CenTre Hi-Flow and CPAP for Transport

Trust ref: C9/2025

1. Introduction and Who the Procedure Applies to

This guideline is aimed at all health care professionals involved in the care and transfer of infants within the CenTre neonatal transfer service.

Aim

This document aims to provide information about

- Use of Nasal Continuous Positive Airway Pressure (NCPAP) during transport
- Use of Heated and humidified High flow Nasal Cannula Oxygen (HHHFNC) during transport.

Key points

- CPAP is an effective respiratory support modality which can potentially avoid invasive ventilation.
- HHHFNC may be a suitable alternative for some babies with respiratory distress syndrome (RDS).
- Babies transferred on non-invasive modes of respiratory support must be stable and there should be a low threshold for intubation and ventilation if there are any concerns, which should always be discussed with the transport consultant.

Related UHL documents

Continuous Positive Airway Pressure (NCPAP) UHL Neonatal Guideline Trust ref: C35/2015

Optimisation of the Preterm Infant UHL Neonatal Guideline Trust ref: C28/2024

Continuous Positive Airway Pressure CPAP, BIPAP, SIPPV Neonates UHL Neonatal Guideline Trust ref: C17/2023

High Flow Nasal Cannula Oxygen UHL Neonatal Guideline Trust ref: C32/2015

2. Standards and Procedures

NCPAP is a widely used non-invasive mode of, which can be used to avoid invasive ventilation in babies with respiratory distress. To transport a baby on NCPAP, the baby must be stable and there must be no obvious potential for deterioration during transfer or increasing oxygen requirement.

2.1 Considerations prior to Transfer

- If the baby's FiO_2 is >0.3 does the baby require surfactant prior to transfer? This may need to be discussed with the transport consultant.
- Is the underlying pathology appropriate for CPAP e.g. CPAP not appropriate for Congenital Diaphragmatic Hernia?
- Has the baby had a chest x-ray (or cold light test) to rule out pneumothorax?
- If it is going to be a long transfer, is the baby likely to tolerate the journey on NCPAP?
- Condition of nose must be assessed and documented prior to putting on to transport CPAP/Hi flow

2.2 CPAP during Transport

- Baby should be stable on CPAP pressures of ≤6cmH_20 to allow for some escalation of respiratory support during transfer and have a stable oxygen requirement less than 40% $Fi0_2$. (If outside of these parameters but stable, the baby may still be transferred on CPAP after discussion with transport consultant or may require intubation for transfer.)
- Biphasic Intermittent Positive Airway Pressure (BIPAP)/ Non-Invasive Positive pressure Ventilation (NIPPV) modes of ventilation are not currently used on transport, if babies requiring transport are currently on these modes of ventilation, they will require intubation and ventilation if wanting to proceed with transfer.
- To achieve >6cmH_20 PEEP, flow rates of up to 10L/min may be required.
- CPAP will usually be delivered by a mask on transport as it is felt to give a better seal than nasal prongs.
- The Baby may need to have feeds stopped for transfer and replaced with IV fluids depending on volume, frequency and tolerance of feeds.
- The Baby will require a blood gas prior to transfer and then on the transport CPAP to ensure that they remain stable after the change of equipment.
- Pressure relief must be done hourly and documented in notes.

2.3 Heated Humidified High Flow Nasal Cannula (HHHFNC)

- Babies transferred on HFNC must be stable on this mode of respiratory support prior to transfer.
- HFNC support will not be initiated by the transport team.
- Babies will not usually be moved in flow rates of >6.0L/min and in >40%$Fi0_2$ unless agreed with the transport consultant.

- Baby may need to have feeds suspended for transfer and replaced with IV fluids depending on volume, frequency and tolerance of feeds.
- The baby will need a blood gas on transport Hi flow to ensure they are stable on the transport equipment.

2.4 Deterioration of baby on CPAP or Hi flow

The baby should have a stable blood gas prior to transport and then have transcutaneous $C0_2$ monitoring in place for the duration of the trip, to enable rapid detection of deterioration

- If deterioration of the baby is noted during the transfer, the ambulance should be stopped, and the baby and equipment assessed and if required the consultant should be called for advice – strong consideration should be given to escalation of respiratory support or intubation and ventilation if persistent deterioration.

- All unplanned stops should be reported and monitored via Datix.

2.5 Troubleshooting

- Consideration must be given to the volume of medical gases required to reach your destination on the flow rate used to achieve the CPAP pressures/ HFNC flow rates. (refer to gas usage calculation chart)

- Leaks in circuit may need to be addressed and connection of tubing checked if CPAP pressures/HFNC flow rates not achieved. Refer to equipment user guides

3. Education and Training

None

5. Supporting References

Continuous Positive Airway Pressure (NCPAP) UHL Neonatal Guideline Trust ref: C35/2015

Optimisation of the Preterm Infant UHL Neonatal Guideline Trust ref: C28/2024

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6. Key Words

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

EDI Statement

We are fully committed to being an inclusive employer and oppose all forms of unlawful or unfair discrimination, bullying, harassment and victimisation.

It is our legal and moral duty to provide equity in employment and service delivery to all and to prevent and act upon any forms of discrimination to all people of protected characteristic: Age, Disability (physical, mental and long-term health conditions), Sex, Gender reassignment, Marriage and Civil Partnership, Sexual orientation, Pregnancy and Maternity, Race (including nationality, ethnicity and colour), Religion or Belief, and beyond.

We are also committed to the principles in respect of social deprivation and health inequalities.

Our aim is to create an environment where all staff are able to contribute, develop and progress based on their ability, competence and performance. We recognise that some staff may require specific initiatives and/or assistance to progress and develop within the organisation.

We are also committed to delivering services that ensure our patients are cared for, comfortable and as far as possible meet their individual needs.

CONTACT AND REVIEW DETAILS			
Guideline Lead (Name and Title) Emma Blackbourn			**Executive Lead** Chief Nurse
Details of Changes made during review:			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
February 2025	**1**	**CenTre Governance committee**	**New document**