

Tuberculosis



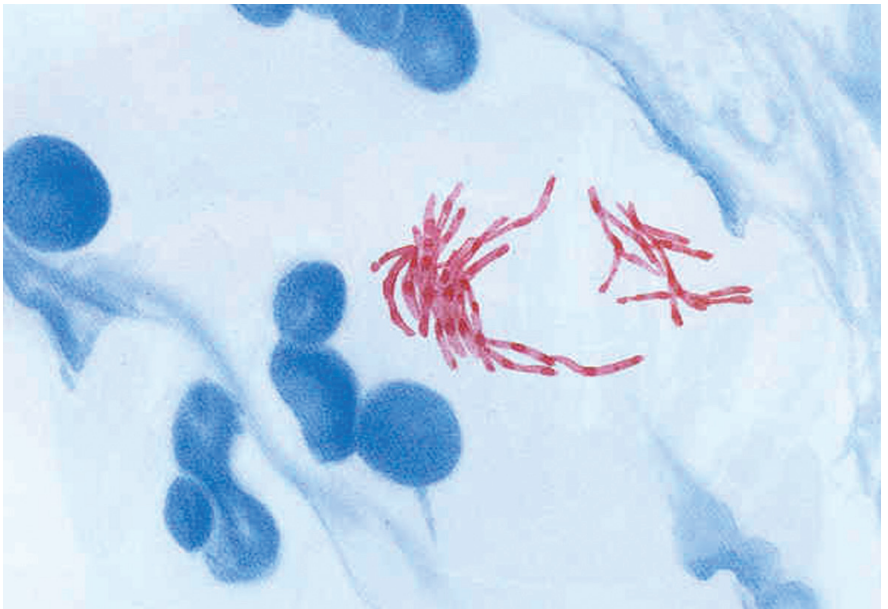
What kind of disease is tuberculosis?

- **Tuberculosis (TB) is an infectious disease caused by a bacterium called *Mycobacterium tuberculosis*. Usually it affects the lungs.**

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Tuberculosis can manifest also in other organs, such as lymphatic nodes, bones, reproductive and urinary organs, internal organs, central nervous system, skin, or as a disseminated (miliary) tuberculosis.

Tuberculosis is still a common disease in the world. Annually, 8 million people become ill with tuberculosis and 2 million people die of the disease worldwide. Tuberculosis is most common in poor countries with a large population and an HIV-epidemic. In Russia and the Baltic countries the number of tuberculosis patients doubled during the 1990s.

In Finland about 300 new tuberculosis cases are diagnosed annually. Roughly one fifth of the cases are detected among foreign-born people, and their share of tuberculosis patients has been increasing during the last years. Among the Finnish-born population the elderly, who have been infected in their childhood, together with substance abusers and socially excluded people form the majority of patients. Over one fourth of new tuberculosis patients are diagnosed in the Helsinki Region. Thus tuberculosis has not disappeared; on the contrary, it is still a disease that should be taken seriously.



Rod-shaped tuberculosis bacteria seen in microscopy examination of sputum.

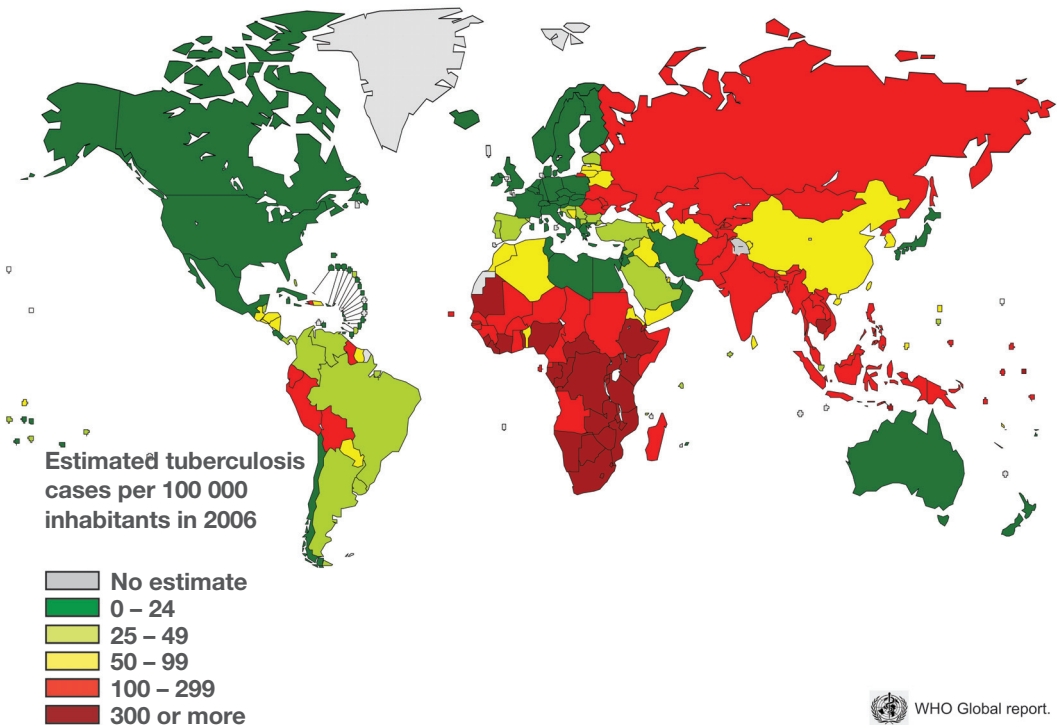
How can you catch tuberculosis?

- **You have to be exposed in order to be infected.**

You are exposed to tuberculosis when you are indoors with a person suffering from active tuberculosis. Those living in the same household and those having

otherwise a close and prolonged contact with a tuberculosis patient have the highest risk of becoming infected. In occasional contacts the infection risk is very low.

Estimated tuberculosis cases by country



Tuberculosis is still a common disease in the world. Most of the cases occur in Africa and Asia.

How does tuberculosis transmit?

- **Tuberculosis is transmitted through the air from one person to another.**

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Not all tuberculosis patients transmit the disease. It is spread by those patients of respiratory tuberculosis, who expel plenty of bacteria when coughing, sneezing or for example singing. You cannot catch tuberculosis through surfaces, but tuberculosis is transmitted, when an exposed person inhales small droplets containing bacteria. Tuberculosis is not spread very

easily, because only about one third of the exposed persons are infected. The risk of transmission diminishes, when a person suffering from active tuberculosis coughs correctly and does not spread bacteria and seeks quickly medical examinations and care. You can decrease effectively the amount of infectious droplets indoors by regular ventilation.

The right way to cough



- **Do not cough on other people.**
- **Cover your mouth and nose with a tissue when you cough or sneeze. If you do not have a tissue, cough or sneeze into your upper sleeve.**
- **Put your used tissue in the wastebasket.**
- **Wash your hands with soap and water or with disinfectant gel.**



Will all the infected people get ill?

- No, the majority of infected people will never develop a symptomatic disease.**

Only one tenth of healthy people, who have been infected, will develop a tuberculosis disease sometime during their life. The majority of those infected will carry the bacteria dormant in their body (latent tuberculosis infection), and will not

develop active tuberculosis disease. Small children, old people and people with weak immune system due to illness or medication have the highest risk to develop an active disease. HIV-infection is the most important risk factor for tuberculosis.

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What is the role of BCG vaccination?

- The vaccine protects small children.**

BCG vaccine protects small children against severe disease forms, such as miliary tuberculosis or tuberculosis meningitis. Since autumn 2006 only children from risk groups are vaccinated in Finland. The vaccine is given to newborn children, who have a risk to be exposed to tuberculosis in their near circle. These are children

living with a person, who was born in a country with high rates of tuberculosis or who has one time been diagnosed as having tuberculosis. Additionally, the vaccine is given to those children under 7 years of age, who will spend within one year more than a month in a country with high tuberculosis incidence.



Jyrki Luukkainen

Tuberculosis or BCG vaccination is given to children from risk groups in Finland.

What kind of symptoms do people with tuberculosis have?

- The symptoms are not always clear.

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The symptoms usually develop slowly and there can be only minor symptoms at the initial stage. The most common symptoms are prolonged cough and coughing up sputum. The symptoms of extrapulmonary tuberculosis usually manifest in the specific organ.

Symptoms of tuberculosis

- prolonged cough
- sputum production or coughing up blood
- fever
- night sweats
- generalized weakness
- fatigue
- weight loss
- enlarged neck lymph nodes

How is tuberculosis diagnosed?

- By X-ray and sputum examination.

Chest X-ray and sputum smear microscopy and culture examination are the most important ways to diagnose tuberculosis. Usually three sputum samples are taken, and the smear microscopy aims to find out, whether the patient has an infectious form of the disease. Microscopy result is ready in a couple of days. Culture result is obtained in a couple of weeks and it confirms the diagnosis. Extrapulmonary tuberculosis is examined by radiological methods and by taking biopsies from the affected tissue depending on the localisation of the disease. Hospital examinations are often necessary in order to get enough samples and to differentiate tuberculosis from other possible diseases.



Changes in chest X-ray suggesting tuberculosis: a cavity and infiltrates in the upper lungs.

How is tuberculosis treated?

- With antibiotics.

Tuberculosis can be cured with medication. The treatment involves a combination of several drugs and lasts usually for 6–12 months. Patients with infectious form of tuberculosis are treated in a hospital isolation room at the begin-

ning of the course. The risk to spread the infection to others is over in two to three weeks on average. Tuberculosis treatment is very effective, if the prescribed medications are taken regularly throughout the treatment course.



Tuberculosis is treated with a combination of 3–5 antibiotics.

Are my close ones at risk to become ill?

- It is possible to develop tuberculosis disease.

The immediate circle of a tuberculosis patient (family, friends, school, education, work, hobbies) is interviewed in order to find other possible infected persons or the source of infection. This contact tracing aims to stop the spread of the disease and is regulated by the Finnish Communicable Diseases Act. The close contacts of the patient are invited to a medical examination and a chest X-ray to a health centre. Children are examined

in hospital. Chemotherapy is prescribed to tuberculosis patients, who are detected during the contact tracing. A preventive treatment course is given to children and persons with weak immune system. Other exposed persons are checked by chest X-ray every six months for 1–2 years. If they have symptoms in between the check-ups or afterwards, they should go to have a medical examination at a health centre on their own initiative.

Do you have to pay for tuberculosis treatment?

- The treatment is free-of-charge for the patient.

All examinations, medications, hospital care and check-ups due to tuberculosis are free-of-charge for the patient.

You are responsible for yourself and those around you. If you suspect tuberculosis, go see a doctor for further examinations and treatment!

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More information:
www.filha.fi
www.heli.fi
www.thl.fi
www.stoptb.org
www.who.int/tb/en/

Dr Iris Rajalahti has consulted as an expert for this booklet.
This booklet has been made in cooperation with the Finnish Ministry of the Interior.

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