microscope using a special dye (acid fast bacillus (AFB) stain) to see if any tuberculosis bacteria can be found. It can be difficult to see the TB organisms so this test is not always positive as there may be only a small number of bacteria. Therefore, a culture is always needed in addition to the AFB test. Sputum cultures are done to grow the bacteria to confirm the diagnosis and determine the best combination of drugs for treatment. TB grows very slowly so they may take up to 2 months to grow. Newer tests use sputum to detect the DNA of the TB organism. If TB DNA is present, this means a person has TB disease. Flexible bronchoscopy, putting a small tube with a camera into the lungs, is sometimes needed to obtain lung sputum samples if a patient is unable to produce sputum. (To learn more about flexible bronchoscopy, see the ATS Patient Information Series "Flexible bronchoscopy" at www.thoracic.org/patients.)

In addition to these tests, chest X-ray and CT chest imaging are performed to evaluate for any lung abnormalities. While TB usually occurs in the lungs it can infect any organ in the body. If TB is suspected in a different part of the body, a different sample or a tissue biopsy may be needed.

How is TB treated?

Latent TB infection is usually treated with 1 or 2 oral medications (rifampin, rifapentine, and isoniazid). It greatly reduces the risk of developing active TB later in life. Preventing the development of active disease stops TB transmission to other people. Current treatment options include daily isoniazid (shortened to INH) for six to nine months, daily rifampin (shortened to RIF) for 3 to 4 months, or weekly isoniazid and rifapentine for 12 doses. Researchers are currently doing studies to find safer and shorter treatment plans so these medication combinations may change in the future.

Currently active TB is treated with at least 4 anti-TB medications for 2 months followed by 2 drugs for 4 months for total of at least six months. If it involves certain organs or is more advanced, the treatment is usually longer. This can mean taking 6-12 pills every day! TB disease can be quite difficult to treat so healthcare workers must monitor patients closely with repeat chest x-rays, sputum tests, and exams to make sure they are getting better. Many people with TB disease find this difficult without the support of workers trained in providing directly observed treatment (DOT). DOT is the standard for treating TB worldwide and is when a healthcare worker or trained person watches a person take their anti-TB medicines every day. DOT helps detect side effects early and prevents missed doses and breaks in treatment that reduce the benefit of treatment and can lead to drug-resistant strains of bacteria. New, shorter, treatments for active disease may also be coming in the near future. Your healthcare provider or infectious disease specialist will help decide what the best treatment plan is for you. Sometimes a treatment needs to be adjusted based on how sensitive the bacteria is to various antibiotics.

How can I prevent getting or spreading TB?

TB is spread by tiny airborne droplets created by coughing. It is not spread by sharing food, utensils, drinks, touching, or having sex. Covering the mouth and nose when coughing is an important way to stop the spread of TB and other airborne diseases. If you have TB disease and are coughing, it is important to wear a mask and limit contact with others until your healthcare provider tells you that you are no longer contagious while on treatment. Seeking care right away and finding out you have TB is the best way to stop its spread since treatment of disease helps you not be contagious, decreasing transmission. Treatment of latent TB prevents the spread of TB by stopping it before contagious disease develops.

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Rx Action Plan

- ✔ Symptoms of TB should prompt you to see your healthcare provider without delay.
- ✔ You should ask about the possibility of TB because the diagnosis may not be on your healthcare provider's mind.
- ✔ Contact your healthcare provider if you have had exposure to a person with TB. You should also contact your provider if you have symptoms of TB and if you have lived, worked, or had prolonged travel in a country or area where TB is common. For example, Asia, Africa, Eastern Europe, Central and South America are endemic for TB, as are some inner cities where the poor and homeless congregate.
- ✔ TB disease is often preventable! Knowing your "TB status" is important because, if needed, treatment of TB infection will kill the few TB bacteria in your body before it progresses into active TB disease.

Healthcare Provider's Contact Number:

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Resources:

American Thoracic Society
- www.thoracic.org/patients/
  - Flexible bronchoscopy

World Health Organization
- http://www.who.int/tb/en/

U.S. Centers for Disease Control
- https://www.cdc.gov/tb/

U.S. National Library of Medicine–Medline Plus
- https://medlineplus.gov/tuberculosis.html