Canadian Tuberculosis Standards

7th Edition

Appendix A: Glossary

Public Health Agency of Canada
Agence de la santé publique du Canada

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Canadian Tuberculosis Standard, 7th edition

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APPENDIX A

GLOSSARY

Aboriginal Peoples

Descendants of the original inhabitants of North America. The *Constitution Act* of 1982 recognizes three major groups of Aboriginal people in Canada: Indians (Status and non-Status North American Indians), **Métis** and **Inuit**.

Absconded

See **Default**

Acid-fast bacteria (bacilli)

Microorganisms that are distinguished by their retention of specific stains even after being rinsed with an acid solution. The majority of acid-fast bacteria (AFB) in patient specimens are mycobacteria, including species other than *Mycobacterium tuberculosis* complex. The relative concentration of AFB per unit area on a slide (the **smear** grade) is associated with infectiousness. A positive culture is required for laboratory confirmation of *M. tuberculosis* complex.

Active tuberculosis (disease)

Active clinical disease that is usually symptomatic and for which microbiologic tests are usually positive and radiologic tests usually abnormal.

Adherence

Patient's and health care provider's ability to follow disease management recommend-dations appropriately; used interchangeably with **compliance**.

Aerosol

Small droplets that are exhaled or coughed up. In a patient with **pulmonary tuberculosis** these may contain *Mycobacterium tuberculosis* bacteria that are suspended in the air and lead to the spread of infection.

Air changes per hour (ACH)

The number of air changes per hour in a room, one air change being a volume of air equal to that of the room (height times width times length).

Airborne infection isolation

The conditions into which a patient with suspected or proven **active tuberculosis** may be placed for purposes of preventing transmission to other people (formerly termed airborne **respiratory isolation**).

Airborne infection isolation room (AIIR)

Formerly, negative pressure isolation room. An AIIR is a single-occupancy patient care room used to isolate people with a suspected or confirmed airborne infectious disease. Environmental factors are controlled in an AIIR to minimize the transmission of infectious agents that are usually transmitted from person to person by droplet nuclei associated with coughing or aerosolization of contaminated fluids. An AIIR should provide negative pressure in the room (so that no air flows out of the room into adjacent areas) and should direct exhaust of air from the room to the outside of the building or recirculate the air through a HEPA filter before returning it to circulation.

Anergy	A condition in which there is diminished ability to exhibit delayed T-cell hypersensitivity reaction to antigens because of altered immune function. When referring to an inability to react to a skin test, the correct term is "cutaneous anergy". Anergy skin testing is no longer recommended in the context of interpretation of a **tuberculin skin test** result.
BACTEC	A previous broth-based laboratory culture technique for *M tuberculosis* using radiometric methods (the technology is now discontinued).
Bacille Calmette-Guérin (BCG)	A live attenuated vaccine derived from *Mycobacterium bovis*.
Booster phenomenon	Increase in **tuberculin skin test** (TST) response after an initially negative test when the test is repeated at any time from 1 week to 1 year later, in the absence of exposure or other evidence of new TB infection.
Break of contact (see also Contact)	Moment when exposure to a person with active **infectious** tuberculosis ends. This can be when the active case is placed in airborne infection isolation or when he or she is deemed no longer **infectious** after a period of treatment.
Cavitary disease	Evidence on chest x-ray or pathology tests of lung destruction resulting in cavities or cystic areas that communicate with a bronchus. Cavities generally harbour large numbers of bacteria and, as a result, patients with cavitary disease tend to be highly **infectious**.
Chemoprophylaxis	See **treatment of latent tuberculosis infection.**
Cluster	Two or more isolates with a shared identical genotype ("fingerprint") detected using a method such as mycobacteria interspersed repetitive unit (MIRU) testing, insertion sequence *6110* (IS*6110*) based **restriction fragment length polymorphism (RFLP)** testing or spoligotyping.
Completion (active tuberculosis)	See **Treatment completion.**
Compliance	See **adherence.**
Contact:	A person identified as having been exposed to *Mycobacterium tuberculosis* by sharing space with an **infectious** case of tuberculosis. The proximity and duration of contact usually corresponds with the risk of becoming infected.
Conversion (tuberculin conversion)	An increase in the size of a **tuberculin skin test** (TST) reaction on repeated testing that reflects new TB infection. Tuberculin conversion is defined as **induration** of 10 mm or greater when an earlier test resulted in a reaction of less than 5 mm. If the earlier result was between 5 and 9 mm, there are two criteria: 1. An increase of 6 mm or more—this is a more sensitive criterion, which is suggested for those who are immune compromised with increased risk of disease or for an **outbreak**; 2. An increase of 10 mm or more—this is a less sensitive but more specific criterion. In general, the larger the increase, the more likely that it is due to true conversion.

Culture-positive disease	The isolation of *Mycobacterium tuberculosis* complex (excluding BCG strain) from clinical specimens (sputum, body secretions or tissue).
Cure (active non MDR/XDR-TB)	Culture-negative at the **completion** of treatment.
Cure (active MDR/XDR-TB)	At least five negative cultures in the final 12 months of treatment. With strong clinical evidence of cure, a patient may be considered cured with one positive culture of these five as long as the last three consecutive cultures, taken at least 30 days apart, are all negative.
Defaulter	A patient who stops tuberculosis treatment, for 2 months or more, before **completion** of 80% of doses (see also **Return after Default).**
Delayed-type hypersensitivity (DTH)	Cell-mediated inflammatory reaction to an antigen that is recognized by the immune system, typically because of previous exposure to the same or similar antigens. DTH responses are usually maximal 48-72 hours after exposure to the antigen.
Designated area/country/territory	As per the *Immigration and Refugee Protection Act* Regulations 30(2)(e), "Every foreign national who has undergone a medical examination as required under paragraph 16(2)(*b*) of the Act must submit to a new medical examination before entering Canada if, after being authorized to enter and remain in Canada, they have resided or stayed for a total period in excess of six months in an area that the Minister determines, after consultation with the Minister of Health, has a higher incidence of serious communicable disease than Canada." To make such a determination, the designation of an area/country/territory is based primarily on World Health Organization estimated TB incidence rates and information on other serious communicable diseases. For a list of such designated areas/countries/territories, see Citizenship and Immigration Canada: (http://www.cic.gc.ca/english/information/medical/dcl.asp).
Directly observed preventive therapy (DOPT)	The process whereby a health care worker or pill dispenser watches the patient swallow each dose of medication for **latent tuberculosis infection**, to enhance **treatment completion** rates. DOPT is also known as directly observed prophylaxis (DOP).
Directly observed therapy (DOT)	The process whereby a health care worker or pill dispenser watches the patient swallow each dose of medication as part of the treatment of active disease, to enhance **treatment completion** rates.
Disseminated tuberculosis	Active TB disease that affects three or more sites, or positive blood culture(s) for *M. tuberculosis*. See also **miliary TB.**
DNA probe	A molecular diagnostic technique whereby the organism grown on culture can be rapidly speciated within a matter of hours.
Droplet nuclei	Airborne particles resulting from a potentially infectious (microorganism-bearing) droplet from which most of the liquid has evaporated, allowing the particle to remain suspended in the air.
Drug resistance	*In-vitro* determination that growth of a strain of *Mycobacterium tuberculosis* is not inhibited by standard concentrations of an anti-TB drug.
Elimination	The elimination of tuberculosis as a global public health problem, meaning an incidence of tuberculosis disease of less than 1 per million population (see http://www.stoptb.org/global/plan/).

Enabler	A practical item given to a patient to facilitate **adherence** to treatment, clinic appointments or other aspects of treatment.
Extensively drug resistant tuberculosis (XDR-TB)	Tuberculosis due to bacteria resistant to at least isoniazid and rifampin and any fluoroquinolone, and at least one of three injectable **second-line drugs** (capreomycin, kanamycin and amikacin).
Extrapulmonary tuberculosis	Site of TB that is outside the lungs and respiratory tract. This includes tuberculous pleurisy and TB of the intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum) or sinus (any nasal) and all nonrespiratory sites. Note that this term is often used interchangeably with non-respiratory TB, but the definitions are slightly different.
Failure (active tuberculosis)	See **Treatment failure.**
First-line anti-tuberculosis drug	First-line antibiotics for the treatment of **active tuberculosis disease.** These are isoniazid, rifampin, ethambutol and pyrazinamide, and are considered the most effective and best tolerated. Streptomycin is no longer considered a first-line drug in Canada.
First Nations People	Indian people in Canada, both "Status" and "non-Status". **Status Indians** are registered with the federal government as Indians, according to the terms of the *Indian Act.*
Fit testing	The use of a qualitative or quantitative method to evaluate the fit of a specific manufacturer, model and size of respirator on an individual.
Health care-associated infection	Infections that are transmitted within a health care setting during the provision of health care (previously referred to as nosocomial infection).
High-efficiency particulate air (HEPA) filter	A filter that is certified to remove >99.97% of particles 0.3 μm in size, including *M. tuberculosis*-containing droplet nuclei; the filter can be either portable or stationary.
High tuberculosis incidence countries/territories	The **TB** incidence rate (all forms, 3-year average) as estimated by the World Health Organization of 30 per 100,000 or higher. The 3-year average is used to adjust for unstable rates in some jurisdictions. Estimated rates are used for some countries rather than the country's reported incidence rate to adjust for under-reporting of cases and to be more indicative of the current risk of being infected by residence or prolonged travel in the country/territory. To view current international incidence rates, see http://www.publichealth.gc.ca/tuberculosis.
Immunocompromising condition	A condition in which at least part of the immune system is functioning at less than normal capacity.
Inactive pulmonary tuberculosis	Abnormal chest x-ray with findings considered typical of previous TB infection or disease, plus at least three sputum cultures negative for tuberculosis or the chest x-ray abnormalities stable for at least 6 months.
Incentive	A gift given to patients to encourage or acknowledge their **adherence** to treatment.
Incidence	The number of new occurrences of a given disease during a specified period of time.

Index case	The first or initial active case from which the process of **contact** investigation begins.
Induration	The soft tissue swelling that is measured when determining the **tuberculin skin test** response to **purified protein derivative (PPD) tuberculin**. It is to be distinguished from erythema or redness, which should not be measured.
Infectious	The condition whereby the patient can transmit infection to others by virtue of the production of **aerosols** containing TB bacteria. Patients with **smear**-positive, **cavitary** and laryngeal disease are usually the most infectious.
Interferon gamma release assay (IGRA)	In-vitro T-cell based assays that measure interferon-γ (IFN-γ) production and that have been developed as alternatives to **tuberculin skin testing** (TST) for the diagnosis of latent TB infection. At the present time, two different types of IGRAs are registered for use in Canada. These are the Quantiferon®-TB Gold In-Tube (Cellistis Limited, Carnegie, Victoria, Australia) and the T-SPOT.*TB*® (Oxford Immunotec, Oxford, UK) assays.
Intermittent therapy	Therapy administered three times a week. This therapy must always be administered in a fully supervised, directly observed fashion and is usually reserved for the period after the initial intensive daily portion of therapy.
Intradermal	The method of injecting either **PPD** skin test antigen using the Mantoux technique or vaccinating with **BCG vaccine**.
Inuit	Original inhabitants of northern Canada who are distinct from other Aboriginal groups in heritage, language and culture. The Inuit live primarily in Nunatsiavut (Labrador), Nunavik (northern Quebec), Nunavut and the Inuvialuit Settlement Region in the Northwest Territories.
Latent tuberculosis infection (LTBI)	The presence of latent or dormant infection with *Mycobacterium tuberculosis*. Patients with LTBI have no evidence of clinically active disease, meaning that they have no symptoms, no evidence of radiographic changes that suggest active disease and negative microbiologic tests; they are non-infectious.
MDR TB	See **multidrug-resistant tuberculosis.**
MGIT	Mycobacteria growth indicator tube; a nonradiometric broth-based culture system. Detection of growth is due to the development of measurable fluorescence as a result of oxygen consumption.
Mantoux technique	The recommended method of administering the **tuberculin skin test** – the **intradermal** injection of 5 tuberculin units of **PPD** into the forearm.
Métis	People of mixed Aboriginal and European ancestry who identify themselves as Métis and are distinct from **First Nations people**, **Inuit** or non-Aboriginal people.
Miliary tuberculosis	Disseminated active TB with abnormal chest X-ray showing diffuse micro-nodules (see also **disseminated TB**).

Multidrug-resistant tuberculosis (MDR-TB)	Tuberculosis due to bacteria resistant to isoniazid and rifampin with or without resistance to other anti-tuberculosis drugs.
***Mycobacterium tuberculosis* complex**	*M. tuberculosis* (including subspecies *M. canetti*), *M. bovis, M. bovis* BCG, *M. africanum, M. caprae, M. microti* and *M. pinnipedii*. All of these species except *M. bovis* BCG are included in the Canadian case definition of tuberculosis.
Natural ventilation	Use of natural forces to introduce and distribute outdoor air into a building, to replace the indoor air. These natural forces can be wind pressures or pressure differences generated by temperature differences between indoor and outdoor air.
New active case of tuberculosis disease	No documented evidence or history of previously **active tuberculosis.**
Non-nominal reporting	A reporting system in which no names or other identifying information are provided to public health officials when tuberculosis data are reported.
Non-respiratory TB	Refers to all other disease sites not part of respiratory TB. The definition overlaps with, but is slightly different from that of extra-pulmonary TB.
Nontuberculous mycobacteria (NTM)	All mycobacterial species except those that cause tuberculosis (*Mycobacterium tuberculosis* [including subspecies *M. canetti*], *M. bovis, M. africanum, M. caprae, M. microti and M. pinnipedii*) and those that cause leprosy (*M. leprae*). These are also known as MOTT (mycobacteria other than tuberculosis).
Nucleic acid amplification tests (NAAT)	A process whereby genetic material is amplified and then subsequently evaluated for the presence of DNA material; useful to identify specific mycobacterial species.
Organizational risk assessment	The activity whereby a health care organization identifies the following: a) a hazard; b) the likelihood and consequence of exposure to the hazard; c) the likely means of exposure to the hazard; d) and the likelihood of exposure in all work areas in a facility/office/practice setting; **and then** e) evaluates the available administrative, environmental and personal protection controls needed to minimize the risk of the hazard.

Outbreak	The following working definition of an outbreak for planning investigations is based on that proposed by the U.S. Centers for Disease Control and Prevention: • During a contact investigation, in two or more of the identified contacts a diagnosis is made of active TB; or • Any two or more cases occurring within 1 year or less of each other are discovered to be linked, but the linkage is recognized outside of a contact investigation. For example, two patients who received a diagnosis of TB independently, outside of a contact investigation, are found to work in the same office, yet they were not previously identified as contacts of each other. The linkage between cases should be confirmed by genotyping results if cultures are available.**PPD**: See **Purified protein derivative (PPD) tuberculin**.
Pediatric tuberculosis	Active TB in a child or adolescent.
Polymerase chain reaction (PCR)	Method of **nucleic acid amplification** that is patented with license held by Roche.
Post-primary tuberculosis	Older term – see **reactivation tuberculosis.**
Prevalence	The number of people that are alive and have the disease during a specified period of time.
Preventive therapy	See **treatment of latent tuberculosis infection**.
Primary respiratory tuberculosis	This includes pulmonary (lung parenchyma) tuberculosis, as well as tuberculosis of the intrathoracic lymph nodes, larynx, trachea, bronchus or nasopharyngeal sinuses due to infection within the preceding 24 months (ICD-9 codes 010, 010.0, 010.8, 010.9; ICD-10 codes A15.7 and 16.7). This diagnosis excludes tuberculous pleurisy in primary progressive tuberculosis (see below).
Primary tuberculosis	This includes **primary respiratory tuberculosis** and **tuberculous pleurisy in primary progressive tuberculosis** (ICD-9 codes 010-010.9; ICD-10 codes A15.7 and 16.7).
Pulmonary tuberculosis	In Canada, pulmonary tuberculosis includes tuberculosis of the lungs and conducting airways, and includes tuberculous fibrosis of the lung, tuberculous bronchiectasis, tuberculous pneumonia and tuberculous pneumothorax. (ICD-9 codes 011-011.9, 012.2, 012.3; ICD-10 codes A15.0-A15.3, A15.5, A15.9, A16.0-A16.2, A16.4, A16.9).
Purified protein derivative (PPD) tuberculin	A preparation of purified protein derived from culture filtrate of *Mycobacterium tuberculosis*. The **tuberculin skin test** uses 0.1 mL or 5 tuberculin units of PPD standardized to a common lot.
Reactivation tuberculosis	The development of active disease after a period of **latent tuberculosis infection**. In Canada, the term "reactivation" tuberculosis was previously used to refer to a **recurrence**.
Recurrence	Patient previously successfully treated (**cure** or completed) for active TB disease in whom **active tuberculosis** develops a second time, but without proof that this is the same organism.

Registry	The systematic collection of data pertaining to all active cases of tuberculosis in a given jurisdiction, to allow for effective case management and the collection of epidemiologic information.
Reinfection	Individual who was previously infected with *Mycobacterium tuberculosis* and is exposed and infected a second time. This can be proven only if the individual had active disease once, then disease develops a second time and the organism has a different "DNA fingerprint" from the original organism. Such cases are to be reported as a **re-treatment case**.
Relapsed	Patient with tuberculosis disease that was treated successfully (**cure** or completed), but it recurred. In the strictest sense the isolate should be the same (i.e. confirmed to have the same "DNA fingerprint" as the original organism), but relapse is commonly used interchangeably with **recurrence**. Such cases are to be reported as a **re-treatment case**.
Respiratory isolation	See **airborne infection isolation**.
Respiratory tuberculosis	This consists of **pulmonary tuberculosis**, tuberculous pleurisy (non-primary) and tuberculosis of intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum) and sinus (any nasal) (ICD-9 codes 010-012; ICD-10 codes A15-16).
Restriction fragment length polymorphism (RFLP)	A technique whereby the genetic "fingerprint" of individual organisms can be compared with that of other organisms. When isolates share an identical RFLP pattern it suggests an epidemiologic link, either recent or in the remote past, between the individuals from whom the organisms were isolated. This is the most specific of three commonly used methods for "genetic fingerprinting" of *M. tuberculosis.*
Re-treatment case of tuberculosis	1. a) Documented evidence or adequate history of previously active TB that was declared **cured** or treatment completed by current standards, and b) at least a 6-month interval since the last day of previous treatment* and c) diagnosis of a subsequent episode of TB that meets the active TB case definition. OR 2. a) Documented evidence or adequate history of previously active TB that cannot be declared **cured** or treatment completed by current standards, and b) inactive† disease for 6 months or longer after the last day of previous treatment* and c) diagnosis of a subsequent episode of TB that meets the active TB case definition.

* If less than 6 months have passed since the last day of previous treatment and the case was not previously reported in Canada, report as a re-treatment case. If less than 6 months have passed since the last day of previous treatment and the case was previously reported in Canada, do not report as a re-treatment case. Submit an additional form, "Treatment Outcome of New Active or Re-treatment Tuberculosis Case" at the end of treatment, see Appendix B.

† Inactivity for a **respiratory tuberculosis** case is defined as three negative tuberculosis **smears** and cultures plus a 3-month duration of stability in serial chest radiographs or a 6-month duration of stability in serial chest radiographs without laboratory testing. Inactivity for a nonrespiratory tuberculosis case is to be documented bacteriologically, radiologically and/or clinically as appropriate to the site of disease.

Return after default	A patient who has current evidence of active TB disease and had received treatment before, but this was interrupted for 2 or more consecutive months.
Second-line anti-tuberculosis drug	Anti-tuberculosis drugs reserved for use as alternative treatment to the **first-line** drugs. Second-line drugs consist of: 1. aminoglycosides, such as amikacin, kanamycin and streptomycin, 2. cyclic polypeptides, such as capreomycin, 3. analogs of d-alanine, such as cycloserine, 4. fluoroquinolones, such as levofloxacin, moxifloxacin and ofloxacin, 5. rifamycins other than rifampin, such as rifabutin or rifapentine, 6. salicylic acid-antifolates, such as para-aminosalicylate (PAS), 7. thioamides, such as ethionamide and protionamide, and 8. phenazine derivatives, such as clofazimine.
Smear	A laboratory technique for preparing a specimen so that bacteria can be visualized microscopically.
Source case	The person who was the original source of infection for secondary case(s) or **contacts**. The source case can be, but is not necessarily, the **index case**.
Source control measures	Methods to contain infectious agents from an infectious source. These can include separate entrances, partitions, triage/early recognition, airborne infection isolation rooms, diagnosis and treatment, respiratory hygiene (including masks, tissues, hand hygiene products and designated hand washing sinks), process controls for aerosol-generating medical procedures, and spatial separation.
Sputum-smear positive	Cases of **pulmonary tuberculosis** with positive smear results obtained from either spontaneously expectorated sputum, induced sputum, tracheal or bronchial washings/aspiration, or gastric wash.
Status Indian	A person who is registered with the federal government as an Indian, according to the terms of the *Indian Act*. Status Indians are also known as Registered Indians.
Transferred out	A patient who moved to a different jurisdiction and for whom the treatment outcome is not known.
Treatment completion (active tuberculosis)	Treatment completed without **culture** at the end of treatment and therefore the case does not meet the criteria for **cure** or for **treatment failure**.
Treatment failure (active non-MDR/XDR-TB)	Positive sputum cultures after 4 or more months of treatment or two positive sputum cultures in different months during the last 3 months of treatment, even if the final culture is negative and no further treatment is planned.
Treatment failure (active MDR/XDR-TB)	Two or more of five cultures recorded in the final 12 months are positive, or any one of the final three cultures is positive, or a clinical decision has been made to terminate treatment early because of poor response or adverse events.

Treatment of latent tuberculosis infection (LTBI)	The provision of therapy to individuals with LTBI to prevent progression to active disease; formerly termed **preventive therapy** or chemo-prophylaxis.
Triage	In the context of TB infection control, a system for early identification of people suspected to have active TB, and prompt action to reduce the risk of transmission from them.
Tuberculin skin test (TST)	Skin test to identify whether a person has **delayed-type hypersensitivity** reaction to tuberculin antigens.
Tuberculosis case	A reportable case of disease in Canada caused by *Mycobacterium tuberculosis* complex (i.e. *M. tuberculosis* [including subspecies *M. canetti*], *M. bovis* [excluding BCG strain], *M. africanum*, *M. caprae*, *M. microti* or *M. pinnipedii*).
Tuberculous pleurisy in primary progressive tuberculosis	This disease state is characterized by pleuritis and pleural effusion due to recent (within the preceding 24 months) infection with *Mycobacterium tuberculosis* complex (ICD-9 code 010.1; ICD-10 codes 15.7 and 16.7). The diagnosis excludes non-primary tuberculous pleurisy due to infection more than 24 months prior to diagnosis (ICD-9 code 012.0 and ICD-10 codes A15.6 and 16.5). If another site of tuberculosis disease, such as CNS (central nervous system) or disseminated/miliary disease, is believed to have been involved as a consequence of recent infection (within the preceding 24 months), it ought to be referred to and reported as tuberculosis of the meninges or miliary tuberculosis.
XDR TB	See **extensively drug resistant tuberculosis.**

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