

Escalation of Respiratory Support in Bronchiolitis

High Risk Patients

- Neonates/prematurity
- Pre-existing respiratory condition
- Congenital Heart Disease (CHD)
- Immunodeficiency
- Neuromuscular disorders

Triggers to initiate invasive ventilation

- FiO_2 requirement ≥ 0.6 to maintain $\text{SpO}_2 \geq 90\%$
- Severe work of breathing
- Lethargy / reduced level of consciousness
- Failure to clear CO_2
- Persistent apnoea's requiring bagging
- Lack of clinical improvement or deterioration on NIV/hi-flow nasal cannula oxygen (HFNC $_2$)

Initial Management

- If $\text{SpO}_2 < 92\%$, start O_2 therapy with low flow nasal cannula ($\leq 2\text{ l/min}$)
- Avoid routine suctioning
- Undertake a capillary blood gas in patients with worsening respiratory distress or a supplement O_2 concentration $\geq 50\%$
- Start enteral feeding, if suitable, via NG tube but reduce volumes to 50%
- Consider IV fluid if enteral feeding is not tolerated or $> \text{WOB}$
- Monitor for signs of fluid overload/hyponatraemia: Beware of SIADH

ESCALATE RESPIRATORY SUPPORT TO HI-FLOW NASAL CANNULA OXYGEN/CPAP

when one or more of the following are met:

- Failing to achieve $\text{SpO}_2 > 92\%$ on 2 l/min of O_2 via low flow nasal cannula
- Moderate to severe work of breathing
- Increased respiratory rate from baseline
- Apnoea's
- Evolving respiratory acidosis

High Flow Nasal Cannula Oxygen

2 litres / kg / min
Titrate O_2 to aim for $\text{SpO}_2 \geq 92\%$

Continuous Positive Airway Pressure (CPAP)

6-8cm H_2O
Titrate O_2 to aim for $\text{SpO}_2 \geq 92\%$

Initiate based upon local hospital policy and patient comfort. Consider switching between therapies.

WARNING!

Patients who are on Hi-Flow Nasal Cannula O_2 OR CPAP who are requiring $\text{FiO}_2 \geq 0.6$ (60% O_2 concentration) to maintain SpO_2 of $\geq 92\%$ are at risk of rapid desaturation and cardiac arrest.

Additional caution should be taken for high-risk patients.

CONSIDER AND PREPARE FOR INTUBATION AND EXCLUDE DIFFERENTIAL DIAGNOSES

CALL LOCAL ANAESTHETICS/ICU TEAM AND FOLLOW APPROPRIATE SORT GUIDELINES

CALL SORT EARLY FOR SUPPORT: 02380 775502

Investigations to exclude other differential diagnosis

- Chest X-ray
- Blood Gas (capillary/venous)
- Echocardiogram
- Lung Ultrasound (if possible).

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