

Fast Facts

- People with HIV and latent TB infection are at much higher risk for progressing to active TB disease than people with latent TB infection alone.
- All people newly diagnosed with HIV should be tested for TB infection. If they are infected with TB bacteria, immediate treatment can prevent them from progressing to TB disease.

Tuberculosis, or TB, is caused by the bacterium *Mycobacterium tuberculosis*, which can be present as either latent infection or active disease. Latent TB infection means that TB bacteria are living in the body but not causing any symptoms. People with latent TB infection are not sick, do not have symptoms, and cannot spread the disease.

TB disease means that the bacteria are multiplying and are destroying body tissues; if not diagnosed and treated properly, it can be fatal. People with TB disease are sick, do have symptoms, and can spread the disease. Only TB disease is infectious; latent TB infection is not. TB disease of the lungs or airways can be spread from person to person through the air when a person with TB disease coughs, sneezes, speaks, or sings.

All people newly diagnosed with HIV should be tested for TB infection as soon as possible. People living with HIV and at ongoing risk for TB exposure should be tested annually. The risk for exposure to TB is the same for everyone: being in close contact with someone with infectious TB disease. This risk increases for people who are homeless or injection drug users, or those living or working in settings such as jails, health care facilities, drug-treatment units, or homeless shelters.

TB infection can be detected by a skin test or a blood test. If the test is positive, additional tests such as sputum tests and x-rays are needed to determine whether the infection has progressed to TB disease.

People with HIV and latent TB infection need treatment as soon as possible to prevent them from developing TB disease. People with HIV who have latent TB infection are much more likely to progress to TB disease than people without HIV. TB outbreaks can rapidly expand in patient groups infected with HIV. Treatment for latent TB infection usually is a single drug (most commonly isoniazid) taken for 9 months. A new combination regimen of isoniazid and rifapentine taken weekly for 12 weeks as directly observed therapy (DOT) is recommended for some people. (In DOT, health care workers meet with TB patients individually to watch them take each dose of TB medicine.) People with HIV and TB disease must take several drugs for 6 to 9 months to treat their TB.

Unfortunately, some people with HIV do not know they are infected with TB. Similarly, one in five people with TB disease are unaware of their HIV status, although HIV status reporting for people with TB is improving. CDC recommends that anyone who has TB disease, is suspected of having TB disease, or is a contact of a TB patient, be tested for HIV.

The Numbers

- In 2009, 1.1 million people in the United States were living with HIV, 18% of whom did not know they were infected.
- The rate of new TB disease diagnoses in 2011 was 3.4 per 100,000 population (10,528 cases), the lowest since reporting began in 1953.
- In 2011, 82% of patients with TB disease knew their HIV status.
- Among 8,683 people with TB disease who had a documented HIV test result in 2011, 6% were coinfecting with HIV.
- In 2006, 12% (769 of 6,533) of TB patients with reported HIV test results had HIV, but accounted for 32% (131 of 412) of those who died during treatment and 51% (32 of 63) of those who received a TB diagnosis postmortem.
- In 2011, the rate of incident TB cases among foreign-born people in the United States was 12 times as great as among US-born people. Among US-born racial and ethnic groups, non-Hispanic blacks had a rate six times that of non-Hispanic whites.

Prevention Challenges

Multidrug-resistant TB (MDR TB) is TB that is resistant to at least two of the best anti-TB drugs—isoniazid and rifampin. MDR TB is hard to treat and can be fatal. People with HIV are at greater risk of dying of MDR TB than those without HIV. The percentage of MDR TB cases in the United States has remained steady since 1998; in 2011, among all reported TB cases in the United States, 1.3% were characterized as primary MDR TB (defined as no previous history of TB disease). Extensively drug-resistant TB is a rare type of MDR TB that is resistant not only to isoniazid and rifampin, but also any fluoroquinolone and at least one of three injectable second-line drugs. It is extremely hard to treat, and the remaining treatment options are less effective.

To prevent the continued emergence of drug-resistant strains, treatment for TB must be improved, not only in the United States but worldwide. Although a person with drug-resistant TB can transmit the resistant bacteria directly to others, resistance primarily develops when a TB patient is not treated with the right drugs or does not take the drugs properly. The most effective way to ensure that patients finish their treatment is DOT, and its use must be expanded.

Possible drug interactions can interfere with treatment. Treatment with the right drugs is important for HIV patients. Recommendations for treating TB in adults with HIV are, with a few exceptions, the same as those for adult TB patients who are not HIV infected. However, managing HIV-related TB is complex, and people with HIV and TB should seek care from a health care provider or providers with expertise in the management of both diseases.

Lack of awareness of TB or HIV status can prevent adequate treatment. Anyone who is newly diagnosed with HIV or TB should be tested for coinfection. People need to know their status. Without treatment, each disease increases the severity of the other. TB disease is, in fact, an AIDS-defining condition. Worldwide, TB is a leading cause of death among people living with HIV.

What CDC Is Doing

CDC and its domestic and international partners, including the National TB Controllers Association, Stop TB USA, the global Stop TB Partnership, the TB Trials Consortium, and the TB Epidemiologic Studies Consortium, are taking many steps to prevent the further spread of TB and to reduce the overall burden of the disease. Efforts include

- Assessing new TB diagnostic techniques.
- Developing new treatment regimens.
- Increasing the capacity of health professionals to provide adequate patient care by offering training and promoting evidence-based guidelines.
- Continuing to address and support global TB control, since foreign-born people account for more than half of TB cases in the United States.

TB control is an exercise in vigilance. The goal of controlling and eventually eliminating TB requires a focused, continual effort to meet the prevention and treatment needs of people most at risk, including those who have HIV. The strategy of preventing and treating TB in people with HIV is therefore essential to achieving the goal of TB elimination in the United States.

For more information, see the Bibliography at (<http://www.cdc.gov/hiv/resources/factsheets/hivtb.htm>).

Additional Resources

CDC-INFO
1-800-CDC-INFO (232-4636)
cdcinfo@cdc.gov
Get answers to questions and find HIV testing sites.

CDC HIV Website
www.cdc.gov/hiv

National HIV and STD Testing Resources
<http://hivtest.cdc.gov>

CDC National Prevention Information Network (NPIN)
1-800-458-5231
www.cdcpin.org
Technical assistance and resources.

Act Against AIDS
<http://www.cdc.gov/actagainstaids>

AIDSinfo
1-800-448-0440
www.aidsinfo.nih.gov
Treatment and clinical trials.

AIDS.gov
www.aids.gov
Comprehensive government HIV resources.