



## Bronchiolitis CoMET Guideline

This guideline is for use by healthcare staff, at CoMET undertaking critical care retrieval, transport and stabilization of children, and young adults.

CoMET is a Paediatric Critical Care Transport service and is hosted by the University Hospitals of Leicester NHS trust working in partnership with the Nottingham University Hospitals NHS Trust.

The guidance supports decision making by individual healthcare professionals and to make decisions in the best interest of the individual patient.

This guideline represents the view of CoMET, and is produced to be used mainly by healthcare staff working for CoMET, although, professionals, working in similar field will find it useful for easy reference at the bedside.

We are grateful to the many existing paediatric critical care transport services, whose advice and current guidelines have been referred to for preparing this document. Thank You.

Executive Lead/ Medical Director:	Andrew Furlong (LRI, UHL – <a href="mailto:andrew.furlong@uhl-tr.nhs.uk">andrew.furlong@uhl-tr.nhs.uk</a> )
Author:	Bedangshu Saikia – CoMET Consultant, UHL <a href="mailto:Bedangshu.saikia@uhl-tr.nhs.uk">Bedangshu.saikia@uhl-tr.nhs.uk</a> Adrian Low – CoMET Registrar <a href="mailto:Adrian.low@uhl-tr.nhs.uk">Adrian.low@uhl-tr.nhs.uk</a> Hazel Perrett – CoMET Nurse, UHL <a href="mailto:Hazel.perrett@uhl-tr.nhs.uk">Hazel.perrett@uhl-tr.nhs.uk</a>
Guideline Lead:	Mohammad Zoha – CoMET Consultant, UHL <a href="mailto:Mohammad.zoha@uhl-tr.nhs.uk">Mohammad.zoha@uhl-tr.nhs.uk</a>
Clinical Lead:-	Georgina Harlow – CoMET Clinical Lead <a href="mailto:Georgina.harlow@nuh.nhs.uk">Georgina.harlow@nuh.nhs.uk</a> <a href="mailto:Georgina.harlow@uhl-tr.nhs.uk">Georgina.harlow@uhl-tr.nhs.uk</a>
Approved By:	UHL Policy and Guideline Committee
Date of Latest Approval:	27 October 2023 – Trust ref: B25/2023
Version:	(1)
Next Review Date:	October 2025

### Education and Training

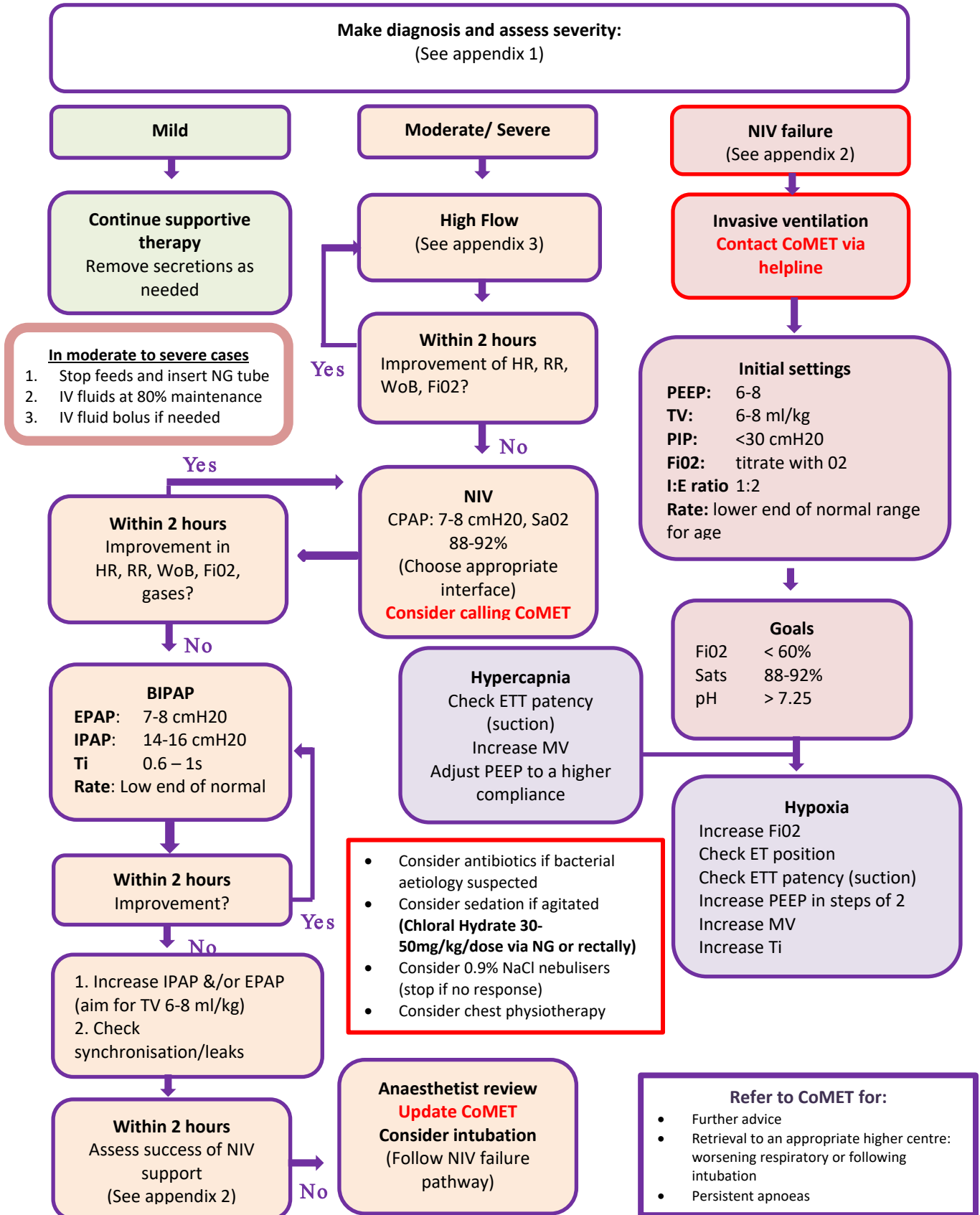
1. Annual Transport team update training days
2. Workshops delivered in Regional Transport Study days/ Outreach

### Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Incident reporting	Review related Datix	Abi Hill – Lead Transport Nurse <a href="mailto:abi.hill@uhl-tr.nhs.uk">abi.hill@uhl-tr.nhs.uk</a>	Monthly	CoMET Lead Governance Meeting
Documentation Compliance	Documentation Audit	Abi Hill – Lead Transport Nurse <a href="mailto:abi.hill@uhl-tr.nhs.uk">abi.hill@uhl-tr.nhs.uk</a>	3 Monthly	CoMET Lead Governance Meeting



## Bronchiolitis





**References:**

1. Westrope C (2018) **Humidified High Flow Nasal Cannula (HHFNC) Oxygen Therapy.** Leicester Royal Infirmary Children’s Hospital
2. Gilhooley C, Silvestre C, McHale S(2016) **Guideline for HFNCT (High Flow Nasal Cannula Therapy)** Nottingham Children Hospital
3. [https://www.rch.org.au/clinicalguide/guideline\\_index/Bronchiolitis/](https://www.rch.org.au/clinicalguide/guideline_index/Bronchiolitis/)
4. Richards-Belle A et al **FIRST-line support for assistance in breathing in children (FIRST-ABC): a master protocol of two randomised trials to evaluate the non-inferiority of high-flow nasal cannula (HFNC) versus continuous positive airway pressure (CPAP) for non-invasive respiratory support in paediatric critical care** BMJ Open. 2020 Aug 4;10(8):e038002.

**Related guidelines:**

1. Use of high flow in transport (CoMET’s high flow guidance) and
2. Emergency pre-intubation checklist (CoMET)

**Appendix 1**

**Diagnosis:**

1. Age group: <2 years (peak 3 – 6 months)
2. Lower respiratory tract disease characterized by inflammation and associated commonly with moist cough (could be paroxysmal), respiratory distress, wheeze, crackles, hyperinflation and feeding difficulties.
3. Apnoeic episodes more likely in the younger infants.
4. Preceded by fever-coryzal illness almost in all cases.
5. Relatively unusual ways of presentation include encephalitis, myocarditis, arrhythmias and SIADH

**Risk factors for severe disease:**

Prematurity, chronic lung disease, underlying immunodeficiency, congenital heart disease, neuromuscular disorders and/or age <3 months.

**Assessment of severity:**

Mild	Moderate	Severe
<ul style="list-style-type: none"> <li>• Mild tachypnoea</li> <li>• Mild chest wall retraction</li> <li>• SpO2 &gt;92% in room air</li> <li>• Normal feeding</li> <li>• No apnoea</li> </ul>	<ul style="list-style-type: none"> <li>• Intermittent irritability</li> <li>• Increased tachypnoea</li> <li>• Moderate chest wall retraction</li> <li>• Suprasternal retraction</li> <li>• Nasal flaring</li> <li>• SpO2 90-92% in room air</li> <li>• Reduced feeding</li> <li>• Brief apnoeas</li> </ul>	<ul style="list-style-type: none"> <li>• Increased irritability or lethargy / fatigue</li> <li>• Marked tachypnoea</li> <li>• Marked chest wall retraction</li> <li>• Marked suprasternal recessions</li> <li>• Marked nasal flaring</li> <li>• SpO2 &lt;90% in air</li> <li>• Hypoxemia may not be corrected by Oxygen</li> <li>• Reluctant / not able to feed</li> <li>• Frequent / prolonged apnoeas</li> <li>• Rising CO2</li> </ul>



**Appendix 2**

**Assessment of successful vs failed non-invasive respiratory support:**

Success of treatment	Failure of treatment
<ul style="list-style-type: none"> <li>Reduction in frequency/ severity of apnoea</li> <li>Reduction in oxygen requirement</li> <li>Reduction in heart rate and respiratory rate (evidence suggests possibly within first 90 minutes)</li> <li>Improvement in respiratory acidosis</li> <li>Reduction in work of breathing</li> </ul>	<ul style="list-style-type: none"> <li>Persistent apnoeas</li> <li>Increasing oxygen requirement</li> <li>Unchanged/ rising heart rate and respiratory rate</li> <li>Failure to improve respiratory acidosis</li> <li>An unchanged or increased work of breathing</li> <li>SpO<sub>2</sub> &lt; 92% at FiO<sub>2</sub> &gt; 60% and maximal age-appropriate flow rate</li> </ul>

**Appendix 3**

**Starting and weaning HFO<sub>2</sub> [See CoMET High Flow Guideline]**

**Consider WEANING when**

FiO<sub>2</sub> is ≤0.40 AND  
respiratory distress is not severe†

Change to Weaning flow rate  
based on patient weight

Weight (kg)	≤12	13-15	16-30	31-50	>50
Starting flow rate	2 l/min/kg	25-30 l/min	35 l/min	40 l/min	50 l/min
Weaning flow rate	1 l/min/kg	13-15 l/min	18 l/min	20 l/min	25 l/min