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Guidelines for the care of obstetric patients with suspected or confirmed COVID-19 infection and their newborn infants

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Purpose

- To provide guidance for the care of obstetric patients with suspected or confirmed COVID-19 infection and their newborn infants.
- These recommendations represent the guidelines of Vanderbilt University Medical Center Children's Hospital and not U.S. National guidelines. **They are meant to provide an example only and stimulate discussion**
- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html>

Background

- It is unknown if pregnant women manifest more severe disease. In other respiratory infections such as influenza, this is the case.
- It is unknown if COVID-19 viremia causes vertical transmission in utero or during delivery.
- There are no data to suggest that vertical transmission or breast milk transmission occur, and the limited studies that have been done have not found evidence of either.
- It is speculated that COVID-19 in mothers may cause hypoxemia, increasing the risk of perinatal adverse events.

Background

Evidence:

1. Little data in 9 intrapartum COVID-19 infected women who each had C-section:
 - None died or had severe pneumonia though all 9 had chest CT findings typical of COVID-19.
 - All 9 births had high Apgar scores.
 - COVID-19 was negative in cord blood, placenta and breast milk specimens ([Chen et al. Lancet 2020](#)).
2. There is a case report of a neonate who at 36 hours of life became positive for COVID-19 after birth from an intrapartum COVID-19 infected mother ([Zhang et al. article in Chinese](#)).
3. There is a report in 10 neonates born to mothers with COVID-19; all mothers had viral pneumonia on CT scan, 6 infants were born prematurely, 2 were SGA. Respiratory symptoms were observed in 6 infants; 1 infant died and 4 had long term NICU admissions. Of note, COVID-19 PCR WAS NEGATIVE in all 10 infants ([Zhu et al. Transl Pediatr 2020](#)).

Breastfeeding

Maternal breast milk may be provided to newborn and maternal milk supply should be protected with early (within first hour) and frequent (every 3 hours) pumping if mom and baby require separation.

Care of mothers (pregnant women) with suspected or confirmed COVID-19

- When possible, pregnant patients who have suspected or confirmed COVID-19 notify Labor and Delivery (L&D) triage prior to arrival so the facility can make appropriate infection prevention preparations.
- The L&D team will notify Newborn Nursery and Nursery Nurse leader, who will communicate with their team members including the pediatrician on call.
- All pregnant women are to be assessed immediately upon arrival for clinical signs concerning for COVID-19
 - **acute onset cough,**
 - **shortness of breath,**
 - **with or without fever.**

For those with these symptoms:

- 1) Place pregnant woman on **Contact, Droplet, and Eye Protection Precautions**. Mom to remain masked at all times. Door signage placed that they are COVID-19 confirmed/suspect
- 2) Limit the number of healthcare personnel who enter the patient's room.
- 3) If **mother with fever** (temperature ≥ 100.4) OR is unable to control her respiratory symptoms, then immediately after delivery
 - the infant will be taken to radiant warmer for drying and assessment. After 5-minute APGARS, infant will be placed in incubator (room air) and taken to designated area within Newborn Nursery.
 - Infant may be swaddled and offered pacifier.
- 4) If **mother is afebrile** (temperature < 100.4) and able to control her respiratory symptoms
 - infant will be taken to radiant warmer to be dried and assessed until mother's face/chest can be cleaned and clean mask and clean gown applied.
 - Infant then can breastfeed while mother wearing PPE.
 - Feeding time limited to 30 minutes.
 - Mom should be masked for any transports and infant should be transported in incubator (if available)

Visitation

- Visitation policy is subject to change at any time without notice.
- One support person (grandmother, father of child) who has been screened may be present in delivery room with mother and should stay in maternal room at all times unless returning to or leaving hospital. This support person will be screened daily on the unit.
- Support person is instructed to wear appropriate PPE, including gown, gloves, face mask, and eye protection at all times while in patient room.
- Support person must be masked when leaving room and should be reminded to remain in room unless leaving hospital. **If support person needs to leave the room for any reason, hand hygiene is performed upon exiting and entering the room.**
- If support person or nurse is providing care (e.g., diapering, bathing, feeding) whether the newborn is in the mothers room or in the nursery, they should wear PPE (gown, gloves, face mask, and eye protection) before caring for the child.

Visitation (cont)

- If support person becomes symptomatic with fever, new respiratory symptoms (cough, shortness of breath) they should not have contact with infant and should leave the hospital.
- If a healthy support person is not available to assist mom, then the newborn will remain in an incubator and move to separate space such as Newborn Nursery area.

Care of the newborn

- The newborn of mothers with confirmed or suspect COVID-19 should be considered a suspect case as well during the entire hospital admission, until maternal testing results are reported.
- Providers and support visitor must wear PPE.

At the delivery of a COVID-19 suspect/confirmed woman

Routine neonatal resuscitation at delivery potentially involves the need for open suctioning of oral secretions resulting in an aerosol generating procedure (AGP).

- Every attempt will be made to minimize the number of infant resuscitation team attendants
- Additional support personnel will wait in the hallway until/unless needed.
- PPE recommendations for the resuscitation team: At this time and regardless of mode of delivery (**vaginal or C-section**), the resuscitation team will wear full PPE, including N95 masks, gowns, gloves, and eye protection (face shields or goggles)
- Asymptomatic infants of COVID-19-positive or suspect mothers should have newborn care per standard of care.
- Bathing/cleaning of newborn should be done using current practice.

COVID-19 TESTING OF ASYMPTOMATIC NEWBORN

- The asymptomatic newborn of a suspect mother **does not** need COVID-19 testing unless the mother tests positive.
- Newborns of COVID-19-positive mothers **will have** testing at 24 hours
- Infants of mothers who become COVID-19-positive after the infant is 24 hours of age **will have COVID-19 testing sent as soon as mother's test is reported positive.**
- All infants of COVID-19-positive mothers should have a **pediatric infectious disease consult** to determine timing of next test and care.

Asymptomatic newborn and mother (suspect/confirmed) is afebrile and able to control respiratory symptoms

- Newborn can **Room-in** with mom
- Mom to be provided cough hygiene education
- A support person (grandmother/father) must be able to stay duration of hospital stay.
- Risk and benefits of rooming in should be discussed with family.

Procedures if **Rooming In**

- Place newborn in an incubator/bed in mother's room and implement measures to reduce exposure of the newborn to the virus.
- Newborn stays in incubator/bed (at room temperature) when not being cared for by support person or breastfeeding with mom.
- Mother **will need to wear mask** when infant out of incubator/bed even if she is not providing care.
- A support person (defined as no fever and able to control respiratory symptoms) must be available to provide care for infant while utilizing appropriate PPE.
- If mother becomes symptomatic during admission, fever or unable to control respiratory symptoms, **infant will be separated from mother.**

Breastfeeding if Rooming In

- Mothers who can control respiratory symptoms should perform hand hygiene, wear a mask and a clean gown, before each feeding, while holding infant.
- She should wash her chest with soap and water prior to breast feeding. When infant not breastfeeding, infant should be returned to incubator/bed.
- If mother prefers to limit risk of exposure and not do direct breastfeeding, infant will be bottle fed with expressed breastmilk or formula by another caregiver.
- Infant caregiver should perform hand hygiene and wear PPE (gown, gloves, mask, and eye protection) and maintain maximum distance from mom that the room setup will allow, and mom should remain masked if infant is out of incubator.

When to place Newborn in separate room from mother

- Mother has a fever $\geq 100.4^{\circ}\text{F}$
- Mother cannot control her respiratory symptoms
- Mother refuses masking or hand hygiene
- No support person available
- Mother prefers infant to not room-in
- Mother is admitted to room away from maternity (such as ICU)
- Infant with any difficulty with transition requiring closer observation

Breastfeeding if separated

- Mother pumps milk for infant and infant may be fed expressed breastmilk by support person or nurse.
- Prior to expressing breast milk, mothers should practice hand hygiene.
- Once breastmilk is obtained, the outside of the container should be cleaned with Sani-Cloth and labeled with breastmilk label. The container is then placed in bag for transport to infant location.
- If using a mechanical breast pump, all parts that come into contact with breast milk should be thoroughly washed and the entire pump should be appropriately disinfected per the manufacturer's instructions.
- Pump should remain in mom's room

Symptomatic Newborn (desaturations/apnea)

- Consider moving to higher level care such as NICU (if available)
- Test for COVID-19 at **24 hours of life**
- All such newborns will be managed in closed isolettes (if available)
- Infants with respiratory symptoms will be placed on contact, droplet, and eye protection precautions.
- Infants requiring intubation/extubation or other aerosol generating procedures will be placed on aerosol precautions (gown, gloves, face mask, eye protection) when the decision is made for the procedure.
- Infants without respiratory symptoms OR who remain hospitalized after resolution of their respiratory symptoms will remain on contact precautions until discharged home

When to discharge the patient

- A newborn who is asymptomatic and otherwise meeting other discharge criteria may be considered for hospital discharge even prior to maternal discharge readiness.
- Infant discharge to designated guardian, if mother to remain hospitalized
- For infants with pending test results or who test negative upon hospital discharge, caretakers should take steps to reduce the risk of transmission to the infant. Discharge teaching to family should include reinforcement of education about reducing spread (social distancing, hand hygiene, feeding practices as described above).

The discharged newborn

- Infants of mothers who are COVID + at time of delivery and who have negative initial and repeat COVID tests, are still considered COVID suspect until 14 days of life. Appropriate PPE should be used by healthcare providers during this time.
- Infants with positive initial and/or repeat COVID test should remain on home isolation until:
 - 2 negative COVID-19 tests spaced 24 hours apart or
 - 7 days past last symptoms and 3 days afebrile.

For the Pediatrician taking care of the newborn post discharge

- Adhere to routine newborn visit schedule. Prior to each visit PCP should arrange to call family to obtain medical history via phone prior to the in-office visit in order to limit exposure time
- COVID + mother should be reminded to not attend visit during period of home isolation defined as 7 days past onset of symptoms and 3 days afebrile but may wish to call in or have virtual presence during the visit
- Healthy support person should be identified to bring infant to clinic visit and this person should remain masked throughout visit.
- Consider scheduling the visit at the end of the clinic day and asking family to remain in their car until a room is ready and provider has donned appropriate PPE
- Limit number of providers.

For the Pediatrician taking care of the newborn post discharge

- Infant may be transported into the building in covered carseat and should be taken directly to examination room.
- Any equipment used during the care for these babies should be cleaned using approved cleaning solutions and room should not be used for 2 hours after the visit is concluded
- In the rare instance that an aerosolized generating procedure is considered, such as deep suctioning then provider should don N95 mask along with other PPE
- Repeat COVID 19 Nasopharyngeal testing should be sent at the first newborn follow-up visit, ideally 24-48 hours after discharge.
- If either initial or repeat COVID test is positive in an asymptomatic newborn, consider a 1 month visit by telemedicine or telephone.
- If infant were to develop symptoms within first 30 days (fever, respiratory symptoms, diarrhea), consider evaluation in the ED and additional testing for COVID 19.

Well Baby Visits and Immunizations

- Well Baby Care and Immunizations will be provided at the recommended periodicity as recommended by the American Academy of Pediatrics



Questions

THANK YOU