

# COMPREHENSIVE GUIDE TO TUBERCULOSIS (TB)

## Description

Tuberculosis (TB) is a serious infectious disease caused by a bacterium called *Mycobacterium tuberculosis*. While it primarily attacks the lungs (pulmonary TB), it can also affect other parts of the body, such as the spine, brain, or kidneys (extrapulmonary TB).

## History

Tuberculosis has coexisted with humans for thousands of years, earning names like "Consumption" and "The White Plague":

- Ancient Evidence (c. 5000 BC): Scientists have found evidence of TB in human skeletons dating back to the Neolithic period and in Egyptian mummies from 2400 BC.
- The "Phthisis" Era (c. 460 BC): Hippocrates identified phthisis (Greek for "wasting away") as the most widespread and fatal disease of his time.
- The White Plague (1700s–1800s): During the Industrial Revolution, TB reached epidemic levels in Europe and North America due to crowded urban living. It was called the "White Plague" because of the pale appearance of those infected.
- Discovery of the Germ (1882): On March 24, 1882, Dr. Robert Koch announced the discovery of *Mycobacterium tuberculosis*, proving the disease was bacterial and not hereditary.
- The Cure (1940s): The discovery of streptomycin in 1943 provided the first effective antibiotic treatment, turning TB from a death sentence into a curable condition.

## How the Disease Spreads

Tuberculosis is **airborne** and spreads through the air from one person to another.

- Transmission: When someone with active lung TB coughs, sneezes, speaks, or sings, they release tiny droplets containing the bacteria into the air.
- Infection: You can become infected by breathing in these droplets.
- What DOES NOT spread TB: Unlike common myths, TB is not spread by:
  - Shaking hands or touching surfaces.
  - Sharing food, drinks, or toothbrushes.
  - Kissing.
  - Sharing bed linens or toilet seats.

## Common Symptoms

Symptoms depend on where the bacteria are growing. **Pulmonary TB** (in the lungs) is the most common and includes.

- Persistent Cough: A cough that lasts 3 weeks or longer.
- Hemoptysis: Coughing up blood or rust-colored sputum (phlegm).
- Chest Pain: Pain when breathing or coughing.
- Systemic Symptoms:
  - Unexplained weight loss and loss of appetite.
  - Night sweats (often drenching).
  - Fever and chills.
  - Persistent fatigue or weakness.

## When to Visit a Doctor

Because TB can be fatal if untreated, you should see a healthcare provider if:

- You have a cough that lasts more than 3 weeks.
- You are coughing up blood.
- You have been in close contact with someone known to have active TB.
- You have a weakened immune system (e.g., from HIV, diabetes, or certain medications) and develop a fever or unexplained weight loss.
- Emergency Signs: Seek immediate care for severe chest pain, sudden difficulty breathing, or a severe headache and neck stiffness (which may indicate TB meningitis).

## Preventative Measures

Prevention involves both protecting yourself and stopping the spread if you are already infected:

- BCG Vaccine: In many countries where TB is common, infants receive the Bacille Calmette-Guérin (BCG) vaccine to prevent severe forms of TB in children.
- Ventilation: TB germs spread easily in small, closed spaces. Opening windows and using fans to circulate fresh air reduces the concentration of bacteria.
- Latent TB Treatment: If you test positive for latent TB, taking "preventative therapy" (a course of antibiotics) can stop it from ever turning into active disease.