COVID-19 pandemic

Frequently Asked Questions within Neonatal Services

A BAPM supplement to RCPCH guidance

8th April 2020

This document has been compiled by consensus, taking into account feedback from perinatal professionals and guidance from both RCPCH and RCOG, as well as recently updated national cross specialty guidance on personal protective equipment (PPE).


It offers advice on management of specific situations which should be interpreted in conjunction with local and network guidance, noting that these may be subject to change as the pandemic develops.

We are grateful for input from Drs David Evans, Liz Whittaker and Cheryl Battersby as well as the team at Bliss.

We hope that you will find this document useful as you continue to care for babies and families in these unprecedented times; please feedback any suggestions for amendments.

Helen Mactier, on behalf of the BAPM Executive Committee

Background

It is currently considered possible, but not proven, that SARS-CoV-2 can be transmitted vertically (1-4). The proportion of pregnancies affected and the significance for the child have yet to be determined. To date, viral RNA has not been detected in amniotic fluid, vaginal secretions or breast milk. In the individual reported cases of possible vertical transmission, viral RNA in the infant’s respiratory secretions was not demonstrated before 36 hours of life.

COVID-19 appears generally to be a fairly minor illness in young infants, and may be asymptomatic. Infected infants will, however, be potentially infectious and there are concerns that illness could potentially be more severe in preterm or otherwise immune compromised babies. There is also a significant risk of staff becoming infected.

The risk of transmitting infection is greatly increased by aerosol generating procedures (AGPs); this has particular relevance in neonatal settings, where CPAP and high flow oxygen therapies are commonly used. While it is generally accepted that the combination of low or undetectable viral load and small tidal volumes make AGP in the first day of life very low risk, we agree with national guidance, that full PPE (including a FFP3 mask and eye protection) is
utilised whenever a baby born to a mother with suspected or confirmed COVID-19 requires resuscitation (including airway suctioning).

As the prevalence of COVID-19 increases, individual Trusts are likely to respond by recommending even higher levels of PPE in some situations – you are advised to follow local and/or network guidance.

If possible, obtain a cord blood sample to be stored for COVID-19 IgM and IgG when the mother has suspected or confirmed COVID-19 – while this is not currently able to be processed in a clinically useful timescale, storage and future analysis of samples has potential to help with understanding of transmission of this virus. This must be discussed with parents and consent documented.

Remember to report all suspected or proven neonatal COVID-19 infection via the BPSU.

**What are considered aerosol generating procedures (AGPs)?**

- Intubation, extubation and related procedures e.g. bag mask ventilation and open suctioning of the respiratory tract (including the upper respiratory tract)
- Less invasive administration of surfactant
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- All modes of invasive ventilation
- Non-invasive ventilation (NIV) e.g. Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure (CPAP)
- High flow nasal oxygen (HFNO) ≥ 2 l/min

During administration of nebulised medication, the aerosol derives from a non-patient source (the fluid in the nebuliser chamber) and does not carry patient-derived viral particles so this is not an AGP. Insertion of a nasogastric tube is not an AGP.

**How do I manage a baby born to a mother with suspected or confirmed COVID-19 who requires respiratory support?**

Admit to an isolation cubicle or a cohorted area and nurse in an incubator.

Don PPE appropriate for AGP (including a FFP3 mask) when directly caring for the baby.

Test for SARS-CoV-2 (PCR) at 72 hours and again on day 5. If the baby’s condition deteriorates, or the respiratory disease is considered atypical after 24 hours of life, the baby should be screened earlier for COVID-19.

Send nasopharyngeal aspirate or ET secretions, rather than a throat swab.

The mother (and her partner) should not visit the nursery until she has tested negative or until 7 days after the onset of her symptoms *and* she is symptom free. If the partner is
asymptomatic, he/she will need to self-isolate for 14 days from the onset of the mother’s first symptoms before visiting.

Skin to skin contact should generally not be permitted while the infant requires on-going respiratory support and is still potentially infectious, but may be considered in exceptional circumstances, e.g. end of life care. In this case, unless she has tested negative or more than 7 days have elapsed since the onset of her symptoms and she is symptom free, the mother will require to wear a fluid resistant surgical mask (FRSM) (to protect the baby and staff members). The risks of skin to skin contact and whether the mother may be fully immune are not known so holding the baby while wearing appropriate PPE may be preferred. Other family members who are not known to have been infected with COVID-19 would require to wear a FFP3 mask after appropriate training, to protect themselves while the baby is still potentially infectious.

Consider methods to reduce viral spread into the NNU including placing the expiratory limb of the CPAP into the incubator.

The baby should be considered potentially infectious for up to 14 days. Once they are no longer requiring AGPs, standard PPE would be appropriate, but the baby should remain isolated for 14 days. If fully recovered, treat as per asymptomatic baby born to suspected or confirmed COVID-19 mother.

How do I manage an asymptomatic baby born to a mother with suspected or confirmed COVID-19 who requires admission to NNU but does not require respiratory support?

Admit to an isolation cubicle or a cohorted area and nurse in an incubator.

There is no indication for routine testing of asymptomatic babies, but if resources permit, testing the baby (PCR) at 72 hours and again on day 5 (throat and nasal swab) may help to delineate the natural history of COVID-19 in the newborn. Test the baby if they become symptomatic (fever/temperature instability and/or respiratory distress).

Use standard PPE for routine baby cares (gloves, apron and FRSM). Eye protection if risk of splashing.

Skin to skin contact can be undertaken from 7 days after the onset of mother’s symptoms if she is well. Other family members will commonly be self-isolating – if they have recovered from COVID-19 or completed 14 days’ self-isolation they may undertake skin to skin contact.

If asymptomatic at 14 days, baby may be considered uninfected and moved out of an isolation room, and into an open cot if appropriate for thermal regulation. If there is a deterioration, include Sars-CoV-2 respiratory PCR testing and consider isolation if respiratory support is required.
If the baby is well enough to be discharged from the NNU, they may be accommodated in an isolation room in the postnatal ward with their mother, or sent home to continue isolation, as clinically appropriate and with appropriate safety netting advice.

**How do I manage a baby confirmed COVID-19 positive, regardless of respiratory status?**

Admit to an isolation cubicle or a coherited area and nurse in an incubator.

For babies not receiving respiratory support, standard PPE (gloves, apron and FRSM) with eye protection if risk of splashing of any body fluids; minimise handling as far as possible with clustered cares.

Full PPE for AGPs (includes CPAP and high flow therapy).

In the event of acute collapse, full PPE should be donned before undertaking intubation. If the baby does not respond to being placed prone and given facial oxygen it would be reasonable to undertake bag mask ventilation wearing standard PPE with the baby in the incubator, whilst waiting for other staff to don full PPE.

Skin to skin contact should generally be avoided while the infant requires on-going respiratory support, but may be considered in exceptional circumstances – see under “baby born to a mother with suspected or confirmed COVID-19”. If the mother or her partner have not had COVID-19 they will need to wear full PPE including a FFP3 mask, after appropriate training.

The value of retesting has not been fully assessed – if the baby is asymptomatic and at least 7 days from onset of symptoms it would be reasonable to move out of an isolation room, but the baby should be kept in an incubator for 7 days more (i.e. a total of 14 days) with use of standard PPE.

If the baby is well enough to be discharged from the NNU, they may be accommodated in an isolation room in the postnatal ward with their mother, or sent home to continue isolation, as clinically appropriate with appropriate safety netting advice.

**How do I manage a well baby in the NNU who has had postnatal contact with a suspected or confirmed case of COVID-19?**

Postnatal contact is defined as physical contact (within 2 m) of at least 15 minutes’ duration with a parent or carer who develops suspected or confirmed COVID-19 within the following 24 hours. It also includes being in the same room in an open cot for at least two hours with a symptomatic individual (parent, carer or other baby). If the contact was wearing a face mask and was asymptomatic the risk is probably very low.

Test potential source for COVID-19 – if negative, no further action (as long as asymptomatic). If symptoms persist and likely to represent COVID-19, consider a repeat test.
If source is positive or indeterminate and the infant is asymptomatic (on NNU for non-respiratory reasons or improving respiratory status with anticipated non-COVID-19 pathology), they pose little risk of infection and do not require to be tested. It would be prudent to consider nursing them in an incubator and observing for signs of respiratory distress or other features that might suggest neonatal COVID-19 for the next 14 days (or discharge, whichever occurs first). If the baby develops signs, they should be tested and isolated.

Skin to skin care is permissible with either parent (or both parents) if they are not the suspected or confirmed contact, and if so should be encouraged in the usual way.

**How do I manage a baby born to a mother without suspected or confirmed COVID-19 but who has developed respiratory disease?**

For a preterm baby with a respiratory illness consistent with their prematurity, or for a term baby with a typical respiratory illness (*e.g.* transient tachypnoea following elective caesarean section) it is not necessary to screen routinely for COVID-19, or to nurse the baby in isolation. Use standard PPE for non-COVID-19 suspected patient as per Trust guidelines.

COVID-19 should be considered for any baby who develops atypical respiratory disease, especially after 24 hours of life. It seems reasonable that in the current pandemic all babies with respiratory disease are nursed in incubators with appropriate ventilator filters as applicable.

Screen and isolate as per baby of a mother with suspected or confirmed COVID-19.

**What about a well baby in the postnatal ward with a mother with suspected or confirmed COVID-19?**

If the baby is asymptomatic, standard PPE (gloves, apron and FRSM).

The NIPE is not an AGP (including inspection of the palate). Full visualisation of the palate should be undertaken as normal, using a tongue depressor if required.

Mother should be advised to wear an apron and a mask when feeding baby, and to practise good hand hygiene. Breast feeding is permitted. If the mother is coughing she should be wearing a FRSM.

Early discharge if mother well – ensure as many routine procedures as possible are undertaken before discharge, and/or that mechanisms are in place for prompt review in the community. Provide good safety-netting advice. The baby should be considered potentially infectious for 14 days from birth.

**What about older ex-preterm babies with Chronic Lung Disease?**
While there is no evidence to inform practice, it seems prudent that these babies should be nursed in an incubator, or in an isolation cubicle if possible. Parents should be encouraged to practise the strictest hand hygiene, to report any possible symptoms of COVID-19 and to self-isolate immediately in the event of any symptoms developing.

Discharge on home oxygen should be facilitated if practical, with good safety-netting advice.

**How do we manage provision of expressed breast milk (EBM) in the NNU?**

To date viral RNA has not been detected in breast milk of COVID-19 confirmed mothers. The database is, however, small. The main risk of breastfeeding for the infant is the close contact with the mother, who is likely to share infective airborne droplets. Current national advice for well babies of COVID-19 suspected or confirmed mothers is that the benefits of breast feeding outweigh any theoretical risks.

For unwell or preterm babies in the NNU the evidence is less clear.

Practitioners should discuss with parents the pros and cons of provision of EBM to babies in the NNU, noting the current uncertainty. A joint decision should be informed by factors including the gestation and clinical condition of the baby, transfer of protective maternal antibodies, the availability of donor breast milk and parental choice. Other coronaviruses are destroyed by pasteurisation.

COVID-19 positive mothers who are expressing milk must be facilitated to practise excellent hand hygiene, and care taken to ensure that bottles containing EBM are not externally contaminated. The virus is deactivated by chlorine disinfectants. EBM of COVID-19 suspected or positive mothers should be stored in a separate fridge or freezer from that of non-suspected or infected mothers. NNUs should have clear guidelines around handling, storage and use of EBM in these circumstances and suspected/infected mothers should have exclusive use of a breast pump.

If it is decided to withhold mother’s own breast milk, the mother should be encouraged to express and discard her milk, to maintain lactation until she is no longer infectious (7 days after onset of symptoms). Repeat testing of mother is not necessary. Parents should be signposted to appropriate feeding and emotional support during this period and reassured that breastfeeding can still take place after a period of using donor breast milk / formula if lactation is maintained.

Consider testing a sample of EBM for SARS-CoV-2 once lactation is established as this may help with future understanding of this virus.

**What advice should I give to parents taking their baby home?**

Both NHS England and the Scottish Government have published parental information leaflets which should be offered to parents before they leave the NNU or postnatal ward. These are available on line.
It is important to reassure parents that their baby is extremely unlikely to become unwell with COVID-19, but that they could become unwell for a host of other reasons. Parents should be encouraged to seek advice early if they have any concerns whatsoever; in the case of a baby recently discharged from the NNU this advice would probably best come from the NNU team in the first instance.

**Link to leaflets**

**References**


