

# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Measles

# Measles

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms in the absence of recent immunization with measles-containing vaccine:

- Isolation of measles virus from an appropriate clinical specimen (e.g., nasopharyngeal swab/aspirate/wash and urine)  
**OR**
- Detection of measles virus ribonucleic acid (RNA) from an appropriate clinical specimen  
**OR**
- Seroconversion or a significant (i.e., fourfold or greater) rise in measles Immunoglobulin G (IgG) titre by any standard serologic assay between acute and convalescent sera  
**OR**
- Positive serologic test for measles Immunoglobulin M (IgM) antibody using a recommended assay in a person who is either epidemiologically linked to a laboratory-confirmed case or has recently travelled to an area of known measles activity

**OR**

Clinically compatible signs and symptoms in a person with an epidemiologic link (i.e., close contact – See Section 7.0) to a laboratory-confirmed case

### 3.2 Probable Case

- Clinically compatible signs and symptoms in the absence of appropriate laboratory tests and in the absence of an epidemiologic link to a laboratory-confirmed case  
**OR**
- Clinically compatible signs and symptoms in a person with recent travel to an area of known measles activity

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Measles:

- Positive measles virus culture
- Positive for wild measles virus RNA by direct nucleic acid amplification test (NAT)
- Positive for measles IgM antibody (with an epidemiologic link)

- Seroconversion or a significant (i.e., fourfold or greater) rise in measles IgG titre between acute and convalescent sera
- Positive for measles virus RNA by direct nucleic acid amplification test (NAT)

#### **4.2 Approved/Validated Tests**

- Commercial tests for measles IgM and IgG by enzyme immunoassay (EIA)
- NAT for measles virus RNA
- Consult with laboratory with regards to testing and appropriate specimens

#### **4.3 Indications and Limitations**

- Measles IgM and IgG serology may be negative if blood is collected very early in infection; if measles is still suspected, the test can be repeated no less than 3 days after the acute sample.
- IgM serology has the potential for false positive findings. Further confirmation (IgG serology – paired sera - or measles virus isolation or detection of measles virus RNA) is required in cases specifically where there is no established epidemiological link.
- Isolates should be obtained on all persons suspected of having measles for molecular epidemiological analysis
- Specimens for isolation or RNA detection include nasopharyngeal or throat swab collected no later than 4 days after onset of rash or urine collected within 7 days of rash onset. Consult with laboratory with regards to testing and appropriate specimens

#### **5.0 Clinical Evidence**

Clinically compatible signs and symptoms are characterized by all of the following:

- Fever  $\geq$  38.3 degrees Celsius (oral) and
- Cough, coryza or conjunctivitis followed by
- Generalized maculopapular rash for at least three days

#### **6.0 ICD Code(s)**

##### **6.1 ICD-10 Code(s)**

055 Measles

##### **6.2 ICD-9/ICD-9CM Code(s)**

B05 Measles

#### **7.0 Comments**

Close contacts are persons who had airborne exposure in an enclosed setting or direct exposure to the measles case during the period of communicability (e.g., household, sexual, classroom, shared workspace and social [small gatherings] contacts)

##### **Note about testing for Subacute Sclerosing Panencephalitis (SSPE):**

High titres of measles specific antibodies in sera and cerebrospinal fluid (CSF). Measles RNA can be detected in brain tissue.

#### **8.0 References**

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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