FOCUS ON
COVID-19: Personal Protective Equipment (PPE) for Neonatal Resuscitation

1st Revision: July 2021

Background
This document complements Public Health Ontario’s (PHO) list of aerosol-generating medical procedures (AGMPs) and aims to clarify the need for the use of additional precautions by health care workers and first responders during neonatal resuscitation. The safety of health care workers and first responders is of utmost importance. This technical brief provides guidance on personal protective equipment considerations during the neonatal resuscitation of babies born to mothers with suspect or confirmed COVID-19.

Evidence for Vertical Transmission
There is some evidence for the vertical transmission of SARS-CoV-2, specifically intrauterine transmission from mother to child; however, the overall risk of vertical transmission is low. A full summary of the evidence is available in the document, What we know so far about... Routes of Transmission; however, in brief, the majority of case series have not documented vertical transmission. In nine systematic reviews and meta-analyses, ranging from 74 to 1,316 newborns, there were SARS-CoV-2 RNA-positive newborns by PCR but no evidence of intrauterine transmission. So while there are several reports that suggest that it may occur, it does not appear to be common and would be more likely to occur in a critically unwell mother with a short duration of symptoms (i.e., no antibody response) who may have viremia.

Evidence for Neonatal Resuscitation as an AGMP
There is limited data on significant aerosol generation during neonatal resuscitation to consider it an aerosol-generating medical procedure. Neonatal Continuous Positive Airway Pressure (CPAP) and bag and mask ventilation are not associated with epidemiological data that indicate it significantly increases the risk of infection to health care workers within close range of the procedure. In theory, given the lower lung volumes and the lower pressures required to ventilate neonates, the risk is likely much lower than in adults.

Conclusion
At this time, given the low risk of vertical transmission and the low risk of aerosol exposure from neonatal resuscitation, Droplet and Contact precautions can be used during neonatal resuscitation for babies born to mothers with suspect or confirmed COVID-19. This recommendation does not replace the need for healthcare workers and first responders to select personal protective equipment based on a point of care risk assessment. In higher risk scenarios (i.e., critically unwell mother), healthcare workers
involved in the direct airway management (i.e., intubation) of a neonate may choose to wear an N95 respirator; however, the aerosol risk is unlikely to extend beyond the individual involved in direct airway management and as a result, Droplet and Contact Precautions can be used by the rest of the delivery and support team unless otherwise indicated for maternal management. PHO will continue to monitor the evidence and update this guidance as new evidence arises.

References


