

INFECTION CONTROL SNAPSHOT

Tuberculosis



Tuberculosis or "TB" disease is caused by a bacterium called *Mycobacterium tuberculosis*. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal. TB is spread through the air from person to person when a person with active TB disease of the lung or throat coughs, sneezes, speaks, or sings. The airborne particles (droplet nuclei) can remain suspended in the air for hours. Infection occurs when a susceptible person inhales droplet nuclei containing *M. tuberculosis*, which then travel to the alveoli of the lungs. TB is not a highly contagious disease in that *M. tuberculosis* requires prolonged or frequent close contact with an infectious source for transmission to a susceptible host.

TB is NOT spread by.....

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

Usually within 2–12 weeks after initial infection with *M. tuberculosis*, immune response prevents further spread of the TB bacteria, although they can remain alive in the lungs for years, a condition termed latent TB infection. Persons with latent TB infection usually exhibit a reactive tuberculin skin test, have no symptoms of active disease, and are not infectious. However, they can develop active disease later in life if they do not receive treatment for their latent infection. Approximately 5% of persons who have been recently infected and not treated for latent TB infection will progress from infection to active disease during the first 1–2 years after infection; another 5% will develop active disease later in life. Thus, approximately 90% of U.S. persons with latent TB infection do not progress to active TB disease. Although both latent TB infection and active TB disease are described as TB, only the person with active disease is contagious and presents a risk of transmission. Certain immunocompromising medical conditions (e.g., HIV) increase the risk that TB infection will progress to active disease at a faster rate.

Latent TB Infection vs. TB Disease

A Person with Latent TB Infection	A Person with TB Disease
• Has no symptoms	• Has symptoms that may include: a bad cough that lasts 3 weeks or longer; pain in the chest; coughing up blood or sputum; weakness or fatigue; weight loss; no appetite; chills; fever; and sweating at night.
• Does not feel sick	• Usually feels sick
• Cannot spread TB bacteria to others	• May spread TB bacteria to others
• Usually has a skin test or blood test result indicating TB infection	• Usually has a skin test or blood test result indicating TB infection
• Has a normal chest x-ray and a negative sputum smear	• May have an abnormal chest x-ray, or positive sputum smear or culture
• Needs treatment for latent TB infection to prevent active TB disease	• Needs treatment to treat active TB disease

Source: CDC Tuberculosis (TB): www.cdc.gov/tb/topic/basics/default.htm

Tuberculin Skin Test (TST)

The Mantoux tuberculin skin test can be used to help detect TB infection. It is performed by injecting a small amount of fluid (called tuberculin) into the skin in the lower part of the arm. The test is read within 48 to 72 hours. A positive reaction is the occurrence of induration, or hardening, at the injection site, and the degree of the reaction is determined by measuring the diameter. A positive TST indicates past infection with *M. tuberculosis*. It may, but does not necessarily, indicate active TB. The Centers for Disease Control and Prevention (CDC) recommends that individuals with a positive TST undergo further evaluation to rule out active TB disease by having a chest x-ray and probably obtaining a sample of sputum (phlegm that is coughed up from deep in the lungs). If the tests indicate an active infection, the patient would then be prescribed appropriate medication. Even if no positive indication of active disease is found and the patient has not received treatment in the past, the patient may be prescribed prophylactic medication to prevent clinical disease.



TB Treatment

Treatment for TB involves taking several medications for 6 to 12 months. If the medications are stopped too soon or not taken correctly, the disease can return and the individual may become resistant to the medications.

Just a few things to think about

- What are several symptoms of TB?
- Does a patient who reports a positive TST on their health history always have active TB disease?
- Have you ever had a TST?

If you want more info

- CDC Guidelines for Infection Control in Dental Health-Care Settings (www.cdc.gov/oralhealth).
- CDC Tuberculosis Web site: www.cdc.gov/tb/topic/basics/default.htm.
- USAF Guidelines for Infection Control in Dentistry (<http://airforcemedicine.afms.mil/decs>).



Infection Control SNAPSHOTS provide a brief overview of infection control topics and highlight several important issues; they are not intended to be a comprehensive review of the subject matter. Possible uses may include, but are not limited to presentations at staff meetings or sending out e-mail reminders to the dental staff. USAF Dental Evaluation & Consultation Service/Dental Infection Control <http://airforcemedicine.afms.mil/decs>

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