

Background

- Measles is a highly communicable viral disease that is a [reportable](#) disease under the *Health Protection and Promotion Act, 1990, Chapter H.7, Ontario Regulation 135/18*.
- Measles is transmitted through close contact with the respiratory secretions of a case or through persistence of airborne nuclei in the air for up to 2 hours.
- Measles is characterized by prodromal fever, characteristic rash, cough, conjunctivitis, coryza, and Koplik's spots.
- The characteristic maculopapular rash starts on the face, spreads down the body and usually begins 3-7 days following the prodrome.
- Those infected with measles are considered communicable from 4 days before until 4 days after rash onset.

Reporting

- Suspected or confirmed cases of measles, whether clinically diagnosed or laboratory confirmed, must be [reported](#) to Ottawa Public Health **immediately** by calling: 613-580-2424 ext. 24224 during normal business hours of Monday to Friday, 8:30 a.m. – 4:30 p.m. After hours and holidays, please call 3-1-1 and ask for the Communicable Disease Manager on-call. Reporting a suspected measles case **should not** be delayed pending the return of confirmatory laboratory results.
- If the suspected measles case is under 18 years old, the physician or health care professional are asked to also page the Infectious Diseases physician on-call at CHEO (613-737-7600 ext. 0) to discuss the symptoms, determine if the child meets clinical criteria, and if testing at CHEO is required. The physician or health care professional is then asked to follow-up with the public health nurse to advise on outcome of consultation so the public health nurse can proceed accordingly.

Laboratory testing

(must include two tests for viral detection by PCR in addition to serology)

- **Virus detection by PCR:** Isolation of measles virus from two appropriate clinical specimens
 - **Urine specimen:** collect approximately 50 ml of clean catch urine in a screw top sterile container within 14 days after onset of rash, **AND**
 - **Either throat or nasopharynx specimen:** collected using a swab containing universal transport media within 7 days of the onset of rash.
 - Throat specimen: viral swab (Virus Culture Kit order #390081) containing pink universal transport media (i.e. the same swab used to test for HSV).
 - Nasopharynx specimen: nasopharyngeal swab (Virus Respiratory Kit order #390082) with universal transport media (i.e. same swab used to test for influenza or RSV).
- **Serology**
 - **Acute serology**
 - Should be collected within 7 days of the onset of the rash.
 - Requisitions should be clearly marked "acute measles serology IgG and IgM."
 - **Convalescent serology**
 - Should be collected 7-10 days after the acute serology sample.
 - Requisitions should be clearly marked "convalescent measles serology."
 - Order convalescent serology if acute serology and virus detection are negative or indeterminate.
- **The laboratory requisition [form](#) must include the following:**
 - Ordering physician or health care professional's name and telephone number
 - Specifying type of specimen (e.g. throat swab, nasopharyngeal swab, urine, serology)
 - For serology, mark as "Measles IgG AND IgM"
 - Indicate acute/recent infection
 - Immunization history, exposure history and travel history outside Ottawa 21 days prior to symptom onset
 - Relevant signs, symptoms, and/or clinical history, and onset date
 - Reason for testing (i.e. "to diagnose measles" or "measles testing")
- **Turnaround time:** up to 3 days from receipt by Public Health Ontario Laboratories.

Storage and Transport Requirements

- Place specimen in biohazard bag and seal.
- Specimens should be stored in a refrigerator at 2-8°C following collection and shipped to the Public Health Ontario laboratory on ice packs

December 2019