

What
DRUG TREATMENT CENTERS
Can Do To
PREVENT TUBERCULOSIS

MAKE U.S. TB FREE

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control

WHAT DRUG TREATMENT CENTERS CAN DO TO PREVENT
TUBERCULOSIS

Tuberculosis (TB) is alive and well – and drug treatment center (DTC) clients and staff are at risk. Read on to learn what you can do to prevent TB among your clients *and* protect yourself!

TUBERCULOSIS IN THE UNITED STATES

In the United States, the 30-year decline in TB cases has ended. This halt in the decline can be blamed largely on the AIDS epidemic. Since 1984, the number of U.S. cases reported each year has remained above 22,000. Five to ten percent of persons with tuberculosis die from the disease, but TB is both curable and preventable.

TRANSMISSION

Tuberculosis is caused by bacteria (*Mycobacterium tuberculosis*), often called tubercle bacilli. TB is spread through the air from person to person by infectious airborne droplets containing tubercle bacilli. These tiny droplets, less than 1/5000th of an inch, are produced when a person with infectious TB of the lung or throat coughs, sneezes, speaks, or sings. Unless ventilated to the outside of the building, these infectious particles are suspended in the air. They can then be inhaled and infect someone breathing this air.

TUBERCULOSIS INFECTION

An estimated 10 to 15 million persons (4% to 6% of the population) have inactive tuberculous infection (no disease). Studies in some areas have found that **over 20%** of inner city black and Hispanic intravenous drug users (IVDUs) have tuberculous infection.

A person who have tuberculous infection without disease:

- Cannot spread infection to others;
- Is not considered a case of tuberculosis;
- Usually has, as the only evidence of infection, a positive reaction to the tuberculin skin test;
- Usually has a negative chest x-ray and no symptoms of TB; and
- Has TB bacteria in his or her body that, although inactive, *remain capable of causing disease at any time later in life.*

The great majority (about 90%) of new TB cases occur in persons who were infected in the past and whose immune system can no longer control their infection. Only a small proportion of new cases come from recently acquired infection.

Several conditions are associated with a higher risk that tuberculous infection will progress to active disease. **Substance abuse (especially intravenous drug use) and infection with human immunodeficiency virus (HIV-the virus that causes AIDS)** are two of the strongest risk factors. When someone has both HIV infection and TB infection, the risk of developing active TB is extremely high.

IVDUs are at very high risk for developing tuberculosis because of the high incidence of both tuberculous infection and HIV infection in this population. HIV infection weakens the body's immune system and makes it more likely for a person with inactive tuberculous infection to develop active TB.

SYMPTOMS OF TUBERCULOSIS

Most cases of tuberculosis are found when symptoms prompt the patient to seek medical care. Symptoms of TB often last for weeks or even months. Generalized symptoms may include fatigue, feeling ill, weight loss, fever, or night sweats. If TB occurs in the lungs (the most common site of disease), the symptoms may include cough, chest pain, and coughing up blood. Tuberculosis can also occur at any other site in the body, including the spine, the kidneys, or the brain. The signs and symptoms will vary according to the location of disease. For example, TB of the spine may cause pain in the back, and TB of the kidney may first be suspected because of blood in the urine.

HIGH-RISK PERSONS

Anyone can get TB, but those at higher risk include **alcohol abusers and IVDUs**; contacts of known cases; medically underserved, low-income populations, including high-risk racial and ethnic minorities (e.g., blacks, Hispanics, and Native Americans); foreign-born persons from high prevalence areas (e.g., Asia, Latin America, and Africa); nursing home residents; prisoners; *and especially persons with HIV infection.*

Persons who work in facilities that serve clients at high risk for TB are also at risk of becoming infected. This is much more likely to occur if there is no program in place to screen for and prevent TB.

SCREENING

The Mantoux tuberculin skin test is used to detect tuberculous infection. The test is given by injecting a dose of purified protein derivative (PPD) of killed tubercle bacilli into the upper layers of skin. This is usually done on the inside of the forearm. The arm is examined by a trained health care worker 48 to 72 hours after the test for a reaction (induration) at the side of the injection. The induration is measured.

A reaction of 5 millimeters or greater is considered positive in HIV-infected persons. A reaction of 10 millimeters or greater is considered positive in alcoholics and IVDUs and others at high risk for TB. For IVDUs who do not get an HIV test or whose HIV test results you don't know, a reaction of 5 millimeters or greater should be considered positive.

PREVENTIVE THERAPY

Persons with inactive tuberculous infection have a small number of TB bacteria in their body, which may cause disease at any time in the future. A single drug, INH, is usually recommended for infected persons to prevent later development of active TB. **Taken as prescribed, INH has been shown to be up to 90% effective in preventing persons with tuberculous infection from developing active TB.** For *HIV-negative* persons, INH is given for 6 months. For *HIV-positive* persons, INH is given for 12 months. If the HIV status is unknown but likely to be positive, 12 months of INH should be considered.

Preventive therapy patients should be checked monthly for symptoms of drug toxicity (especially liver toxicity). They should also be checked monthly for compliance with therapy. If noncompliance is anticipated or suspected, **directly observed preventive therapy** should be started. Directly observed therapy means that medication is

swallowed in the presence of another person to make sure that the medication is taken as directed.

Special Note: If a DTC client on methadone is prescribed rifampin, the methadone dosage may need to be increased. The increased methadone prevents withdrawal symptoms that can result from the interaction between the two drugs.

RECOMMENDATIONS FOR TB PREVENTION IN DRUG TREATMENT CENTERS

Because they serve clients at high risk for developing TB, the Centers for Disease Control (CDC) has recommended the following for all drug treatment centers:

- Routinely provide Mantoux tuberculin skin testing on-site for every person served at the center.
- Refer persons with skin test results of 5 millimeters or greater for TB evaluation.
- Refer persons with TB-like symptoms, regardless of the skin test results, for TB evaluation.
- Provide or refer for HIV counseling and testing: (1) persons with skin test results of 5 millimeters or greater; (2) persons with a past or present history of IV drug use; and (3) the sex partners of persons with a history of IV drug use.
- Follow up all clients referred for TB evaluation and HIV counseling and testing to make sure they keep appointments.
- Ensure compliance with TB medication by providing on-site (at the drug treatment center) directly observed preventive therapy to persons who have tuberculous infection but no clinical evidence of disease. This therapy can be provided on a daily or twice-weekly basis and, if possible, it should be provided at the same time the person is seen for drug treatment.
- Provide an ongoing TB screening and prevention program for workers who have regular contact with persons who have or are at risk for TB or HIV infection. This includes TB skin tests for employees at least once a year.

Drug treatment centers should work closely with their local health department TB program in planning and implementing these screening and preventive therapy recommendations. Health department TB programs can assist by: (1) training DTC staff to perform tuberculin skin testing and provide TB preventive therapy; (2) assisting with referrals and contact investigation; and (3) providing consultation on how to reduce TB transmission in drug treatment centers and medically manage persons with TB infection or disease.

**Proper diagnosis of infection and disease can prevent sickness and death from TB.
Contact your State or local health department for further assistance in protecting
your clients and yourself.**