

COVID-19

Provincial Guidance on the Management of Obstetrical Patients and their newborn

The number of cases of COVID-19 continues to climb on a global scale. This is an emerging, rapidly evolving situation. Manitoba public health officials continue to monitor, gather information, assess risk and recommend evidence based approaches for healthcare providers and precautions for returning travelers .

At this time, community transmission of COVID-19 has been identified in a number of Canadian jurisdictions. All health regions are involved in a coordinated provincial planning and response effort.

Information and resources are being regularly updated and staff are encouraged to refer to <https://www.gov.mb.ca/health/coronavirus/> and <https://sharedhealthmb.ca/health-providers/coronavirus-resources/> for up-to-date information and resources.

An evidence-informed guideline for the management of obstetrical patients who may be under investigation or identified as probable or confirmed cases of COVID-19, has been developed in consultation with representatives from obstetrics, neonatology, anesthesia and pediatric infectious diseases.

These suggestions are written with the acknowledgement that the epidemiology and evolution of information about COVID-19 is rapidly evolving and the relevance of the information herein should be reviewed in light of the current clinical context.

The information herein should be considered and applied within the great context of provincial definitions, recommendations and requirements (<https://sharedhealthmb.ca/files/IPC-acute-care-manual-provincial.pdf> and <https://sharedhealthmb.ca/files/IPC-acute-care-manual-winnipeg.pdf>).

Some information has been derived from literature related to SARS-CoV and MERS-CoV and there should be acknowledgement that there is important genetic variation between these viruses and COVID-19 that may not make conclusions for all three viruses interchangeable.

Public Health Agency of Canada Case definitions are outlined in the provincial document and the following guidance is based on those definitions for Person under investigation (PUI), probable case and confirmed case.

- Infection Prevention and Control must be notified when a patient is suspected to have COVID-19. The procedures to contact Infection Prevention and Control are also outlined in the provincial document.
- Guidelines for staff working at any entry point to the hospital have been developed to ensure that any patients and escorts are screened appropriately upon arrival at the site. There are no additional considerations related to entry points for obstetrical patients.

- Guidelines for management of visitors of PUI, probable or confirmed cases of COVID-19 have been developed. The guidelines can be accessed at COVID-19_ <https://sharedhealthmb.ca/files/COVID-19-highlights-winnipeg-march-3-2020.pdf>.

Clinical Pathways: the intention is to provide some evidence informed guidance to assist with patient care, acknowledging that this list is not and exhaustive list of all possible clinical scenarios that occur

Personal Protective Equipment for All Obstetrical Patients during the COVID-19 Pandemic: Obstetrical care is an area of clinical care where intervention and admission to hospital cannot be reliably predicted or delayed to allow for self-isolation or screening for asymptomatic infection. There is an increasing number of reports globally of maternity care providers who have contracted COVID-19 as a result of asymptomatic shedding of patients in labour throughout the peripartum period.

1. **Please refer to provincial guidelines for PPE when caring for all obstetrical patients in the antepartum, intrapartum and postpartum period.**
2. **Obstetric delivery, cervical exams and other obstetrical procedures where body fluid exposure is likely (e.g. speculum examination) should be regarded as medical procedures and appropriate EDCP PPE with surgical masks should be donned in these instances for all obstetrical patients.**
3. Enhanced Droplet/Contact Precautions (EDCP) with N95 respirator should be donned for aerosol generating medical procedures (AGMP) for all obstetrical patients including Cesarean section with high risk of conversion to general anesthetic (see Table 1).
4. Use of an extended-use approach to is acceptable in accordance with the provincial guidelines for PPE.
5. Gown, gloves and any soiled PPE should be doffed following the obstetric procedures as listed in 2 and following clinical care of a patient with suspected or confirmed COVID-19.

Management Specific to Obstetrical Patients with Suspected or Confirmed COVID-19

While the above recommendations for the use of PPE by health-care workers extend to all obstetrical patients, the following recommendations for management apply only obstetrical patients who are PUI or confirmed to have COVID-19.

Patient presenting to triage

1. PUI, probable or confirmed cases of COVID-19 should be cared for in a private room.
2. COVID-19 testing should be done in accordance with the [provincial guidelines](#). Indication for testing as well as pregnancy status should be indicated on requisition in order for appropriate prioritization at the laboratory.
3. Assessment by clinical staff will determine whether the patient is appropriate for discharge home or admission for medical or obstetrical indications:
 - a. A patient who is clinically well enough for discharge may be sent home to wait for COVID-19 testing results in accordance with provincial recommendations
 - b. A patient who requires admission should be transferred to the appropriate ward with appropriate enhanced contact/ droplet precautions during transport

Patients on labour floor

1. If a PUI, probable or confirmed case is being managed on labour floor, they should be cared for in a private room. Please note as per the provincial guidelines, the patient is not required to be in an Airborne Infection Isolation Room (AIIR) room.
2. Use of nitrous oxide is suspended on laboring units for the duration of the COVID-19 pandemic.
3. Transfer out of the labour room to an OR should be dictated by obstetrical indications as for any other labouring patient.
4. Don PPE appropriate for the clinical encounter:

Table 1.

Clinical Encounter	PPE
Routine patient care (antepartum)	EDCP with extended use mask and eye protection (surgical mask)
Routine labour care	EDCP with extended use mask and eye protection (surgical mask)
Vaginal delivery	Staff for mother: EDCP (surgical mask) Staff for newborn: EDCP (surgical mask) ¹
Cesarean Section with low-risk of conversion to general anesthetic	EDCP with extended use mask and eye protection (surgical mask)
Cesarean Section with high-risk of conversion to general anesthetic ² : <ul style="list-style-type: none"> ▪ Any case that used <u>epidural top up</u> (as opposed to spinal) ▪ Inadequate spinal block ▪ History of postpartum hemorrhage ▪ Placenta previa ▪ HELLP ▪ Transverse fetal lie ▪ Second stage C/S ▪ Morbid obesity > 40kg/m² 	EDCP (N95 mask)
Aerosol generating procedure other than Cesarean Section (e.g. intubation for other indication)	EDCP (N95 mask)
Routine postpartum patient care	EDCP with extended use mask and eye protection (surgical mask)
Clinical deterioration of infant outside of the initial resuscitation	EDCP with N95 respiratory if CPAP or intubation (AGMPs) are required

¹Vaginal delivery can be undertaken with enhanced droplet/contact precautions in the delivery room or resuscitation area, newborn resuscitation should occur under enhanced droplet/contact precautions using a procedure/surgical mask and NOT an N95 respirator. This extends to and includes intubation of the newborn. This recommendation is based on a lack of evidence that COVID-19 leads to vertical transmission of the newborn.

² If the patient is converted to GA, any staff who are not wearing an N95 mask must exit the room prior to intubation, doff and don with an N95 before re-entry. After initial stabilization of the infant and transfer to either the post-partum area or NICU, any deterioration requiring intubation or institution of CPAP (AGMPs) requires airborne precautions in addition to enhanced droplet/contact precautions. Use of an N95 respirator is specifically indicated

5. Partners remain welcome in the OR for an elective or emergent Cesarean sections where neuraxial analgesia is the planned with the **exclusion of cases where the pregnant patient meets criteria for COVID-19 suspect or confirmed**. Partners are invited in following establishment of effective neuraxial analgesia and are asked to wear a mask.
6. Following delivery, delayed cord clamping should be facilitated unless obstetrical or newborn considerations prevent it, there are no different recommendations related to PUI, probable or confirmed cases of COVID-19.
7. For deliveries in which the mother is placed under a general anaesthetic the newborn response team will receive the newborn from an obstetrical nurse who will bring them to a separate resuscitation area.
8. Skin-to-skin contact in the immediate post-partum period can occur, however the mother should wear a surgical/procedure mask when near the baby, practice proper hand hygiene before and after close contact with the baby and thoroughly cleanse the chest/breast area before and after breastfeeding with soap and water. Guidelines for breastfeeding mothers have been developed.

Testing of newborns

1. Test newborns within 1-2 hours from delivery of mothers who are COVID-positive only. Clean the infant's face well before doing the swab to avoid cross contamination of maternal fecal matter at delivery.
2. Currently, testing the newborn of a COVID-positive mother after delivery is to determine vertical transmission; therefore, if the test cannot be done in the first 1-2 hours after delivery it is not required for an asymptomatic neonate and should be done only at the discretion of a Pediatric Infectious Diseases specialist.
3. If a newborn were to develop respiratory symptoms, testing would be based upon the recommendations from Public Health, the Pediatric Healthcare provider or Pediatric Infectious Diseases.

Transfer of mother and infant

1. Following recovery from obstetric delivery patient should be transferred to the postpartum ward with appropriate enhanced droplet/contact precautions during transport
2. Infant to be transferred in a closed isolate between wards and if any testing is required outside of the patient-care room.

Patient on the postpartum ward

1. Clinical care should take place in a single room with enhanced droplet/contact precautions.
2. Mother and infant pair may be roomed together unless the maternal or newborn medical condition prohibits this.
3. Breastfeeding and skin-to-skin contact should not be discouraged and education on the provincial guidelines should be provided to the mother and family.
4. In general, it is recommended to do infant care first and then maternal care. If additional infant care is required following maternal care, then PPE should be doffed and new PPE should be donned (as this would be considered moving from a COVID PUI/confirmed to an uninfected patient).

Patient requiring enhanced care for respiratory deterioration

1. If a patient's respiratory status deteriorates at any point in her hospital stay, anesthesia and ICU should be notified early. Notification should include communication of COVID-status.
2. Low threshold for transfer to a high acuity setting to facilitate early intubation, if required.
3. In these situations, if clinically indicated, administration of antenatal corticosteroids for fetal lung maturity should be considered based on obstetrical indications.

Newborns requiring NICU admission with PUI, probable or confirmed COVID-19

1. Precautions taken upon admission to NICU continue to be based on determination of PUI or confirmed COVID-19 status of the mother and/or infant.
2. Clinical care should take place in a single room with appropriate enhanced droplet/contact precautions.
3. Aerosol-generating medical procedures (AGMPs) such as intubation that are required during NICU care should be carried out under airborne precautions (<https://sharedhealthmb.ca/files/IPC-acute-care-manual-winnipeg.pdf>)

General management principles for all pregnant patients with PUI or confirmed COVID-19

1. Counselling patient about the possible effects of COVID-19 on the parturient and pregnancy outcomes
 - a. Possible risk of maternal respiratory failure
 - b. Possible need for iatrogenic preterm delivery
 - c. Possible pregnancy complications including spontaneous abortion, intrauterine fetal demise, preterm rupture of membranes, preterm labour
2. Consideration for antenatal corticosteroids for fetal lung maturity if gestational age 23+0 to 34+6 weeks gestation.
3. Mode of delivery, timing of delivery, type of anesthesia, use of IV antibiotics, use of corticosteroids and possible perimortem Caesarean delivery in the case of maternal demise should be considered on a case-by-case basis.
4. If corticosteroids have been used for the maternal condition in the antepartum period, consider stress-dose corticosteroids at time of delivery or other surgical intervention to prevent Addisonian Crisis.

5. Neither epidural nor spinal anaesthesia are contraindicated and in some cases may be preferred over general anesthetic.
6. Psychological support should be a priority for any patients who have some visitor restrictions in place as the separation from support networks as well as anxiety over the unknown may be stressful for the patient.
7. If mother and infant must be separated, pumping should be encouraged and this breast milk should be offered to the newborn to facilitate resumption of breastfeeding once the pair are reunited.

REFERENCES:

ACOG (2019) Practice Advisory: Novel Coronavirus 2019 (COVID-19).

<https://www.acog.org/Clinical-Guidance-and-Publications/Practice-Advisories/Practice-Advisory-Novel-Coronavirus2019>.

Chen et al. (2020) Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. *Lancet*; [http://doi.org/10.1016/S0140-6736\(20\)30360-3](http://doi.org/10.1016/S0140-6736(20)30360-3)

Maxwell et al. (2017) No. 225-Management Guidelines for Obstetric Patients and Neonates Born to Mothers With Suspected or Probable Severe Acute Respiratory Syndrome (SARS). *JOGC*; 39(8):e130-e137.

Payne et al (2014) Stillbirth During Infection with Middle East Respiratory Syndrome. *JID*; 209:1874.

Schwartz DA and Graham AL (2019) Potential Maternal and Infant Outcomes from Coronavirus SARS-CoV-2 Infecting Pregnant Women: Lessons from SARS, MERS and Other Human Coronavirus Infections. *Viruses*; 12:194.

Shek et al (2003) Infant Born to Mother With Severe Acute Respiratory Syndrome. *Pediatrics*; 112:e254.

Shared Health Manitoba (2020) MEMO: COVID-19 UPDATE – Symptomatic Patients Returning from listed countries should be tested for COVID-19.

Shared Health Manitoba (2009) Enhanced Droplet Precautions.

https://www.wrha.mb.ca/extranet/ipc/files/manuals/acutecare/Enhanced_Droplet_CP.pdf.

Shared Health Manitoba (2020) 2019-nCoV Disease Protocol.

<https://www.wrha.mb.ca/extranet/coronavirus/files/ipc-ncov-specific-disease-protocol.pdf>.

Rasmussen et al (2020) Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know. *AJOG*; <https://doi.org/10.1016/j.ajog.2020.02.017>.

Wang et al. (2019) Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (First Edition). *Ann Transl Med*; <http://dx.doi.org/10.21037/atm.2020.02.20>

WHO (2020) Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected: Interim Guidance, January 25, 2020.
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control>

WHO (2020) Global Surveillance for Human Infection With Novel Coronavirus (SARS-CoV-2).
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/surveillance-and-case-definitions>

Wong et al. (2003) Pregnancy and perinatal outcomes of women with severe acute respiratory syndrome. *AJOG*; 191:292-7.