

# TUBERCULOSIS

Written by U.S Immigration News  
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Tuberculosis (TB) is a disease caused by a bacillus (*Mycobacterium tuberculosis*) which primarily affects the lungs. It is spread by tiny droplets carried in the air when an infected person sneezes, coughs or talks. It is a disease of global concern with a new person being infected every second. It is estimated about one third of the world's population is infected.

## How TB is contacted and spread

It is spread through the air when someone infected in the lungs coughs, sneezes, talks or spits.

It is not every infected person that becomes sick because the body defenses (immune system) can curtail the bacilli and it will remain in an inactive form for years.

## Symptoms and signs

- Inactive infection: person infected with TB bacilli but without any medical problems. This is referred to as latent TB. The person cannot infect someone else with TB.
- Active TB: Person infected and sick with TB. The person can transmit TB. It may take years before florid symptoms develop.
  - Prolonged cough with or without blood in the phlegm
  - Unexplained loss of appetite, tiredness and weight loss
  - Low grade fever
  - Sweating in the night

**Extra pulmonary TB** (TB outside the lungs): symptoms depends which part of the body is involved. In the spine it causes backache that does not respond to conventional treatment.

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Bloody urine when the kidney or urine tract is infected. It can also affect the brain, bones, joints, muscles and adrenal glands.

## What are the risk factors for TB

**Decreased immunity** (weakened body defense): some cells in the body (Macrophages) can wall off TB bacterium. If immunity is weakened, macrophages will not effectively keep TB bacterium under check. Diseases that weaken the immune system include diabetes, HIV/AIDS, cancer, certain medications (steroids, chemotherapy) and poor nutrition. Drug abuse also weakens the immune system.

**Nationality from area with high infection rate:** South East Asia, sub Saharan Africa, Latin America, former Soviet Union (have increased incidence of drug resistant TB).

**Close proximity to infected person:** requires close and prolonged contact.

Poor living condition: overcrowding as in shelters, refugee camps and correctional facilities.

**International travel:** especially to areas of high TB prevalence.

**Health care workers:** exposed to people with TB.

## How TB is diagnosed

1) Mantoux test: A skin test in which a small dose of PPD solution is injected into the inner aspect of the forearm. The test is read in 48-72 hours. The test is said to be positive if there is a

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hard, raised bump at the injection site. The amount of the bump is measured in millimeters. Positive values vary based on the risk factors (5mm for people with HIV, on steroid therapy or who had contact with infected people; 10mm for immigrants, others with certain diseases and health workers and 15mm for US born people without any risk factors). A positive test does not imply active TB. Further testing with chest X-Ray will be done.

The test is not perfect. Some people with suppressed immune system or active TB may have a false negative result.

Other test

2) Blood test recently approved by Food and Drug administration: QuantiFERON-TB Gold test (QFT).

Other Testing: used to diagnose active TB

- Chest X-Ray
- Sputum and blood culture if Chest X-Ray is suggestive of active TB.
- Urine culture

### **Treatment**

Latent TB: treated with isoniazid INH for 6-9months

Active TB: supervised treatment with multiple medications.

### **Bacillus of Calmette and Guerin Vaccination (BCG) and TB**

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Countries with high prevalence of TB, routinely administer BCG Vaccinations. Since the risk of getting a TB infection is low, BCG is not routinely recommended in the US.

According to CDC "Tuberculin reactivity caused by BCG vaccination wanes with the passage of time and is unlikely to persist >10 years after vaccination in the absence of M. tuberculosis exposure and infection." As such immigrants who were previously vaccinated with BCG in their countries are not exempted from preventive treatment when they have a positive TB test.

### Take Home Message

Tuberculosis is an easily detected and curable disease. The government has many free testing centers and also offers free treatment for both previous exposures to TB and active TB. Untreated TB can result in serious complications, so do not delay to seek help.

Dr. Oluwatoyosi Dairo can be contacted at **Amazing Medical Services, 110-16 Sutphin Blvd, Jamaica NY 11435 or by phone at (718) 526 7600.**

The health columns are for educational purposes only and are not intended to replace the advice of your doctor.