# Management Considerations for an Unwell and/or Premature Newborn Who is a Contact, Under Clinical Investigation or a Confirmed Case of COVID-19

June 10, 2021

**This guidance is intended for health-care providers responsible for newborn care. It is based on known evidence as of April 9, 2021.**

## Contents

## Definitions

**COVID-19 disease categories** as used in this document: [1, 2]

- **Confirmed case:** A person or newborn with laboratory confirmation of a positive SARS-CoV-2 test result.
- **Person under clinical investigation:** Mother/individual or caregiver who meets the criteria for SARS-CoV-2 testing and is waiting to be tested or waiting for the results of a test. A pregnant mother/individual who presents during labour with a temperature above 38 degrees Celsius will be tested for SARS-CoV-2 even in the absence of exposure criteria and/or close contact with a person with a confirmed COVID-19 diagnosis or a person under clinical investigation for COVID-19.
- **Newborn under clinical investigation**: A newborn who is symptomatic and/or had close contact with a person with a confirmed COVID-19 diagnosis, or a person under clinical investigation for COVID-19. They can be either waiting to be tested for SARS-CoV-2 or waiting for the results of a test.
- **Close contact**: A person or newborn who had close physical contact with, or who lived with a person with, a confirmed COVID-19 diagnosis or a person under clinical investigation for COVID-19.

**Newborn:** Infant in the first 28 days after birth.
**Mother/individual:** The term individual is used in this guideline to be inclusive of transgender individuals who gave birth to the newborn and in cases where the caregiver of the newborn is not the mother (e.g., foster parent).
**Vertical transmission:** Transmission of infection directly from mother/individual to embryo, fetus or newborn during the perinatal period through the placenta or human milk.
**Horizontal transmission:** Transmission of infection from one person to another through contact with bodily fluids (respiratory droplets, sputum, blood, etc.).

## General Information

SARS-CoV-2 is a novel coronavirus that causes COVID-19 illness in adults, children and newborns. The incubation period is two to 14 days, with a median of five days.[3] Studies continue to show that COVID-19 infection in newborns is uncommon and most newborns who may become infected are asymptomatic or present with mild to moderate disease. [4, 6, 7]

Clinical outcomes following COVID-19 infection during pregnancy are mostly good with spontaneous and iatrogenic preterm birth the most commonly reported adverse outcomes.[4-6] While there is currently no reported increased risk of congenital anomaly, available data is limited and, at this time, the risk of teratogenicity cannot be excluded. [4, 5]

While there is no strong evidence of vertical transmission of SARS-CoV-2, the newborn is at risk for postpartum horizontal transmission. [4 - 6, 8 – 10] The rate of infection in the newborn born to the mother/individual with a confirmed diagnosis of COVID-19, or is a person under clinical investigation, does not vary regardless of mode of delivery, breast/chest feeding or rooming-in practices. [10]

## Clinical Manifestation of COVID-19 in Newborns

| | |
|---|---|
| **Neurological** | Temperature instability, lethargy, irritability |
| **Respiratory** | Grunting, nasal flaring, tachypnea, chest retractions, central cyanosis/pallor, apnea, cough, nasal congestion |
| **Gastrointestinal** | Abdominal distension, feeding intolerance, diarrhea/watery stools, emesis |
| **Laboratory Findings** | Normal or leukopenia, lymphopenia, mild thrombocytopenia, elevated CK, ALP, ALT, AST and LDH |
| **Radiology Findings** | Chest X-ray infiltrates |

Consider and exclude alternative diagnoses in the newborn that presents with respiratory distress soon after birth as many COVID-19 symptoms are also common to other conditions such as neonatal respiratory distress syndrome.[4]

## Recommendations

### Personal Protective Equipment (PPE) and Infection Prevention and Control (IPC) Precautions

Refer to health authority specific guidance and the BCCDC's resources on PPE and aerosol generating medical procedures (AGMP) for the most up-to-date information.

Droplet and contact precautions are recommended for all team members involved in the direct care of an unwell newborn and/or a premature newborn who is symptomatic and/or who had close contact with a person with a confirmed COVID-19 diagnosis or a person under clinical investigation for COVID-19.

Use airborne precautions during AGMP. This includes any time a ventilator, continuous positive airway pressure (CPAP) or high flow circuits are intentionally or unintentionally opened or disconnected, as this is considered aerosol generating. Ensure that equipment used during resuscitation and management to support ventilation is equipped with HEPA filters to filter expired air. Consult a local respiratory therapist and IPC for further advice.

Proactive care such as planned intubations vs. emergent intubation is essential to ensure practitioners can don appropriate PPE. If available, consider using video laryngoscope with a clear, disposable blade cover.

### Bed Allocation to Minimize Viral Transmission

Manage newborns who are close contacts, under clinical investigation or have a confirmed diagnosis of COVID-19 in a cohort.[11]

Admit the newborn with mild respiratory distress into a closed incubator or into a single patient room, if available. Admit the symptomatic newborn requiring positive pressure ventilation or continuous positive airway pressure for

moderate to severe respiratory distress to a negative pressure isolation room. If a negative pressure room is not available, a single patient room with a door that closes can be used.

Consult with local IPC to ensure that bed allocation meets local guidelines.

## Isolation Precautions

If a newborn tests positive for SARS-CoV-2, the newborn needs to isolate until:

- At least 10 days have passed since the onset of symptoms; AND
- Symptoms (respiratory, gastrointestinal and systemic) have improved.

If a newborn tests negative for SARS-CoV-2, isolate as a close contact and monitor for symptoms suggestive of COVID-19 for 14 days to ensure the full incubation and infectious period has passed.

## Investigations for SARS-CoV-2

If indicated, obtain a specimen for SARS-CoV-2 (and other respiratory viruses, if needed). Newborns should be tested within two hours after birth or upon admission if not newly born.

Procedure:

- Obtain informed consent from the mother/individual.
- Cleanse newborn's face prior to specimen collection:
    - Use warm water and soap for the newborn born at or after 32 weeks gestation.
    - Use warm water only for the newborn born at less than 32 weeks.
- Nasopharyngeal swab for non-intubated newborn and newborn greater than 750 grams.
- Nasopharyngeal washing for non-intubated newborn equal and less than 750 grams.
- Endotracheal aspirate for intubated newborn, include respiratory panel in test requisition.

Add HOSP to specimen label to prioritize testing requisition. If symptomatic, consider adding CBC, CRP, blood culture and ALP/ALT/AST to initial workup. Newborn stool samples are NOT to be collected for diagnostic purposes**.**

## Management of an Unwell and/or Premature Newborn who is a Close Contact, Under Clinical Investigation or has a Confirmed Diagnosis of COVID-19 (See Figure 1)

Admit to appropriate bed allocation as described above. Supportive care is currently the only known effective care approach for COVID-19. Advanced support may be indicated if severe respiratory deterioration is occurring. Consider transfer to higher level of care if indicated.

There is currently not enough evidence to support the use of routine anti-viral medications, steroids or interferon. Consultation with pediatric infectious diseases is recommended for ongoing management.

Refer to pediatric clinical guidance for COVID-19 for additional information.

## Intra-Hospital Transfer of the Neonate

Limit intra-hospital transfer. [3, 13] Complete a risk assessment to determine the need for clinical intervention out of the newborn care space that would require a transfer, such as CT, MRI, eye exam. Postpone if possible.

If clinical intervention cannot be postponed, the newborn must be transported in a closed incubator and local IPC procedures to minimize spread of infection must be followed.

## Patient and Family Engagement

Where possible, families will be kept together. However, if separation is required, support should be provided.

- Engage support services early such as a lactation consultant and social worker.
- Provide newborn mementoes, photos.
- Engage with the family as often as possible.
- Consider using a virtual communication tool to provide audio-visual connections between mother/individual, family and newborn.

The decision to allow family to be present should be made in conjunction with local IPC teams and based on the infection risk of their presence compared to the harm of their absence. For persons under quarantine or in a unique circumstance where they are symptomatic or within their infectious window but must be present, contact the local IPC teams for guidance on the presence or exclusion, as the degree of risk is determined on a case-by-case basis.

Family presence is dependent on:

- Current site and health authority-specific visitor guidelines.
- Risk of transmission between newborn and family.
- Compassionate reasons.
- Known negative impacts of separation (delayed or diminished bonding) on the newborn and family.

## Skin-to-Skin

Skin-to-skin is still appropriate and encouraged. Mother/individual and/or the parent should put on a medical mask and practice hand hygiene before skin-to-skin to reduce infection spread through droplet and contact transmission. [3, 12 - 18]

## Feeding of the Newborn

Human milk is the best source of nutrition for most newborns. Currently, there is no evidence of horizontal transmission of COVID-19 to infants and children from human milk feeding. [3, 12 -18] Human milk feeding provides higher protection against infection as it provides antibodies targeted towards the microbes to which the newborn is exposed.

Breast/chest feeding or expressed human milk feeding is recommended and should be facilitated with appropriate IPC measures in place. The family should participate in the decision to use human milk to feed the newborn with the support of the health-care providers. If a mother/individual wishes to breast/chest feed, they should put on a medical mask and practice hand hygiene before each feeding to reduce disease spread through droplet and contact transmission.[3, 12 -16]

When the newborn is separated from their mother/individual due to IPC restrictions or medical reasons, every effort should be made to provide education on hand expression and pumping. Ensure access to an electric breast pump for a mother/individual whose long-term plan is to breast/chest feed. If the mother/individual is planning to express milk, they should practice hand hygiene and don a medical mask if they are a contact, under clinical investigation or have a confirmed diagnosis of COVID-19.

After each pumping session, all parts that come into contact with human milk should be thoroughly washed and the entire pump should be appropriately disinfected as per the manufacturer's instructions. [3, 12 -16]

It is not recommended to wash the breast or chest before every feed or prior to expressing milk. It is only recommended as an added precaution for a mother/individual under clinical investigation or has a confirmed diagnosis of COVID-19 to cleanse their breast or chest area with soap and water before a feeding if they have just coughed/sneezed over their exposed breast or chest.[17]

For more information, review lactation guidelines for women/individuals who are confirmed or suspect cases of COVID-19.

## Discontinuation of Isolation Precautions

Discontinuation of precautions should occur ONLY in consultation with IPC and based on the underlying disease process, microbiology test results and disease history within the family.

# Discharge Considerations

Complete all routine screening, immunization and discharge teaching. For more information, see pages five and six of maternal and newborn acute care discharge planning and continued care in community settings during the COVID-19 pandemic.

Continue isolation at home if newborn is discharged prior to the end of the isolation period. If newborn tests positive for SARS-CoV-2, isolate until:

- At least 10 days have passed since the onset of symptoms; AND
- Symptoms (respiratory, gastrointestinal and systemic) have improved.

If a newborn tests negative for SARS-CoV-2, isolate as a close contact and monitor for symptoms suggestive of COVID-19. If a mother/individual is a confirmed COVID-19 case and the newborn tests negative for SARS-CoV-2, isolate as a close contact with the parent for 14 days to ensure the full incubation and infectious period has passed and monitor for cold or influenza-like symptoms.

The B.C. community liaison record – postpartum & newborn is an important tool to connect acute care, primary care and public health services for discharge planning. COVID-19 positive status should be indicated on this record.

## Additional Discharge Teaching for if Mother/Individual Under Clinical Investigation or Has a Confirmed Diagnosis of COVID-19

### How to Limit Transmission of the SARS-CoV-2 Virus to a Newborn

Practice hand hygiene using either soap and water or alcohol-based hand sanitizer before and after caring for and feeding the newborn.

Wear a mask to minimize respiratory secretions to the newborn during care and feeding. If a parent is unable to source medical face masks once they are at home, homemade face masks can be used. Do not place a mask on a newborn. For more information, see non-medical masks and face coverings.

Avoid coughing or sneezing on the newborn or newborn care equipment. Clean and disinfect high touch areas and surfaces in the newborn care environment with approved product(s). See more information on cleaning and disinfecting.

### Signs to Look for in The Newborn

While most newborns who become infected are asymptomatic or present with mild to moderate illness, the mother/individual needs to know what signs of COVID-19 to look for in the newborn. If the newborn develops any of these signs at home, the mother/individual must contact their primary care provider. If the primary care provider is not available, then the mother/individual must phone 8-1-1 to communicate the findings and determine a plan for their newborn.

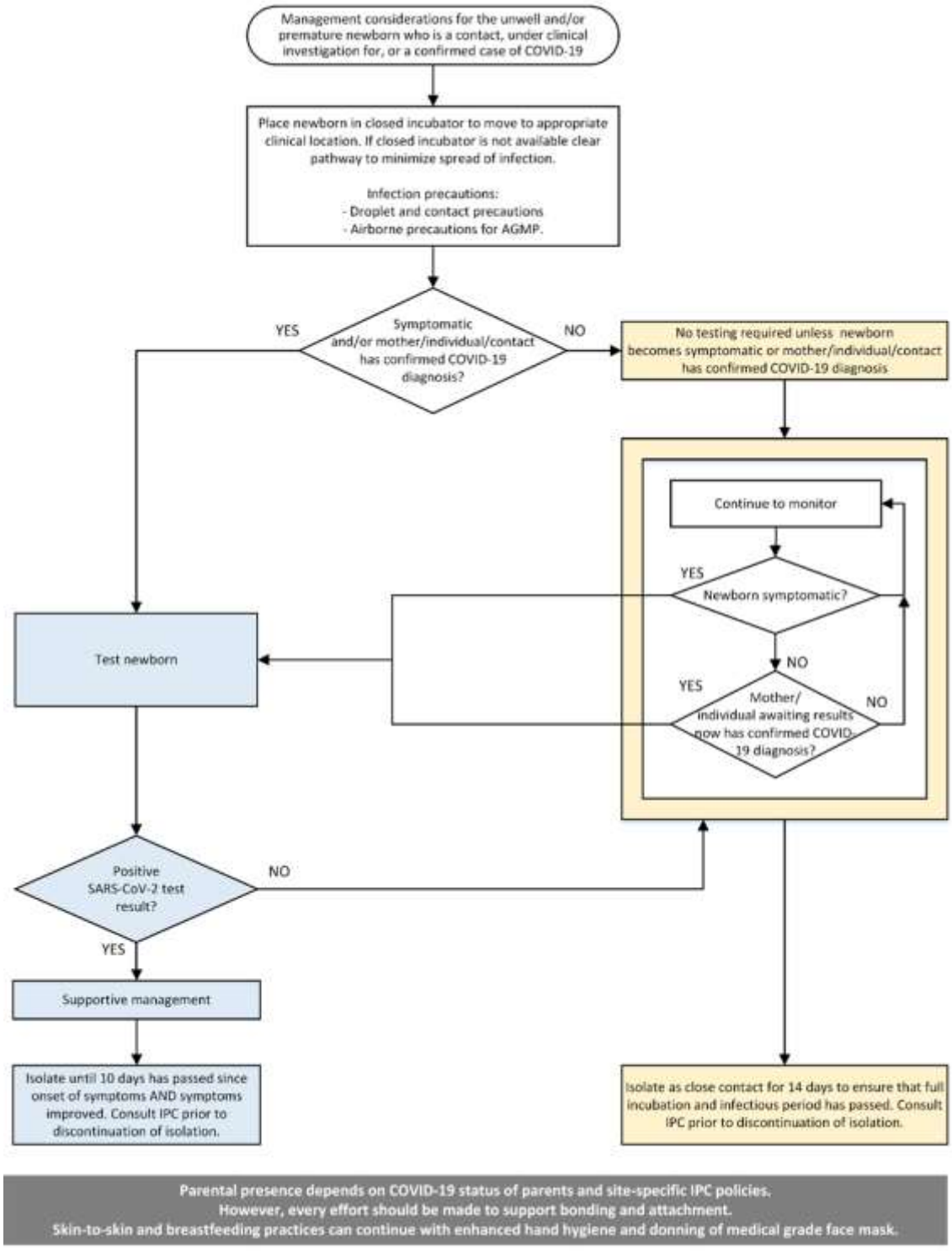
| Neurological | Respiratory | Gastrointestinal |
|---|---|---|
| Temperature instability | Grunting | Abdominal distension |
| Lethargy | Nasal flaring | Feeding intolerance |
| Tachypnea | Cough | Diarrhea/watery stools |
| Chest retractions | | Emesis |
| Central cyanosis/pallor | | |
| Apnea | | |

If it is determined that the newborn should be taken to the hospital for assessment, the health-care provider should call ahead to notify the emergency department. In cases where there is no primary health-care provider, the mother/individual should go directly to the emergency department with a mask on, perform hand hygiene and inform the triage nurse that they have COVID-19 and that there is a concern about the newborn.

## Parent Resources

- *Keep your Baby Safe: Your Baby and COVID-19*
- *Is my Baby Sick with COVID-19?*

Figure 1: Management Considerations For an Unwell and/or Premature Newborn Who is a Contact, Under Clinical Investigation or a Confirmed Case of COVID-19



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