Evaluation and Management Considerations for Neonates At Risk for COVID-19
Care for Newborns

Updated Aug. 3, 2020   Print

> This guidance is intended to inform healthcare providers in the United States about the diagnosis, evaluation, infection prevention and control practices, and disposition of neonates (≤28 days old) with suspected or confirmed SARS-CoV-2 infection or known SARS-CoV-2 exposure, including birth to a mother with suspected or confirmed COVID-19.

Summary of Recent Changes

Updates as of August 3, 2020

- Updated guidance on mother-neonate contact, emphasizing the importance of maternal autonomy in the medical decision-making process.
- Updated evidence about routes of SARS-CoV-2 transmission to neonates.
- Updated guidance on infection prevention and control.

Since the May 2020 posting of this guidance, several publications have reported the outcomes of neonates born to mothers with suspected or confirmed SARS-CoV-2 infection. These publications have been used to inform this guidance update. CDC will continue to examine data on the risk of infection and outcomes for neonates born to mothers with SARS-CoV-2 infection and will update this guidance as new information becomes available.

Routes of transmission

Transmission of SARS-CoV-2, the virus that causes COVID-19, to neonates is thought to occur primarily through respiratory droplets during the postnatal period when neonates are exposed to mothers or other caregivers with SARS-CoV-2 infection. Limited reports in the literature have raised concern of possible intrauterine, intrapartum, or peripartum transmission, but the extent and clinical significance of vertical transmission, which appears to be rare, is unclear. At this time, there are insufficient data to make recommendations on routine delayed cord clamping or immediate skin-to-skin care for the purpose of preventing SARS-CoV-2 transmission to the neonate.

Clinical presentation and disease severity

Reported signs among neonates with SARS-CoV-2 infection include fever, lethargy, rhinorrhea, cough, tachypnea, increased work of breathing, vomiting, diarrhea, and poor feeding. The extent to which SARS-CoV-2 infection contributed to the reported signs of infection and complications is unclear, as many of these findings are common in term and preterm infants for other reasons (e.g., transient tachypnea of the newborn, neonatal respiratory distress syndrome).

Current evidence suggests that SARS-CoV-2 infections in neonates are uncommon. If neonates do become infected, the majority have either asymptomatic infections or mild disease (i.e., do not require respiratory support), and they recover. Severe illness in neonates, including illness requiring mechanical ventilation, has been reported but appears to be rare. Neonates with underlying medical conditions and preterm infants (<37 weeks gestational age) may be at higher risk of severe illness from COVID-19.

Testing recommendations

Testing is recommended for all neonates born to mothers with suspected or confirmed COVID-19, regardless of whether there are signs of infection in the neonate. For neonates presenting with signs of infection suggestive of COVID-19, as described above, providers should also consider alternative diagnoses.

Recommended testing

- Diagnosis should be confirmed by testing for SARS-CoV-2 RNA by reverse transcription polymerase chain reaction (RT-PCR). Detection of SARS-CoV-2 RNA can be collected using nasopharynx, oropharynx, or nasal swab samples.
- Serologic testing is not recommended at this time to diagnose acute infection in neonates.

When to test

- Both symptomatic and asymptomatic neonates born to mothers with suspected or confirmed COVID-19, regardless of mother's symptoms, should have testing performed at approximately 24 hours of age. If initial test results are negative, or not available, testing should be repeated at 48 hours of age.
- For asymptomatic neonates expected to be discharged at <48 hours of age, a single test can be performed prior to discharge, between 24-48 hours of age.

Prioritization of testing

- In areas with limited testing capacity, testing should be prioritized for neonates with signs suggestive of COVID-19 as well neonates with SARS-CoV-2 exposure requiring higher levels of care or who are expected to have prolonged hospitalizations (>48-72 hours depending on delivery mode).

Limitations and interpretation of testing

- The optimal timing of testing after birth is unknown. Early testing may lead to false positives (e.g., if the neonate's nares, nasopharynx and/or oropharynx are contaminated by SARS-CoV-2 RNA in maternal fluids) or false negatives (e.g., RNA may not yet be detectable immediately after exposure following birth).

Infection prevention and control

Rates of SARS-CoV-2 infection in neonates do not appear to be affected by mode of delivery, method of infant feeding, or contact with a mother with suspected or confirmed SARS-CoV-2 infection. All neonates born to mothers with suspected or confirmed infection should be considered as having suspected SARS-CoV-2 infection when test results are not available.

In general, mothers with suspected or confirmed SARS-CoV-2 infection and their neonates should be isolated from other healthy mothers and neonates and cared for according to recommended infection prevention and control practices for routine healthcare delivery. If a neonate does not remain in the mother's room, facilities should consider the institution's capacity and resources as well as the potential risk of SARS-CoV-2 transmission to other high-risk neonates when determining where the neonate should be isolated.

Isolating infants with suspected or confirmed SARS-CoV-2 infection in a Neonatal Intensive Care Unit (NICU) should be avoided unless the neonate's clinical condition warrants NICU admission. Locating neonates with suspected or confirmed SARS-CoV-2 infection in a NICU may unnecessarily increase the risk of exposing other vulnerable infants and NICU staff to SARS-CoV-2. In some hospitals, a NICU may be the only suitable environment for appropriate care of an isolated neonate. Therefore, determination about best placement should be made at the facility level.

Mother/neonatal contact

Early and close contact between the mother and neonate has many well-established benefits. The ideal setting for care of a healthy, term newborn while in the hospital is in the mother's room, commonly called "rooming-in." Current evidence suggests the risk of a neonate acquiring SARS-CoV-2 from its mother is low. Further, data suggests that there is no difference in risk of SARS-CoV-2 infection to the neonate whether a neonate is cared for in a separate room or remains in the mother's room.

There is, however, a potential risk of SARS-CoV-2 transmission to the neonate via contact with infectious respiratory secretions from the mother, caregiver, or other person with SARS-CoV-2 infection, including just before the individual develops symptoms when viral replication may be high. As such, all caregivers should practice infection prevention and control measures (i.e., wearing a mask, practicing hand hygiene) before and while caring for a neonate.

Mothers with suspected or confirmed SARS-CoV-2 infection may feel uncomfortable with this potential risk. Ideally, each mother and her healthcare providers should discuss whether she would like the neonate to be cared for in her room or a separate location if she is suspected or confirmed of having COVID-19, weighing the considerations listed below. It's easiest to begin this conversation during prenatal care and continue it through the intrapartum period. Healthcare providers should respect maternal autonomy in the medical decision-making process.

Considerations for discussions on whether a neonate should remain in the mother's room include:

- Mothers who room-in with their infants can more easily learn and respond to their feeding cues, which helps establish breastfeeding. Breastfeeding reduces morbidity and mortality for both mothers and their infants. Mothers who choose to breastfeed should take measures, including wearing a mask and practicing hand hygiene, to minimize the risk of virus transmission while feeding. Additional information for healthcare providers on breastfeeding in the context of COVID-19 is available.
- Mother-infant bonding is facilitated by keeping the neonate with its mother.
- Rooming-in promotes family-centered care and can allow for parent education about newborn care and infection prevention and control practices.
- Mothers with suspected or confirmed SARS-CoV-2 infection should not be considered as posing a potential risk of virus transmission to their neonates if they have met the criteria for discontinuing isolation and precautions:
    - At least 10 days have passed since their symptoms first appeared (up to 20 days if they have more severe to critical illness or are severely immunocompromised), and
    - At least 24 hours have passed since their last fever without the use of antipyretics, and
    - Their other symptoms have improved.
- Mothers who have not met these criteria may choose to temporarily separate from their neonates in effort to reduce the risk of virus transmission. However, if after discharge they will not be able to maintain separation from their neonate until they meet the criteria, it is unclear whether temporary separation while in the hospital would ultimately prevent SARS-CoV-2 transmission to the neonate, given the potential for exposure from the mother after discharge.
- Separation may be necessary for mothers who are too ill to care for their infants or who need higher levels of care.
- Separation may be necessary for neonates at higher risk for severe illness (e.g., preterm infants, infants with underlying medical conditions, infants needing higher levels of care).
- Separation in order to reduce the risk of transmission from a mother with suspected or confirmed SARS-CoV-2 to her neonate may not be necessary if the neonate tests positive for SARS-CoV-2.

Measures to minimize risk of transmission

If the neonate remains in the mother's room, measures that can be taken to minimize the risk of transmission from a mother with suspected or confirmed COVID-19 to her neonate include:

- Mothers should wear a mask and practice hand hygiene during all contact with their neonates. Of note, plastic infant face shields are not recommended and masks should **not** be placed on neonates or children younger than 2 years of age.
- Engineering controls, such as maintaining a physical distance of ≥ 6 feet between the mother and neonate or placing the neonate in an incubator, should be used when feasible. If the infant is kept in an incubator, it is important to educate the

mother and other caregivers, including hospital personnel, on proper use (i.e., latching doors) in order to prevent newborn falls.

A healthy caregiver who is not at increased risk for severe illness, using appropriate infection prevention precautions (e.g., wearing a mask, practicing hand hygiene), should provide care for the neonate, if possible.

Disposition

Neonates who otherwise meet clinical criteria for discharge ⧉ do not require the results of SARS-CoV-2 testing for discharge. If available, results from the neonate's test should be communicated to the family and outpatient healthcare provider.

To determine when to end home isolation for a neonate with suspected or confirmed SARS-CoV-2 infection, parents and other caregivers should follow published recommendations. Neonates with suspected or confirmed COVID-19, or ongoing exposure, require close outpatient follow-up after discharge.

Additional Key Resources:

Considerations for Inpatient Obstetric Healthcare Settings

Interim Guidance on Breastfeeding and Breast Milk Feeds in the Context of COVID-19

Pregnancy, Breastfeeding, and Caring for Young Children

Breastfeeding

Coping with Stress

How to Protect Yourself & Others

Last Updated Aug. 3, 2020