

## COVID-19 – NEWBORN INFANTS BORN TO WOMEN WITH SUSPECTED, PROBABLE OR CONFIRMED COVID-19

*This Local Operating Procedure is developed to guide safe clinical practice in Newborn Care Centre (NCC) at The Royal Hospital for Women. It is largely based on guidance developed by NSW Health for pregnant women and their newly born infants in response to the COVID-19 pandemic. Individual patient circumstances may mean that practice diverges from this Local Operating Procedure. It is **interim advice, and subject to change as new evidence becomes available**.*

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### 1. AIM

- To provide safe and optimal care to newborn infants born to women with suspected or confirmed COVID-19

### 2. PATIENT

- Newborns

### 3. STAFF


- Medical and nursing staff

### 4. CLINICAL PRACTICE

#### General Principles

Issue	Consideration
Babies of women who are NOT suspected nor confirmed COVID-19 nor a primary close contact	These babies should receive usual care.
Babies of women who are a suspected or a confirmed case of COVID-19	These babies are considered close contacts. Follow "Risk Management" table.
Babies of women who are primary close contacts of a case of COVID-19	Babies in this situation are considered secondary close contacts. Follow "Risk Management" table.
Babies of mothers who are casual or secondary close contact	The mother's classification should be monitored and the management of the dyad varied in response to an alteration in classification.
Case definition and testing (mother)	For current case definitions refer to the <a href="#">CDNA National Guidelines for Public Health Units</a> . For COVID-19 testing criteria and the NSW Ministry of Health <a href="#">website</a> .
Release from isolation (mother)	For information on release from isolation, refer to the NSW Ministry of Health <a href="#">Self-isolation fact sheets</a> . <a href="https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm">https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm</a>

**COVID-19 – NEWBORN INFANTS BORN TO WOMEN WITH SUSPECTED, PROBABLE OR CONFIRMED COVID-19 cont'd**

Essentials of care	<p>The following are essentials of care:</p> <ul style="list-style-type: none"> <li>• Immunisation for both mother and baby</li> <li>• Anti D</li> <li>• Vitamin K</li> <li>• Physical assessment of well neonate</li> <li>• Newborn blood spot screening</li> <li>• SWISH screen</li> <li>• Newborn cardiac screen</li> <li>• Maternal physical and mental health assessment</li> </ul>
Infection Prevention and Control (IPC) practices	<p>Healthcare facilities should ensure appropriate IPC practices for Maternity and Neonatal Services. Detailed guidance on resources for staff is available on <a href="https://www.cec.health.nsw.gov.au/keep-patients-safe/COVID-19/COVID-19-IPAC-manual">CEC – COVID-19 IPC</a>. <a href="https://www.cec.health.nsw.gov.au/keep-patients-safe/COVID-19/COVID-19-IPAC-manual">https://www.cec.health.nsw.gov.au/keep-patients-safe/COVID-19/COVID-19-IPAC-manual</a></p>
Personal Protective Equipment	<p><u>Airborne</u> precautions, in addition to <u>Contact</u> and <u>Droplet</u> precautions, while caring for, or in contact with a suspected or confirmed COVID-19 case:</p> <ul style="list-style-type: none"> <li>• Eye protection goggles or faceshield</li> <li>• P2 or N95 mask</li> <li>• Gown</li> <li>• Gloves</li> <li>• Hair net in operating theatre</li> <li>• Shoe cover in operating theatre</li> </ul> 

**Risk Management**

Issue	Consideration
Risk assessment	<p>A baby born to a woman with confirmed or suspected COVID-19 is a primary <u>close contact</u>.</p> <ul style="list-style-type: none"> <li>• Women and a well-baby should be encouraged to stay together in the immediate postpartum period. The baby and mother require ongoing precautions, preferably in the care of the mother or a participant in care for a minimum of 14 days after birth.</li> <li>• When the baby is co-located with the mother, the 14 days isolation period for the baby commences on the last day the mother is considered infectious and therefore will be longer than the minimum 14 days after birth.</li> </ul> <p>A baby of a woman who is a primary close contact is classified as a secondary close contact.</p> <ul style="list-style-type: none"> <li>• The mother will be in isolation for 14 days after their contact.</li> <li>• If the baby is co-located with the mother, the period of isolation for the baby must be determined on a case by case basis after consulting with local Prevention and Control and Infectious Diseases teams to determine management in local facilities.</li> </ul> <p>When a baby who is a primary close contact requires admission to NCC, the baby will require isolation in the NCC and infection prevention and control precautions for 14 days after separation.</p> <p>When a baby who is a secondary close contact requires admission to NCC, the baby does not require isolation in the NCC.</p>

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Care planning	<p>It is recommended that the following specialities convene to regularly review the plan for birth, postnatal care and discharge of an admitted woman with suspected or confirmed COVID-19 and her baby/babies:</p> <ul style="list-style-type: none"> <li>• Obstetrics/Midwifery</li> <li>• Neonatal/Paediatrics</li> <li>• Clinical Microbiologist/Infectious Diseases Physician</li> <li>• IPC staff</li> <li>• Lactation as required</li> <li>• Social Worker as required</li> </ul> <p>This plan should involve shared decision making with the woman and her partner or support person and provide identification of an alternative family member who may need to take responsibility as primary caregiver of the baby.</p>
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**Care at Birth**

Issue	Consideration
Room requirements for a woman during labour and birth	<p>Requirements:</p> <ul style="list-style-type: none"> <li>• Dedicated single room with ensuite bathroom (door closed) [Delivery Room 3]</li> <li>• Dedicated Operating Theatre room [Operating Theatre 5]</li> <li>• A defined area for staff to don and doff PPE</li> <li>• A sign on the door of the room to alert healthcare workers of the level of PPE required</li> <li>• Regular spot cleaning of the birth room needs to be undertaken during the time spent in the room</li> </ul> <p>See appendices for Nursing and ancillary staff responsibilities.</p>
Neonatal team attendance at birth	<p>Unless indicated by fetal heart rate monitoring or from a clinical decision, a neonatal or paediatric team is not required to routinely attend the birth of a baby from a mother with suspected or confirmed COVID-19 (e.g. normal vaginal delivery, elective caesarean section.)</p>

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Resuscitation	<p>At birth the baby is considered a close contact and not a case. Refer to CEC document "<a href="#">Infection Prevention and Control Manual</a> (Chapter 4)".</p> <p>PPE to be worn by the neonatal team should mimic the PPE applied to staff providing care to woman due to proximity of neonatal staff to pregnant woman. The neonatal team should be given sufficient notice at the time of birth, to allow them to attend and don required PPE before entering the room/theatre. The team should be limited to essential staff experienced in neonatal advanced life support.</p> <p>Minimise equipment open on the resuscitaire to essential items. Other items may be available but keep uncontaminated (use double plastic bags where possible).</p> <p>Follow standard neonatal resuscitation and clinical assessment recommendations:</p> <ul style="list-style-type: none"> <li>• Health Workers are advised to use airborne precautions plus contact and droplet precautions when caring for women during labour and birth with suspected or confirmed COVID-19</li> <li>• If no resuscitation is anticipated, the neonatal team may wait outside the delivery room</li> <li>• Delayed cord clamping is appropriate (shared decision with mother)</li> <li>• Skin to skin contact is appropriate for well mothers, providing their baby is also well</li> <li>• Respiratory hygiene measures for the mother: includes wearing a face mask and washing hands</li> <li>• Place newborn on resuscitation bed for assessment by neonatal team if required</li> <li>• Wipe the newborn of all secretions with wipes and/or warm water followed by a bath within 24 hours (see below)</li> </ul> <p>See appendices for information specific to Delivery Room 3 and Operating Theatre 5.</p>
COVID-19 testing	<p><b>Cord blood collection:</b> At the Royal Hospital for Women, cord blood is sent to the laboratory for testing for the purposes of investigating for evidence of vertical transmission in women with suspected or confirmed COVID-19. Specimens should be sent with forms requesting "Cord blood for serology for SARS-CoV-2". This should be written by hand on blank forms and marked as attention to Zin Naing and Prof Rawlinson. The ideal tube for the specimen is a "gold-top" SST tube but a "purple top" EDTA tube is acceptable. No special precautions are required in collecting the swabs in addition to standard precautions.</p> <p><b>Placental swabs and placental histopathology:</b> Placentas should be swabbed first then delivered to pathology as per usual arrangements. Ensure these are clearly documented as COVID-19 POSITIVE (where known) and should be double bagged as a general precaution with request form attached securely to the outside of the second bag.</p>

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**Postnatal Care**

<b>Issue</b>	<b>Consideration</b>
Reduce transmission risk	Babies are at risk of infection from the mother's respiratory secretions after birth. Bathe infant within 24 hours. The mother should practice hand and respiratory hygiene and wear a surgical face mask during feeding or other close mother-baby interactions. Between interactions the mother should maintain a physical distance of at least 1.5 metres from the baby.
Co-location	Mother and healthy baby are to be kept together in the immediate post-partum period. The well term baby of a woman with suspected or confirmed COVID-19, who can care for her baby/babies, should be co-located with the mother in a single room with own bathroom. The baby can be nursed in a closed incubator or an open cot as appropriate. However, any special circumstances requiring deviation from the co-location principle should be discussed between the medical team and families. When deciding suitability for co-location consider: maternal preference, how sick the mother is with COVID-19, ability to provide care and responsibility for the baby, ability to understand and manage respiratory etiquette and hand hygiene, ability to wear a surgical face mask if less than 1.5 metres from their baby, capacity of the maternity ward, breast feeding choices, current evidence regarding COVID-19, other individual clinical decisions from the team. Support establishment of breastfeeding where appropriate.
Separation	Separation may be appropriate if the mother is too unwell or unable to care for her baby. Consider the following options: <ul style="list-style-type: none"> <li>• Neonatal unit admission until discharge planning is finalised</li> <li>• Care on the postnatal ward in a single room by a suitable alternative primary caregiver who is not a close contact or a suspected case until discharge planning is finalised</li> </ul> Review the ongoing suitability of the location for the baby daily where separation from the mother is unavoidable. Support expressed breastmilk feeds to the baby if mother's clinical condition allows.

**Admission to Newborn Care Centre**

<b>Issue</b>	<b>Consideration</b>
Admission to the Neonatal Unit	Suspected or confirmed COVID-19 maternal infection is not itself an indication for the baby to be admitted to a neonatal unit. The usual NCC admission criteria should be followed. Bathe within 24 hours if clinically stable. Alternatively use wipes and warm water to clear the infant of maternal secretions.
Location in the neonatal unit	Admitted babies should be cared for in closed incubators (humidicribs) where feasible and in a single room where available. Where a single room is not available, neonatal units where possible should identify 3 separate areas to cohort babies: <ol style="list-style-type: none"> <li>1. Proven neonatal COVID-19.</li> <li>2. Suspected neonatal COVID-19 (i.e. tests pending in woman and/or neonate)</li> <li>3. No risk or suspicion of COVID-19</li> </ol> If necessary 1 and 2 could be combined, with a separate area for 3.

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Transport	Transport baby in a closed incubator between locations in the facility. Where a closed system is neither available nor feasible, an open cot can be used, but care should be taken to ensure the transfer time is kept to a minimum Plan the transport route in advance and consider use of a dedicated elevator/a runner to open doors and clear obstacles to ensure transfer is achieved with minimal contact with others.
Visitors	Visitors other than parents are not allowed into the NCC during this pandemic. Women and their partner who have suspected or confirmed COVID-19 or close contacts and in isolation are NOT able to visit their baby in the NCC until they are released from isolation. Consult with Clinical Microbiologist or Infectious Disease Physician to determine when this can occur. During the time the woman and her partner are unable to visit the baby other methods of contact should be explored, including photos and video.

**Neonatal resuscitation on postnatal ward**

Issue	Consideration
Initiating resuscitation	Call 2222 neonatal resus/rapid response, postnatal room xx, COVID-19 positive. Don PPE prior to entering room (including N95/P2 mask, protective eyewear, gown, gloves). One Midwife to commence suction and oxygen administration via bag and mask in mother's room.
Preparation	<u>Before neonate is brought into Arrival's lounge</u> , second Midwife to remove as much equipment as possible from Arrival's lounge: notes, trolley, EBP (electric breast pumps), BGL machine, red resuscitation equipment trolley. Ensure all draws are closed of filing cabinet etc. Third midwife to prepare neonatal resuscitaire: Turn on resuscitaire; collect neonatal COVID-19 resus equipment tool box out of drawer underneath resuscitaire. Third Midwife or neonatal team (if arrived) to don PPE to receive newborn infant from mother's room door from first Midwife and to take to Arrival's lounge to assist neonatal staff.
Transfer	When newborn infant leaves Arrival's lounge (either to NCC or return to mother's room) dispose or terminally clean all equipment (NB. The equipment in the blue tubs has been double bagged – remove the outer plastic bag, replace with a clean second plastic bag and clean the blue tubs). See transport in "Admission to Newborn Care Centre" Table.

**Feeding Choice**

Issue	Consideration
Breastfeeding	Encourage breastfeeding and expressing breast milk. It is important that the mother wear a face mask and has good hand hygiene, washing hands before and after breastfeeding. It is not required that the mother washes her breasts prior to breastfeeding or chest prior to skin to skin care. Maternal feeding preferences need to be taken into consideration.

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Expressing breastmilk	<p>When mothers and baby are separated, the mother should be encouraged and supported to express her breast milk.</p> <p>It is important that the mother wear a face mask and has good hand hygiene, washing hands before and after expressing by hand or with a breast pump and before and after handling expressing equipment.</p> <p>If using a breast pump it is important to clean the pump before and after expressing with disinfectant wipes.</p> <p>HCW if assisting mother is to wear PPE.</p> <p>For more information please see the following appendices:</p> <ul style="list-style-type: none"> <li>• Expressing, safe handling and storage of breast milk for suspected or COVID-19 positive mothers separated from their baby</li> <li>• Transporting expressed breast milk in hospital for suspected or proven COVID-19 positive mothers – info sheet 1</li> <li>• Receiving and decanting expressed breast milk for suspected or proven COVID-19 positive mothers – info sheet 2</li> <li>• Safe handling and storage of breast milk at home</li> </ul> <p>Advice about breastfeeding and expressing can be found at <a href="#">COVID-19 – Frequently asked questions</a></p>
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**Testing of infants**

Issue	Consideration
Routine testing	<p>While routine testing is not indicated for an asymptomatic newborn co-located with a mother classified as suspected or confirmed COVID-19 or close contact, a swab test can be offered at 24 hours of age factoring in maternal preferences and IPC measures.</p> <p>Swab testing is recommended for the following:</p> <ul style="list-style-type: none"> <li>• If the baby is admitted to NCC soon after birth, RT-PCR testing is indicated at 24 hours of age (timing of 24 hours is chosen to avoid false positive result from maternal secretions)</li> <li>• If the baby is required to be admitted to NCC after being co-located with mother for some time, RT-PCR testing is recommended at admission to rule out COVID-19 in baby</li> </ul> <p>COVID-19 swab testing method:</p> <ul style="list-style-type: none"> <li>• Wear appropriate PPE for droplet precautions: face mask, gloves, gown and protective eye wear</li> <li>• Ensure newborn is in a comfortable, secure position</li> <li>• Using a tongue depressor, flatten tongue and insert swab – swab tonsillar beds and back of throat, avoiding tongue</li> <li>• Gently rotate brush tip for 3-5 seconds</li> <li>• Using the same swab, hold with a pencil grip and insert into one nostril to the depth of 1 cm</li> <li>• Rotate swab 5 times against the nasal wall</li> <li>• Follow same method for the other nostril</li> <li>• Remove swab and insert into transport medium or vial</li> <li>• Label vial with appropriate patient information</li> <li>• Safely dispose of PPE</li> </ul>



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**Discharge Planning**

Issue	Consideration
Infants requiring ongoing management in the NCC	<p>The baby must continue to be isolated on the unit as per local arrangements until de-isolation is agreed by clinical microbiology or an infectious diseases specialist.</p> <p>Consult with Infectious Diseases Physician to determine if <a href="#">testing</a> for COVID-19 is indicated.</p> <p>The mother/father cannot visit the baby until she has received <a href="#">medical clearance to leave isolation</a>.</p> <p>The mother should be supported to express breastmilk for her baby if this is her preference.</p>
Discharge planning	<p>Care planning should be individualised.</p> <p>Families should be included in the planning, and all the <a href="#">essentials of postnatal care</a> should be considered.</p> <p>Postnatal ward to arrange a multidisciplinary team, including midwifery support groups and medical team responsible for special care nursery and postnatal wards – to conduct a daily review of the newborn and mother via telephone/video until the self-isolation of 14 days is complete.</p> <p>Provide parent information aid on warning symptoms/signs of COVID-19 infection.</p> <p>The discharge plan should include assessment and potential re-admission of mother or baby where required.</p>
Discharge	<p>Do not discharge mother and baby for at least 48-72 hours after birth.</p> <p>When the baby is ready for discharge home and the mother remains unwell a suitable primary caregiver may be appointed.</p>
Discharge prior to 14 days	<p>Clinical monitoring of the baby should continue until at least the end of the 14 day incubation period. If the baby is co-located with the mother, the maximal 14 day incubation period for the baby would commence on the last day the mother is considered infectious, and therefore will be longer than 14 days after birth.</p> <p>Local capacity and individual circumstances should determine the method of monitoring. Telehealth and home visiting may be options.</p>
Appropriate caregiver	<p>The mother, if well enough for discharge, and temporary separation period has either been completed or is not occurring OR</p> <p>Alternative caregiver. This should be determined on a case by case basis, but they would ideally meet the following criteria:</p> <ul style="list-style-type: none"> <li>• No acute respiratory illness or fever AND</li> <li>• No overseas travel in the past 14 days AND</li> <li>• Not a close contact of a confirmed case</li> </ul> <p>A risk assessment can be conducted in discussion with local public health unit, infection control and/or infectious diseases if required.</p>



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**Readmission of Infants**

<b>Issue</b>	<b>Consideration</b>
Initial triage	Initial triage to determine location of assessment should be undertaken by telephone. Sydney Children's Hospital Network (SCHN) has established a "Home in Hospital" service or inpatient services to care for COVID-19 positive infants or children whose parents have been hospitalised with COVID-19 and are too sick to care for them. NCC staff to speak to SCHN COVID-19 Executive on-call contactable via SCH switchboard 24/7 to discuss about each case that requires readmission about the appropriate care plan, location for admission and follow-up.
Babies well enough not to warrant admission	Where possible, the baby should be managed at home. Close monitoring of the baby's condition must continue according to NCC protocols. The baby should remain in isolation as a close contact of the mother until the isolation period post birth is complete, or until the mother is released from isolation and the baby has completed the resulting isolation period, whichever is longer. Consult with Infectious Diseases Specialist.
Babies requiring management as in-patient, but not requiring NCC admission (e.g neonatal jaundice requiring phototherapy)	The baby and mother should be co-located and isolated in a single room with own bathroom, preferably on the postnatal or paediatric ward. A risk assessment should be conducted to assess whether the mother is well enough to care for the baby. The baby must be re-admitted under the care of a neonatologist. The mother and baby must continue to be isolated unless both have received medical clearance for de-isolation. Clearance for de-isolation in the community will be directed by the local public health unit in line with New South Wales Health/CDNA guidelines. De-isolation of inpatients should be guided by the Infectious Diseases team. Maternal feeding preferences should be supported.
Discharge Planning	Local criteria for discharge should be followed. Information should be given to parents about monitoring and follow up, and how to seek advice if concerns. Isolation measures to continue as directed until <a href="#">released from isolation</a> .

**5. EDUCATIONAL NOTES**

- As of September 2021, 100% of COVID-19 infections in NSW community are due to delta variant (B.1.617.2).<sup>1</sup>
- In-utero or intrapartum transmission of SARS CoV-2 with pre delta variants has been estimated to be around 2%.<sup>2</sup>
- Delta variant is more transmissible than previous strains and the exact incidence of maternal-newborn transmission with delta variant is unknown.
- Pregnancy outcomes pre delta variant period have been reported as follows:<sup>3,4,5</sup>
  - Pregnant women with COVID-19 attending hospitals for any reason are less likely to manifest symptoms such as fever, difficult breathing and muscle aches
  - Compared to non-pregnant, pregnant women with COVID-19 were more likely:
    - To develop severe COVID-19 disease
    - To get admitted to hospital
    - To be admitted to ICU (1 vs 0.4 per 100 cases)
    - To require mechanical ventilation (0.3 vs 0.11 per 100 cases),
    - To have preterm birth (1.5 times more likely) and stillbirths

**COVID-19 – NEWBORN INFANTS BORN TO WOMEN WITH SUSPECTED, PROBABLE OR CONFIRMED COVID-19 cont'd**

- A UK national, prospective cohort study published on 25 July 2021, compared the severity of infection and perinatal outcomes across the Wildtype (01/03/20-30/11/20), Alpha (01/12/20-15/05/21) and Delta dominant periods (16/05/21-11/07/21).<sup>6</sup>
  - Of 3371 pregnant women, moderate to severe infection significantly increased between Wildtype and Alpha periods (24.4% vs. 35.8%; aOR 1.75 95%CI 1.48-2.06), and between Alpha and Delta periods (35.8% vs. 45.0%; aOR 1.53, 95%CI 1.07-2.17).
  - SARS-CoV-2 infection during Alpha and Delta dominant periods was associated with more severe infection and worse pregnancy outcomes compared to the Wildtype infection.
  - Overall, nearly 1 in 5 babies were admitted for neonatal care, with significantly increased risk in those born to mothers admitted in the Alpha compared to Wildtype period (22.0% vs. 18.7%, aOR 1.23, 95% CI 1.01-1.48). No neonatal data were available for delta period at the time of publication of this study.
- Neonatal SARS-CoV-2 infections
  - Meta-analysis by Raschetti et al 2020 described the clinical characteristics of 176 cases of neonates with confirmed SARS Co-V2 infections.<sup>7</sup>
  - In this meta-analysis, about 70% of them were likely due to environmental exposure during postpartum, but about 30% of cases were thought to be due to vertical transmission, either intrapartum or congenitally.
  - Ninety-seven (55%) neonates presented with clinical features related to COVID-19.
  - The most common symptoms were fever (44%), gastrointestinal (36%), respiratory (52%) and neurological manifestations (18%), and lung imaging was abnormal in 64% of cases.
  - Lack of mother-neonate separation from birth was significantly associated with the incidence of late (i.e. occurring after the first 72 h of life) SARS-CoV-2 neonatal infection (OR 4.94 (95% CI: 1.98–13.08), p = 0.0002; adjusted OR 6.6 (95% CI: 2.6–16), p < 0.0001), while breastfeeding was not (OR 0.35 (95% CI: 0.09–1.18), p = 0.10; adjusted OR 2.2 (95% CI: 0.7–6.5), p = 0.148).

**6. RISK RATING**

- High

**7. NATIONAL STANDARD**

- Standard 1 Clinical Governance
- Standard 2 Partnering with Consumers
- Standard 3 Preventing and Controlling Healthcare Associated Infections
- Standard 5 Comprehensive Care
- Standard 6 Communicating for Safety
- Standard 8 Recognising and Responding to Acute Deterioration

**8. ABBREVIATIONS**

COVID-19	Coronavirus Disease 2019	EBP	Electronic Breast Pumps
NCC	Newborn Care Centre	BGL	Blood Glucose Level
CDNA	Communicable Diseases Network Australia	HCW	Health Care Worker
SWISH	Statewide Infant Screening – Hearing	RT-PCR	Reverse Transcriptase Polymerase Chain Reaction
IPC	Infection Prevention and Control	SCHN	Sydney Children’s Hospital Network
CEC	Clinical Excellence Commission	SCH	Sydney Children’s Hospital
PPE	Personal Protective Equipment	NSW	New South Wales
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2	ICU	Intensive Care Unit
SST	Serum-Separating Tube	UK	United Kingdom
EDTA	Ethylenediaminetetraacetic Acid		

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**9. REFERENCES**

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**10. AUTHORS**

Primary	7.4.2020	Interim guideline drafted based on advice provided by the Neonatal COVID-19 Advisory group for NSW and ACT
Revision	15.6.2020	S Bolisetty (Lead Clinician), E Jozsa (NE), T Schindler (Staff Specialist), A Taylor (ME), C Johnson (CME), E Milton (CMUM), J Carlile (CNC), J Coleman (MUM); Based on guidance developed by NSW Health for pregnant women and their newly born infants in response to the COVID-19 pandemic
Revision	14.9.21	S Bolisetty (Lead Clinician), S Neale (NE), T Schindler (Staff Specialist), A Scott-Murphy (ANUM), C Walter (CNE), KB Lindrea (CNC), P Everitt (Lactation CNC)

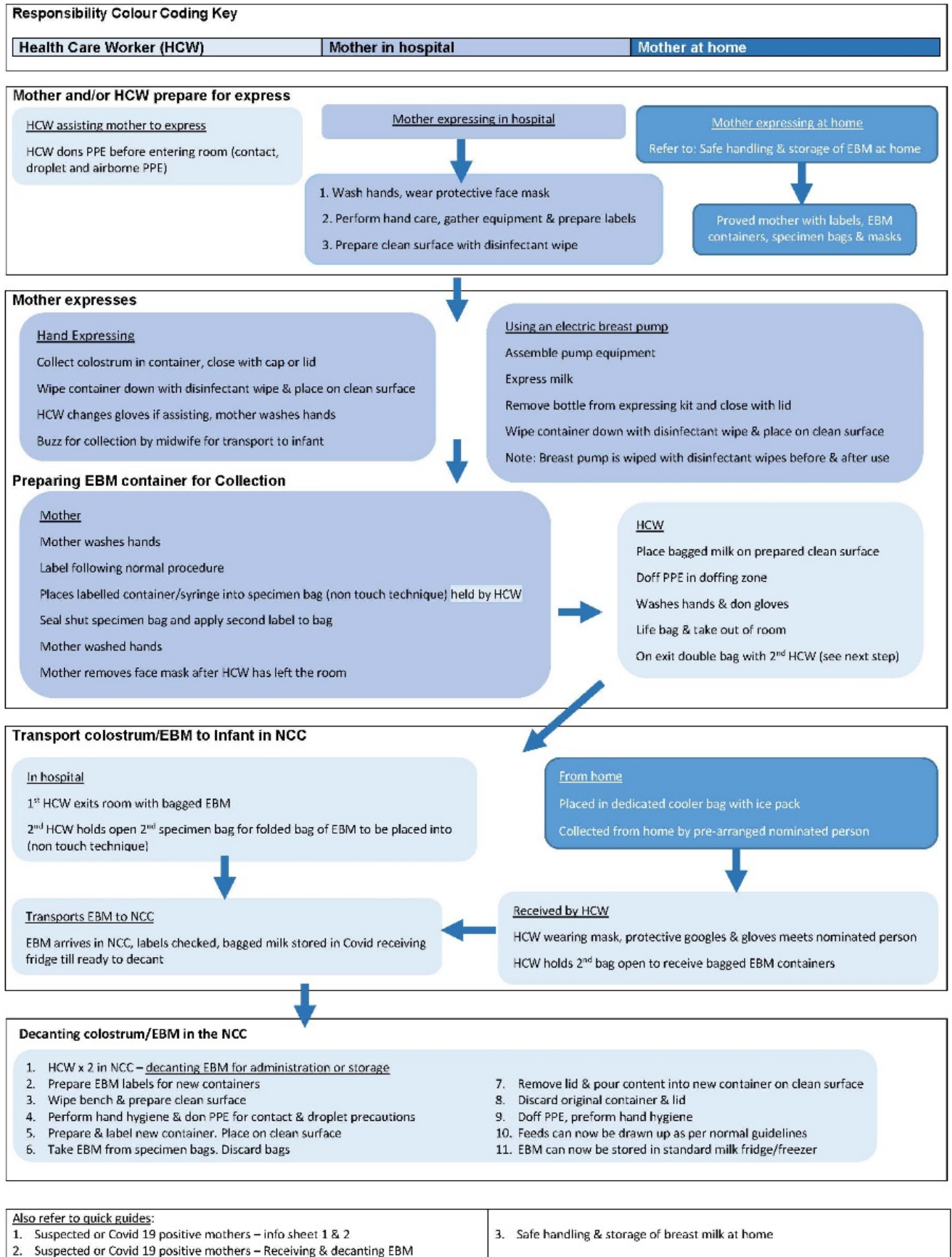
**REVISION & APPROVAL HISTORY**

Reviewed and endorsed Neonatal Services Division LOPs Committee September 2021  
 Approved Quality & Patient Safety Committee 18/6/20  
 Reviewed and endorsed Neonatal Services Division LOPs June 2020  
 Endorsed Neonatal Services Division LOPs group April 2020

**FOR REVIEW: 2022**

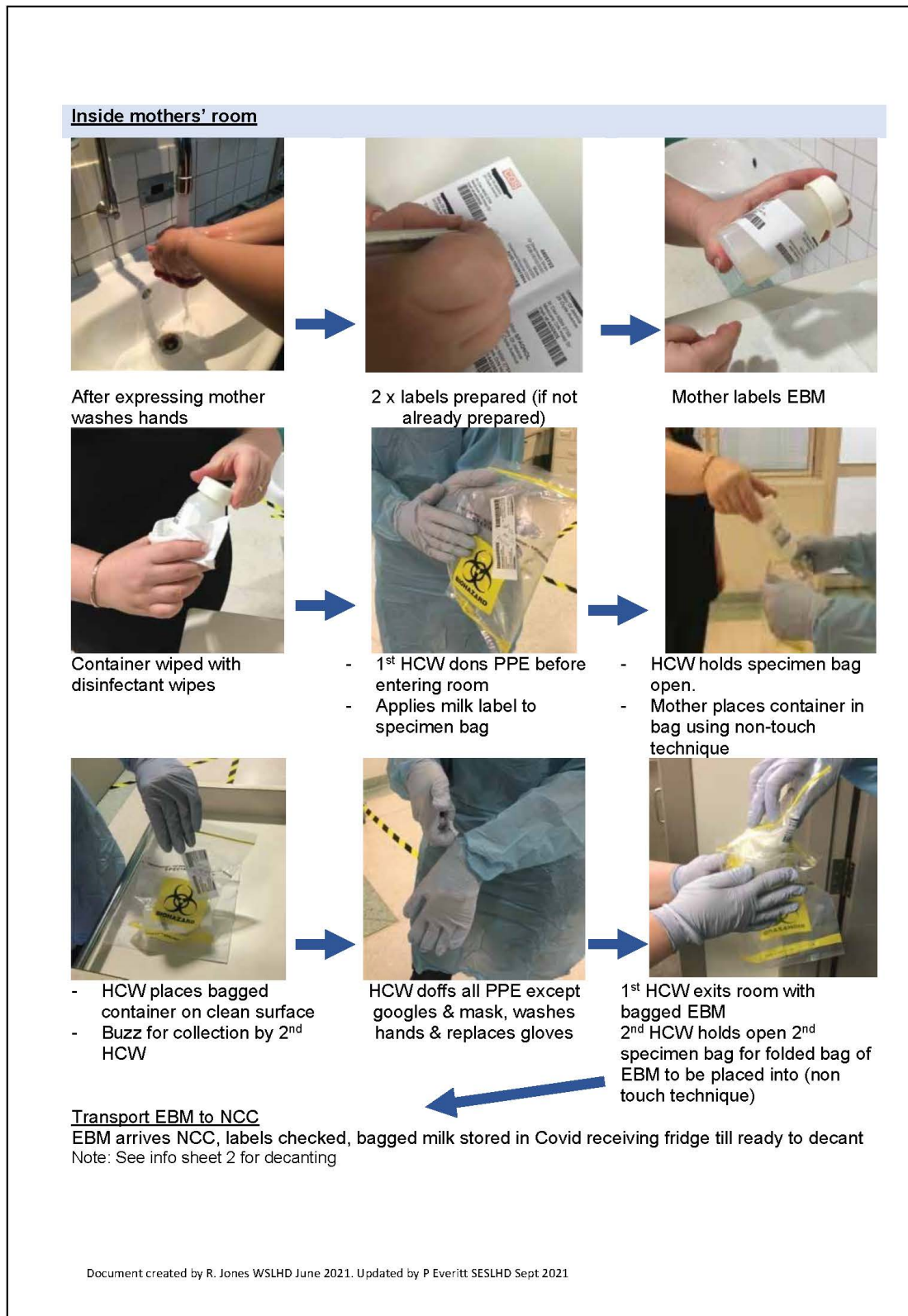
# Appendix. Expressing, safe handling and storage of breast milk for suspected or COVID 19 positive mothers separated from their baby

This is in addition to PD Maternity - Breast Milk: Safe Management PD2010\_019





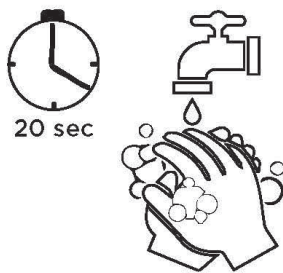
## Appendix. Transporting expressed breast milk in hospital for suspected or proven COVID-19 positive mothers



## Safe handling and storage of breast milk at home

In Home Quick Guide for suspected or proven - COVID 19 Mother Supplied in addition to routine information on expressing

**1** Wash hands with warm soapy water, then dry



**2** Put surgical mask on



\*wash hands again

**3** Wipe pump immediately before and after use



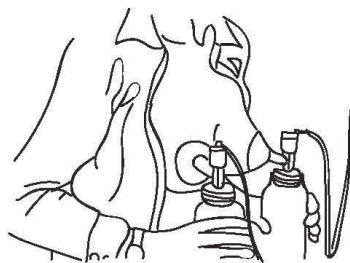
Gather equipment

- 1 Label
- 2 Pump Kit
- 3 Bottle

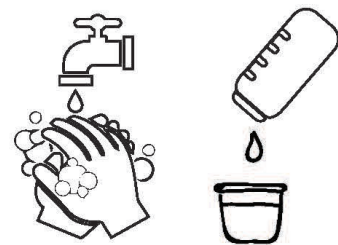
**4** Wash hands well



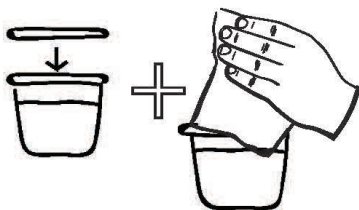
**5** Pump milk



**6** Wash hands and transfer milk into storage container



**7** Close lid then wipe container with warm soapy water, then dry



**8** Label & place in specimen bag then refrigerate



**9** Store in cooler bag, for collection



## Appendix. Receiving and decanting expressed breast milk for suspected or proven COVID 19 positive mothers

### Part A: Receiving the EBM



EBM arrives in NCC from home  
Check milk label  
Note: EBM from ward can be  
check straight into fridge



HCW wearing gloves holds open  
2<sup>nd</sup> specimen bag for folded bag  
of EBM to be placed into (non  
touch technique)



Placed bagged container in  
Covid receiving fridge (next to  
Level 3 milk fridge) waiting  
decanting

### Part B: Decanting – on clean surface, away from main traffic areas



1. Prepare labels  
document date & time  
EBM expressed



2. Wipe bench/prepare  
clean surface



3. Perform hand hygiene  
& don PPE (Contact &  
droplet precautions)



4. Prepare & label new  
containers. Place on  
clean surface



5. Take EBM from  
specimen bags



6. Discard both  
specimen bags



7. Remove lid & pour  
EBM into new container  
on clean surface



8. Discard original  
container & lid.

9. Doff PPE, perform hand hygiene

10. Feeds can be drawn up as per normal policy

11. EBM can now be stored in normal milk fridge or feeds checked & placed into milk fridge in isolation room

#### For colostrum in a syringe

- On arrival to NCC, double bag (if not already) and store as above
- When ready to administer, check label, take from specimen bags and discard same
- Wipe syringe with disinfectant wipes & take to bedside. Place on clean surface
- HCW to change gloves, administer feed as per normal policy



## Appendix. Information for staff attending COVID-19 delivery in Delivery Suite Room 3

### Fellow

- Inform on-call Neonatologist about impending delivery
- Go to room 3 of Delivery Suite and put on PPE kept outside of room
- Check resuscitaire and black resus box upon entering the room

### Nurse

- Take Baby Leo and attached Drager ventilator from theatres main corridor
- Plug equipment in outside room 3 ready for use
- Don PPE and wait outside the room
- Only enter the room as needed/asked to help with resus and care

### Resus

- Resuscitate neonate as required by their condition - call for nurse assistance as needed
- Once stable and ready to transfer to NCC, Nurse doffs PPE upon exiting room 3
- Don clean PPE
- Prepare Baby Leo and ventilator for transfer
- Alert Fellow when ready to receive the neonate
- Fellow to disconnect respiratory support and walk with baby to door
- Nurse opens door and receives neonate
- Nurse places neonate in the crib, closes the lid and attaches appropriate respiratory support

### Transfer

- Fellow doffs inside the room
- Fellow dons clean PPE
- Transfer infant in a closed Baby Leo with ventilator attached wearing full PPE
- Well babies are transferred using the transport crib (kept in theatres main corridor)

## Appendix. Information for staff attending COVID-19 delivery in Theatre Room 5

### Fellow

- Change into hospital scrubs
- Go to theatre 5 anaesthetic bay and put on PPE (second theatre straight on main corridor)
- Enter theatre through patient entrance (door on the small corridor adjacent to theatre opposite doffing room)
- Check resuscitaire and black resus box inside theatre 5
- Ensure resuscitaire is connected to medical gas outlets and power and turned on
- Receive the baby with sterile blanket and take to resuscitaire for assessment

### Nurse

- Change into hospital scrubs
- Move Baby Leo and the attached Drager ventilator from theatre main corridor to outside theatre room 5.
- Plug in ventilator and Baby Leo on the small corridor adjacent to theatre 5
- Go to theatre 5 anaesthetic bay and don clean PPE
- Wait in small corridor at patient entrance (where Baby Leo and ventilator located) in full PPE
- Only enter theatre IF NEEDED via the patient entrance

### Resus

- Resuscitate as per infant's condition (signal Nurse to enter theatre IF NEEDED)
- If Nurse assisting, when able to leave theatre, Nurse exit via the patient entrance and remove PPE in doffing area (room adjacent to small corridor where Baby Leo located)
- Nurse return to anaesthetic bay and don clean PPE
- Nurse prepare Baby Leo and ventilator for transport - open lid, place resus/ventilator to crib ready to attach
- Nurse signal to Fellow when ready to receive infant
- Fellow to disconnect respiratory support and walk with baby to door
- Nurse opens door from outside, Fellow places baby into the crib
- Nurse closes the lid and attaches and restarts appropriate respiratory support (ventilator or Neopuff/bag and mask)

### Transfer

- Fellow removes PPE upon exiting theatre 5 in doffing area
- Fellow returns to anaesthetic bay and don clean PPE
- Nurse and any assisting staff in clean PPE commence transfer

## Appendix. COVID-19 Nurse and ancillary staff responsibilities

### Check

- Theatre staff - check theatre 5 neonatal resus equipment including black resus box
- Delivery Suite Midwife - check room 3 neonatal resus equipment including black resus box
- Neonatal Nurse - Ventilator, Baby Leo and Giraffe mobile resuscitaire
- Transport crib for well babies kept plugged in and warming in theatre main corridor
- Each area to check room as per local checklists

### PPE

- Check the availability of PPE for combined contact, droplet and airborne precautions
  - Mask - appropriate type/size N95
  - Gown - closed, non-porous yellow or blue
  - Goggles or faceshield
  - Gloves
- Be familiar with the sequence of removing and discarding PPE in your area

### Equipment

- Used resuscitaires in COVID-19 cases will be cleaned by the area cleaners
- Midwife will restock the cleaned resuscitaire and black boxes