

(July 28, 2020)

### **Perinatal COVID Exposure - Prentice Management Guidelines for Infants**

SARS-CoV-2 is a respiratory virus transmitted person-to-person primarily by respiratory droplets. Infection is mediated by virus present in respiratory secretions of an infected person contacting the mucus membranes of another person. CDC guidance states that high-risk exposure to a person with COVID-19 disease requires either direct physical contact or close (<6 feet) contact for a prolonged period of time.

SARS-CoV-2 is not currently believed to be transmitted by infectious aerosols generated spontaneously by infected persons, but experimental evidence using aerosolizing equipment demonstrates that the virus can remain in the air for up to 3 hours.

For the purpose of this guideline, perinatal SARS-CoV-2 exposure will be defined as symptoms of COVID-19/positive test from 14 days prior to delivery or 3 days after delivery. If well, these infants will be admitted to the Newborn Nursery/ Mother Baby Unit, under NICU Team 3. If premature or ill, these infants will be admitted to the NICU.

#### **Definitions of precautions and required PPE are as follows:**

Droplet and Contact Precautions: gown, gloves, standard procedural mask and eye protection (either face shield or goggles) should be used for most encounters with infants born to mothers with COVID-19/positive test. Personal eyeglasses are not adequate protection.

Airborne, Contact and Droplet Precautions: gown, gloves, N95 respiratory mask with eye protection, or air-purifying respirator (powered air-purifying respirator (PAPR) or controlled air-purifying respirator (CAPR), both of which provide eye protection) should be used when patients require bag-mask ventilation, intubation, open tracheal suctioning, nasal cannula oxygen at a flow greater than 2 liters per minute, continuous positive airway pressure and/or positive pressure ventilation of any type, given the potential for these supports to generate aerosols.

#### **Delivery room management of neonates born to a PUI/COVID positive mother:**

Neonatal clinicians should attend deliveries based on our normal policies; maternal COVID-19 alone is not an indication to do so.

Responding teams should use Airborne, Droplet, and Contact Precautions-level PPE, given both the increased likelihood of maternal virus aerosols and the potential need to intubate, perform airway suctioning, and initiate positive pressure ventilation, all of which may generate infant aerosols.

**Admission of a well newborn born to a PUI/COVID positive mother who delivers within 10 days of symptom onset:**

**Asymptomatic Mother:**

If mother has never had symptoms or has recovered from symptoms (been afebrile for over 72 hours and has had significant recovery of respiratory symptoms including improved cough), infant may be admitted to mother's room per maternal choice using shared decision making. Infant should remain at least 6 feet from mother. Contact and droplet precautions should continue in the room. Precautions should be taken when mother providing direct care or breastfeeding.

**If mother is symptomatic or elects to separate**

After maternal separation, newborns born at or near term who are well-appearing at birth should be admitted to isolation rooms in the Newborn Nursery. Newborns should be bathed as soon as reasonably possible after birth to remove virus potentially present on skin surfaces. Clinical staff should use Droplet and Contact Precautions until newborn virologic status is known to be negative by SARS-CoV-2 PCR testing, as detailed below. If mother declines separation and is symptomatic, counseling from the pediatric medical team (advanced level/fellow or attending if advanced level/ fellow not available) should be provided regarding on the paucity of data for this practice and concern for horizontal transmission.

**Admission of a well newborn born to an asymptomatic PUI/COVID positive mother who becomes symptomatic after delivery:**

Infant should be moved to an infant isolation room. Due to the difficulties in differentiating fever due to chorioamnionitis from fever due to COVID, infants born to mothers who are both SARS-CoV-2 positive and diagnosed with chorioamnionitis should be separated.

**Breast milk feeding of a newborn born to a PUI/COVID positive mother:**

No study to date has demonstrated the presence of SARS-CoV-2 in breast milk. Mothers may express breast milk (after appropriate breast and hand hygiene) and this milk may be fed to the infant by designated caregivers. Breast pumps and components should be thoroughly cleaned in between pumping sessions and include cleaning the pump with disinfectant wipes and washing pump attachments with hot soapy water. In addition to the known benefits of breastfeeding, mothers' milk may provide infant protective factors after maternal COVID-19. Promoting breast milk feeding and supporting establishment of maternal milk supply may offer additional benefits to well and sick newborns. Expressed milk containers should be wiped down with Sani-Wipes and placed into a plastic bag, prior to removal from the mother's room. Milk should be stored, separate from milk stored from COVID-negative mothers, in a designated refrigerator on the PP or NICU unit, depending on the newborn's location. Mothers should be instructed to wear a mask and perform appropriate breast and hand hygiene if choosing to directly breastfeed.

### **Discharge of a newborn born to a PUI/COVID positive mother:**

Well newborns should receive all indicated care.

Infants determined to be infected by molecular testing, but with no symptoms of COVID-19, may be discharged home with appropriate precautions and plans for frequent outpatient follow-up contacts (either by phone, telemedicine, or in-office) through 14 days after birth. Specific guidance regarding use of standard procedural masks, gloves and hand hygiene should be provided to all caretakers. See <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-prevent-spread.html>. Uninfected individuals >60 years of age and those with comorbid conditions should not provide care if possible.

Infants with negative SARS-CoV-2 molecular testing should optimally be discharged to the care of a designated healthy (non-infected) caregiver. If the mother is in the same household, she should maintain a distance of at least 6 feet for as much of the time as possible, and when in closer proximity to the neonate should use a mask and hand hygiene for home newborn care until EITHER:

- (a) She has been afebrile for 72 hours without use of antipyretics **and** at least 10 days have passed since symptoms first appeared or last positive test, whichever is greater.

**OR**

- (b) She has negative results of a molecular assay for detection of SARS-CoV-2 from at least two consecutive nasopharyngeal swab specimens collected  $\geq 24$  hours apart. Other caregivers in the home who remain under observation for development of COVID19 should use standard procedural masks and hand hygiene when within 6 feet of the newborn until their status is resolved. Due to limited assay supplies, this criterion may not be currently feasible.

### **NICU admission of newborn born to PUI/COVID positive mother:**

Newborns should be bathed as soon as reasonably possible after birth to remove virus potentially present on skin surfaces. Clinical staff should use Droplet and Contact Precautions until newborn virologic status is known to be negative by SARS-CoV-2 PCR testing, as detailed below. Infants born requiring neonatal intensive care optimally should be admitted to a single patient room with the potential for negative room pressure. If this is not available, or if the COVID exposed infant requires cohorting, infants should be maintained at least 6 feet apart and placed in air temperature-controlled isolettes.

Airborne, Droplet, and Contact Precautions should be used when patients require bag-mask ventilation, intubation, open tracheal suctioning, nasal cannula oxygen at a flow greater than 2 liters per minute, continuous positive airway pressure and/or positive pressure ventilation of any type, given the potential for these supports to generate aerosols.

Providers may transition to the use of universal precautions if two tests obtained at least 24 hours apart are negative. For infants who are positive on their initial PCR testing, follow-up testing of combined specimens from the throat and nasopharynx should be done at 48-72 hour intervals until two consecutive negative tests.

### **Newborn viral testing:**

Molecular assay testing should be done on all newborns born to mothers with symptoms of COVID/positive test from 14 days prior to delivery to 3 days after delivery. Testing infants who require prolonged neonatal intensive care should be performed to determine the potential contribution of COVID-19 to observed clinical illness. In addition, testing infants who require ongoing neonatal intensive care will allow for discontinuation of Droplet and Contact precautions or Airborne precautions.

The optimal timing and extent of testing is currently unknown. Informed by limited data on viral detection, and with the aim of distinguishing transient viral colonization from established infection, the following procedures are currently recommended:

Molecular assay testing should be done first at ~24 hours of age and then at 48-72 hours

For infants who require ongoing hospital care, caregivers may transition to the use of universal precautions if two tests obtained at least 24 hours apart are negative. For infants who are positive on their initial PCR testing, follow-up testing of combined specimens from the throat and nasopharynx should be done at 48-72 hour intervals until two consecutive negative tests.

At each test, use swabs of throat and nasopharynx. One swab that samples first the throat and then the nasopharynx may be used to conserve swabs and PCR testing reagents. This single swab then should be placed in one viral transport media tube and sent to the lab for a single PCR test to be performed.

If a PUI mother's SARS-CoV2 testing results as negative during hospitalization, infant will not require testing and may return to room-in with mother barring other medical concerns. In-room infection prevention precautions may continue to be necessary for mother if respiratory viral panel results are positive for other pathogens.

### **Parent visitation for newborns requiring ongoing hospital care:**

Mothers with COVID-19 should not visit infants requiring neonatal intensive care until they meet all the requirements outlined below. Given the potential consequences of disease transmission to preterm and/or critically ill newborns and neonatal caregivers, these recommendations are based on the most conservative CDC recommendations for discontinuing transmission-based precautions for patients with COVID-19 in the hospital setting, and are more stringent than the requirements for mothers and well newborns after hospital discharge.

- (a) She has been afebrile for 72 hours without use of antipyretics **and** at least 14 days have passed since symptoms first appeared or last positive test, whichever is greater.

**AND**

- (b) She has improvement, but not full resolution, in respiratory symptoms. It is understood that cough alone may persist for prolonged periods.

Non-maternal parents who are PUIs should not visit infants requiring ongoing hospital care until they are determined to be uninfected by molecular testing and/or clinical criteria. Non-maternal parents who develop symptoms of disease and are confirmed to have COVID-19 must also meet the requirements above before visiting infants in the neonatal intensive care unit.

**Delivery room management of neonates born to mothers who are not PUIs or have tested COVID negative:**

Neonatal clinicians should attend deliveries based on our normal policies. Standard procedures should be utilized. Universal masking and eye protection are currently recommended.