PROTOCOL FOR THE USE OF THE OPTIFLOW DEVICE

RATIONALE

Optiflow is a non-invasive device which warms and humidifies high flow nasal cannula air/oxygen blends which are delivered to the patient. The warmth and high humidity mean that the very high nasal flows can be tolerated.

Heat and humidity prevents airway water-loss, airway cooling, thickened secretions, nasal irritation and bleeding. The Optiflow allows delivery of breathing gases heated to body temperature at 100% relative humidity through nasal cannula from 0.3lpm-8lpm without airway drying or cooling. By contrast, flow from a bubble humidification system is well below body temperature and has a significant water deficit (Powell 2005).

Benefits:

- The effects of heat and molecular humidity optimize the use of nasal cannula allowing higher flows to be used
- Provides the ability to deliver high flows without adverse side effects and patient discomfort including: nasal drying, bleeding, and septal breakdown
- In the NICU environment, use of Optiflow allows practitioners and family members to easily feed, hold and care for patients.

Indications

See medical guideline

Set up

Aseptic non touch technique should be followed when setting up the Optiflow

- Connect AC supply and oxygen and air lines
- Connect green tubing from flow meter to top of pressure manifold
- Insert humidifier and connect inspiratory tubing to humidifier as per manufacturer's instructions
- Do not use extra unheated blue extension tube routinely. It may be useful during handling of the infant outside of the incubator e.g. cuddles, weighing. Since this portion

Date written: April 2009 Review due: April 2011 is unheated, it will result in rainout. However, it is useful to keep this extension. It should be stored in a ring shape to reduce the risk of contamination

- Add nasal cannula, of appropriate size, and connector to blue tubing
- Attach bag of sterile water for inhalation
- Consider use of Cavilon, Duoderm (extra thin) and Tegaderm to secure nasal cannula for those infants less than 1kg. For all other infants, Duoderm may be omitted depending on their skin integrity and clinical judgement
- Set flow to desired flow (usually 3-8lpm), according to medical guideline or Consultant instruction
- Ensure humidifier is set to invasive mode
- The pressure manifold for Optiflow is blue and has a maximum pressure limit of 45cmH₂O. Ensure that you do not use the pressure manifold for the bubble CPAP system which is white and has a maximum pressure limit of 17cmH₂O.

Ongoing care

- Consider regular oral and nasal suction to optimise airway patency
- Ensure prongs are clean and patent at all times
- Consider careful positioning, if necessary, to reduce the work of breathing e.g. side-lying or prone

Weaning

• The flow will be used for weaning purposes, as dictated by medical staff

Cleaning

- Change entire circuit every 7 days. Document on weight chart and label circuit
- Clean humidifier and blender as per unit protocol

References:

Steven Powell 2005: Nursing satisfaction of nasal positive distending pressure devices in the newborn intensive care unit, Respiratory Care, November 2005.

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