

Tuberculosis: A Global Disease with Implications for Ontario's Health Care Workers

This OSACH Fast Fact is intended to inform health care workers and management about the incidence of tuberculosis globally and in Ontario and about preventative measures that can enhance their infection control program

Globally there are 8 million new cases of tuberculosis (TB) annually and 1.87 million TB-related deaths. The highest incidence is in the developing countries of Southeast Asia, sub-Saharan Africa and Eastern Europe. The Ontario Ministry of Health and Long Term Care reports that there are approximately 780 new cases of TB diagnosed in the province each year. Most of these cases are in the greater Toronto area, particularly Peel and York Region. The Ottawa-Carleton area also has a higher than average incidence of TB. Most of these cases are people who have immigrated to Canada within the past five years.

How is TB spread?

Tuberculosis is transmitted in the air by coughing, speaking, sneezing, and certain medical procedures such as bronchoscopy, all of which result in the release of aerosolized particles into the air. TB germs (tubercle bacilli) in these particles can then be breathed into the alveoli in the lungs. From the lungs TB can spread to the lymph nodes, spine, bones/joints, kidney/bladder and uterus/ovaries

What are my chances of getting TB?

The risk of transmission of TB from one person to another depends on the following:

- the extent of the disease and the presence of coughing or sneezing
- the environment: the size and ventilation of the room and the length of time in the room
- the susceptibility of the exposed person: HIV-infected individuals may be more susceptible; people with previous TB infection are less susceptible

What are the symptoms of active TB infection?

TB typically presents with the following symptoms:

- cough for more than three weeks
- fever
- night sweats
- weight loss
- hemoptysis (coughing up blood)
- fatigue
- chest pain/shortness of breath

Other symptoms specific to the body system affected may also be present e.g. joint/bone pain or urinary tract dysfunction.

How can the transmission of TB to health care workers be prevented?

Health care workers are at very low risk if they never care for patients with TB and work in a facility where patients with TB are rarely seen. However, they are at increased risk of exposure if they work in a facility that frequently admits patients with TB and are present in areas where high-risk procedures such as bronchoscopy are performed. A facility is considered high-risk if it sees more than six active cases a year. A low risk facility sees six or fewer active cases a year. Low risk facilities should determine the ratio of health care

workers to the number of active cases, since smaller facilities with fewer cases may actually have a greater risk of exposure for health care workers. Health care organizations need to also determine which activities are high-risk, intermediate-risk and low-risk. For example, activities of staff who have minimal contact with patients and work in medical records or administration are considered to be low-risk.

Health Canada recommends all health care workers be assessed for their TB infection status upon hiring. This is a legislated requirement for people working in acute care, long term care, some community care organizations and day care facilities. Other organizations such as retirement homes, group homes and clinics should implement a policy requiring new staff to provide documentation of a recent TB skin test. The policy should be based on the risk assessment of the client population for having TB and on the types of activities the workers perform.

A two-step tuberculin skin test should be used to assess TB infection status. An initial test is applied and read. If this first test is negative a second test is applied seven to 21 days later. The results of the second test are used to determine the worker's TB infection status and should be interpreted by the person who administered the test. If the second test is negative a single TB skin test should be used for future screening. Anyone with a positive result on the first or second test should be assessed by a physician to determine whether treatment is required.

The frequency of ongoing screening depends on the assessment of the risk for individual workers and for the health care facility overall. Confidential records must be kept of all screening tests. Workers who have come in contact with a confirmed case of TB must be followed up for a period of time with testing and assessment of their health status.

Personal Protection and Isolation

In addition to standard precautions, everyone who has direct contact with suspected or confirmed infectious TB must wear a properly fitted NIOSH certified respirator (mask).

Patients with active TB should be isolated in a single room and may require a room where the air pressure is negative to that of the corridor. This may necessitate transfer of the patient to another health care facility. The Canadian Standards Association (CSA) has developed standards for negative pressure rooms.

Containment level 2 or 3 practices, depending on the risk assessment of the activity, are required for laboratory workers handling clinical specimens such as sputa.

Organizational Policies and Procedures

All health care organizations should have a TB management program to minimize the transmission of TB in their facility. A policy for screening staff should also be in place, based on legislated requirements, the level of risk for the facility and the type of activity performed by individual workers.

Resources

The document "Guidelines for Preventing the Transmission of Tuberculosis in Canadian Health Care Facilities and Other Institutional Settings" published by the Health Protection Branch, Laboratory Centre for Disease Control, should be used as a guide for developing a TB management program. This document can be viewed on the Internet at:
www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/96vol22/22s1/22s1d_e.html

The Public Health Unit in your area is a valuable resource for more information about tuberculosis. You can find contact information for your local unit on OSACH's web site by following "Links > Health Agencies > Ontario Public Health Units."



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