

Respiratory Therapy - Unit Practice Manual
John Dempsey Hospital - Department of Nursing
The University of Connecticut Health Center

PROCEDURE FOR: Neopuff Infant Resuscitator

OBJECTIVE: To deliver CPAP through a mask or to provide manual resuscitation through a mask or endotracheal tube.

RATIONALE: The Neopuff is a flow dependent infant resuscitator that delivers breaths manually with controlled and accurate PIP and PEEP during resuscitations and transports. PEEP is maintained continuously by rotating the PEEP cap (valve) found in the patient circuit. CPAP is delivered by setting the PEEP to a numerical value and not occluding the aperture on top of the peep cap (valve). PIP is set with the "INSPIRATORY PRESSURE CONTROL" knob. Inspiration is produced when the user occludes with user's thumb the PEEP cap aperture found on top of the PEEP cap (valve). Expiration occurs when thumb is removed. Inspiratory time and respiratory rate are dependent upon user technique. The Neopuff delivers non-humidified gas.

** It is imperative that the aperture on top of the peep cap (valve) is not continuously occluded. This would result in a prolonged inspiratory hold potentially leading to a pneumothorax.

PROCEDURE: 1. Indication:

a. The decision to use the Neopuff to provide a positive pressure breath and/or to deliver PEEP is governed by a written order from the physician or neonatal advanced practitioner.

2. Equipment:

a. Assemble Neopuff with single use patient circuit, oxygen tubing and mask.

3. Function Check:

a. Set flow from compressed gas source to 10lpm. Should be set now greater than 15lpm.

b. Pressure check:

1) Turn "MAXIMUM PRESSURE RELIEF" knob to maximum (counter clockwise), turn the "INSPIRATORY PRESSURE RELIEF" knob to maximum (clockwise) and PEEP valve to zero.

2) Occlude both patient port and manual breath outlet.

3) Set "MAXIMUM PRESSURE RELIEF" to 35cm H₂O. Slide safety cover over knob, document pressure set, date and initial on tape and place on top of cover.

4) Set: "INSPIRATORY PRESSURE CONTROL" to PIP of 20cm H₂O.

5) Set PEEP to 5.

4. Application:

a. PEEP pressure check the device before use.

b. Set PEEP pressure.

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- 1) Occlude patient port of circuit.
 - 2) Observe PEEP pressure on manometer.
 - 3) Adjust PEEP valve and flow for appropriate PEEP setting.
 - 4) Assure that appropriate settings are set for the patient.
 - 5) Attach to endotracheal tube or mask.
 - 6) Monitor patient with observation and oximetry.
 - 7) The measured PEEP read on the manometer will fluctuate with the infant's respiratory pattern.
- c. To adjust the safety pop-off to greater than 35cm H₂O, remove safety cover and turn "MAXIMUM PRESSURE RELIEF" to desired value.
5. Contraindications for CPAP:
 - a. Patient is not spontaneously breathing.
 - b. Heart rate is less than 80 bpm.
 6. Hazards or Complications:
 - a. Patient may not be safely maintained during CPAP due to:
 - 1) Increased work of breathing.
 - 2) Inappropriate or inadequate oxygenation.
 - b. Prolonged inspiratory hold if aperture is continuously occluded.

APPROVAL:

EFFECTIVE DATE: 3/06

REVISION DATES: