

CPAP Care Bundle

This guideline will provide all staff on proper use of CPAP fixation as all medical and nursing staff are responsible for looking after any infant on CPAP. This guideline was created in order to 1) promote optimal gas exchange, 2) ensure comfort, 3) prevent nasal breakdown, and 4) prevent intubation due to CPAP failure.

Documentation should be completed in BadgerNet (See photos below for reference) and Datix filled out for any baby who suffers from nasal septal redness or breakdown. Please ensure that you fill out the following sections to completion as regular audits will be undertaken.

- Respiratory support
 - o Ventilation
 - o Non-Invasive
 - Condition of the nose should be assessed and documented every 4 hours with changing between mask and prongs.
 - Mask and prong size should be documented in the nursing notes narrative.
- Integrity of skin Barrier: intact, moist, peeling, or changed. This should be documented in the nursing notes narrative.
- Humidifier
 - o Humidifier temperature and water level.

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Respiratory support


Respiratory Support

Mode																
Inspired O2	BIPAP	BIPAP	BIPAP	BIPAP	BIPAP	BIPAP	BIPAP	BIPAP		BIPAP	BIPAP	BIPAP	BIPAP	BIPAP	BIPAP	BIPAP
	51	64	65	65	65	52	44		38	38	38	42	42	44	40	42
Conventional Ventilation																
PIP	15.0	15.0	15.0	15.0	14.0	14.0	15.0		15.0	15.0	15.0	9.0	15.0	15.0	13.0	13.0
PEEP/CPAP	10.2	10.0	10.0	10.2	10.1	10.0	10.7		10.0	10.2	10.2	7.6	10.2	10.0	9.0	7.6
Rate	40	40	40	40	40	40	40		40	40	40	40	40	40	40	40
CPAP																
CPAP Gas Flow	17.50	16.00	16.00	16.00	18.00	18.00	16.00		15.50	16.00	16.00	15.00	16.00	16.00	16.50	18.50
CPAP Pressure	11.5	11.5	11.3	11.4	10.9	10	11.4		11.4	11.1	12	7.6	11.4	11.4	11.2	11
Prongs / Mask	Prongs	Mask	Mask	Mask	Prongs	Prongs	Prongs		Prongs	Prongs	Prongs	Mask	Mask	Mask	Prongs	Prongs
Humidifier																
Humidifier Temp	37.0	37.2	37.1	37.0	36.9	36.9	37.1		37.2	36.9	38.1	36.9	36.9	37.0	37.0	37.0
Humidifier water level	ok	ok	ok	ok	ok	ok	ok									
	19 Nov 24 12:00	19 Nov 24 13:00	19 Nov 24 14:00	19 Nov 24 15:00	19 Nov 24 16:00	19 Nov 24 17:00	19 Nov 24 18:00	19 Nov 24 19:00	19 Nov 24 20:00	19 Nov 24 21:00	19 Nov 24 22:00	19 Nov 24 23:00	20 Nov 24 00:00	20 Nov 24 01:00	20 Nov 24 02:00	20 Nov 24 03:00

1 days 0hrs 55mins

Respiratory Support	
Note date and time	19 Nov 24 at 16:00
Respiratory Support	BIPAP
Inspired O2	65 %
Ventilation	
PIP Measured	14.0 cm H2O
PEEP/CPAP Measured	10.1 cm H2O
Rate	40 bpm
Non Invasive	
Prongs/mask	<input checked="" type="checkbox"/> Prongs <input type="checkbox"/> Mask
Check position of nasal prongs	<input checked="" type="checkbox"/> Yes
Condition of nose	Protection insitu, Other: Red mark from mask changed to prongs.
Gas Flow	18.00 l/min
CPAP mean airway pressure	10.9 cm H2O
Humidifier	
Humidifier Temperature	36.9 °C
Humidifier water level	ok

Documentation of Nasal Septal Skin Assessment



Please find below a list of all equipment that should be utilized for infants on CPAP.

- NeoPrep/Duoderm Skin Barrier
- Fabian Ventilator
- Vyaire Infant Flow LP Headgear
- Vyaire Infant Flow LP Generator (contains measuring tool for mask and prongs)
- Vyaire Infant Flow LP Nasal Mask
- Vyaire Infant Flow LP Nasal Prongs

A Bundle has been created to ensure that correctly sized mask or prongs are correctly positioned without causing undue pressure, and that the condition of the nose is protected with a barrier and both assessed regularly to prevent breakdown.

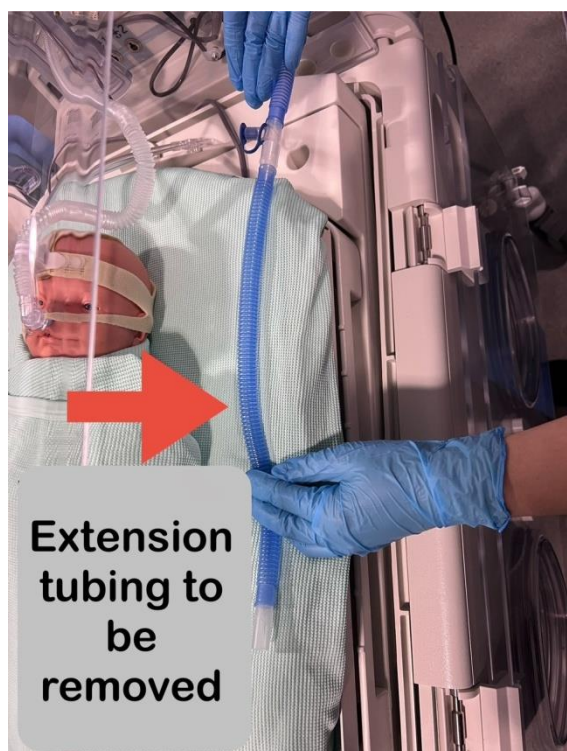
Prior to initiating CPAP and throughout the course of CPAP use, please ensure that you are following the bundle items:

- **Size:** sizing should be verified with two people using Vyaire's measuring tool when first placed on CPAP and weekly to verify size.
- **Pressure (with cares):**
 - Prongs should be checked to ensure that they are not resting on the nasal septum.

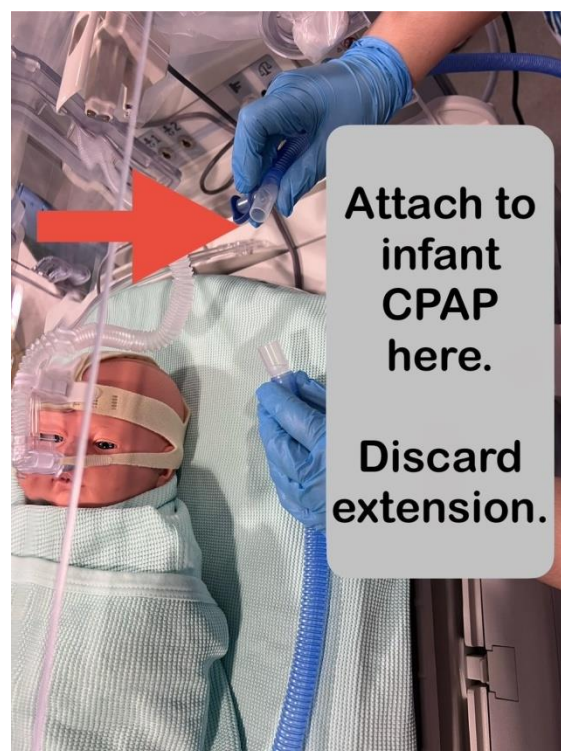
- Masks should be checked to ensure they are not touching the nares at any point and that they are not resting on the nasal septum.
- Straps should be loose enough across the cheeks to fit one finger's width.
- Mask and Prongs are to be rotated every 4 hours.
- **Protect:** Neo-Prep Skin Barrier should be applied on initiation of CPAP for any infant < 30 weeks gestation or < 1500 grams. Neo-Prep must be placed on clean skin with use of cation. The condition of the barrier should be assessed at beginning of shift and with each care to ensure it is fully intact and no moisture has accumulated underneath. It should be changed as needed to ensure it remains intact to prevent breakdown. If it is peeling away from the skin at any point, it should also be replaced.
 - This should be a two person task. One person should maintain the airway with CPAP/DuoPap pressure while the second person uses Appeal to remove the non-intact Neo-Prep and apply the new one.
- **Rainout:** CPAP/DuoPap circuit should run down away from baby- this ensures rainout moves away from the babies' nose and does not cause moisture around the nasal area. Temperature probe should be located inside of the incubator. The blue extension tubing should be removed and the exhaust tubing placed just outside of the incubator. (see photos below for reference)
- **Clean:** Masks/prongs should be washed in hot water with mild detergent and stored in a clean container to air dry outside the incubator but within the infant's cot space. Masks/prongs should be replaced at least weekly, sooner if either is visibly soiled.
- **Monitor:** The nasal septal skin assessment should be filled out with each set of cares (this is found on badge under respiratory obs) and the senior nursing should be notified when redness or breakdown is noted. This can be escalated to senior medical as needed. Tissue Viability should be contacted when skin breakdown is noted for early input and a datix should be completed.
- **Positioning:** Infants should be repositioned one quarter turn every 6 hours in keeping with the IVH bundle or every 3-4 hours with cares. For appropriate positioning, please refer to the positioning guideline.

Photo references:

Step 1:



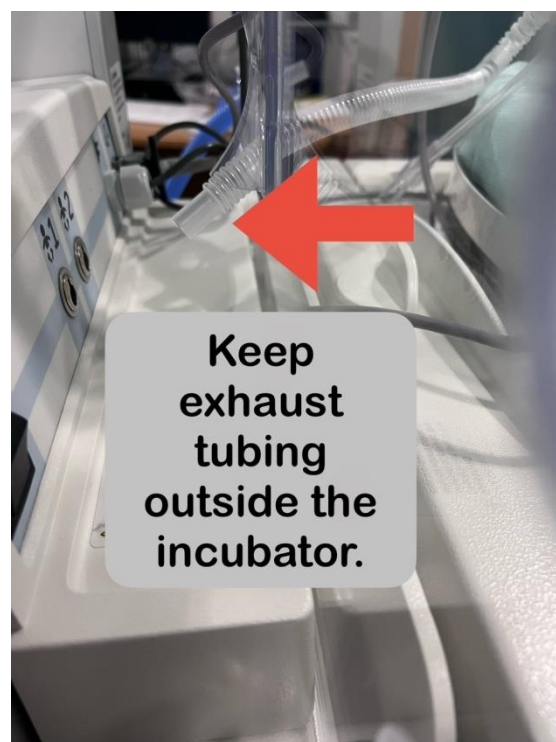
Step 2:



Step 3:



Step 4:



References:

Dai, Tian; Lv, Limin; Liu, Xiaojuan; Chen, Jin; Ye, Yalan; Xu, Lixuan. Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns: A Prospective Observational Study. *Journal of Wound, Ostomy and Continence Nursing* 47(1):p 26-31, January/February 2020. DOI: 10.1097/WON.0000000000000604

NHS University Hospitals of Leicester. (2023, July). UHL Neonatal Guideline: CPAP Nursing Care. V: 4 Approved by: Women's Quality & Safety Board Trust ref: C35/2015