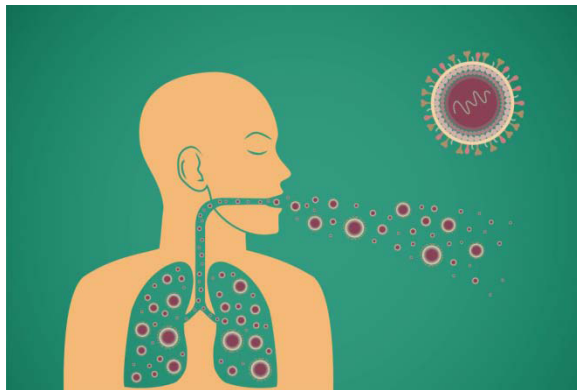


FACT SHEET

Understanding Tuberculosis Exposure Risk and Detection

Tuberculosis (TB) is caused by a bacterium – *Mycobacterium tuberculosis*. TB usually attacks the lungs, but it can also affect other parts of the body including the kidneys, spine and brain. If not treated properly, TB can be fatal.

Exposure Risk



TB is spread through the air from one person to another. Bacteria are expelled into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks or sings. People nearby may breathe in these bacteria and become infected.

TB is *not* spread by:

- shaking someone's hand
- sharing food or drink
- touching bed linens or toilet seats

In most instances, a healthy body is able to stop the bacteria from growing. However, TB is one of the world's deadliest diseases:

- One third of the world's population is infected with TB

- In 2013, 9 million people became sick with TB disease and there were about 1.5 million TB-related deaths worldwide.
- A total of 9,582 TB cases (3.0 cases per 100,000 persons) was reported in the United States in 2013, fewer cases than in 2012.

Signs and Symptoms

Inactive TB bacteria can remain alive in the body and can become active later. People with latent TB infection:

- Have no symptoms
- Are not contagious
- Usually have a positive skin test reaction
- Can develop active TB disease if they do not receive treatment for latent TB infection

Many people who have latent infection never develop active TB. However, in some people, particularly among those with weak immune systems, the bacteria become active and cause TB disease. Susceptible populations include babies and younger children, the elderly and adults who:

- Were infected with TB bacteria in the last two years
- Inject illicit drugs
- Are sick with other diseases that weaken the immune system
- Did not receive correct treatment for TB in the past
- Who work or receive care in health-care facilities

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When active bacteria begin to multiply in the body, they destroy tissue. If this occurs in the lungs, the bacteria can create a hole in the lung. TB in the lungs may cause symptoms such as:

- A bad cough that lasts three or more weeks
- Pain in the chest
- Coughing up blood or sputum (phlegm from deep inside the lungs)
- Weakness or fatigue
- Weight loss
- No appetite
- Chills and fever
- Sweating at night

People with active TB disease are most likely to spread germs to others with whom they spend prolonged time every day, particularly family members. People who are concerned about potential exposure to someone with active TB disease are advised to consult a physician or contact their local public health department to determine whether further evaluation is needed.

A purified protein derivative (PPD) skin test is often used to diagnose TB. A Mantoux tuberculin skin test is performed by injecting a small amount of fluid into the skin in the lower part of the arm. The injection site is checked for a reaction by a trained health care professional within 48 to 72 hours. Another test, QuantiFERON®-TB Gold, is a blood test that measures how the immune system reacts to germs that cause TB.

A blood test can show whether a person has been infected with TB or has received a BCG vaccination for TB disease. BCG vaccine is used in many countries but is not generally recommended in the United States. The BCG vaccine does not completely prevent people from getting TB, and it may cause a false-positive tuberculin skin test.

Testing following exposure to someone with latent TB infection is not required. Testing is necessary following exposure to someone with TB disease or TB symptoms. Neither test determines whether a person has progressed to TB disease. Other tests, such as a chest x-ray, are used to make a diagnosis. When an individual is exposed to a patient with active TB and a follow-up test is positive, a secondary TB test **should not** be performed; a physician should be immediately consulted about obtaining chest x-rays.

If an initial skin test is negative and a second TB skin test is positive, a physician should be consulted about getting a chest x-ray and taking prophylactic medication to help prevent disease onset.



*TB disease can be cured by taking several drugs for **six to 12 months.***

In the event of latent TB infection but not TB disease, a physician may recommend medication to kill bacteria. This recommendation is based on the likelihood of developing TB disease. For example, people with HIV infection or who were recently exposed to someone with TB disease would be likely candidates for medication. Latent TB infection is easier to treat than TB disease,

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which requires a combination of drugs to combat the spread of bacteria.

TB disease can be cured by taking several drugs for six to 12 months. It is important that people who have TB disease finish the medicine and take the drugs exactly as prescribed. If they stop taking the drugs too soon, they can become sick again; if they do not take the drugs correctly, the germs that are still alive may become resistant to those drugs. Drug-resistant TB is harder and more expensive to treat.

Prevention

In health-care settings, a TB infection control plan includes:

- prompt detection of infectious patients
- airborne precautions
- treatment of people who have suspected or confirmed TB disease

The plan includes administrative measures, environmental controls and use of respiratory protective equipment.



International travelers who will be working where TB patients are likely to be encountered should consult infection control or occupational health experts. Testing prior to travel is recommended to establish a baseline for employees who anticipate possible prolonged exposure to people with TB (for example, routine contact with clinic, hospital, prison or homeless shelter populations).

If exposure to someone with TB disease is suspected, it's important to contact a local health care provider or health department to be tested. TB is addressed in specific federal Occupational Health and Safety (OSHA) standards for recording and reporting occupational injuries and illnesses and in standards for general industry.

Resources

1. Centers for Disease Control and Prevention: www.cdc.gov/tb/
2. National Institute of Allergy and Infectious Diseases: www.niaid.nih.gov/topics/tuberculosis/research/
3. OSHA Safety and Health Topics- Tuberculosis: www.osha.gov/SLTC/tuberculosis/
4. WorkCare, Inc.: www.workcare.com
5. World Health Organization: www.who.int/tb/