# Multi-Drug Resistant Tuberculosis (MDR-TB)



## What is Multi-Drug Resistant Tuberculosis?

Tuberculosis (TB) is an infectious disease caused by a germ called Mycobacterium tuberculosis. Tuberculosis is spread through the air when a person sneezes, coughs, or breathes. Multi-Drug Resistant Tuberculosis (MDR-TB) is resistant to at least two of the main “first-line” drugs used to treat TB. TB may also be extensively drug-resistant (XDR-TB) which are strains that are resistant to two or more of the “second-line” drugs.

TB primarily attacks the respiratory system (lungs) although it can attack other organs as well. The symptoms of TB include fever, night sweats, weight loss, chest pain, and coughing.

### How does TB become drug resistant?

Tuberculosis can become resistant if a patient is not treated long enough, doesn’t take prescribed medications properly, or doesn’t receive the right drugs.

### Why is MDR-TB more dangerous?

In addition to the increased difficulty in treating the disease, the patient remains infectious longer increasing the risk to the public and to healthcare workers.

MDR-TB also appears in association with HIV infection and AIDS, further compromising the health and the immune system of these patients. HIV itself does not increase the chance of drug resistance. HIV does accelerate the progression of TB infection into active TB disease.

### Is MDR-TB a problem in Canada?

The Government of Canada states that “For most Canadians, the risk of developing tuberculosis (TB) is very low. Still, there are about 1,600 new cases of TB reported in Canada every year, so it is important to know the symptoms and how to minimize your risk.”

The Public Health Agency of Canada noted that of the 1,376 cases of TB diagnosed in 2014, 19 (1.4%) were classified as MDR-TB.

Although drug-resistant TB has not yet been identified as a major problem in Canada, the potential exists due to the increase of international travel.

The World Health Organization reports that “Globally in 2012, an estimated 450 000 people developed MDR-TB and there were an estimated 170 000 deaths from MDR-TB.”

## Can drug resistance be prevented?

The Public Health Agency of Canada advocates the use of directly observed therapy (DOT). Along with the proper prescription of drugs, DOT monitoring helps to make sure that patients take the prescribed medications for the appropriate periods of time. It is essential to finish treating TB properly (which takes at least 6 months) to greatly reduce the risk of a drug resistant TB from developing.

## How can we prevent the transmission of MDR-TB?

The Government of Canada’s website has a series of documents on Tuberculosis. From this site, the Canadian Tuberculosis Standards (7th edition) Chapter 15: Prevention and Control of Tuberculosis Transmission in Health Care and Other Settings describes a recommended Tuberculosis Management Program, and lists control procedures in various occupational settings including hospitals, other health care settings, residential and community care settings, and correctional facilities.

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