Infant Flow® SiPAP quick reference guide

Start

Does infant meet indications for use? (See back page.)

Yes

3. Adjust the pressure high flowmeter until the pressure displays 2–3 cmH₂O above the set nCPAP pressure.

2. Adjust the oxygen control dial to set the desired FiO₂.

1. Adjust the pressure low flowmeter until the desired nCPAP pressure displays on screen.

4. To use the apnea monitor or BiPhasic triggered, connect the transducer interface to the Infant Flow® SiPAP driver.

After completing steps 1–4, the screen changes and displays the nCPAP mode. The infant can now be connected to the Infant Flow® SiPAP system.

Initial settings based on respiratory conditions:

- Baseline CPAP: 4–6 cmH₂O
- Pressure high (Phigh): 1–3 cmH₂O above CPAP level
- T-high: 1.0 sec
- Rate: 6 cycles/min

Note: The protocol above for the application of SiPAP therapy was suggested by S. Courtney, MD.² This information is provided only as a guideline; refer to your facility policies and procedures for nCPAP.

<table>
<thead>
<tr>
<th>Low CPAP</th>
<th>High CPAP (above low CPAP)</th>
<th>Time high</th>
<th>Cycle rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apnea</td>
<td>4–5 cmH₂O</td>
<td>1–2 cmH₂O</td>
<td>0.3–0.5 sec</td>
</tr>
<tr>
<td>Oxygenation</td>
<td>4–5 cmH₂O</td>
<td>2–3 cmH₂O</td>
<td>1.0 sec</td>
</tr>
<tr>
<td>Ventilation</td>
<td>4–5 cmH₂O</td>
<td>≥ 3 cmH₂O</td>
<td>0.5–3.0 sec</td>
</tr>
</tbody>
</table>

Please note after selecting each desired setting in steps/boxes 1–4, press the flashing question mark icon to change to a checkmark.

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1. Adjust the pressure low flowmeter until the desired nCPAP pressure displays on screen.

2. Adjust the oxygen control dial to set the desired FiO₂.

3. Adjust the pressure high flowmeter until the pressure displays 2–3 cmH₂O above the set nCPAP pressure.

4. To use the apnea monitor or BiPhasic triggered, connect the transducer interface to the Infant Flow® SiPAP driver.

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**nCPAP mode**

nCPAP mode delivers a constant, stable positive pressure to infant airways to help restore the functional residual capacity (FRC) in assisting the correction of hypoxemia.

**BiPhasic mode**

This mode cycles between high/low CPAP levels on a timed basis. Small incremental pressure increases of 2–3 cmH₂O above CPAP generate a sigh breath, and augment FRC and decrease work of breathing (WOB). The switch to the high CPAP level can be set for a duration of 0.1–30 seconds to produce a sigh.

**BiPhasic triggered mode**

This mode utilizes the respiratory abdominal sensor and transducer interface to synchronize pressure high breaths with the infant’s respiratory efforts. It allows patient triggered pressure assists with breath rate monitoring enabled, adjustable apnea time interval, apnea alarm and adjustable apnea backup rate. The upper level pressure delivers based on operator set T-high and PHigh flow rate settings. The maximum pressure setting is 15 cmH₂O. If the respiratory efforts are not detected, the infant receives the low CPAP setting and the apnea alarm initiates the delivery of the set backup rate.

**Indications for use**

- Abnormalities on physical examination include: increased WOB, increased respiratory rate, intercostal and substernal recession, grunting and nasal flaring, pale skin color, and restlessness
- Deteriorating arterial/capillary blood gas values (e.g., hypercapnea)
- Increased oxygen requirements to maintain a SaO₂ > 92% with FiO₂ > 60%
- Atelectasis and infiltration
- Clinical conditions include: apnea of prematurity, chest infections (e.g., pneumonia), transient tachypnea of the newborn (TTN), and mild meconium aspiration
- Weaning/Post extubation support

**Contraindications for use**

- Severe cardiovascular instability
- Respiratory failure defined as pH < 7.25 and PaCO₂ > 60 mmHg torr
- Congenital malformations of the upper airway
- Congenital diaphragmatic hernia
- Untreated bowel obstruction
- Poor respiratory drive unresponsive to CPAP therapy

**Signs of positive response to nCPAP therapy**

- Reduction in respiratory rate
- Stabilization or reduction in FiO₂
- Resolution of grunting
- Reduction in the degree of sternal and intercostal recession

**Infant assessment and monitoring**

- Skin color
- Chest wall stability (e.g., retractions)
- Infant’s behavior (e.g., irritability)
- Respiratory rate
- Skin condition around the prong or mask interface
- SpO₂
- Heart rate and rhythm
- Blood gas values
- Chest x-rays
- Perfusion—BP, peripheral pulses
- Abdominal girth—may need to insert an orogastric tube

**References**