

# Tuberculosis



## Clinical Description:

Tuberculosis (TB) is a disease caused by the bacterium *Mycobacterium tuberculosis*. Although TB usually infects the lungs (pulmonary), the disease can also affect other body parts (extrapulmonary). Without proper treatment, TB can be fatal.

## The symptoms of active pulmonary TB include:

- a bad cough that lasts three weeks or longer
- coughing up blood (hemoptysis)
- night sweats
- fever
- pain in the chest
- weight loss or failure to gain weight
- weakness or fatigue
- chills

People with latent TB infection (LTBI) have TB bacteria in their bodies; however, because the bacteria are not active, these individuals are not sick. People with LTBI have no symptoms of active TB disease, have a positive tuberculin skin test (TST) or interferon gamma release assay (IGRA) and a normal chest radiograph. They cannot spread the bacteria to others. However, they may develop active TB disease in the future.

## Incubation Period:

Two to 10 weeks from infection to develop primary lesion or significant TST reaction or positive IGRA. Progression to active disease is greatest in the first two years after infection.

## Mode of Transmission:

People with active pulmonary TB can release TB bacteria into the air when they cough, sneeze, speak, or sing. These bacteria can stay in the air for several hours. Persons who breathe in the air that contains TB bacteria can become infected if the bacteria reach their lungs. Transmission from children younger than 10 years is unusual.

## Period of Communicability:

A person is able to spread TB from an assigned date of three months prior to symptom onset or a positive lab report. An individual is considered no longer infectious after effective treatment has been demonstrated for  $\geq 2$  weeks causing a significant reduction in symptoms, particularly resolution of cough. An adult or child who can produce sputum is no longer considered infectious when three (3) consecutive negative sputum smears have been obtained. For further information regarding infectivity, contact your local health department.

## Exclusion/Reporting:

Active pulmonary tuberculosis cases and suspects who are sputum-smear negative, are not coughing, are clinically improving, and are known to be on adequate TB chemotherapy are defined as noninfectious. All other pulmonary TB cases and suspects must be isolated until no longer infectious. Infectious persons are excluded from school. For information on laws and rules regarding tuberculosis, please see the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3 Sec.106 (2)) at: [http://www.in.gov/isdh/files/comm\\_dis\\_rule\(1\).pdf](http://www.in.gov/isdh/files/comm_dis_rule(1).pdf) or contact your state or local health department.

## Prevention/Care:

- Avoid close contact or spending prolonged time with known active TB patients while infectious.
- Treatment of LTBI reduces the risk that TB infection will progress to active TB disease. Immunocompromised persons and children <5 years old are at high risk for developing active TB disease once infected. Every effort should be made to begin appropriate and complete appropriate treatment for LTBI.
- All active cases of TB disease require direct observed therapy (DOT).

### **Outbreaks:**

According to the ISDH Communicable Disease Reporting Rule (410 IAC 1-2.3-37) the definition of an outbreak means cases of disease occurring in a community, region, or particular population at a rate in excess of that which is normally expected. The local health department should be notified of suspected and/or documented cases of tuberculosis if the number of cases is in excess of what is normally experienced in your school or occur with a common connection (same class, sports team, etc.). For additional information and recommendations regarding the preparation for, and the management of an outbreak situation in a school setting, see Appendix A, "Managing an Infectious Disease Outbreak In a School Setting."

### **Other Resources:**

Centers for Disease Control and Prevention (CDC):

<http://www.cdc.gov/tb/default.htm>

Indiana State Department of Health Quick Facts Page (found on disease/condition page):

<http://bit.ly/12IJLfd>

"Tuberculosis Handbook for School Nurses", order form link:

[www.umdj.edu/globaltb](http://www.umdj.edu/globaltb)

World Health Organization (WHO):

<http://www.who.int/tb/en/>

American Lung Association:

<http://www.lung.org/lung-disease/tuberculosis/>

Curry International Tuberculosis Center:

<http://www.currytbcenter.ucsf.edu>