

Guideline

Airway humidification during neonatal transfer

1 Scope

For use with the Paediatric and Neonatal Decision Support and Retrieval Service (PaNDR) for the East of England

2 Purpose

To provide guidance for the PaNDR team regarding the safe use of airway humidification during transfer of ventilated infants and those receiving CPAP or HFNC.

3 Definitions and abbreviations

CPAP continuous positive airway pressure
HFNC high flow nasal cannula

4 Introduction

Airway humidification is recommended during transfer of infants receiving respiratory support:

- To protect premature and vulnerable lungs from potential damage, infection or consolidation caused by non-humidified gas.
- To help reduce insensible losses, which could affect electrolyte balance and haemodynamic stability.
- To help maintain thermoregulation by delivering warmed gas within normal body temperature range ie 36.8 -37.0°C

5 Equipment required

- Fisher & Paykel humidifier (attached to transport incubator)
- Fisher & Paykel ventilator/ Optiflow tubing set
- Two 100ml bottles of sterile water.

6 Setting up humidification

- Connect tubing set to ventilator/ high flow circuit and slide the water reservoir on to the humidifier.
- Connect tubing to humidifier chamber.

- Plug in longer grey heater wire to expiratory port (yellow filter) as shown in figure 1.



Figure 1

Plug in the short grey heater wire with 'clover' shaped connector and temperature probe with 'V' notch to humidifier chamber connector at the base of the blue inspiratory tube as shown in figure 2.



'Clover' shaped connector

'V' notch temperature probe

Figure 2

- Plug in long grey temperature probe to the inspiratory tubing close to the infant as shown in figure 3.



Figure 3

- Fill the humidifier chamber with sterile water to the black line (200ml).

- Turn humidifier **ON**:
 - It will do a self-test prior to heating the chamber and is automatically pre-set at 37°C so does not need adjustment.
 - Do this on arrival where the baby is expected to need breathing support, so the system will be at optimal temperature for when the baby is transferred to the transport system.

7 Points to note

- Fill the humidity chamber with care due to the amount of electrical equipment on the transport incubator.
- Record the infant's skin temperature and humidifier temperature every 15 minutes on the transfer observation sheet.
- All infants requiring respiratory support, including those who are therapeutically cooled should receive airway humidification within normal body temperature range.
- All tubing, reservoir and filters are single use only – discard after use.
- Clean the humidifier and all grey wires after use with a damp soapy cloth or Clinell wipes and dry thoroughly.

8 Monitoring compliance with and the effectiveness of this document

Audit standards:

1. All infants requiring respiratory support will receive airway humidification.
2. Infant skin temperature and humidifier temperature will be monitored at all times and documented every fifteen minutes.

The PaNDR team will periodically monitor that the guideline is being adhered to and the results will be presented to the senior team at a governance meeting.

Equality and diversity statement

This document complies with the Cambridge University Hospitals NHS Foundation Trust service equality and diversity statement.

Disclaimer

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Document management

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