

**Policy: Nasal Continuous Positive Airway Pressure (CPAP)
Setup of Respiratory Circuits**

1) Purpose:

To provide instructions on how to set up bubble CPAP respiratory circuit

2) What do you need?

- Oxygen and Air sources
- Blender and Flow meter
- Humidifier
- Inspiratory & Expiratory tubing
- Proper elbow connectors and adaptors
- Bubbler bottle, measuring tape and

3) Step by Step Instructions

A) Oxygen and air sources

Oxygen and air sources provide gas flow that constitute the gas mixture

1. Securely, connect air and oxygen sources to the blender

B) Blender

The blender controls how much FiO_2 is delivered to the infant.

1. Adjust FiO_2 to keep saturation between 87-93% or as per MD instructions
2. Adjust Flow meter between 5-7 liters of gas mixture per min

C) Humidifier

The Humidifier provides warmth and humidity to the gas delivered to the infant.

1. Items needed to set the Humidifier
 - Oxygen Barb $\frac{3}{4}$ " O.D
 - Adapter, Trach T 22mm
 - Bacterial/ Viral Filter
 - Airlife Cuff Connector - 22 mm I.D.
 - Humidifier Chamber
2. Attach the following pieces from top to bottom as follow:
 - 1- Oxygen Barb to Adapter Trach 'T'
 - 2- Adapter Trach 'T' to Filter

- 3- Filter to Airlife Cuff Connector
- 4- Insert Cuff connector into Humidifier Chamber

D) Inspiratory & Expiratory Tubing

The inspiratory and expiratory tubes deliver gas mixture to and from the infant

1. The blue tube is usually connected as the 'Inspiratory side' to deliver gas mixture from Humidifier to the infant.
 - a. Attach one end of the blue tube to the Humidifier and the other end to one side of the nasal prongs
2. The white tube is usually connected as the 'Expiratory side' to move gas mixture from the infant to the Bubble Bottle.
 - a. Attach one end of the white tube to the other end of the nasal prongs. The other end of the white tube will be under a water seal in the bubbler

E) Bubble Bottle/Bubbler

1. Items needed to set the Bubbler
 - Sterile water Bottle or 0.25% Acetic Acid Bottle
 - Mask Intubation Adapter (15mm X 22mm)
 - Silicone Flex-adapter
 - Measuring tape (cut from 0 to 8cm)
 - Capillary Tube
2. Attach the following pieces as follow:
 - 1- Attach the Measuring Tape (8cm) to the Bottle starting from the bottom (Zero up)
 - 2- Attach the Capillary tube to the Mask Intubation adapter
 - 3- Thread the bottom of the Capillary tube through the Silicone Flex-adapter and push half way up and over the Mask Intubation Adapter
 - 4- Place the Capillary Assembly in the Bottle top
 - 5- Empty Acetic Acid to Zero level
 - 6- Cut the Gas escape hole in the Bottle
 - 7- Connect it to the Expiratory Tubing
 - 8- Adjust the Capillary tube depth to the desired bCPAP PEEP level (5-6 cmH₂O)