

Measles: Infection Prevention and Control Information for Health Care Workers

Infectious agent	Measles virus, a member of the genus Morbillivirus of the family Paramyxoviridae. ¹
Clinical presentation	Acute viral respiratory illness characterized by a prodrome of fever, cough, coryza (runny nose), and conjunctivitis; a pathognomonic enanthema (Koplik spots); followed by a maculopapular rash, which may not be present in immune compromised patients. ^{2,3}
Reservoir and Source	Humans
Surveillance	Refer to BC Centre for Disease Control (BCCDC)'s Reportable Diseases Dashboard and Summaries and Public Health Agency of Canada's Measles and Rubella Weekly Monitoring Reports .
Transmission	Highly transmissible infectious disease spread through the airborne route when an infected person breathes, coughs, sneezes or talks and through direct contact with respiratory secretions from the nose and throat, or less commonly through fomites contaminated with respiratory secretions. ¹⁻⁴
Incubation	Ten (10) days with a range of 7 to 18 days from exposure to onset of prodromal symptoms, with onset of rash at approximately 14 days (rarely up to 9 to 21 days). ^{1,2}
Communicable period	One day before prodromal period (usually about 4 days before rash onset) to 4 days after rash onset. ^{1,5} The airborne infectious viral particles can persist for up to 2 hours after an infectious person leaves the area, depending on the number of air exchanges. ^{2,3}
Case definition	Refer to BCCDC's Measles Case Definitions for confirmed, probable, and suspected cases.
Laboratory testing	Refer to BCCDC's Laboratory Services and Communicable Disease Control Manual measles section for information on laboratory testing.
Notification	Measles is a reportable communicable disease under the Public Health Act. ⁶ <ul style="list-style-type: none"> Notify and consult with local Medical Health Officer/Public Health as soon as possible to initiate follow-up, appropriate isolation, and testing. Notify and consult with your infection prevention and control (IPC) team (where available).
Immunization	Measles is a vaccine-preventable disease. <ul style="list-style-type: none"> Ensure health care worker (HCW) immunizations are up to date and records of immunity are updated and maintained.⁷ Refer to BCCDC Immunization Manual for information on recommended vaccines for health care workers. Encourage patients to be up to date with their immunizations. Refer to the BCCDC for information on available vaccines for measles. In some outbreak conditions, breakthrough infections may occur in some fully vaccinated individuals or HCWs, although these are uncommon occurrences.^{7,8}
Infection prevention and control recommendations in health care settings	
Case management For patients presenting with symptoms and/or are suspected/confirmed to have measles: <ul style="list-style-type: none"> HCWs must provide instructions to patient to wear a medical mask (if tolerated) when outside their room and when presenting at reception desks. Additionally, HCWs must provide instruction on cleaning their hands. In addition to following routine practices, implement airborne precautions: 	

- HCWs must wear a fit-tested and seal-checked respirator (e.g., N95 respirator or equivalent), regardless of their immune status, and wear additional personal protective equipment (PPE) based on [point-of-care risk assessment \(PCRA\)](#).
- HCW must place an airborne precaution sign at the entrance to the patient room. Refer to the provincial [additional precaution signs](#) on the PICNet website.
- The patient should be placed in an airborne infection isolation room (AIIR) (i.e., negative pressure room). If an AIIR is unavailable, the patient must be placed in a single occupancy room with the door closed and with a dedicated washroom or commode. Measles transmission can occur up to two hours after a patient with measles has left the room. Therefore, allow two hours of air clearance time (where the air changes per hour rate is unknown) or after all air in the room has been replaced, based on known room air change rate, before placing another patient in room.^{2,4} Refer to the [U.S. Centres for Disease Control and Prevention’s Airborne Containment Removal Table](#) or your organizational guidelines. Consult with IPC and facilities maintenance and operations (where available).
- Where possible, only HCWs who meet the criteria for immunity should provide care to patients suspected or confirmed to have measles.⁷ Criteria for immunity in BC HCWs can be found in BCCDC’s [Communicable Disease Control Manual Measles](#) section.
- Caregivers and visitors should be restricted to essential persons and should wear respirators.⁷
- Airborne precautions must be continued until 4 days after rash onset for immune competent patients and until resolution of symptoms in immunocompromised patients.⁴

Exposure and Contact Management

- For patient exposure and contact management, consult with Public Health and IPC professional/team (where available). Refer to BCCDC’s [Communicable Disease Control Manual Measles](#) section on contact management.
- For HCW exposures and contact management, consult with Public Health and the [Provincial Workplace Health Contact Centre](#) (for health authority operated settings). Refer to BCCDC’s [Communicable Disease Control Manual Measles](#) section on contact management and PICNet’s [Management of Health Care Providers Pre and Post Exposure to Measles, Mumps or Rubella \(MMR\)](#).

Additional Resources

- BC Centre for Disease Control (BCCDC). [Communicable Disease Control Manual Measles](#) (December 2024)
- PICNet. [Management of Health Care Providers Pre and Post Exposure to Measles, Mumps or Rubella \(MMR\)](#) (May 2011)
- HealthLink BC. [Measles \(Rubeola\)](#) (October 2022)
- Public Health Agency of Canada (PHAC). [Measles: For health professionals](#) (May 2024).
- Public Health Agency of Canada (PHAC). [Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings](#) (September 2017)
- U.S. Centres for Disease Control and Prevention (CDC). [Clinical Overview of Measles](#) (May 2024)
- World Health Organization. [Measles Outbreak Toolbox](#) (September 2022)

Document Version

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Summary of Major Changes

- Additional information on clinical presentation, clinical presentation, reservoir

(January 27, 2025)	<p>and source, transmission, incubation and communicable periods.</p> <ul style="list-style-type: none"> • Additional resources and links provided for surveillance, case definition, laboratory testing, immunization, and exposure and contact management for patients and HCWs.
Measles (PICNet website May 2023)	<ul style="list-style-type: none"> • Originally published
<p>References</p>	
<ol style="list-style-type: none"> 1. Heymann, D.L. <i>Control of Communicable Diseases Manual</i>. 19th ed. American Public Health Association; 2008. 2. Public Health Agency of Canada (PHAC). Measles: For health professionals. Published October 21, 2016. Accessed May 28, 2024. https://www.canada.ca/en/public-health/services/diseases/measles/health-professionals-measles.html 3. U.S. Centres for Disease Control and Prevention (CDC). Measles (Rubeola). Measles (Rubeola). Published April 23, 2024. Accessed May 28, 2024. https://www.cdc.gov/measles/index.html 4. Public Health Agency of Canada (PHAC). Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings. Published online September 26, 2017. Accessed March 27, 2024. https://www.canada.ca/en/public-health/services/publications/diseases-conditions/routine-practices-precautions-healthcare-associated-infections.html 5. BC Centre for Disease Control (BCCDC). <i>Communicable Disease Control Manual. Chapter 1. Measles.</i>; 2024. Accessed December 19, 2024. http://www.bccdc.ca/health-professionals/clinical-resources/communicable-disease-control-manual/communicable-disease-control 6. Government of British Columbia. <i>Reporting Information Affecting Public Health Regulation, Public Health Act</i>. Accessed March 26, 2024. https://www.bclaws.gov.bc.ca/civix/document/id/lc/statreg/167_2018 7. Public Health Agency of Canada (PHAC). Notice: Updated infection prevention and control recommendations for Measles in healthcare settings. Published May 27, 2024. Accessed May 29, 2024. https://www.canada.ca/en/public-health/services/diseases/measles/health-professionals-measles/updated-infection-prevention-control-recommendations-healthcare-settings.html 8. Public Health Agency of Canada (PHAC). Rapid risk assessment: Measles in Canada, public health implications in 2024. Published March 27, 2024. Accessed May 29, 2024. https://www.canada.ca/en/public-health/services/emergency-preparedness-response/rapid-risk-assessments-public-health-professionals/rapid-risk-assessment-measles-public-health-implications-2024.html 	