

HIGH FLOW NASAL PRONG (HFNP) THERAPY FOR ADULTS

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

To provide guidance in the safe care and management of women requiring high flow nasal prong therapy in the Acute Care Centre

2. PATIENT

Women admitted to the Acute Care Centre with any of the following:

- High oxygen requirements, e.g. pneumonia; post-operative hypoxemia, weaning from NIV.
- Women who may benefit from humidification to improve secretion clearance
- Women who have a poor compliance with mask oxygen therapy
- Women who have undergone diaphragm stripping

3. STAFF

Acute Care Centre Registered Nurses and Midwives

4. EQUIPMENT

AIRVO 2
High flow circuit
High flow nasal cannula
Oxygen tubing
Monitoring equipment
2L bag of Sterile Water for Irrigation

5. CLINICAL PRACTICE

- Assess woman for mild – moderate respiratory distress.
- Prescribe HFNP therapy in the high flow oxygen therapy (HFOT) chart.
- Inform the patient of recommendation to commence high flow nasal prong therapy and gain consent.
- Gather equipment
- Slide the humidification circuit water reservoir on humidifier base, place change due sticker on the chamber and write the date that change is due (in 14 days time)
- Hang 2L bag of sterile water on hook and spike with water reservoir connection
- Place the adapter on the top of the water reservoir humidifier
- Attach oxygen tubing between wall flow meter and AIRVO device if oxygen supplementation required
- Attach high flow circuit to AIRVO device and high flow nasal cannula to the circuit
- Set the humidifier to 37 degrees Celsius
- Commence therapy at flow rate as prescribed by medical officer.
- Attend and document baseline full set of vital signs observations
- Monitor patient closely for the first 15 minutes of treatment and after 15 minutes attend and document another set of vital signs observations:

If the woman is improving continue to monitor hourly until stable then 2 hourly for the duration of the therapy.

If the woman is deteriorating or not improving, check HFNP settings and increase flow to 50-60L/min (60L/min is maximum setting).

- Increase oxygen percentage.
- If on maximum settings call 2222 for URGENT RAPID RESPONSE

HIGH FLOW NASAL PRONG (HFNP) THERAPY FOR ADULTS cont'd

- Perform and document a comprehensive respiratory assessment including, chest auscultation, respiration rate, oxygen saturations, work of breathing. Once per nursing/midwifery shift.
- Review by medical officer twice per day
- Wean oxygen supplementation to prescribed target oxygen saturations
- Wean HFNP therapy flow rate slowly according to the patients symptoms
- Wean by 5 litres of flow 15 minutely, reviewing patient vital signs and symptoms prior to each reduction in flow rate. See educational notes for more detailed advice
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- Attend and document full set of vital signs observations 30 minutes post cessation of HFNP therapy Note: the patient must remain in the Acute Care Centre for 30 minutes post cessation.
- Don PPE and discard of humidification chamber, sterile water, HFNP circuit and nasal cannula.
- Use neutral detergent to wipe down AIRVO device
- Connect RED cleaning tube and stopper to set device to clean (cycle takes approx. 1 hour).
- Return device to storage

6. DOCUMENTATION

Observation chart
Progress notes
High flow oxygen therapy (HFOT) chart

7. EDUCATIONAL NOTES

Patients commenced on high flow oxygen for mild to severe respiratory distress are at risk of respiratory failure.

Contraindications for HFNP

- Nasal obstruction
- Life threatening hypoxia or apnoea
- Epistaxis
- Trauma to face or base of skull
- Acute hypercapnic respiratory failure (NIV is more appropriate)

Use HFNP with caution for

- Decreased LOC
- Pneumothorax
- Asthma
- Chronic respiratory disease

Titration of FiO2 to decreased oxygenation		
FiO2	Oxygen concentration 21-60%.	Titration Titrate wall oxygen to target saturations as prescribed by medical officer. NB: If unable to maintain saturations >92% on 60% FIO2 then patient requires RAPID RESPONSE call.

HIGH FLOW NASAL PRONG (HFNP) THERAPY FOR ADULTS cont'd

Temperature of humidification

The temperature is set to 37 degrees celsius for all women at the commencement of the therapy. If compliance with therapy is affected by the temperature then temperature may be weaned to 34 degrees Celsius after discussion with the nurse/midwife in charge of Acute Care at the time. The temperature must not be weaned any further than 34 degrees celsius as it does not produce enough humidification below this level to be effective.

Weaning:

Weaning of HFNP therapy should be considered when the patient becomes comfortable, underlying cause of respiratory distress has been stabilised, and heart rate, respiratory rate and SpO₂ are within the normal range for the woman.

Usually weaning commences with reduction of flow rate.

Once the flow rate reaches 35L/min the woman is no longer receiving high flow of oxygen and may benefit from standard low flow oxygen.

If the woman is using the device for assistance with secretions she may continue to benefit HFNP between 35 and 30 L/min.

Once the flow rate is at 30 L/min and the patient is stable they are not requiring the HFNP therapy and can be transitioned to room air.

Circuit change

All circuits are single patient use and need to be changed after 14 days. Bags of sterile water will need to be changed when empty.

Filter change

The AIRVO will alarm when the filter has been used for 1000 hours. At this point the air filter must be changed.

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

Non Invasive Ventilation using the Respironics V60 machine

Acute Care Centre - Admission Criteria, Process, Management and Escalation

Clinical Emergency Response System (CERS) - Management of the deteriorating patient

9. RISK RATING

Low

10. NATIONAL STANDARD

Standard 8 – Deteriorating patient

11. REFERENCES

ISLHD High-flow nasal prongs for adult inpatients AIRVO 2 system. ISLHD CLIN GL 26. July 2017.

High Flow Oxygenation. SGH CLIN 187 Clinical Business rule. September 2018.

REVISION & APPROVAL HISTORY

Endorsed CERS committee 2/6/20

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