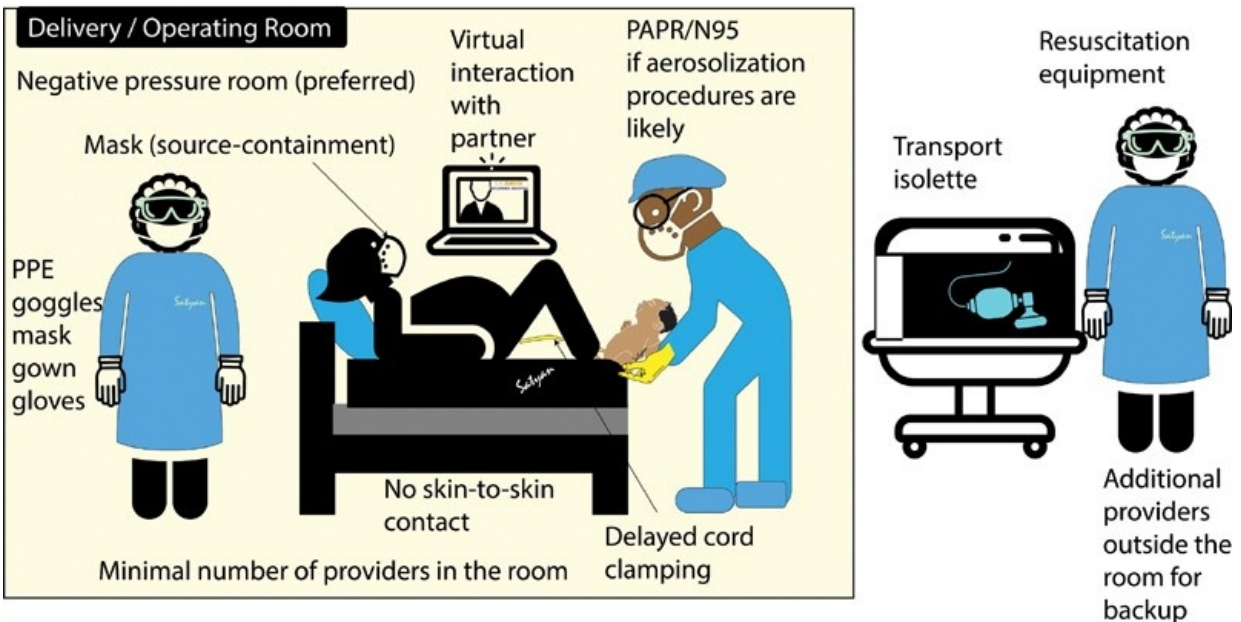


# When mom-to-be has COVID-19

August 28 2020, by Barbara Branning

Prescreen pregnant woman and partner/visitor prior to arrival at the hospital



Setting up of a birthing room for a patient with suspected or confirmed COVID-19 undergoing labor and delivery. A negative pressure room is preferred with limited number of providers in the room to limit exposure. Additional personnel may be outside the room and be available if extensive neonatal resuscitation is needed. (PAPR: powered air-purifying respirator.) Credit: Satyan Lakshminrusimha

Childbirth is an emotional event, filled with both excitement and apprehension.

But when the mother-to-be tests positive for COVID-19, or is suspected of having the virus, the stakes get higher. Keeping mom, baby and the health care team as safe as possible adds another layer of concern for everyone involved. Taking steps to minimize risks becomes a priority.

In a paper published online this past spring in the *American Journal of Perinatology*, a University at Buffalo faculty member and international co-authors have outlined the best approaches for handling the delivery of newborns in these cases.

The paper, titled "Neonatal Resuscitation and Post-resuscitation Care of Infants Born to Mothers with Suspected or Confirmed SARS-CoV-2 Infection," has attracted international attention. Since publication, it has been cited at least 38 times, notably in the European Resuscitation Council COVID-19 guidelines executive summary.

Praveen Chandrasekharan, MD, assistant professor in the Department of Pediatrics in the Jacobs School of Medicine and Biomedical Sciences at UB, authored the paper with colleagues from California, Italy and Spain.

The paper includes easy-to-follow infographics created at the University of California Davis Children's Hospital. Chandrasekharan discusses the research with his co-authors in a [podcast](#). A video abstract of the article is also available.

Chandrasekharan is a neonatologist with UBMD Pediatrics who focuses on neonatal resuscitation and practices at Oishei Children's Hospital. He has received grants for previous research from the National Institutes for Health, the American Academy of Pediatrics, the National Resuscitation Program and the ZOLL Foundation.

According to the Centers for Disease Control and Prevention, it is unclear if pregnant women are at increased risk of contracting

COVID-19 or if they are more at risk for developing severe illness if they do contract it. In addition, it remains uncertain whether a COVID-positive woman can transmit the disease to her unborn baby.

## **Risks to the infant and health care providers**

In any event, resuscitating a baby born to a mom suspected of, or positive for, COVID-19 poses risks to both the infant and [health care providers](#). But early on in the pandemic, there was limited literature to direct neonatal teams to the best protocols to use in the delivery room.

"The importance of using personal protective equipment when resuscitating a newborn in the delivery room, and the concept of shared decision-making, are the most crucial aspects explained in our article," Chandrasekharan said. "Both parents and physicians must have an understanding of the situation and take adequate precautions to prevent transmission of the disease to both newborn and health care providers."

The options outlined in the article have been used to develop guidelines in different institutions; they have had an impact around the world.

The paper makes four key points:

- The risk of transmission remains unclear.
- Transmission from family members and providers to neonates is possible.
- Optimal personal protective equipment (airborne vs. droplet/contact precautions) for providers is crucial to prevent transmission.
- Parents should be engaged in shared decision-making, with options for rooming in, skin-to-skin contact and breastfeeding.

"It is imperative to reduce rising fears and optimize strategies to reduce

the spread of COVID-19 to neonates and healthcare workers," the paper states.

The authors consulted with neonatologists from around the world, including China, Australia, New Zealand, India, Spain and Italy. "Based on input and feedback from different institutions, we developed three approaches, with options for management to select based on available resources," Chandrasekharan said.

## Three levels of care

The approaches to caring for at-risk neonates before birth, during delivery and after discharge include options that are stringent, moderate and more relaxed.

Keeping the mother masked, ensuring there is proper [personal protective equipment](#) for health care workers and transporting the newborn in a covered isolette are elements of all three options.

The three approaches "provide flexibility and allow perinatal health care providers and parents to determine the best option based on the assessment of risks and benefits, available personnel, space, caseloads and resources," the paper states.

The paper urges pre-delivery preparation involving in-depth assessment of the mother's health and the age of the fetus at the time of COVID-19 exposure and at delivery.

Each approach offers specific guidance on various aspects of pre-, mid- and post-delivery care, including visitor policy during delivery; the location where neonatal resuscitation takes place; timing of cord clamping; skin-to-skin contact; placement of the infant after birth; COVID-19 testing of the infant; nutritional support; the visitation policy

for the baby; discharge plan; and follow-up plans.

The paper also includes suggested protocols for caring for babies who develop early onset (within the first week) or late onset (within the first three weeks) COVID-19 themselves.

The paper notes that ideally each medical facility would have a dedicated team of health care providers to take care of COVID-positive or possible mothers-to-be. It encourages medical centers to arrange for additional delivery rooms and personnel, and to conduct simulated COVID-19-related deliveries to understand logistics, workflow, use of safety equipment and transition from [delivery room](#) to nursery or neonatal intensive care unit.

While all of the cited precautions follow CDC guidelines that existed at the time of publication, the authors acknowledge that information about the novel [coronavirus](#) is constantly being updated; therefore, the best practices continue to evolve.

Chandrasekharan said the biggest challenges for caring for these patients will occur when mom and newborn are sent home because of the fluctuating rates of community transmission.

**More information:** Praveen Chandrasekharan et al. Neonatal Resuscitation and Postresuscitation Care of Infants Born to Mothers with Suspected or Confirmed SARS-CoV-2 Infection, *American Journal of Perinatology* (2020). [DOI: 10.1055/s-0040-1709688](https://doi.org/10.1055/s-0040-1709688)

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