

Dr. Charles Gardner, Medical Officer of Health
Dr. Colin Lee, Associate Medical Officer of Health
Dr. Lisa Simon, Associate Medical Officer of Health

Measles Update #4: Laboratory Error Resulting in a False Positive Result for the March 12th Simcoe Muskoka Measles Case

Attention: Physicians, Hospitals, CNE, ER Manager, ER Physician, Infection Control Practitioners, Occupational Health Professionals, Community Health Centres, Walk-In Urgent Care Clinic, Nurse Practitioner, Ontario Health, Ontario Health Teams, Midwives, Family Health Team, Indigenous Healthcare & Community, Long-Term Care Homes, Retirement Homes, Neighbouring Health Units, Paramedic Services, Corrections

Date: March 27, 2024

On March 13th, the Simcoe Muskoka District Health Unit (SMDHU) [informed health care providers and the public of a lab-confirmed measles case](#) in an adult who had not travelled recently or been in contact with a known case of measles. This notice occurred following the report of a clinical diagnosis for measles in the adult, with compatible symptomology, and a positive polymerase-chain reaction (PCR) laboratory urine result for measles virus that was reported to us from Public Health Ontario Laboratory (PHOL).

We have just been informed by the PHOL, that because of a laboratory error, the positive result reported on March 12th was not correct and is in fact, negative for the measles virus. The PHOL is confident in the negative result. Therefore, we now believe that the adult was not infected with measles, and that there have been no exposures to measles resulting from this person's illness. We are working with the PHOL to reduce the risk of such an incident from occurring again.

Regardless, measles cases continue in other areas of the province. **The majority of Ontario cases reported in 2024 have been associated with travel (i.e. acquired measles outside of Canada)** and one case has occurred in an individual with an unknown source of exposure (i.e. no travel history or no known epidemiological link with a confirmed case). **Clinicians should continue to prioritize testing for symptomatic patients with the following risk factors:**

- Contact with a confirmed case;
- International travel to areas with high-rates of measles;
- Being unimmunized or partially immunized;
- Being immunocompromised and/or pregnant.

Specimen Collection:

- **While the PCR test is highly sensitive and specific, it is essential that clinicians obtain as best as possible PCR specimens from all 3 sites in order to minimize the risk of false negatives and false positives:**
 - Testing for measles should include **three** specimens for PCR analysis:
 1. Nasopharyngeal (NP) swab; AND
 2. Throat swab; AND
 3. Urine specimen.



- Review the expiry dates of all specimen collection kits and ensure an adequate supply
- Nasopharyngeal Viral Transport Medium and Throat Swab testing kits can be ordered from [Public Health Ontario Laboratory](#)
- If serology is needed at a community lab, ensure infectious patients wait until the fifth day after rash onset to avoid exposure.

Test	Specimen Type	Timing of Collection	Collection Kit
Measles PCR	Measles PCR NP Swab	Within 7 days of rash onset	Virus respiratory kit (pink medium) #390082
Measles PCR	Measles PCR Throat Swab	Within 7 days of rash onset	Virus culture kit # 390081
Measles PCR	Measles PCR Urine (50 ml)	Within 14 days of rash onset	Sterile container
Measles Serology	Measles Serology Blood Test	Acute: within 7 days of rash onset Convalescent: 7-10 days after acute (preferably 10-30 days after acute)	Blood, clotted-vacutainer tubes (SST)

It is imperative that the PCR tests are also ordered as **the serology by itself is usually not sufficient to rule in or out measles** in either vaccinated or unvaccinated patients. Contact public health to discuss specimen transport to the Public Health Ontario Lab (PHOL). Please be advised that if PCR is done before a rash is present, the sensitivity of the test is reduced (increasing the potential for a false negative result).

Specimen Submission:

- Clearly mark “suspect case of measles’ on all requisitions and include the patient’s symptoms, date of onset, exposure history, travel history, and vaccination history
- Select the ‘diagnostic’ box
- Specimens must be stored and shipped cold and separate from routine specimens
- Mark **STAT** on the outside of the package
- **Continue to contact SMDHU, ID program to report that you are testing a suspect case of measles, 1-705-721-7520 ext. 8809 during work hours (8:30am to 4:30pm, Monday to Friday) or after hours 1-888-225-7851.**

Infection Prevention and Control

Primary care providers are encouraged to test clinically stable patients in their offices with appropriate IPAC precautions:

- Schedule patients with compatible symptoms at a time that will minimize exposure of others (e.g., at the end of the day)
- Immediately place patient in a single room with a door closed, negative air flow (airborne infection isolation room), if available.
- **NEW:** In addition to having immunity to measles (two doses of measles vaccination or laboratory evidence of immunity), all HCWs should wear a fit-tested, seal-checked N95 respirator when entering the room and/or caring for a patient with suspect or confirmed measles, given reports elsewhere of transmission of measles to HCWs with presumptive immunity. (See [Interim IPAC recommendations from Public Health Ontario](#))
- Droplet/Contact precautions should also be used if the client has respiratory symptoms (gown, gloves and eye protection)
- Following the patient’s visit, the exam room door must remain closed with signage to indicate that the room is not to be used for two hours.

- Only send patients to a hospital emergency department if clinically indicated and after calling ahead, to minimize high risk contacts in hospital settings.

Report

Immediately report **all suspect or confirmed cases** of measles infection to SMDHU at 705-721-7520 Extension 8809 during work hours (8:30 am to 4:30 pm, Monday to Friday) or after hours 1-888-225-7851.

More information:

- [Measles Toolkit for Health Professionals – Simcoe Muskoka District Health Unit](#)
- Updated March 15, 2024 [Measles Information for Health Care Providers](#) – Public Health Ontario
- Updated March 15, 2024, [Interim IPAC Recommendations and Use of PPE for Care of Individuals with Suspect or Confirmed Measles – Public Health Ontario](#)
- [Measles Epidemiological Summary – Public Health Ontario](#)