

High Flow Nasal Oxygen

H.F.N.O

Clyde Emergency Departments

HFNO is a respiratory therapy where warmed, humidified air is delivered via specific nasal cannulae at high flow rates (up to 60L/min) with FiO₂ of 0.21-1.0

Indications

- Acute type I respiratory failure with respiratory rate >20
 - Possible pathologies include; pneumonia, pulmonary oedema, pulmonary embolus, ARDS
 - Acute asthma but HFNO cannot be combined with nebulised bronchodilators
 - Intolerance of oxygen mask (any type)
 - Significant secretions where mask oxygen impairs clearance
- Acute type II respiratory failure where NIV (BiPAP) has not been tolerated
 - HFNO will provide little ventilatory support / help with pCO₂
 - Could be used in 'breaks' from NIV e.g. to allow feeding
- Severe hypothermia
 - HFNO will not provide much active rewarming but is a useful adjunct to reduce further heat loss

Contraindications

- Clear indication for intubation and IPPV
 - HFNO should not be considered as a pre oxygenation method in ED as practically this will cause a delay in intubation
- Type II respiratory failure requiring NIV (BiPAP)
- Facial trauma / epistaxis
- Pneumothorax (theoretical risk due to positive pressure & outwith manufacturers recommendations)

Practical considerations

Flow rate must exceed patients' inspiratory flow rate. In unwell / severely breathless patients you may wish to start at maximum flow rate (60L/min)

Patients who improve significantly with this therapy usually do so quickly (within 1 hour). Bear this in mind when planning ongoing treatment / discharge destination from ED

Special distilled sterile water must be used

Currently we have no ability to deliver HFNO without mains power so patients would need to be transferred from ED to ward on 'standard' facemask oxygen with HFNO restarted (using the same set) once on receiving ward