## Appendix B: Guidance on oxygen delivery interfaces in children

<table>
<thead>
<tr>
<th>DEVICE/FiO₂</th>
<th>INDICATIONS</th>
<th>ADVANTAGES</th>
<th>LIMITATIONS</th>
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</table>
| **Headbox** | Humidified and warmed O₂ 24-60% | Suitable for infants and small children with acute episodes of respiratory illness eg bronchiolitis | • Controlled oxygen delivery  
• Well tolerated in infants  
• Easy delivery of humidified O₂ | • CO₂ build up may occur if flow <7l/min OR outflow from box is obstructed.  
• O₂ needs to be warmed for smaller infants as the environment inside can become cold  
• Access to give care can cause significant fall in oxygen delivered |
| **Nasal cannulae** | Maximum flow rate 2l/min  
Estimated oxygen delivery 24-40% | • Long Term Oxygen Therapy (LTOT).  
• Minimal oxygen requirement  
• Recovery phase from acute episodes | • Low cost and  
• easy for patient to eat and talk  
• well tolerated  
• No re-breathing. | • Uncontrolled oxygen delivery  
• Oxygen delivery is affected by flow setting, respiratory rate, depth of breathing and geometry of nose.  
• Dries the nose, can cause headaches. |
| **Facemask** | 5-15 litres/min  
Estimated oxygen delivery 40-60% | • Use for patients who need high oxygen delivery | Useful in children who  
• are mouth breathers  
• have nasal irritation  
• have epistaxis | • Minimum delivery 5litres/min to avoid rebreathing of expired CO₂.  
• Oxygen delivery is affected by flow setting, mask fitting, mask leak and patient’s breathing pattern. |
| **Non re-breathe mask** | 6 -15 litres/min  
Estimated oxygen delivery 60-100% | Often used in APLS setting (trauma, shock, severe asthma, convulsions, reduced level of consciousness) | Delivers very high concentrations of oxygen | • Minimum delivery 6 litres/min to avoid rebreathing of expired CO₂.  
• Oxygen delivery is affected by mask fitting and mask leak |