

Measles Summary Guide

Measles is one of the most contagious of all infectious diseases; up to 9 out of 10 susceptible persons with close contact to a measles patient will develop measles. The virus is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. Measles virus can remain infectious in the air for up to two hours after an infected person leaves an area. Source: [National Center for Immunization and Respiratory Diseases, Division of Viral Diseases](#)

This document is a guide to support clinical decisions in non- AHS primary care provider settings.

Measles – Health Care Provider Actions

*Cases and Immunity

Notification and Screening

Clinics are recommended to screen patients for immunization and travel history. All suspected, probable and confirmed *cases (in person or virtual) are to be **immediately reported** (fastest means possible) to the Zone Medical Officer of Health (MOH) On Call.

Calgary Zone: 403-264-5615 | Central Zone: 403-356-6430 | Edmonton Zone: 780-433-3940 |
North Zone: 1-800-732-8981 | South Zone: 403-388-6111 (will need to ask to page MOH) | For those living in a First Nation's community: ISC MOH: 780-218-9929

Whenever possible ask patient with suspected/probable measles to call 811 and avoid patient from entering the clinic.

Immunity

- Individuals born in or after 1970 and Healthcare workers regardless of year of birth are required to have **ONE of the following** to be **considered immune**:
 - Documentation of 2 doses of measles containing vaccine where the first dose was given AFTER 12 months of age and the second dose was given at least 28 days after the first dose
 - Documentation of laboratory-confirmed measles disease in the past
 - Documentation of serological proof of immunity on file prior to exposure*.
- Serological **pre-exposure testing** to determine immunity in healthy individuals including health care workers **is not** routinely recommended.

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*Exposure: An exposure occurs when a person is in the same confined air space as an infectious case, including within a two-hour period after the case had left that space, and without the use of appropriate PPE (personal protective equipment). [Measles](#)

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	<ul style="list-style-type: none"> ○ If a person’s immunization records are unavailable, it is preferable to offer the MMR (measles, mumps and rubella) vaccine on a schedule appropriate for their age and risk factors rather than ordering serological testing. <p>For further information, please refer to measles Alberta Health Notifiable Disease guidelines algorithm page 12 regarding assessing measles contact susceptibility and management.</p> <p>Work Restriction</p> <ul style="list-style-type: none"> ● If healthcare workers/staff do not have one of the above as documented evidence of immunity and they experience an *exposure, they will be required to go be assessed and managed as per the algorithm in Figure 1 on page 12 of the Alberta Health measles notifiable disease guidelines: Measles (alberta.ca). <ul style="list-style-type: none"> ○ The healthcare worker/staff may be required to: <ul style="list-style-type: none"> ▪ Have immunization history be assessed including STAT serology to validate immunity ▪ Receive urgent measles-containing vaccine for post-exposure prophylaxis ▪ Stay out of public spaces ● If *exposed, healthcare workers/staff can continue working as long as they have a demonstrated immunity and remain symptom free. ● As per the Notifiable Disease Guidelines set by Alberta Health, confirmed non-immune workers with unprotected exposure to measles are required to stay home and not attend work starting from 5 days after their first exposure to 21 days from their date of last exposure to the *case. <ul style="list-style-type: none"> ○ This group may be offered post-exposure prophylaxis (Figure 5), which may modify or prevent measles disease, but does not remove the requirement to not attend work.
<p>Testing and PPE</p>	<p>Step 1: Report suspected, probable, and confirmed cases (in-person or virtual) immediately (fastest means possible) to the Zone MOH and consult on how to proceed with testing.</p> <p>Measles is highly communicable from person-to-person via the airborne route. An individual is contagious from one day prior to onset of the prodromal period until four days after appearance of the rash. For patients presenting with rash-like illness: see Rash Algorithm.</p> <p>For patients with suspected measles, consider a virtual appointment (primary care office or through 811 Health Link), based on clinical presentation.</p>

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Always use [IPC routine practices](#) outlined for the specific setting.

Step 2: If patient enters the clinic or is needed to be seen in the clinic, have the patient wear a procedure mask & place them ASAP in a room with four walls and a door. The patient needs to remain masked in the room with the door remaining closed. As much as possible, reduce exposure to other patients and staff.

Step 3: Wear and use appropriate healthcare provider personal protective equipment (PPE)

- For symptomatic patients with suspect measles use [airborne, contact, and droplet precautions](#) ([seal-checked](#) N95 mask [where possible], gloves, gown, eye protection).
- Once other infectious diseases have been ruled out or measles has been confirmed, use airborne precautions plus [IPC Risk Assessment](#)

Step 4: Follow the [Measles Specimen Collection Pathways](#). Collect [nasopharyngeal swab](#) or throat swab or urine using [appropriate PPE](#) ([seal-checked](#) N95 mask [where possible], gloves, gown and eye protection). For urine sample collect about 10 mL in sterile container. Submit the specimens with the [Serology and Molecular Testing Requisition form \(albertahealthservices.ca\)](#) form to the Provincial lab. Ensure the requisition form is filled out in detail.

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- Depending on where the patient is in their course of illness, serological and/or urine testing may also need to be done. Refer to the [Provincial Laboratory Bulletin](#) for testing in the exceptional situation that serological testing to determine immunity is required.
 - Before sending a suspected measles patient to have their blood collected, first contact the Alberta Precision Lab (APL) Appointment Booking line at **1-877-702-4486**
 - For more information refer to the [APL Guide to Services](#).

Step 5: After a patient with suspected or confirmed measles has been seen, the room should not be used for a minimum of 2hrs to allow for 99% air clearance.

Step 6: Advise patient to stay out of public spaces while awaiting test results. Should a rash develop, patients should continue to stay out of public spaces until 4 days after rash development.

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	<p>Clinic setting summary</p>	<ul style="list-style-type: none"> For suspected measles cases*, healthcare providers who provide service should preferably be immune and use appropriate PPE as per the current Infection Prevention & Control (IPC) recommendations for cases* or susceptible contacts found in the AHS IPC manual on the AHS external and Insite webpages (search “IPC”). For confirmed measles cases, follow airborne precautions and additional PPE based on IPC Risk assessment. <p>See below for recommended measures when receiving a suspected measles case*:</p> <ul style="list-style-type: none"> Schedule symptomatic individuals in the last appointment of the day if possible. Healthcare provider to follow airborne, contact, and droplet precautions (seal-checked N95 mask [where possible], gloves, gown and eye protection). Provide a well-fitting procedure mask for the patient to wear while in the clinic setting. Suspected patients should not be in clinic setting longer than necessary. Immediately isolate the patient in a private room with four walls (no curtains or half walls), with the door closed, upon arrival and contact Zone MOH Any private room that the patient has occupied should be left unoccupied, with the door closed, and should not be used for two hours after a suspected case* has left the room, to allow for adequate air changes for 99% air clearance. Room surfaces must be cleaned and disinfected prior to being reused. Disinfectants must have DIN details and an achievable contact time. <ul style="list-style-type: none"> See here for information on Environmental Cleaning Guidance <p>**NOTE: If the room is cleaned/disinfected less than two hours after the patient has left it, those entering the room must wear an N95 respirator. If the room is cleaned/disinfected more than two hours after the patient has left it, follow Routine Practices.</p> <ul style="list-style-type: none"> Ordering PPE: Clinics can purchase PPE from a vendor of choice and/or from AHS at cost. See the AHS PPE price list and the AHS for-cost PPE order form.
	<p>Vehicle Setting</p>	<p>If there is a safe and reasonable way to collect the Naso pharyngeal swab specimen in the patient’s vehicle, that is always an option.</p>
<p>Results</p>	<p>Providers can access results for PCR testing for their patients via Netcare or MyHealth.Alberta.ca</p>	

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Patient Management & Education

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Assessment	<p>Ensure patients are screened for travel and immunization history.</p> <p>Measles complications can be life-threatening (such as pneumonia, and acute encephalitis) and tends to be more severe in infants, immunocompromised individuals, and those who are pregnant.</p> <p>Review your patient panel(s) to encourage measles immunization.</p>
Prevention	<p>Measles, mumps & rubella (MMR) Immunization</p> <ul style="list-style-type: none"> • See tips for dealing with vaccine-hesitant patients. • Immunization eligibility: Measles, mumps, rubella (MMR) vaccine (alberta.ca). • Two doses of a measles-containing vaccine (given at the appropriate interval and spacing) is about 97% effective at preventing measles if you are *exposed to the virus. <ul style="list-style-type: none"> ○ Those unsure about their or their child’s immunization history can text, ‘vaccine record’ to 881111, call Health Link at 811, or contact their local public health office. • Publicly funded (free of charge) measles-containing vaccine is available through Public Health by appointment. <ul style="list-style-type: none"> ○ Immunizations can be booked through Health Link at 811 between 8 a.m. and 6 p.m. if you live in Edmonton or Calgary Zone. ○ For other zones, contact your local public/community health centre <p>Reminder: Measles-containing vaccines are live vaccines. It is not recommended for use in pregnant women and those with weakened immune systems. Consult the Zone MOH as this group may be offered post-exposure prophylaxis within 6 days of exposure (Figure 5), which may modify or prevent measles disease.</p>
Symptoms	<p>Symptoms of measles are:</p> <ul style="list-style-type: none"> • Fever 38.3° C or higher; and • Cough, runny nose or red eyes; and

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	<ul style="list-style-type: none"> • Red blotchy rash appearing three to seven days after fever starts, usually beginning behind the ears and on the face and spreading down to the body and then to the arms and legs. <p>Symptoms of measles can be seen within seven to 21 days of being exposed* to measles</p> <ul style="list-style-type: none"> • The rash may continue for up to 10 days but you will not be contagious after the fourth day of the rash. • A person whose immune system is compromised may be contagious for the duration of the illness.** <p>Measles complications can be life-threatening (such as pneumonia and encephalitis) and tends to be more severe in infants, immunocompromised adults, and those who are pregnant.</p> <p>People with measles are contagious from one day before having any symptoms (which is usually about four to seven days before the rash appears), until four days after the appearance of the rash.</p> <ul style="list-style-type: none"> • If individuals have been exposed* to measles and are not fully immunized (with 2 doses of measles vaccine), refer to Health Link at 811 before visiting any healthcare provider, clinic, or hospital. <p>Additional Resources</p> <ul style="list-style-type: none"> • Measles • AHS HEAL resource for patients and families
<p>Post Exposure Management</p>	<p>With MOH guidance, non-healthcare workers (such as individuals who are immunocompromised, pregnant and infants) can be managed as per the algorithm in Figure 4 on page 16 of the Alberta Health measles notifiable disease guidelines: Measles. Non immune healthcare workers with unprotected exposure to measles may also be offered post-exposure prophylaxis (Figure 5).</p> <p>They may require:</p> <ul style="list-style-type: none"> • STAT serology and/or • Urgent measles-containing vaccine for post-exposure prophylaxis and/or • Immune Globulin (Ig) therapy.
<p>Isolation</p>	<p>Individuals considered to be cases* should stay out of public spaces until four days after a rash appears.</p> <p>After testing, individuals should self- isolate while awaiting results.</p> <p>Those who have been exposed* and at risk to contract the measles virus (Figure 1) should stay out of public spaces starting from 5 days after their first exposure to 21 days from their date of last exposure to the *case if it's outside of the</p>

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	timeframe for serology or access to post-exposure prophylaxis. (This would include not being able to work at places of employment where other people are present)
Results and Follow-up	Patients can access testing results in MyHealth.Alberta.ca or by contacting their primary healthcare provider. Advise patient they will be contacted by Public Health to collect further information and explain additional next steps.

Additional Resources

- [Provincial Measles Primary Care Clinical Pathway](#)
- [IPAC-Requirements-for-Medical-Clinics.pdf](#)
- [Environmental Cleaning Guidelines in Community Clinics](#)
- [Laboratory Testing for Suspected Measles](#) (APL bulletin)
- [Seal Checks for Disposable KN95 Respirators 8.5x11 Poster](#)
- [AHS active health advisories](#)

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