



Ontario

Agency for Health
Protection and Promotion

Agence de protection et
de promotion de la santé

OAHPP Public Health Laboratories Laboratory Testing for Suspect Measles Cases March 2010

This fact sheet provides basic information only. It must not take the place of medical advice, diagnosis or treatment. Always talk to a health care professional about any health concerns you have, and before you make any changes to your diet, lifestyle or treatment.

Diagnosis of Measles

A diagnosis of measles should be considered in any person with a generalized maculopapular rash, fever and cough, coryza and/or conjunctivitis. Laboratory diagnosis of measles is required for all sporadic (non-outbreak related) cases.

Because indigenous measles has been eliminated in Canada, laboratory testing of suspect measles cases must include both serology and virus isolation/detection:

Initial lab testing:

- a) **Acute Serology:** A blood specimen, to test for measles antibodies (IgM and IgG) at the first visit and ideally obtained within 7 days after rash onset.
- b) **Virus isolation/detection:**
 - i) A nasopharyngeal swab or aspirate, and/or a throat swab obtained within 4 to 7 days after the onset of rash. Use the Viral Transport Media (VTM) collection kit (Item # N-0081). If provided by the OAHPP Public Health Laboratories (PHL), these swab kits contain pink medium.
 - ii) Approximately 50 ml of urine collected within 7 days after the onset of rash. Collect a clean catch urine and store in a screw top sterile container. Measles is stable at 4 degrees celsius for several days.
 - ii) Ensure that the lab requisition indicates that this is a **urine specimen** and that you are requesting **measles testing**.
 - iii) Store specimens in the refrigerator until sent to the laboratory. Specimens must be stored and shipped cold.

Mark the symptoms, dates of onset of symptoms, exposure history and vaccination history on all requisitions submitted.

Follow-up lab testing:

- a) **Convalescent serology:** A second blood specimen drawn >10 to 20 days after the first to check for seroconversion or a significant rise in measles specific IgG antibodies between acute and convalescent sera. Seroconversion or a significant rise in IgG titre is indicative of recent infection.

Note: If the acute (initial) serology results in a person with clinical symptoms of measles and known or suspected exposure to measles show low, indeterminate or negative IgM and IgG, both tests should be repeated in one to two weeks.

When requesting measles specific IgM and IgG testing, please provide relevant clinical information on the lab requisition form and the purpose of the testing i.e. suspect measles, recent vaccination history and recent travel history.

Expected Time to Receive Results

- o A few days for blood test results.
- o Up to a week for PCR results.

Note: Please ensure that your local public health unit is aware of all individuals who are being tested for measles.

References

1. Bellini WJ, Icenogle JP. Measles and rubella viruses. In Murray PR, Editor. Manual of Clinical Microbiology, 8th Edition. ASM Press, Washington, D.C.; 2003.
2. Heymann DL, editor. Control of Communicable Diseases Manual, 18th edition. American Public Health Association. Washington, D.C.; 2004.