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Tuberculosis

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Original: October 2002

# IT'S YOUR HEALTH

*This article was produced in collaboration with the Public Health Agency of Canada.*

## Tuberculosis

### THE ISSUE



For most Canadians, the risk of developing active tuberculosis disease (TB) is very low. However, there are around **1,600 new cases of TB reported in Canada** every year, so it is important to recognize the symptoms and know how to reduce your risk.

Tuberculosis has been around for centuries, and used to be called “consumption.” It is a serious disease that usually attacks the lungs, but can also affect other parts of the body, including the lymph nodes, kidneys, urinary tract and bones. Even though TB is completely curable with antibiotics, it continues to be a major health problem.

In 2010, approximately 1.4 million deaths related to TB were **reported worldwide**.

### HOW TB IS SPREAD

TB is not as contagious as many other diseases (like **influenza [flu]** or **chicken pox**). **Tuberculosis** bacteria, called *Mycobacterium tuberculosis*, are spread through the air when someone with active TB disease of the lungs or airways exhales (when coughing, sneezing, singing, playing a wind instrument or, to a lesser extent, talking).

To become infected, you usually have to be exposed often to someone with active TB disease. For example, spending several hours a day with a person with active TB disease would put you at risk of infection. You cannot become infected with TB by shaking hands, sitting on toilet seats, or sharing dishes with someone who has TB.

### LATENT TB INFECTION AND ACTIVE TB DISEASE

Most people who are exposed to TB bacteria do not develop active TB disease. Sometimes your immune system is able to kill the TB germs, but when this does not happen the bacteria can remain alive and inactive in your body. This is called latent TB infection (also known as LTBI). If you

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have latent TB infection, you have no symptoms, are not sick, and are at no risk of spreading the bacteria to others. Latent TB infection can become active TB disease if your immune system cannot stop the TB bacteria from growing. The risk of developing active TB disease is highest in the first two years after being infected. If not also infected with HIV, about 10% of people who have LTBI will develop active TB disease at some point in their lives. HIV-infected individuals are at higher risk for progression from LTBI to active TB disease.

## SYMPTOMS, DIAGNOSIS AND TREATMENT



The symptoms of active TB disease in the lungs can include:

- a bad cough lasting longer than three weeks
- pain in the chest
- coughing up blood or sputum
- weakness or feeling very tired
- weight loss
- lack of appetite
- chills
- fever
- night sweats

If you are coughing, your sputum (phlegm) may contain TB germs. Your doctor may collect a sputum sample for testing and send you for a chest x-ray. If you have active TB disease, you need treatment to kill the TB germs in your body.

Anyone with active TB disease must take antibiotics for at least six months to kill all of the TB bacteria. People who do not finish a full course of antibiotic treatment may present a risk of spreading TB to others. They are also at greater risk for developing a strain of TB that is drug-resistant.

**Drug-resistant TB** is harder and more expensive to cure. TB that is resistant to the two best “first line” antibiotics used to treat active TB disease is called multidrug-resistant TB (MDR-TB). If MDR-TB also becomes resistant to the best “second line” antibiotics, it is called extensively drug-resistant TB (XDR-TB).

If you are not experiencing symptoms but suspect or know that you have been exposed to TB bacteria, you may be given a skin test by a nurse to see if you have latent TB infection. For a skin test, a very small amount of non-infectious TB protein is injected under the surface of your skin. If you are infected with TB, a hard swelling usually develops at the injection site within 48 to 72 hours. If you have latent TB infection, you may also need more tests or chest x-rays to find out if you have active TB disease.

If tests show that you have latent TB infection and not active TB disease, it is important to protect your immune system from becoming weak. TB drugs (antibiotics) may be prescribed and will help your immune system fight the TB

germs and prevent active TB disease. If you have latent TB infection, talk to your health care professional to find out if you need to take TB drugs. It is also important to find out if you have HIV. If you do, you need to take special precautions against latent TB infection and active TB disease.

## RISK FACTORS

### HIV/AIDS

**HIV and AIDS**, which weaken the immune system, are the most important risk factors for latent TB infection and active TB disease. A person who has latent TB infection and HIV or AIDS is 50–170 times more likely to develop active TB disease than someone who does not have HIV. For this reason, anyone who has HIV should be tested for TB.

Also, anyone with latent TB infection or active TB disease should be tested for HIV for these reasons:

- to see if they need HIV treatment
- to help choose the best anti-TB drugs if they also have HIV infection

### Increased risk for latent TB infection



Certain population groups in Canada also have an increased risk of latent TB infection. These groups include:

- those who have come into close contact with people with known or suspected active TB disease (like family members sharing living spaces)



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- people with a history of active TB or an x-ray suggesting they had TB in the past but did not receive adequate treatment
- people living in [Aboriginal communities with high rates of latent TB infection](#) or active TB disease
- the poor, especially the urban homeless
- residents of long-term care and correctional facilities
- having been infected with TB bacteria within the past two years
- a chest x-ray showing signs of old TB
- treatment with steroids known as glucocorticoids
- treatment with tumour necrosis factor (TNF)-alpha inhibitors (for auto-immune disorders like rheumatoid arthritis)
- [diabetes](#) mellitus (all types)
- being underweight (for most people, this is a [body mass index](#) under 20)
- being under five years of age when first infected with the TB bacteria
- cigarette [smoking](#) (one pack a day or more)

People who work with any of these groups (like health care workers and correctional staff) are also at greater risk of latent TB infection.

## Increased risk for active TB disease

In general, the risk of latent TB infection developing into active TB disease is greater for anyone with a weakened immune system. Conditions/situations that weaken the immune system and increase the risk for active TB disease include:

- HIV and AIDS
- organ transplants (because of use of immune-suppressing drugs)
- a type of lung disease called silicosis
- chronic kidney failure requiring dialysis
- [cancer](#) of the head and neck

## REDUCE YOUR RISK

If you belong to one of the groups at higher risk and suspect that you may have been exposed to TB bacteria, or if you are experiencing any of the symptoms of TB, you should see your health care provider.

If you are diagnosed with TB, it is very important to take the full course of antibiotics prescribed for you. This will help protect others and will also reduce your risk of developing a strain of drug-resistant TB.

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## THE GOVERNMENT OF CANADA'S ROLE

As a key federal partner, the [Public Health Agency of Canada \(PHAC\)](#), in collaboration with experts from federal, provincial and territorial governments and organizations, coordinates and supports surveillance, guideline development and capacity building related to the prevention and control of TB in Canada. PHAC co-publishes the [Canadian Tuberculosis Standards](#), a document that is in wide use across Canada, with the [Canadian Lung Association](#) and the [Canadian Thoracic Society](#).

In Canada, provinces and territories have the legislated authority for TB prevention and control for their residents. Territories are solely responsible for TB prevention and control for their entire population. By comparison, the federal role in TB prevention and control is broad and diverse. For example, PHAC and [Health Canada](#) work closely with provinces and territories to address key TB-related issues and reduce the spread of disease in sub-populations at highest risk, including Aboriginal Peoples and foreign-born individuals.

Health Canada, in partnership with the provinces, is responsible for assuring TB prevention and control services are either provided or accessible to First Nations living on reserve. In Nunatsiavut, Health Canada also provides funding to the [Nunatsiavut Government](#) to complement the provincial services provided to its citizens.

## FOR MORE INFORMATION

- The Public Health Agency of Canada, [Tuberculosis Prevention and Control](#) web section at: [www.phac-aspc.gc.ca/tbpc-latb/](http://www.phac-aspc.gc.ca/tbpc-latb/)
- Health Canada, First Nations and Inuit Health, [Tuberculosis](#) web section at: [www.hc-sc.gc.ca/fniah-spnia/diseases-maladies/tuberculos/index-eng.php](http://www.hc-sc.gc.ca/fniah-spnia/diseases-maladies/tuberculos/index-eng.php)
- Canadian Lung Association [tuberculosis](#) web page at: [www.lung.ca/diseases-maladies/tuberculosis-tuberculose\\_e.php](http://www.lung.ca/diseases-maladies/tuberculosis-tuberculose_e.php)
- World Health Organisation (WHO) [tuberculosis](#) web page at: [www.who.int/topics/tuberculosis/en/](http://www.who.int/topics/tuberculosis/en/)
- The Public Health Agency of Canada, [HIV/AIDS](#) web section at: [www.phac-aspc.gc.ca/aids-sida/](http://www.phac-aspc.gc.ca/aids-sida/)

- *It's Your Health*, [HIV/AIDS](#) at: [www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/hiv-vih-eng.php](http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/hiv-vih-eng.php)
- *It's Your Health*, [Antibiotic Resistance](#) at: [www.hc-sc.gc.ca/hl-vs/iyh-vsv/med/antibio-eng.php](http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/med/antibio-eng.php)

## FOR INDUSTRY AND PROFESSIONALS

- Health Canada, [Tuberculosis](#) web section at: [www.hc-sc.gc.ca/hc-ps/dc-ma/tuberculos-eng.php](http://www.hc-sc.gc.ca/hc-ps/dc-ma/tuberculos-eng.php)

## RELATED RESOURCES

- For safety information about food, health and consumer products, visit the [Healthy Canadians](#) website at: [www.healthycanadians.gc.ca](http://www.healthycanadians.gc.ca)
- For more articles on health and safety issues go to the *It's Your Health* web section at: [www.health.gc.ca/iyh](http://www.health.gc.ca/iyh)

You can also call toll free at 1-866-225-0709 or TTY at 1-800-267-1245\*

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