

## Interdepartmental Transfer: Preparation of Patients in Newborn Intensive Care Unit (NICU) with Respiratory Support

### Guideline Responsibilities and Authorisation

<b>Department Responsible for Guideline</b>	Newborn Intensive Care Unit
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<b>Target Audience</b>	Nurses
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### Guideline Review History

Version	Updated by	Date Updated	Summary of Changes
1	Richard Pagdanganan	October 2016	First Version
2	Richard Pagdanganan	October 2019	Due for review

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## Interdepartmental Transfer: Preparation of Patients in Newborn Intensive Care Unit (NICU) with Respiratory Support

### 1 Overview

#### 1.1 Purpose

To provide a safe and efficient transport of patients with respiratory support to theatre or other departments of the hospital for diagnostic procedures

#### 1.2 Scope

Waikato District Health Board (DHB) working in NICU

#### 1.3 Patient group

For patients admitted to NICU

#### 1.4 Exceptions / contraindications

Patients who are critically unwell and clinically unstable for transport

#### 1.5 Definitions

<b>Blender</b>	It provides an air/oxygen mix.
<b>CPAP</b>	Continuous Positive Airways Pressure
<b>GE Panda™ warmer and omnibed</b>	They are used to maintain the body temperature of newborn infants. This is best done so that the energy expended for metabolic heat production is minimized.
<b>GE™ Giraffe Shuttle</b>	The Giraffe Shuttle is a transportable power source that is an accessory to the Giraffe Omni bed, Incubator and Warmer. The shuttle reduces the risk of complications through limiting the number of times pre-term or late pre-term babies need to be handled when being transferred and cared for. It enables NICU to transport babies to the other departments or collect babies from emergency department.
<b>Neopuff™</b>	The F&P Neopuff™ Infant T-Piece Resuscitator is a lightweight standalone resuscitator unit

### 2 Clinical Management

#### 2.1 Competency required

- Registered Nurses who have completed Level 3 and/or Level 2 orientation

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### 2.2 Equipment

If on Ventilator

- Giraffe Shuttle
- Oxygen and medical air cylinders with regulators & flow meters + metal plates if the shuttle is not available.
- Flow meters
- Long air and oxygen gas hoses
- Phillips monitor
- Phillips monitor bracket
- Lardael bag
- Suction catheters
- Neopuff with right tubing and right size of mask

If on CPAP or Nasal flow

- Shuttle: if the baby is on CPAP
- Oxygen & Medical air cylinders in metal trolley with regulators and appropriate flow meter if the shuttle will not be used
- Suction catheters
- Phillips monitor (or Maximo for stable babies in N6 or N7 for procedure, e.g. renal ultrasound)
- Phillips monitor bracket
- Lardael bag
- Neopuff with right tubing and right size of mask
- Documents and completed check list
- Portable transport IV pole with long extension plug, or long extension plugs for syringe pumps and IV pumps if the shuttle will not be used

### 2.3 Procedure

#### 2.3.1 Transporting a patient with Ventilator

- a) Get the Giraffe shuttle from the store room.
- b) Gather all the equipment, which can be found in the transport area. Check all the connections on the shuttle prior to setting up the patient's respiratory support NOTE: Check the oxygen and medical air tanks. Put the medical air and oxygen tanks on the metal plates on each side of the shuttle. Secure the tanks using the strap.

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- c) Plug the shuttle into the power supply, and connect the air/oxygen hoses to wall air/oxygen supply. Turn on the ventilator attached to the shuttle. Discuss the mode of ventilation to be used for the patient with the medical team.
- d) Open the incubator lid, and then lock incubator brakes. Align the SHUTTLE facing the incubator, then push it forward until RED stop light on the locking system turns on. Then LOCK the shuttle in place, a GREEN light should be seen on the locking system.



Image 1



Image 2

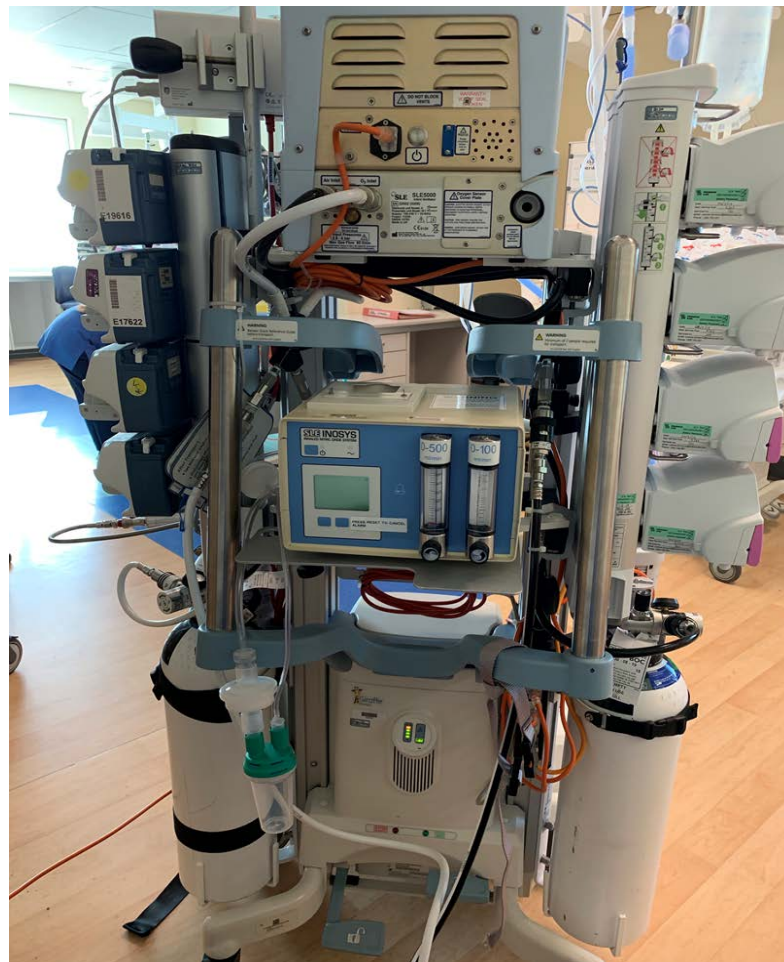
**NOTE: For older babies, use the GE Panda warmer**

- e) Transfer any fluids or medications one at a time to the docking stations.
- f) Connect the patient to the ventilator circuit. Make sure that the endotracheal tube is not dragging/pulling, the tubes are not kinked and properly secured.

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- g) Place the PORTABLE MONITOR on the shuttle. Then connect the green NEOPUFF tubing to the shuttle blender. Turn off the ventilator and plug it into the shuttle to get power supply and turn on.
- h) Connect the green NEOPUFF tubing to the shuttle oxygen blender. When the attendant arrives and baby is stable and ready for the transfer turn on the medical air and oxygen tanks and disconnect the gas hoses from the wall supply. Place the Phillip's monitor on the shuttle and inform the medical team that the patient is ready for transfer.
- i) If Nitric Oxide is needed, put the inosys on the metal bracket at the back of the shuttle. Insert it slightly on an angle then push it forward. Make sure that the inosys is secure and check the tubing for any kinks. Secure the nitric oxide tank on the side of the shuttle with spare seatbelts.



**Image 4**

NOTE: Plug the shuttle into the power supply e.g. in theatre or radiology department. Connect the gas hoses to their wall supply and turn off the tanks.

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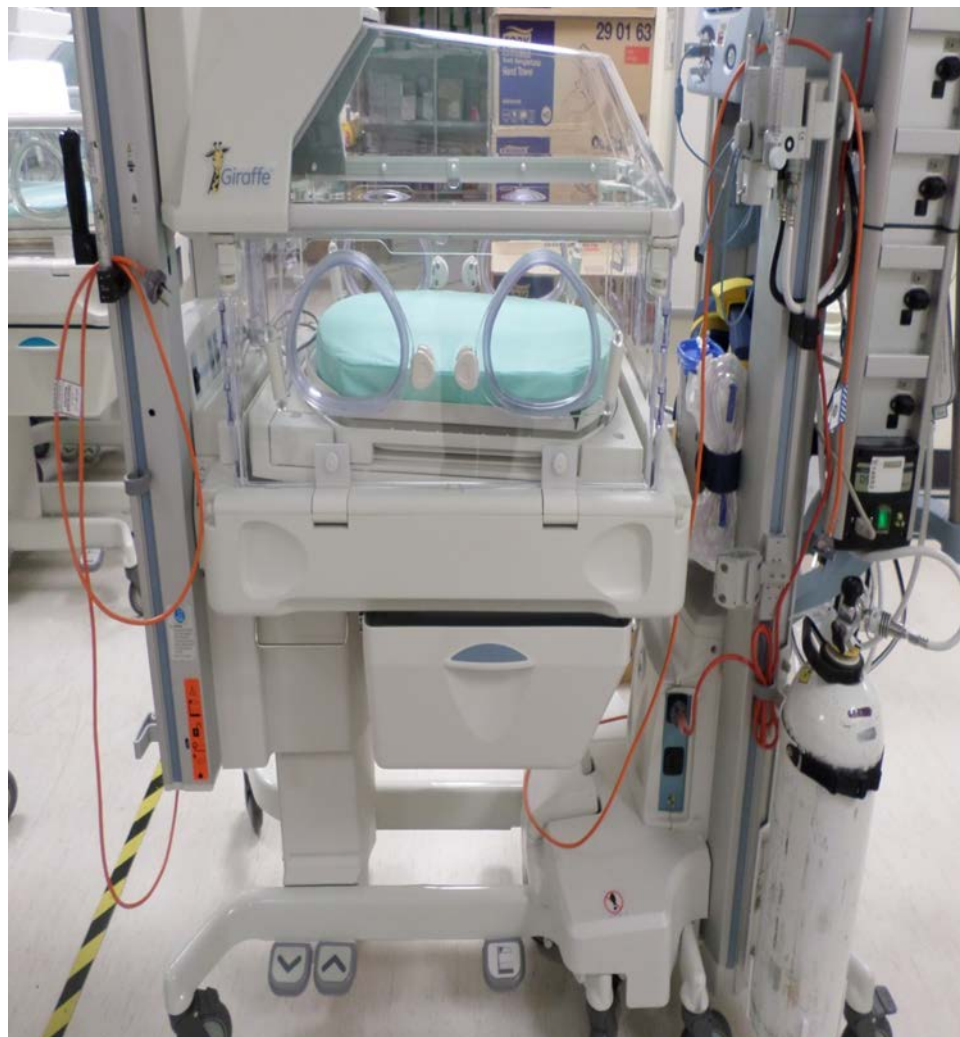


Image 5

### 2.3.2 Transporting a patient with CPAP

- a) Get the Giraffe shuttle from the store room.
- b) Gather all the equipment, which can be found in the transport area. Check all the connections on the shuttle prior to setting up the patient's respiratory support. NOTE: Check the oxygen and medical air tanks. Put the medical air and oxygen tanks on the metal plates on each side of the shuttle. Secure the tanks using the strap.
- c) Plug the shuttle into the power supply, and connect the air/oxygen hoses to wall air/oxygen supply. Turn on the ventilator attached to the shuttle. Discuss the mode of ventilation to be used for the patient with the medical team.
- d) Open incubator lid, then lock incubator brakes. Align the SHUTTLE facing the incubator, then push it forward until RED stop light on the locking system turns on. Then LOCK the shuttle in place, a GREEN light should be seen on the locking system.
- e) Transfer any fluids or medications one at a time to the docking stations.
- f) Set up the CPAP circuit and connect this to the patient. Make sure that the tubes are not kink and properly secured.

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**Image 6**



**Image 7**



## Interdepartmental Transfer: Preparation of Patients in Newborn Intensive Care Unit (NICU) with Respiratory Support



**Image 8**

- g) Connect the green NEOPUFF tubing to the shuttle oxygen blender. When the attendant arrives and baby is stable and ready for the transfer turn on the medical air and oxygen tanks and disconnect the gas hoses from the wall supply. Place the Phillip's monitor on the shuttle and inform the medical team that the patient is ready for transfer.

NOTE: Plug the shuttle into the power supply e.g. in theatre or radiology department. Connect the gas hoses to their wall supply and turn off the tanks.

### 2.3.3 Transporting a patient with Nasal Flow

- Put the nasal flow circuit on the gas carrier: use full small oxygen and air cylinders.
- If baby is in incubator, get the metal cross-bar and attach it at the back of the incubator (secure tightly by the screw). Then hang the gas carrier with the gas cylinders.
- If on open warmer (e.g. Ohio), attach securely the gas carrier at the back of the open bed warmer. Secure the carrier with 2 transport seat beats to put the carrier and gas cylinders in place.
- If baby is in a cot on blended gas nasal flow, get the holders for the gas cylinders, blender, humidifier etc. or need to take the gas metal trolley to when Size "D" cylinders are required.

Connect the blender gas hoses to the oxygen and medical air cylinders (NOTE: Use gas cylinder metal trolley) when the attendant arrives and baby is stable and ready for the transfer.

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- e) If baby is in a cot on wall (100%) oxygen, get an oxygen cylinder
- f) Put the Phillips bracket on the small IV pole on the side of the incubator, Ohio or cot. Attach the Phillips monitor once you are about to go. (NOTE: Make sure it is fully charged.)

### 3 Audit

#### 3.1 Indicators

- 100% of registered nurses preparing NICU patients for transfer with respiratory support, have the appropriate qualifications
- All Datix reporting, in association with NICU patients for transfer with respiratory support, is fully investigated and action taken to prevent reoccurrence.

### 4 Evidence base

#### 4.1 References

- Blaeck et al, 2014, Transfer of patient between NCC to Operating Theatre Retrieved from [www.seslhd.health.nsw.gov.au](http://www.seslhd.health.nsw.gov.au)
- George, T. (2014). Giraffe shuttle: Transport of the neonate. Retrieved from [https://www.seslhd.health.nsw.gov.au/sites/default/files/migration/RHW/Newborn\\_Care/Guidelines/Nursing/Giraffe.pdf](https://www.seslhd.health.nsw.gov.au/sites/default/files/migration/RHW/Newborn_Care/Guidelines/Nursing/Giraffe.pdf)
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### 4.2 Associated Waikato DHB Documents

- Waikato DHB NICU medical procedure: [Respiratory Support: Clinical guideline for premature infants <36 weeks](#) (2760)
- Waikato DHB NICU nursing procedure: [Guidelines for preparation of infant for MRI](#) (1431)
- Waikato DHB NICU nursing procedure: [Nasal Flow blended oxygen/air therapy - Neonatal](#) (2770)
- Waikato DHB NICU nursing procedure: [Care of Ventilated Infant](#) (0432)
- Waikato DHB NICU nursing procedure: [CPAP - Continuous positive airway pressure management](#) (4939)
- Waikato DHB NICU nursing procedure: [Arterial lines – sampling, nursing management and removal](#) (1638)
- Waikato DHB NICU nursing procedure: [Central Venous and Umbilical Venous Line Management](#) (4936)

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