

Non Invasive Respiratory Support Nursing Troubleshooting Guide

Standard:

All infants who need non-invasive respiratory support.

Equipment:

Refer to Non-invasive Respiratory Support Nursing Guidance.

Procedure:

NCPAP

- **Is the hat fitted correctly?** Use measuring tape to measure the head circumference, the size of the hat is shown in centimetres on the back of the packaging.
- **Are the prongs/ mask fitted correctly?** Use the size guide and line up against the nares to establish the best size.
- **Is there a sufficient seal around the mask or prongs?**
 - Make sure there is no leak coming from the mask/ prongs.
 - Make sure the mask/ prongs are the correct size,
 - and the prongs are going into the baby's nostrils.
- **Is the baby in an optimum position?** Nursing infants in the prone position has been shown to reduce V/Q (ventilation/ perfusion) mismatching (a condition in which one or more areas of the lung receive oxygen but no blood flow, or they receive blood flow but no oxygen due to some diseases and disorders).
- **Is there an obstruction to the flow of gas?** Ensure the neck is not overly flexed or extended, often a neck roll can help support this position. Ascertain whether or not the baby needs suction, as saliva can often gather at the back of the mouth, or secretions in the nasal passages. Make sure there is no tubing from the CPAP circuit trapped in the incubator door. Check Temperature of circuit and humidity-See Non Invasive Respiratory Support – continuing respiratory care and minimisation of complications document.
- **Do you have good pressures?** If pressure not maintained first check all circuit connections. Is the gas connected at the wall? Try to keep the pressures between 5-6cm H₂O. Pressures may differ dependant on work of breathing or pCO₂. Establish that the baby's

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mouth is closed, as pressure can be lost by gas escaping through an open mouth. Use a chin strap, +/- a dummy to help keep the mouth closed.

- **Are you using an oro-gastric tube (OGT)?** Using a naso-gastric tube (NGT) can cause an obstruction to the flow of gas, consider placing an orogastric tube.
- **Is the OGT open to air?** Gas from the NCPAP can bypass the lungs, causing a “CPAP” tummy. Place an OGT, with an attached syringe open to air positioned above the baby, to allow free air to travel up the OGT. Aspirate the OGT hourly.
- **Consider higher Peep 7-9 cmH₂O** in infants who have already received surfactant, this is a joint medical decision. Consider Bipap.
- **Is there any skin trauma ?** Carry out skin care-See Non Invasive Respiratory Support – continuing respiratory care and minimisation of complications

HFNC

- **Is there flow?** Establish the flow is set as appropriate, and there is adequate delivery of gas.
- **Is the cartridge engaged properly?**
- **Is there an obstruction to the flow of gas?** Determine there is no tubing trapped in the incubator door, or kinking in the tube. Check there are no blockages in the nasal prongs.
- **Is the flow adequate?** Is the flow set optimal for the baby’s respiratory requirement, consider increasing or decreasing flow.
- **Are you using a nasogastric tube?** Using a nasogastric tube can cause an obstruction to the flow of gas, consider placing an orogastric tube.
- **Is the baby in an optimum position?** Nursing infants in the prone position has been shown to reduce V/Q (ventilation/perfusion) mismatching (a condition in which one or more areas

of the lung receive oxygen but no blood flow, or they receive blood flow but no oxygen due to some diseases and disorders).

- **Is handling kept to a minimum?** Justify every episode of handling and reduce where possible.

Potential Complications

- Nasal trauma is a significant complication and should be monitored for during regular nursing observations, see skin care guidance and Non Invasive Respiratory Support – continuing respiratory care and minimisation of complications.