# Royal Hospital for Women (RHW)
# NEONATAL BUSINESS RULE
# COVER SHEET

NSW GOVERNMENT Health
South Eastern Sydney Local Health District

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| **SUMMARY** | To transfer the ventilated neonate outside of Newborn Care Centre safely and efficiently. This could be to operating theatre, RHW/POW Imaging departments or SCH ward. |
| **KEY WORDS** | Transfer, Operating theatre, surgery, imaging department, SCH ward, ventilated neonate |

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## Transfer of Ventilated Neonate outside of Newborn Care Centre

**RHW CLIN094**

Contents

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**RHW CLIN094**



## 1 BACKGROUND

Neonatal patients may require surgery, imaging or transfer to Sydney Children's Hospital (SCH). Moving a critically unwell neonate requires skill, efficiency and thorough planning to prevent deterioration and ensure that the patient reaches their required destination safely.
This CBR will guide clinicians in the process for transferring ventilated neonates between NCC and OT, imaging departments and/or SCH wards.

## 2 RESPONSIBILITIES

2.1 NCC Medical – order and perform pre-operative/procedure investigations, escort neonate to required department, complete discharge summary, provide handover to SCH medical and nursing staff.
2.2 NCC Nursing Staff – gather required documentation for planned destination (OT, imaging department or SCH), ensure bedspace availability for neonate post procedure, perform pre-operative/procedure checklists and documentation, print/photocopy required paperwork to bring with neonate, escort neonate on transfer, handover to required personnel.
2.2 SCH Paediatric Surgeons – review the neonate pre-operatively, gain consent from parent/carer, handover to NCC medical and nursing team on arrival post-operatively, update the parent/carer post-operatively.
2.3 SCH Paediatric Anaesthetics – review neonate pre-operatively, inform parent/carer of anaesthetic role during procedure (if present), escort neonate to and from OT with NCC RN and if required medical staff.
2.4 Porter (RHW or OT) – Escort neonate between the NCC and OT/Imaging department/SCH with the NCC team and Anaesthetics (if required)
2.5 NCC Ward Clerk – Admit neonate to SCH, provide RN with front sheet and identification (ID) labels, put the baby **'ON LEAVE'** during procedure (OT only). Discharge neonate from NCC when required.
2.6 SCH Admissions/ SCH Emergency Department – Admit neonate to SCH and provide NCC front sheet and ID labels.

## 3 PROCEDURE

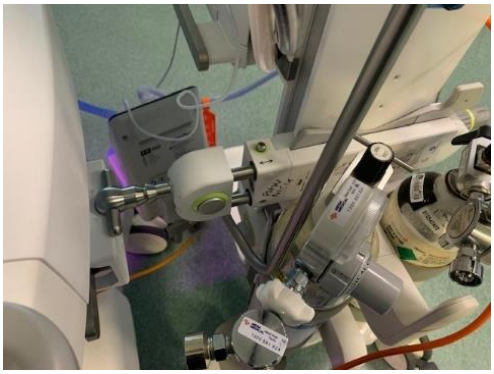
### 3.1 Equipment

- BabyLeo Crib with ventilator transport attachment (Picture 1,2,3)
- Dräger ventilator with transport attachment and gas cylinder attachment (Picture 1, 2 a3) (if cylinder attachment not present, transport cylinder trolley is required)
- Air and Oxygen Cylinders on crib and ventilator with >15000 kilopascals (kPA)
- Dräger M540 monitor with full battery
- Intravenous (IV) fluid pump/syringe driver with full battery attached to bed or IV pole

- Neopuff™ and blender with appropriately sized face mask
- Self-inflating bag with appropriate size face mask
- Stethoscope
- Paperwork/documentation (front sheet, ID labels, pre-procedure/transfer checklist and consent)
- Black emergency box including the following appropriate size equipment:
  - Endotracheal tubes (ETTs)
  - Laryngoscope blades and functioning handles (ensure light is working)
  - Suction catheters
  - Spare face masks
  - Any patient specific equipment that is needed

Picture 1

Picture 2



Picture 3

## 3.2 Clinical Practice

### 3.2.1 Preparation pre- transfer

#### 3.2.1.1 To OT:

- Collect parental consent taken by a member of the surgical/specialist team after given the opportunity to ask any questions. If parents aren't available in person this may happen by phone contact.
- Collect anaesthetic Consult sheet.
- Organise admission papers (front sheet and ID labels) for SCH
  - Arrange SCH admissions with NCC ward clerk (Mon-Fri 0800-1900 and Sat-Sun 0800-1630) OR
  - Contact SCH Admissions: extension 21440 or 21441 (Mon-Fri 0800-2100 hours, 0800- 1630 Sat and Sun) OR
  - After Hours: Contact SCH Emergency Department on extension 21032 (Mon- Fri 2100-0800, Sat and Sun 1630- 0800)
- Designate a post-operative bed for the neonate prior to procedure by the NCC Registrar/Fellow and NUM/Team Leader (TL).
- Ensure the neonate has the following tests completed:
  - Newborn Screen Test (NBST)
  - Group and Hold
  - Full Blood Count (FBC) and Coagulation Profile
  - Any necessary investigations requested by the specialist or NCC medical team

- RN to perform Pre-Operation checklist with second RN including:
  - SCH Medical Record Number (MRN) label
  - Signed Consent Form
  - Anaesthetic Consult
  - Two ID labels on neonate (must include at least one ID band with SCH MRN)
  - Parent's contact details
- On departure from NCC, the NCC ward clerk or RHW admission desk must be notified.
  - For neonate's returning to NCC post- operatively, the neonate is put **"On Collaborative Care Leave"** on integrated patient manager (IPM) from RHW. This must reflect the actual time the neonate left NCC and outline reason for leave
  - For neonate's returning to NCC the next day (staying over midnight) at SCH, ward clerk to discharge neonate from NCC and re-admit the next day (when they return).
  - For neonate's being discharged from NCC to SCHN, ward clerk to discharge neonate from IPM
- Ensure parents are shown the ward/level of care the neonate is returning to post procedure.
  - If neonate going to SCH, it is ideal to orientate the parents to the ward prior to admission

NOTE:
For neonate's returning to NCC the next day (staying over midnight) at SCH, their group and hold will remain valid pre and post re-admission. Blood bank are able to override the warning in their system to ensure the sample remains valid and that a recollection is not required.

**3.2.1.2 To Imaging**

- Medical staff to request imaging studies on eMR for MRI, CT, Contrast studies, ultrasound and X-ray
- Collect parental consent taken by medical team after given the opportunity to ask any questions If parents aren't available in person this may happen by phone contact

**3.2.1.3 Non- returning neonates post procedure**

- Inform TL/RN of the admitting SCH ward and provide handover with estimated time of arrival.
- Ensure documentation is up to date on eRIC and in the patient's My Health and Development Record, known as Blue Book
- Print completed medical discharge summary and transfer with neonate.
- Print any additional documents requested by SCH team and transfer with neonate.
- Collect any expressed breast milk (EBM) stored in milk fridge/ freezer and transfer in esky with ice packs with neonate.

**3.3 Transfer**

- Ensure air and oxygen cylinders on ventilator and back of BabyLeo for Neopuff™ are >15000 kPA
- BabyLeo crib is the choice of transfer due to ease of attachment to ventilator and the ability to access neonate in an emergency during transfer
- Record baseline observations prior to leaving unit (HR, RR, BP, oxygen saturations and axilla temperature) and ensure neonate's Electrocardiograph (ECG) leads and saturation probe are in place and tracing well.
- Turn on Neopuff™ and check correct settings according to individual patient needs.
- Ensure adequate number of RNs are at the bedside to assist. Allocate roles as needed prior to disconnecting ventilation.
- Ensure ventilator transport attachment is connecting BabyLeo crib and the ventilator for transport (Picture 1-3).
  - Level the attachment pieces for firm connection.
  - Allowing space between the ventilator and crib will prevent wheels from interlocking during transfer.

- Disconnect IV fluid pump/syringe driver from power supply on the wall and ensure the power cords are safely stored with the IV pole.
  - Attach IV pumps to the arm connected to the BabyLeo crib for ease of transfer if possible.
- Lower BabyLeo crib height to ensure safe navigation through all doorways, close crib lid, switch incubator off, disconnect from power supply and store cords safely.
- RN to disconnect ventilator from ETT, attach to Neopuff™ and provide intermittent positive pressure ventilation (IPPV) during transfer of gas supply from wall sockets to transport cylinders.
  - Ensure equal chest rise and air entry observed
  - Place the 'test lung' at the end of the ventilator circuit
- Disconnect ventilator air and oxygen gas hoses from the wall and attach to cylinders on ventilator. Open the cylinders and ensure ventilator is functioning correctly by checking test lung and wave forms present on ventilator screen.
- Re-attach ventilator to ETT and ensure ventilation settings are achieved. Listen to air entry with stethoscope.
- Disconnect Neopuff™ gas hoses from the wall and connect to the air and oxygen cylinders at the back of the BabyLeo crib. Keep cylinders **OFF**.
- Disconnect Dräger M540 from block and place on BabyLeo shelf attached to crib. Ensure monitor is always visible during transfer.
- Ensure black emergency transport box is with the neonate for transfer.
- Escort neonate with SCH Anaesthetist and/or NCC doctor and RN with an RHW/SCH Porter.
- Transfer neonate to operating/imaging department or SCH ward and assist anaesthetics/ surgical or medical and nursing team to move neonate to procedure bed if requested.
- **For neonates in OT**:
  - Perform pre- operative checklist with anaesthetic staff.
  - Remove BabyLeo crib and equipment from OT room and store it in the anaesthetic bay
  - Plug in the BabyLeo crib to a power point and keep bed on with temperature set to air mode at 35°C
  - Close the ventilator and Neopuff™ cylinders – if any cylinders are <15000 kPa replace for transfer back post procedure
  - Plug ventilator into power supply, attach 'test lung' to ventilator circuit and place ventilator on standby
- **For neonates in MRI:**
  - Refer to Magnetic Resonance Imaging (MRI) - MedVac Infant Immobiliser CBR for set up
  - MRI for ventilated neonates is conducted at POW level 0 imaging department. Confirm location and documentation required prior to transfer.
  - Ensure vital signs are always visible on Dräger M540 throughout transfer.
  - Assist staff in MRI to attach MRI compatible ventilation tubing and ensure IV lines and the IV pumps can reach MRI machine during procedure.
  - If NCC ventilator not required, plug ventilator into power supply, close air and oxygen cylinders on ventilator, attach 'test lung' to ventilator circuit and place ventilator on standby
  - Assist MRI staff to move the neonate to the MRI machine if requested.
- **For neonates in other imaging rooms**:
  - Ensure vital signs are always visible on Dräger M540 throughout procedure
  - Turn ON Neopuff™ air and oxygen cylinders and check Neopuff™ settings
  - Disconnect ventilator from ETT and attach to Neopuff™ and provide IPPV whilst gas supply is transitioned from transport gas cylinders to wall outlets.
  - Place the 'test lung' on the end of the ventilator circuit
  - Attach ventilator air and oxygen cylinders from the ventilator to the wall outlets

- Close the ventilator air and oxygen cylinders
- Reattach ventilator to ETT and ensure settings are achieved. Listen to air entry with stethoscope.
- Assist Imaging Department staff to move neonate to required bed, ensuring airway is protected and monitoring, IV lines and pumps move with neonate
- Remain with neonate as directed by Imaging Department staff

NOTE:
If neonate is not ventilated prior to procedure, but may return ventilated, ensure ventilator and BabyLeo with necessary equipment attached are taken to required department.

**3.4 Back- transfer from OT/ Imaging department/ SCH**

- Bring equipment from stored location to procedure room in preparation to transfer.
- Assist department staff to move neonate from procedure bed to BabyLeo crib.
  - Ensure all lines, ventilation tubing and equipment moves with the neonate and secured.
- Open air and oxygen cylinders on ventilator and ensure ventilation set as per proceduralist request.
- Assist proceduralist to attach ETT to Drager ventilator.
  - Ensure equal air entry, chest movement and ventilation setting achieved.
- Collect all documentation that accompanied the neonate.
- Ensure neonate is safe and stable to transfer.
- Transfer neonate with Anaesthetist/Nurse/NCC medical staff and Porter (SCH or RHW).
  - NCC RN may also be called to accompany neonate
- Transfer neonate to the correct bedspace in Level 3
- Ward clerk or RHW admissions to return neonate from leave and allocate bed in Level 3 NCC (if neonate returning from OT).
  - When the neonate returns to NCC they must be **"Returned from Collaborative Care Leave"** by the ward clerk or admissions front desk at RHW
  - If neonate returning from an overnight stay in SCHN, ward clerk to re-admit the neonate upon arrival. This generates a new DRG and NWAU for this admission.
- Anaesthetist or OT Nurse or surgeons/specialist teams to provide handover at the bedside to NCC team on arrival to the unit.
  - For neonates returning from OT handover needs to include the operation report with post-operative instructions
- Connect the neopuff™ to the wall air/ oxygen outlets at bedspace.
  - Check settings are correct after connecting to the wall
- Disconnect ETT from ventilator, connect Neopuff™ and provide IPPV.
  - Place 'test lung' on ventilator tubing
- Disconnect air and oxygen from ventilator cylinders and connect to wall outlets at bedspace.
  - Ensure ventilator settings are correct
  - Turn OFF the air/ oxygen cylinders at the ventilator
  - Change if levels <500 kPA
- Re-connect ETT to ventilator, ensure neonate is achieving prescribed ventilation settings, listen to air entry with stethoscope.
- Re-connect IV fluid pumps/ syringe drivers to wall power points.
- RN and medical officers to commence post- procedure instructions as prescribed by the surgical team.
- Inform parents of the return of the neonate to ward and provide an update.

- Surgical or medical team to update parents either in person or by phone
- Hourly observations are required for a minimum of 4 hours and for at least 24 hours after a general anaesthetic.

### 3.5 Abbreviations

| | | | |
|---|---|---|---|
| SCH | Sydney Children's Hospital | OT | Operating Theatre |
| kPA | Kilopascals | IV | Intravenous |
| ETT | Endotracheal Tube | TL | Team Leader |
| NBST | Newborn Screen Test | FBC | Full Blood Count |
| FBC | Full Blood Count | MRN | Medical Record Number |
| ID | Identification | EBM | Expressed Breast Milk |
| IPPV | Intermittent Positive Pressure Ventilation | MRI | Magnetic Resonance Imaging |
| DRG | Diagnosis Related Group | NWAU | National Weighted Activity Unit |

### 3.6 Related Business Rules and Policy Documents

- RHW NCC Nursing CBR - Post-operative Care
- RHW NCC Nursing CBR - Suction – Closed Tracheal Suction from an Endotracheal Tube
- RHW NCC Medical CBR - Surgery at the bedside - Perioperative Guidelines
- NCC Nursing CBR – Deteriorating Neonate Recognition and Management Inside of Newborn Care Centre
- RHW NCC Nursing CBR- Transfer of Self- Ventilating Neonate outside of Newborn Care Centre
- RHW NCC Nursing CBR- Transfer of Neonate on Non- Invasive Respiratory Support outside of Newborn Care Centre
- RHW CBR- Recognition and management of neonate who is clinically deteriorating outside of Newborn Care Centre

## 4 ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

- Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.
- When clinical risks are identified for an Aboriginal and/or Torres Strait Islander woman or family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services

## 5 CULTURAL SUPPORT

- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours
- If the woman is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters.

## 6 NATIONAL STANDARDS

- Standard 1 Clinical Governance
- Standard 2 Partnering with Consumers
- Standard 5 Comprehensive Care
- Standard 6 Communicating for Safety
- Standard 8 Recognising and Responding to Acute Deterioration

## 7 REVISION AND APPROVAL HISTORY

| Date | Revision No. | Author and Approval |
|---|---|---|
| 29.7.2024<br>12.09.2024 | 1 | J Delmodes (RN), R Jackson (NE).<br>Endorsed by NCC CBR Committee |
| October 2024 | | Endorsed RHW BRGC |
| 16.12.24 | 2 | Endorsed RHW BRGC |