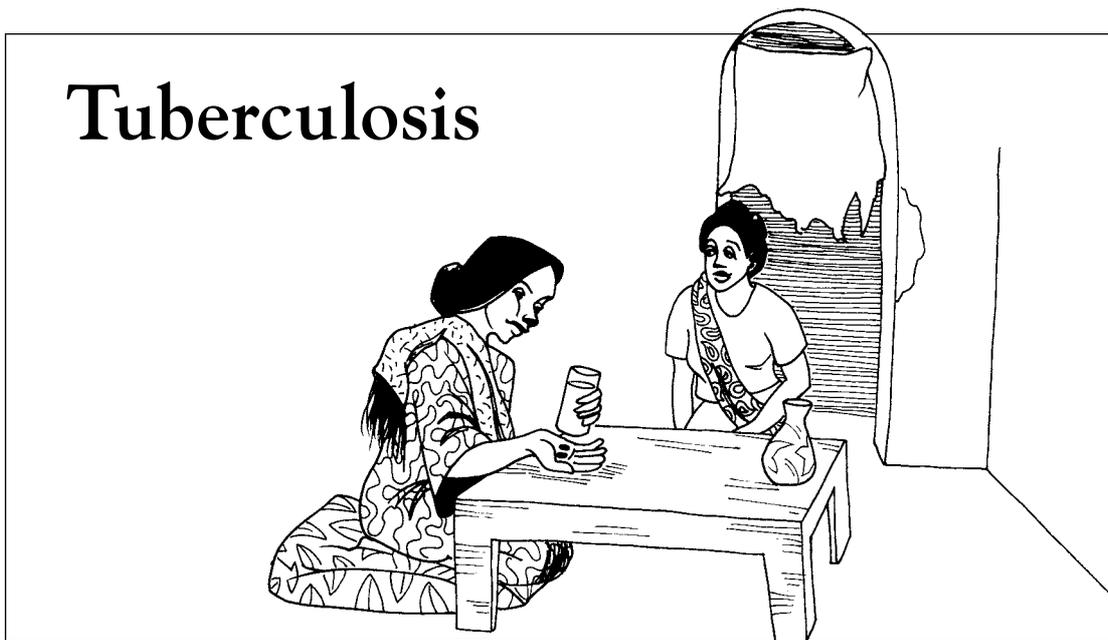


# Chapter 25

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# Tuberculosis



**T**uberculosis (TB) is a serious disease that usually affects the lungs. TB spreads easily in crowded conditions—for example, in cities, slums, refugee camps, factories, and office buildings—especially in indoor areas where the air does not move much. About 2.3 billion people ( $\frac{1}{3}$  of the world's population) have been infected with TB and carry the TB *germ* in their bodies. But only 14 million people are actually sick with TB right now.

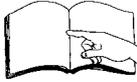
TB is especially dangerous for people with HIV. TB makes HIV disease progress faster, and HIV weakens the immune system and allows people with TB infection to develop TB sickness faster.

## WOMEN AND TB

TB affects both men and women, but fewer women get treatment. Nearly 2000 women die every day from TB, and many die because they never knew they had the disease, they did not receive proper treatment, or they also had HIV. It can be more difficult for a woman to get health care to cure TB because she may not be able to leave her family and work, or does not have the money to travel to a clinic or to take a full course of medicine. In some places a woman may not seek treatment because she fears her husband will reject her as 'sickly' or too weak to do her work. A woman who works outside the home may be afraid she will be dismissed because her employer thinks she will infect others. Caring for sick family members also puts a woman at greater risk of becoming infected with TB.

► *With proper treatment, TB can almost always be cured.*

## What Is TB?



diabetes, 174  
AIDS, 283

► Sometimes, especially when someone has HIV, TB germs attack other body organs, the lymph nodes, or the bones and joints. This is called *extrapulmonary TB*.

## How TB Is Spread

► When women are sick with TB, it may spread to their children and others they take care of every day.

**TB** is caused by a small germ, or bacteria. Once this germ enters a woman's body, she is infected with TB and will carry TB inside her, probably for life. Healthy people usually fight off TB sickness. Only about 1 out of 10 persons infected with TB becomes sick with TB in his or her lifetime.

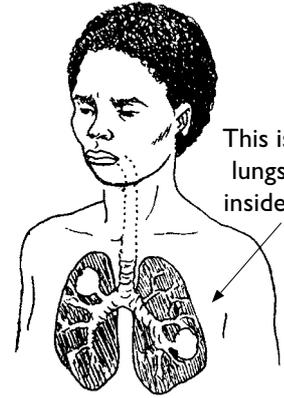
But if a person is weak, malnourished, *diabetic*, very young or very old, or infected with HIV, the TB starts to attack her body. Usually this happens in the lungs, where TB germs eat holes in the *tissue* and destroy blood vessels. As the body tries to fight the disease, the holes fill with *pus* and small amounts of blood.

Without treatment, the body starts to waste away, and the person usually dies within 5 years. A person infected with both HIV and TB may die in just a few months without treatment.

**TB** spreads from one person to another when someone who is sick with TB coughs germs into the air. The TB germs can live in the air for hours.

People who are sick with TB in their lungs can spread the germs to others. People who are infected with TB but not sick with signs of TB, and those who are sick with TB in other parts of the body, are not *contagious*.

If the TB is not treated, a person sick with TB will infect about 10 more people with TB each year. But once a person has been taking medicines for about a month, he or she is probably no longer contagious.



This is what the lungs look like inside the body.



This year, about 10 people will be infected by each person who is sick with TB today.

The most common sign of TB is a cough that lasts for more than 3 weeks, especially if there is blood in the *sputum* (mucus that comes up from the lungs). Other signs include loss of appetite and weight, fever, feeling tired and night sweats.

But the only way to know for sure that a person has TB is to have the sputum tested. To get a sample of sputum—and not just saliva (spit)—a person must cough hard to bring up material from deep in her lungs. The sputum is then examined in a laboratory to see if it contains TB germs (is positive).

A person should take 3 sputum tests. If at least 2 of her sputum tests are positive, the woman should begin treatment. If only one test is positive, she should have her sputum tested again and, if it is positive, begin treatment. If the third test is negative, she should get a chest x-ray, if possible, to be certain that she does not need treatment. She should also be tested for HIV since negative sputum tests are more common in people with HIV.

**IMPORTANT** *Because it is so common for people with HIV to be sick and die from TB, all HIV-infected people should be tested for TB. If the TB test is positive, the person should begin treatment right away. And in countries where HIV is common, all people with TB should consider getting an HIV test.*

**TB** can almost always be cured if a woman takes the right medicines in the right amounts for the full length of the treatment.

The basic treatment for a woman who has TB for the first time has 2 parts, and always includes taking more than 1 medicine. At first, a woman takes 4 medicines for 2 months, and then her sputum is tested. If it is negative, she begins part 2, in which she takes 2 drugs for another 4 months (a total of 6 months of treatment). When the treatment is finished, her sputum should be checked again to make sure that she has been cured.

TB medicines include isoniazid, rifampicin, pyrazinamide, ethambutol, and streptomycin. For information about these medicines see the “Green Pages.” TB treatments vary from country to country. A health worker should always follow the recommendations of the TB program in her or his country.

If a woman's sputum is still positive after 2 months of treatment, she should be tested to see if her TB germs are resistant to the medicines (see page 390).

## How to Know if a Person Has TB

► *If someone with signs of TB in the lungs has negative sputum tests, she should see a health worker trained in treating problems of the lung. She may have pneumonia, asthma, or cancer of the lungs.*

## How to Treat TB

► *TB medicines can make hormonal methods of family planning (like birth control pills) less effective. Women being treated for TB should use a different family planning method. See page 200.*

### TB treatment during pregnancy

A pregnant woman should never take streptomycin, because it may cause deafness in her baby when she is born. She should also avoid taking pyrazinamide whenever possible, because its effect on the baby is not known. TB medicines may cause pain and numbness in the hands and feet, especially during pregnancy. Taking 50 mg of pyridoxine (vitamin B6) daily will help.

► *After the first 2 months of treatment, it is sometimes possible to take medicines 3 times a week, instead of every day, but not if you have HIV or if there is resistance to TB medicines in your area. Talk to a health worker to see if you can get this kind of treatment.*

► *If a woman is infected by someone with drug-resistant TB, the germs causing her sickness will also be resistant.*

► *Health workers should always ask if a person has been treated for TB before. If she has, she is more likely to have drug-resistant TB.*

Anyone who is being treated for TB should follow these rules:

- Take all the medicine for as many months as is recommended. **If you stop too soon, you may infect others, the illness will come back, and your TB may become resistant (see below).**
- Learn which side effects are normal and which are serious for the medicines you are taking. If you have serious side effects, stop taking the medicines and see a health worker immediately.
- Get plenty of rest and eat as well as possible. If you can, stop working until you begin to feel better.
- Avoid spreading TB germs to others. If possible, sleep separately from those who are not sick with TB for one month after starting medicines. Cover your mouth when coughing and spit sputum into a piece of paper. Throw it into a *latrine* or toilet, or burn it.
- If you give birth during treatment, your sputum should be tested. If it is negative, your baby should be given a BCG (Bacille Calmette-Guerin) vaccine, but no medicines. If your sputum is positive, your baby will need medicines. You do not need to be separated from your baby or to stop breastfeeding.
- If possible, go to an experienced health worker to coordinate treatment for your TB and HIV if you have both infections. Because more medications are being taken, there is a greater possibility of side effects.
- Stop smoking.



## RESISTANCE TO TB MEDICINES

If a person does not take enough of the right medicines, or stops taking medicines before the treatment is finished, not all the TB germs will be killed. The strongest germs will survive and multiply, and then the medicine may be unable to kill them. This is called 'resistance'.

TB that has become resistant to both isoniazid and rifampicin is very difficult to treat. The treatment takes between 8 to 20 months, is often less successful, and is much more expensive than treatment for ordinary TB. A person with multi-drug-resistant (MDR) TB can spread the disease to others for several months after beginning treatment.

Anyone whose sputum is still positive after 2 months of treatment may have MDR TB. She should see a health worker trained in treating TB to get other medicines.

Because treatment for TB is long, and the effects of stopping treatment are so serious, extra care should be taken to make sure that a person takes all her medicine. A health worker or community volunteer should watch and make a record of every dose the sick person takes. This is called 'directly observed treatment, short-course', or DOTS. **Health workers should use DOTS whenever possible, but it is most important for the first 2 months of treatment.**

**IMPORTANT** *The best way to prevent the spread of TB is to cure people who are sick with TB.*

These things can also help:

- Encourage people to get tested if they live with a person who is sick with TB, or if they have a cough for 2 weeks or more.
- Immunize healthy babies and children with BCG vaccine to prevent the most deadly forms of TB. Children sick with *HIV* or *AIDS* should not be given BCG vaccine.

## Preventing TB

### To Prevent TB in People with HIV

A person with a positive TB test, but no signs of TB sickness, can be given isoniazid once a day (see Green Pages) to reduce the chance that they will get sick with TB. But if a person has signs of being sick with TB, she must take the full TB treatment. Because it prevents other infections, taking cotrimoxazole can also help a person stay healthy (see the Green Pages).

**C**reating effective TB control in your community requires:

- community and family education about the signs of TB and how it is spread. Encourage women to seek treatment if they show signs of TB.
- trained health workers or community volunteers to participate in the DOTS program, who will find and work with persons sick with TB if they stop treatment early. DOTS programs must be flexible to help meet each person's needs.
- a continual supply of medicines so treatment does not get interrupted.
- laboratory equipment and trained workers for testing sputum.
- a good system for keeping track of who has TB, how the treatment is going, and when a person is cured.

A good TB program must give care to all people sick with TB, including women. TB services can help more women by:

- providing care and treatment in women's homes or as near to the home as possible.
- including midwives and traditional birth attendants in TB screening and DOTS programs.
- combining TB screening and treatment with other health services women are likely to use.

## Working for Change

