Clinical Care of Pregnant Patients with Measles

June 2025

ASSESSMENT		
SEE **Presenting Complaint of Fever & Rash**	**THINK** **Could it be Measles?** Consider Travel/Exposure/Immunity	**DO** **Infection Prevention & Public Health Reporting** Measles: Quick Reference Guide for HCW
Clinical Signs • Fever ≥ 38.3°C **AND** 3Cs cough, coryza (runny nose), or conjunctivitis (non-purulent bilateral conjunctivitis) • Generalized red, maculopapular rash appearing 3-7 days after symptom onset, starting from head and spreading down body. The interval from infection to appearance of rash averages 14 days, but the rash can appear as late as 19 to 21 days from infection. • Some patients may exhibit Koplik spots ("grains of salt") on the buccal mucosa. Absence of Koplik spots does not exclude a clinical diagnosis of measles. • Also consider modified measles (mild/atypical presentation) in partially or fully immunized persons	**Risk factors** • Known exposure to measles case or area with documented measles outbreak or recent travel. • All persons who have not had a previous measles infection or who have not had 2 doses of a measles-containing vaccine are at risk of measles infection. • Adults born before 1970 are generally presumed to have acquired immunity due to infection with measles when they were younger. • **Incubation period** is approximately 10 days from exposure to the onset of prodromal symptoms (ranging from 7 to 21 days).	**Precautions** • Initiate Airborne Precautions for patients with suspected or known measles per infection Algorithm and Checklist for further details. • **If you suspect measles, notify** the Northern Health Communicable Disease Hub or Medical Health Officer on call: • **Monday to Friday** (excluding statutory holidays) 8:30-4:00 pm **call 250-645-3794** or toll free at 1-855-565-2990. • After hours (after 4:00 pm Monday to Friday), on weekends and holidays, contact the MHO on call at 1-833-214-3274. • Need to define household contacts and partners based on immunity and risk of infection.

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INVESTIGATIONS

Physician to assess patient for clinical signs of measles and risk factors (see table above). Date of onset of each sign should be noted, especially rash.

Testing:

1. Nasopharyngeal or Throat swab: order Measles NAT
    a. Use the usual NP swab or use a viral swab placed in universal transport media for throat.
    b. A second NP swab must be collected if testing for other respiratory viruses.
2. Urine: order Measles NAT (sterile container)
3. Blood (optional): order Measles Serology (acute) IgM and IgG

NOTE: While NAT is preferred, serology is useful when it has been 7 or more days since rash onset

Communicate verbally with the local laboratory to ensure expedited shipping to BCCDC.

On a case-by-case basis, consider serological testing for individuals who are likely to have pre-existing immunity from prior vaccination or measles disease. Prenatal sera may be stored at the BCCDC Public Health Laboratory for two years and readily available for retrieval for testing. **Consult the MHO for testing indication.**

MATERNAL/INFANT CONSIDERATIONS

Mother has measles and not in labour or no imminent delivery:

- Mother on Airborne Precautions
- Consult local OB/Gyn (if available)
- Consult Reproductive Infections Disease (RID) on-call via BCWH Switchboard

Mother has measles and in labour or imminent delivery:

- Mother on Airborne Precautions
- Infant should receive Immune Globulin (IG) and remain on Airborne Precautions until 21days from last exposure

Mother has measles, with birth of healthy term infant

- Dyad on Airborne Precautions
- Mother/infant contact and rooming in permitted
- Breastfeeding permitted if rooming in

Mother has measles and infant in NICU

- Mother not permitted in NICU until 4 days after appearance of the rash, or if immunocompromised, for the duration of illness
- Breastfeeding permitted as expressed breast milk

Infant has measles

- Infant on Airborne Precautions
- Mother immune: permitted to see infant and breastfeeding permitted
- Mother susceptible: consult Infection Prevention and Control (IPACS)

Infant is a measles contact

- Airborne Precautions 5 days after first exposure to 21 days after last exposure

Consult Infection Prevention and Control (IPACS)

TREATMENT

There is no specific antiviral treatment for measles infection. Medical management is supportive and aimed at symptom relief and management of complications. This can include rehydration and management of secondary complications of measles, such as bacterial pneumonia.

If suspected secondary bacterial infection, before starting antimicrobial therapy, take blood & any other relevant samples for culture and treat with antibiotics

- 10-111-5102 Adult Sepsis Order Set

Use of Vitamin A:

Vitamin A does NOT prevent or treat measles but there is evidence that patients with measles who are treated with vitamin A have decreased risk of mortality and severe ophthalmologic sequalae. Vitamin A should be given in doses as outlined below, as higher doses pose risk of vitamin A toxicity.

- Pregnant patients and patients who may become pregnant should not consume more than 10,000 IU of preformed vitamin A per day. Taking excess preformed vitamin A before and during pregnancy triples the risk of birth defects

POSTEXPOSURE PROPHYLAXIS

MMR vaccine is **NOT** recommended in pregnancy.

Consult the medical health officer for IVIg. MHO to advise on indication and work with pathologist to authorize IVIg release.

Susceptible pregnant women and pregnant people recommended to receive IVIg (400 mg/kg).

Ig may be offered to infants younger than 6 months of age if maternal immunity to measles is lacking, uncertain, or measles-vaccine acquired and the exposure occurred in a household setting.

Table 1. Summary of updated measles PEP recommendations for contacts

Immune/susceptible status by age, pregnancy, and immunocompetency	Time since exposure to measles	
	≤ 72 hours (3 days)	>72 hours – 6 days
Individuals with measles immunity	No post-exposure prophylaxis required. If only a single dose of measles-containing vaccine has been received on or after the 1st birthday, and born in/after 1970 (1957 for healthcare workers), administer a 2nd dose of measles regardless of the time elapsed since the measles exposure.	
Susceptible infants 0-6 months old[1]	IMIg (0.5 mL/kg)[2,3,4]	
Susceptible immunocompetent infants aged between 6 and <12 months	MMR vaccine[5,6]	IMIg (0.5 mL/kg)[2,3,4]
Susceptible immunocompetent individuals 12 months of age and older[7]	MMR vaccine[5] (To protect against current exposure)	MMR vaccine[5] (To protect against future exposures)
Immunocompromised individuals 6 months of age and older[8,9] Susceptible pregnant women and pregnant people[1,8]	IVIg (400 mg/kg) or IMIg (0.5 mL/kg)[4], limited protection for those weighing 30 kg or more	

LABOUR and BIRTH MANAGEMENT

Labour and Delivery Unit – for Vaginal Births

1. Refer to 1-11-1-3-030 Airborne Precautions clinical practice standard.
2. Labouring patients are supported by the existing procedures for airborne precautions:
    a. Masking of a labouring patient is extremely challenging. Support persons should be masked.
    b. If care cannot occur in an airborne isolation room, a single occupancy room with the door closed and traffic control is the standard.
    c. Consult NE Ob/Gyn, with subsequent Reproductive Infectious Disease (RID) consult through BC Women's Hospital as needed.
    d. Notify Environmental Services for terminal cleaning, with no further access for 2 hours.
    e. Connect with PTN for transfer/transport as needed depending on the case.

Surgical Suite – for Emergency CS

1. Adhere to 1-11-1-3-030 Airborne Precautions
2. Key considerations are:
    a. OR suite doors are kept closed (have pediatrics present prior to delivery – if available/possible or "baby" provider)
    b. Good traffic control immediately adjacent to the OR suite
    c. Appropriate signage
    d. AGMP procedures i.e. placement removal of air ways etc. is done in the OR suite
    e. Standard neuraxial analgesia is preferred where possible.
    f. OR teams will typically recover the client in the OR suite verses the PAR if possible, alternative would include an isolation room.
    g. Notify Environmental Services for terminal cleaning, with no further access for 2 hours.
    h. The client / family wear a medical mask if possible.
    i. The client and family are placed in a single room with the door shut for any post-delivery care
    j. If neonate is required to be transferred to the NICU for ongoing support, please follow transfer protocols for infant transfer under Airborne Precautions.

COUNSELLING PREGNANT/BIRTHING PARENT & FAMILIES

1. Discuss and screen for measles exposure and immunity at regular prenatal appointments
2. Counsel on the importance of immunization, check immunity when vaccination history is not clear.
3. Measles-containing vaccine (i.e., MMR) is **not** recommended in pregnancy
4. Important to ensure household members and contacts are immunized
5. Susceptible household members can schedule a measles vaccination at their Local Health Unit
6. Families can look up their immunization records on Health Gateway
7. Susceptible pregnant women and pregnant people recommended to receive IVIg (400 mg/kg) if high-risk exposure to measles occurs (consult with RID on-call).
8. Pregnant susceptible people managed for measles exposure during pregnancy should receive 2 doses of MMR vaccine post-partum, with due attention to the interval following immunoglobulin receipt.
9. Provide patient information: HealthLinkBC Understanding Measles
10. Discuss risk of secondary bacterial infections (which persist beyond the resolution of measles symptoms) and the need to seek medical attention for signs and symptoms of dehydration, respiratory distress/pneumonia, seizures, decreased level of consciousness, or other concerning symptoms for sepsis or encephalitis.

NOTE: Measles infection in pregnant individuals is associated with several adverse events including increased risk of hospitalization, pneumonia and death. Measles infection during pregnancy is also associated with significant risks to the fetus, including miscarriage, stillbirth, low birth weight, congenital measles, and increased risk of preterm delivery.

ISOLATION INSTRUCTIONS

Pregnant patients with measles should be isolated until 4 days after the appearance of the rash or for the full duration of the illness if the patient is immune compromised.

Key Contacts	
Northern Health Communicable Disease Hub Monday to Friday (excluding holidays), 8:30-4:30	**1-855-565-2990**
Patient Transfer Network	**1-866-233-2337**
NH Patient Transfer and Flow Office Available 24/7 for transfer issues/escalation patienttransfer@northernhealth.ca	**250-645-7896**
UHNBC Switchboard To access Obstetrician on-call (if no local OB/Gyn available)	**250-565-2000**
BC Women's Hospital Reproductive Infectious Disease For Subspecialty service/advice; ask for RID on-call	**1-604-875-2161**
Medical Health Officer • Monday to Friday (excluding statutory holidays) 8:30-4:00 pm call • After hours (after 4:00 pm Monday to Friday), on weekends and holidays, contact the MHO on-call	**250-645-3794 or toll free at 1-855-565-2990** **1-833-214-3274**

Additional Resources

For up-to-date information on Measles in Northern Health Visit the MyNH page: Measles - Home

Individuals in the community can be directed to:

- HealthLinkBC Understanding Measles
- Measles, Mumps, Rubella (MMR) Vaccine Information - HealthLinkBC
- Measles | Northern Health

Health care providers should review the most current version of:

- BCCDC Measles Health Info
- BCCDC Communicable Disease Control Manual - Measles
- Measles in pregnancy | CMAJ
- Measles, Mumps, Rubella (MMR) Vaccination and Management of Obstetric–Gynecologic Patients During a Measles Outbreak | ACOG