. However, chest x-rays with findings suggestive of TB are not definitive proof that the disease is really TB. There are other diseases that may mimic the appearance of TB on chest x-rays. It is also frequently difficult to judge if the lung disease is active or not by chest x-ray.

3. TB culture of sputum or other specimen

This is done by growing the TB bacteria in the laboratory but this is expensive and may require up to 8 weeks for final results.

10. What is the treatment for TB disease?

Persons with TB can be cured through **regular and complete intake of the prescribed anti TB medications**. Because patients frequently stop taking their medications before completing treatment, the **Directly Observed Treatment, Short-course (DOTS)** strategy is recommended.

The strategy requires that the health providers use sputum microscopy (AFB smears) for diagnosis. Your doctor should use standard treatment regimens. Make sure your health is closely observed by your physician.

Isoniazid (INH), rifampicin and pyrazinamide

- Given to new cases of TB for the first two months. INH and rifampicin are continued for another four months.
- In the Philippines, it is prudent to treat new cases with a fourth drug (ethambutol or streptomycin) during the first two months due to the high levels of INH resistance in the country.

11. What is the best way to prevent the spread of tuberculosis?

The best way to prevent the spread of tuberculosis is to treat and care all patients with active pulmonary tuberculosis. The vaccination for TB known as BCG may prevent children from developing the most severe forms of TB.

12. What should you do if someone you have spent a lot of time with is diagnosed to have active pulmonary TB?

See your doctor and ask him to determine if you have developed TB infection.

Source: Department of Health | Republic of the Philippines