

	RESPIRATORY SERVICES	DATE CREATED: October 2009 DATE REVIEWED/REVISED: February 2016
PROCEDURE	TITLE: <u>NEONATAL</u> – Neopuff Infant T-Piece Resuscitator (Respiratory Therapy) NUMBER: B-00-12-12097	RELATED DOCUMENTS: B-00-12-12095

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SITE APPLICABILITY:

ST. PAUL'S HOSPITAL
MOUNT SAINT JOSEPH HOSPITAL

GENERAL INFORMATION:

The Fisher & Paykel NEOPUFF infant resuscitator is a manually operated, gas powered resuscitation device used to effectively deliver set targeted peak inspiratory pressure (PIP) and positive end expiratory pressure (PEEP) at a desired FiO₂.

REQUIRED SUPPLIES & EQUIPMENT:

- NEOPUFF Infant T-piece Resuscitator
- Gas supply line with adaptor
- Patient supply line circuit with T-piece
- Infant test lung
- Appropriate sized resuscitation mask (pre-term or term)
- Blended gas source

PROCEDURE:

1. Gather required equipment. Check that the manometer reads zero with no gas flow. If it does not, the manometer requires calibration.
2. Connect the gas supply line to the blender. Connect the patient supply line circuit with the T-piece to the gas outlet port. Connect the test lung to the patient T-piece.

NOTE: If a test lung is not available occlude the patient T-piece with a cap or gloved hand.

3. Check settings by adjusting the gas supply to the desired flowrate of 8 L/min.

NOTE: Do not attempt to use a flowrate greater than 15 L/min.

Setting Maximum Pressure Relief

- a) Occlude the hole on the flow resistor (PEEP) cap and turn PIP control fully clockwise.

- b) Adjust maximum pressure control knob to set desired maximum pressure relief of 40 cmH₂O.

Setting Peak Inspiratory Pressure (PIP)

- a) While still occluding the PEEP cap, turn PIP control knob counter clockwise until the desired peak inspiratory pressure of 20 cmH₂O is set.

Setting Positive End Expiratory Pressure (PEEP)

- a) Adjust PEEP cap to the desired PEEP level of 5 cmH₂O.
4. Turn off gas supply and remove test lung from T-piece.

PROCEDURE FOR RESUSCITATION

1. Adjust gas supply to the desired flowrate of 8 L/min.

NOTE: Do not attempt to use a flowrate greater than 15 L/min.

2. Set FiO₂ using oxygen blender [B-00-12-12095](#).
3. Fit patient T-piece to neonatal resuscitation mask and place over the neonate's mouth and nose, **OR** fit the patient T-piece to the endotracheal tube.

NOTE: The appropriate size mask will cover the mouth, nose and tip of the chin only.

4. Resuscitate by placing and removing thumb over the port on the PEEP cap to allow inspiration and expiration
 - a) Neopuff is cycled onto PIP by occluding the hole on the flow resistor (PEEP) cap.
 - b) Observe the PIP on the manometer on the face of the Neopuff.
 - c) When set PIP is reached, immediately remove finger from PEEP cap. This allows for exhalation.

NOTE: The time allowed for cycling the breath onto the set PIP should not exceed 0.5 seconds.

- d) Ventilate as per the desired rate of 40-60 bpm.
5. Once the Neopuff is no longer required, discard both the patient supply line with the T-piece and the gas supply line, and wipe the surface of the unit with Cavi-wipes. Recircuit and perform set up procedure.

REFERENCES:

1. Bennett, Stacie, et al. "A comparison of three neonatal resuscitation devices." *Resuscitation* 67.1 (2005): 113-118.
2. Stenson, Benjamin J., David W. Boyle, and Edgardo G. Szyld. "Initial ventilation strategies during newborn resuscitation." *Clinics in perinatology* 33.1 (2006): 65-82.
3. Hawkes, Colin Patrick, C. Anthony Ryan, and Eugene Michael Dempsey. "Comparison of the T-piece resuscitator with other neonatal manual ventilation devices: a qualitative review." *Resuscitation* 83.7 (2012): 797-802.

REVIEWED BY:

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