| Providence Health Care | Department: Respiratory Services | Date Originated: October 2009<br>Date Reviewed/Revised: |
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| **PROCEDURE** | Topic: Critical Care – Hi-OX® Adult Oxygen Mask (Respirator Therapy)<br>Number: B-00-12-12065 | Related Links: |

**APPLICABLE SITES:**

St. Paul's Hospital
Mount Saint Joseph Hospital

**GENERAL INFORMATION:**

The Hi-OX mask is capable of delivering a high concentration of oxygen using relatively low flow rates.

The Hi-OX mask should be used as an alternative to high-flow nebulizer oxygen when droplet aerosolization is a concern (i.e. enhanced droplet precautions).

Within PHC facilities the Hi-OX mask will be used for those patients that require high concentrations of oxygen (≥ 0.50) AND have suspected or confirmed influenza H1N1.

The Respiratory Therapist will be responsible for the set-up of the mask and will provide ongoing monitoring of the patient (min. Q shift).

At **SPH** Hi-OX masks will be available in the Wards Emergency Cart, ICU, Emergency, and the 8B Supply Room.

At **MSJH** Hi-OX masks will be available in ICU, Emergency, and the Respiratory Supply Room on the ground floor.

Whenever possible bronchodilator therapy will be provided with MDI and spacer.

**EQUIPMENT:**

- Hi-OX Adult Oxygen Mask
- Pall Filter

**PROCEDURE:**

1. Visually inspect valve positions in mask, by looking directly at face of mask and verifying that all three valves are pointed in the correct direction. Refer to Figure 1 - arrows indicate direction of flow.

2. Visually inspect the blue port plug and verify that it is tightly plugged into the port. Older versions of the Hi-OX mask do not have a port plug.

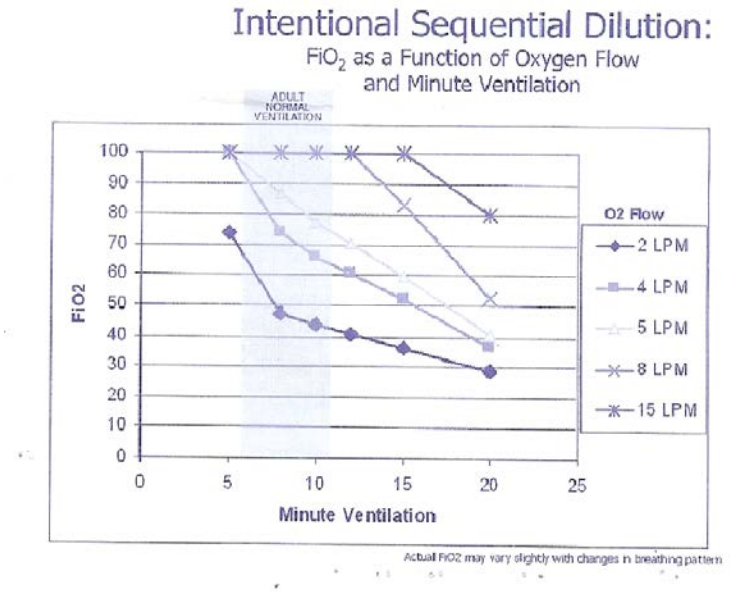
3. Connect the oxygen tubing directly to an oxygen flowmeter outlet.

4. Start the oxygen flow at 8 L/min.

   **NOTE:** Oxygen flow may be titrated up or down based upon the patient's ventilatory demands and oxygen saturation.

   **NOTE:** Do not decrease the oxygen flow below 6 L/min. If the patient condition allows for further weaning of oxygen, consider changing to a simple mask or nasal prongs.

   **ENSURE THAT THERE IS ENOUGH OXYGEN FLOW TO MAINTAIN THE RESERVOIR BAG ⅓ INFLATED DURING INHALATION.**




5. Place the mask on the patient and ensure it is snug by adjusting the straps on either side of the mask, with one above and one below the patient's ears. Mold the metal strip on the mask to fit the patient's face.

6. Assess that the mask is operating properly by observing flow through the one-way valves. Refer to Figure 1 – arrows indicate direction of flow.

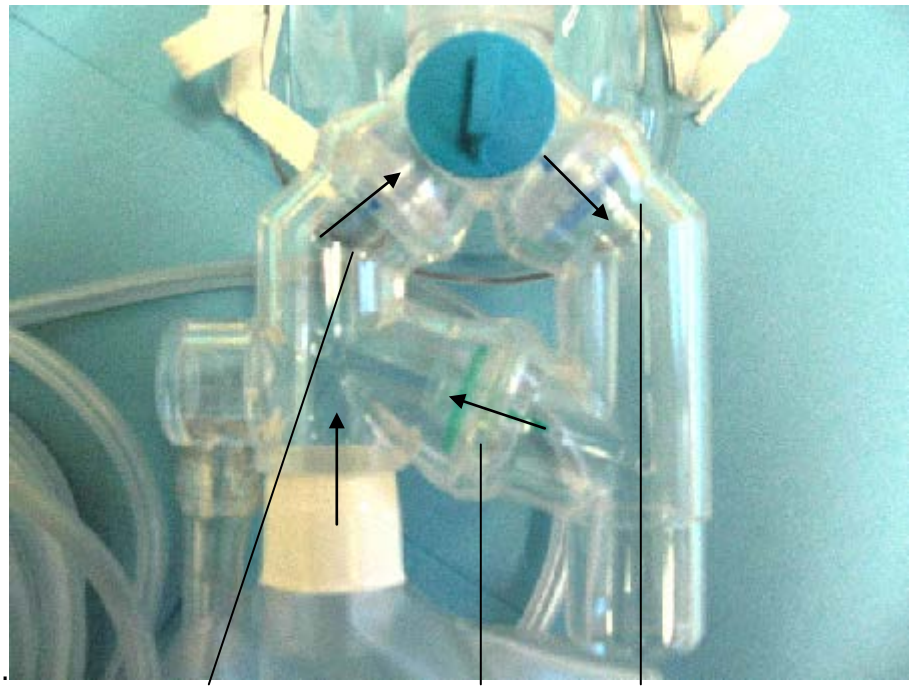
   a. The valve between the oxygen source and the patient should rise on every inspiration and lower on exhalation.

   b. The valve between the patient and the expiratory port should open during exhalation and close during inspiration.

   c. The valve between the inspiratory and expiratory port should not open on inspiration. If it opens then the oxygen flow is not adequate to meet patient inspiratory demands.

   d. Observe the filling and emptying of the inspired oxygen reservoir bag. If the reservoir bag empties during inhalation, increase the oxygen flow to keep bag ⅓ inflated during inhalation.

Figure 1.




7. Attach the Pall filter to the expiratory port of the mask when transporting the patient internally in the hospital or externally between facilities. A Pall filter should also be used if it's anticipated that they may be in close proximity to other patients or staff (i.e. Radiology).

Figure 2.

**AS THE HI-OX OXYGEN MASK DELIVERS HIGH OXYGEN CONCENTRATIONS WITHOUT HUMIDITY, THE OXYGEN FLOW SHOULD BE ACTIVELY WEANED AS TOLERATED WITH THE GOAL OF TRANSITIONING BACK TO A CONVENTIONAL DELIVERY DEVICE (i.e. SIMPLE MASK OR NASAL PRONGS).**