

Infection Prevention and You



Tuberculosis: Considerations for an old threat

Tuberculosis (TB) is a contagious bacterial infection that involves the lungs, but may spread to other organs. In 2012 in the United States, there were approximately 3.2 cases of TB per 100,000 people. However, rates vary dramatically by area of residence and socioeconomic status.

Causes

Tuberculosis is caused by the bacteria *Mycobacterium tuberculosis* (*M. tuberculosis*). You can get TB by breathing in air droplets from a cough or sneeze of someone who is infected. This is called TB disease.

In the United States, most people will recover from TB disease without further evidence of the disease. The infection may remain inactive (latent) for years. However, in some people it can reactivate.

Most people who develop symptoms of a TB infection became infected months or years before symptoms appear. However, in some cases, the disease may become active within weeks after the primary infection.

Risk factors

The following populations are at higher risk for active TB:

- Elderly
- Infants
- People with weakened immune systems, for example due to AIDS or chemotherapy, diabetes, or certain medications

The risk of getting TB increases due to:

- Frequent contact with people who have TB
- Crowded or unsanitary living conditions

The following factors may increase the rate of TB infection in a population:

- Increase in HIV infections
- Increase in number of homeless people (poor environment and nutrition)
- The appearance of drug-resistant strains of TB

Symptoms

Symptoms of pulmonary TB may include:

- Cough (usually with mucus)
- Coughing up blood
- Excessive sweating, especially at night
- Fatigue
- Fever
- Unintentional weight loss

Other symptoms that may occur with this disease include:

- Difficulty breathing
- Chest pain
- Wheezing

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Treatment

The goal of treatment is to cure the infection with drugs that fight the TB bacteria. Treatment of active pulmonary TB will always involve a combination of many drugs (usually four drugs). All of the drugs are continued until lab tests show which medicines work best.

When people do not take their TB medications as recommended, the infection becomes much more difficult to treat. The TB bacteria may become resistant to treatment, leaving few other treatment options.

If patients show symptoms of TB when they are in the hospital, they must be placed in an isolation room that is designed to keep droplets from the patient's coughs from recirculating into the rest of the hospital. Anyone who comes into their room must wear a mask to prevent them from becoming infected. Patients may be kept in isolation while they receive anti-TB treatment and until their condition improves. The patient will be educated on how to reduce the risk of spreading the illness by practicing good hand hygiene and covering all coughs and sneezes.

Prevention

TB is a preventable disease, even in those who have been exposed to an infected person. Try to avoid close contact with someone you know has TB. Skin testing (PPD) for TB is used in high risk populations or in people who may have been exposed to TB, such as healthcare workers. Prompt treatment is extremely important in controlling the spread of TB from those who have active TB disease to those who have never been infected with TB.

If you think you have been exposed to someone with TB disease, you should contact your doctor or local health department about getting a TB skin test or a special TB blood test. Be sure to tell the doctor or nurse when you spent time with the person who has TB. People who have been exposed to TB should be skin tested immediately and have a follow-up test at a later date, if the first test is negative. A positive skin test indicates TB exposure and your doctor may do other tests to see if you have TB disease.

Some countries with a high incidence of TB give people a BCG vaccination (bacille Calmette Guerin) to prevent TB. However, the effectiveness of this vaccine is controversial, and it is not routinely used in the United States.

If you travel abroad, you should avoid close contact with known TB patients in crowded, enclosed environments (for example, clinics, hospitals, prisons, or homeless shelters). Travelers who will be working in clinics, hospitals, or other healthcare settings where TB patients are likely to be encountered should consult infection control or occupational health experts.

Updated: 4/23/2014



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