

VENTILATION: HIGH-FLOW NASAL CANNULAE (HFNC)

● 1/1

DEFINITION

Delivery of humidified, heated and blended oxygen/air at flow rates between 1–8 L/min via nasal cannulae

INDICATIONS

- Treating or preventing apnoea of prematurity
- Respiratory support for babies with:
 - respiratory distress syndrome – first line or post extubation
 - chronic lung disease
 - meconium aspiration
 - pulmonary oedema
 - pulmonary hypoplasia
 - pneumonia
- Babies slow to wean off nasal CPAP
- Babies with nasal trauma from nasal CPAP

SETTING AND FLOW RATE

- Set operating temperature at 36–38°C
- Start at flow rate of 4–6 L/min (flow rates >6 L/min in babies <1 kg – discuss with on-call consultant)
- Use ≤8 L/min in babies >1 kg, unless baby requires $FiO_2 >0.4$ or has CO_2 retention, acidosis or apnoea, in which case consider alternative support
- **Ensure there is leak around the prongs**

MONITORING

Continuously

- Heart rate (including ECG)
- Respiratory rate
- SpO_2
- If on supplemental oxygen or on clinical grounds – blood gases regularly
- Prescribe supplemental oxygen on drug chart

WEANING FLOW RATES

(This weaning mainly applies to babies born <34 weeks' gestation, as some babies born ≥34 weeks may come off high flow without need for weaning)

$FiO_2 >0.3$	May not be possible to wean flow rate
$FiO_2 <0.25$ in baby >1.0 kg	Attempt to reduce by 1.0 L/min 24-hrly
$FiO_2 <0.25$ in baby <1.0 kg	Attempt to reduce by 1.0 L/min 48-hrly
$FiO_2 0.25–0.3$	Attempt to reduce by 1.0 L/min 48-hrly
Requiring <4.0 L/min	<ul style="list-style-type: none">• Attempt to stop (baby in air does not require nasal prong oxygen)• If baby in oxygen, put in 0.2 L/min of nasal prong oxygen initially
<ul style="list-style-type: none">• Clinical instability• Increased work of breathing• Significant increase in FiO_2	Consider pneumothorax (rare)

CONTRAINDICATIONS

- Upper airway abnormalities
- Ventilatory failure
- Severe cardiovascular instability
- Frequent apnoeas (despite caffeine in preterms)