

# Tuberculosis

## Patient Education Module

### **Basic Tuberculosis (TB) Facts**

TB 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.

### **How TB Spreads**

TB is spread through the air from one person to another. The TB bacteria are put 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.

### **Latent TB Infection and TB Disease**

Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and TB disease.

*Latent TB Infection.* TB bacteria can live in the body without making you sick. This is called latent TB infection. In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. People with latent TB infection do not feel sick and do not have any symptoms. People with latent TB infection are not infectious and cannot spread TB bacteria to others. However, if TB bacteria become active in the body and multiply, the person will go from having latent TB infection to being sick with TB disease.

*TB Disease.* TB bacteria become active if the immune system can't stop them from growing. When TB bacteria are active (multiplying in your body), this is called TB disease. People with TB disease are sick. They may also be able to spread the bacteria to people they spend time with every day. Many people who have latent TB infection never develop TB disease. Some people develop TB disease soon after becoming infected (within weeks) before their immune system can fight the TB bacteria. Other people may get sick years later when their immune system becomes weak for another reason. For people whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is much higher than for people with normal immune systems.

### **Signs and Symptoms of TB Disease**

Symptoms of TB disease depend on where in the body the TB bacteria are growing. TB bacteria usually grow in the lungs (pulmonary TB). TB disease in the lungs may cause symptoms such as: a bad cough that lasts 3 weeks or longer, pain in the chest, and coughing up blood or sputum (phlegm from deep inside the lungs). Other symptoms of TB disease include: weakness or fatigue, weight loss, no appetite, chills, fever, and sweating at night. Symptoms of TB disease in other parts of the body depend on the area affected. People who have latent TB infection do not feel sick, do not have any symptoms, and cannot spread TB to others.

## **Risk Factors**

Some people develop TB disease soon after becoming infected (within weeks) before their immune system can fight the TB bacteria. Other people may get sick years later, when their immune system becomes weak for another reason. Overall, about 5 to 10% of infected persons who do not receive treatment for latent TB infection will develop TB disease at some time in their lives.

For persons whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is much higher than for persons with normal immune systems. Generally, persons at high risk for developing TB disease fall into two categories: Persons who have been recently infected with TB bacteria, Persons with medical conditions that weaken the immune system, and Persons who have been Recently Infected with TB Bacteria. *This includes:*

1. Close contacts of a person with infectious TB disease
2. Persons who have immigrated from areas of the world with high rates of TB
3. Children less than 5 years of age who have a positive TB test
4. Groups with high rates of TB transmission, such as homeless persons, injection drug users, and persons with HIV infection
5. Persons who work or reside with people who are at high risk for TB in facilities or institutions such as hospitals, homeless shelters, correctional facilities, nursing homes, and residential homes for those with HIV.

Persons with Medical Conditions that Weaken the Immune System are at a higher risk of contracting TB. Babies and young children often have weak immune systems. Other people can have weak immune systems, too, especially people with any of these conditions:

1. HIV infection (the virus that causes AIDS)
2. Substance abuse
3. Silicosis
4. Diabetes mellitus
5. Severe kidney disease
6. Low body weight
7. Organ transplants
8. Head and neck cancer
9. Medical treatments such as corticosteroids or organ transplant
10. Specialized treatment for rheumatoid arthritis or Crohn's disease