

QUICK LINKS**Tuberculosis—TRAVELER INFORMATION**

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Traveler Information

TUBERCULOSIS**INTRODUCTION**

Tuberculosis (TB) is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. TB is second only to HIV/AIDS as the leading cause of death in the world from a single infectious disease. TB is strongly associated with poverty, overcrowding, and malnutrition. Pulmonary TB is the most frequent clinical presentation, but any organ of the body can be affected. A TB vaccine that reliably prevents primary infection in all age groups is not available.

Persons who are infected with TB are said to have "latent" TB, as long as the bacteria remain inactive. These persons do not feel sick or have symptoms, although a TB skin test will be positive. These persons are not infectious.

Persons are said to have TB disease when the latent TB bacteria become active and multiply within the body, causing symptoms. These persons are infectious and require treatment.

MODE OF TRANSMISSION

TB is transmitted from person to person by airborne droplets. In rare cases TB can be spread from an open wound or contaminated equipment. Cattle infected with *M. bovis*, a rare cause of TB in humans, can infect persons who drink unpasteurized milk from infected animals or who eat other dairy products (e.g., cheese) made from the unpasteurized milk of infected animals.

RISK AREAS

Approximately one-third of the world's population is infected with *M. tuberculosis* and at risk of developing the disease. More than 95% of cases and deaths occur in developing countries.

Multidrug-resistant TB (MDR-TB) is caused by bacteria that do not respond to anti-TB drugs. MDR-TB presents an extra risk in India, China, Russia, Central Asia, and Eastern Europe.

RISK OF TB TO TRAVELERS

For most healthy travelers, the risk of TB infection is low. Risk increases with the incidence of TB in the area visited, duration of travel, and activity.

Once infected, the overall lifetime risk of developing active TB after skin test conversion has been is about 5-10%, usually within the first 2 years after the initial infection.

Medical conditions that increase risk of developing active TB include HIV, sarcoidosis, diabetes, transplantation, chronic use of corticosteroids, silicosis, end-stage renal disease, age less than 5 years, malignant lymphoma, cancer of the head and neck, Hodgkin's disease, jejunioleal bypass, gastrectomy, IV drug abuse, and being 10% or more below ideal body weight.

CLINICAL PRESENTATION

Usually there are no symptoms after the initial infection except a newly positive TB skin test.

Symptoms of active pulmonary TB include:

- Fever
- Night sweats
- Weight loss
- Fatigue
- Coughing
- Chest pain
- Coughing up bloody sputum

TB SCREENING

In the U.S., 2 general types of tests are available: conventional tuberculin skin testing (TST) and blood tests called interferon gamma release assays (IGRAs). Neither test distinguishes active TB from latent or inactive TB. For the diagnosis of tuberculosis, these tests are used in conjunction with risk assessment, x-ray, and other evaluations.

- The tuberculin skin test is used to detect TB infection. A health care professional will inject a small amount of fluid (tuberculin) under the skin of the lower arm and will check the reaction 48-72 hours later.
- An IGRA blood test can be used almost any time a TST would be used but is preferable for testing persons who have received BCG vaccine (see below). Results are usually available within 24 hours and only 1 visit is needed.

WHO SHOULD BE TESTED AND HOW OFTEN

Only persons who are or will be at increased risk for *M. tuberculosis* infection should be tested before and after travel.

- Travelers to countries with high risk should have pre- and post-travel testing if staying for longer than 1 month.
- Travelers to countries with moderate risk should have pre- and post-travel testing if staying for longer than 3 months, or if staying for longer than 1 month and their activities put them at extra risk. Risk activities include:
 - Close contact with the local populace
 - Visiting friends and relatives
 - Working in high-risk situations (e.g., health care, refugee or transit camps, prisons or homeless shelters)
 - Eating or drinking unpasteurized milk or milk products

Because the greatest risk of developing active tuberculosis is within the first 2 years of infection, travelers should have repeat screening done every 1-2 years if risk continues.

Positive test result

A positive test result does not necessarily mean the person has active TB, but it can mean that that he or she is infected. Persons with a positive test will need to have a chest x-ray and a sputum culture. If the x-ray is normal or does not show active disease, it means the person is not infectious, although some HIV-infected persons have had normal chest x-rays and positive sputum cultures.

Following a positive test result, the health care provider might prescribe 6 or 9 months of medication. This is meant to prevent the disease from developing into active disease; it is not a treatment.

BCG VACCINATION

A vaccine called bacille Calmette-Guérin (BCG) is used in many developing countries to reduce serious consequences of TB in newborns and is also recommended by some industrialized countries for long-stay travelers to TB-endemic areas; however, its effectiveness in adults is variable.

In North America, pre- and post-travel TB screening tests are recommended rather than BCG vaccine. However, BCG vaccine should be considered for healthy young children who will be living for prolonged periods (more than 1 year) in highly endemic areas. BCG vaccine might also be considered on an individual basis for tuberculin-negative health care workers planning to work in areas where TB, especially multidrug-resistant TB, is common.

Prior receipt of BCG vaccine can cause a positive reaction to the TB skin test.

SUMMARY

- Tuberculosis is a risk for travelers to areas where TB is endemic, especially travelers who will be in the area for a long time (greater than 1 month) or who will have close contact with the local people, health care providers, and persons working in aid situations (refugee camps, transit camps, etc.).
- Skin testing or a special blood test can indicate the need for a chest x-ray and drug treatment.
- For high-risk travelers, testing should be carried out before possible exposure and again 3 months after the last possible exposure. Low-risk travelers need not be tested.
- Repeat TSTs or blood tests should be carried out at 1-2-year intervals while exposure continues.

Travax content represents decision-relevant, expert synthesis of real-time data reconciled with new and existing available advice from authoritative national and international bodies. Recommendations may differ from those of individual countries' public health authorities.

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