

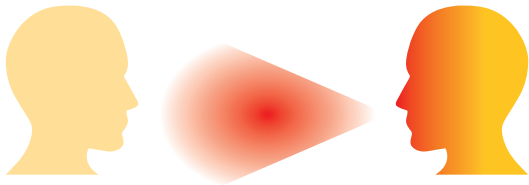
HealthAlert Tuberculosis

Tuberculosis (TB) is a contagious (communicable) airborne disease that is caused by the bacterium *Mycobacterium tuberculosis*. It typically affects the lungs (pulmonary TB), but can also affect other parts of the body, like the kidney, brain, and spine. Tuberculosis is one of the top ten causes of death worldwide.

One-third of the world's population (~2 billion people) is infected with tuberculosis.

HOW IS TB SPREAD?

The disease spreads through the air when a person sick with pulmonary TB coughs, sneezes, speaks, or sings. People near the sick person can breathe these germs (see image below) into their lungs and get infected (latent infection). In the lungs, the bacteria begin to grow, and from there can move through the blood to other parts of the body.



Transmission generally requires prolonged close contact. People with pulmonary disease most likely spread the disease to people they are regularly in close contact with such as family members, friends, coworkers, and schoolmates.

Mycobacterium tuberculosis



Source: CDC

TB is NOT spread through handshaking, kissing, sharing food, drinks, toothbrushes, or toilet seats.

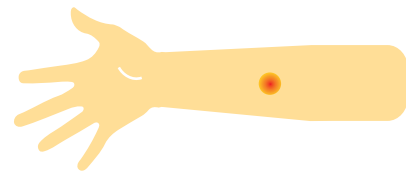
WHAT I NEED TO KNOW...

- TB is transmitted via airborne droplets from an infected person.
- TB is NOT spread through handshaking, kissing, sharing food, drinks, toothbrushes, or toilet seats.
- TB is treatable and curable.
- Contact biosafety@usc.edu or (323) 442-2000 for more information.

WHAT ARE THE SYMPTOMS?

Latent TB - A strong immune system usually can prevent an infected person from becoming sick. This is known as latent infection. The only sign of latent infection is a positive TB blood test by the Interferon Gamma Release Assay (IGRA). IGRA, unlike the TB skin test (Mantoux; see image below), is not affected by prior vaccination with BCG (bacille Calmette-Guerin).

Positive TB skin test (Mantoux)



Individuals with latent TB will show no symptoms and are not contagious. According to the CDC, five to ten percent of latent infected individuals will develop TB disease at some time of their lives.

Active TB - People with pulmonary TB become sick when the bacteria grows in the lungs and spread to other parts of the body.

Individuals with active TB may show symptoms in the first few weeks after infection with the bacteria or years later.

Signs and symptoms of active TB include:

- Fever, chills, and night sweats
- Unintentional weight loss,
- Fatigue, weakness
- Coughing that lasts three or more weeks
- Chest pain, pain with breathing or coughing (pulmonary TB)
- Coughing up blood (pulmonary TB).
- Back pain (TB of the spine)
- Blood in urine (TB of the kidney)

WHO IS AT RISK?

Tuberculosis is mainly seen in adults and the risk increases with age. Children in households with active TB are also at higher risk.

The following factors increase the risk that a latent disease will develop into an active disease:

- Malnutrition
- Alcohol abuse
- HIV/AIDS
- Head or neck cancer, leukemia, or Hodgkin's disease
- Corticosteroids or other medications that suppress the immune system
- Smoking
- Diabetes
- Poor housing quality and close living quarters
- Foreign-born individuals from areas of high TB incidence

IS THERE A TREATMENT FOR TB?

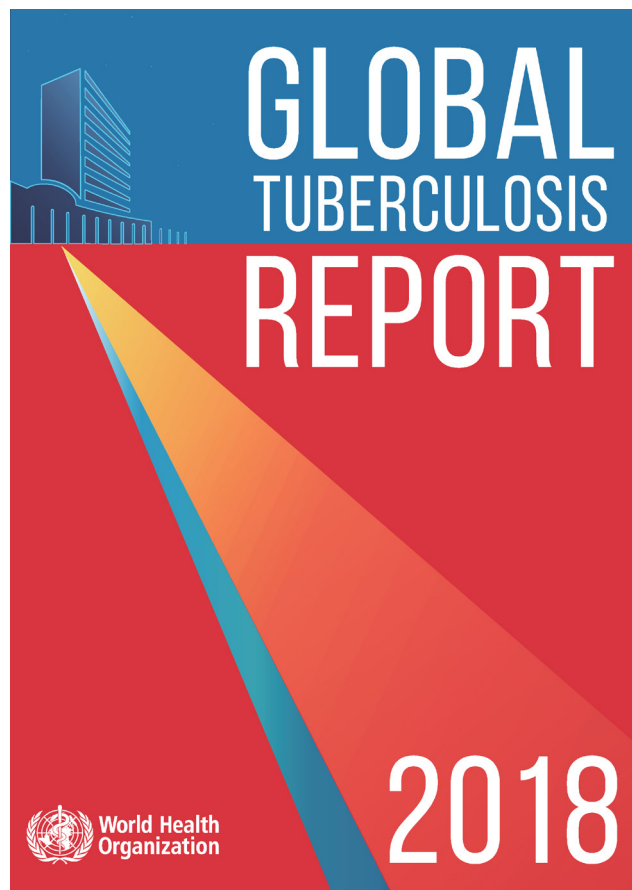
Yes. TB is treatable and curable. There are effective treatments available to treat both latent and active TB. Even though people with latent TB feel well, treatment of latent TB is strongly encouraged to prevent future health problems.

However, the biggest danger to TB treatment is resistance resulting from patients not completing their medication regimen as several months of medication are required.

CAN TB BE PREVENTED?

Yes. Avoid exposure to people with active TB disease. Avoid crowded, enclosed environments such as clinics, hospitals, prisons, and homeless shelter populations where people with active TB may be in close contact.

In countries with high prevalence of TB, BCG vaccination may reduce the propensity for certain types of infection, but is not recommended in the United States.



REFERENCES

- [Global Tuberculosis Report WHO 2018](#)
- [Tuberculosis: General information](#)
- [TB Elimination: BCG vaccine](#)
- [Stop TB CDC](#)