

Glendale Fire Department Policy and Procedure Manual

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Purpose

To perform as a “hands free” positive pressure resuscitation and inhalation system based on patient response.

Policy

The Oxylator is approved for use by paramedic and EMT -1 personnel. Because of its superior oxygen delivery system, the Oxylator should be attempted on all patients who require respiratory assistance via bag valve masks, ET tubes, Combitubes or tracheotomy devices. The Oxylator is designed for use on patients weighing between 20 lbs. and 300 lbs (if used in patients over 300 lbs. it may be used in manual mode to compensate for expanded lung capacities).

Note: The Oxylator may not function to full capacity in the following situations:

1. Excessive secretions/blood/vomitus in the airway.
2. When medications are administered via the ETT.

In these situations discontinue the use of the Oxylator and use the bag valve mask for ventilations.

Procedure

- I. Non-Intubated Patients
 - A. Connect the Oxylator directly to the facemask.
 - B. Initiate the pressure setting at 25 cm H₂O.
 - C. Connect the oxygen connector hose to the Oxylator and the oxygen tank.
 - D. With the oxygen tank fully turned on, depress the oxygen release button (gold button) and turn clockwise 1/4 turn to lock. This will allow a constant flow of 600 ml of 100% oxygen per second.
 - E. Place the mask on the patient’s face and ensure a good seal with an open airway.
 - F. The Oxylator will ventilate the patient and chest rise and fall will occur. The Oxylator will cycle on and off automatically. Cycling should occur with inhalation times of 1 ½ - 2 seconds per inhalation. Adjust the pressure settings upwards from 25 cm by 5 cm increments until the Oxylator cycles with an inhalation time of **1 ½ to 2 seconds for adults, or 1 second for children above 20 lbs.** Observe for chest rise and fall, color improvement and auscultate breath sounds.
 - G. During operation, if a **stuttering sound or rapid cycling occurs**, turn off the oxygen release (gold button) by rotating 1/4 turn counterclockwise and check for airway blockage.

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- H. Restart the Oxylator by depressing the gold button 1/4 turn clockwise. If the problem still exists, adjust the pressure settings upwards from 25 cm by 5 cm increments until the Oxylator cycles with the desired inhalation time.
- II. Intubated Patients
- A. Initiate the pressure setting at 30 - 35 cm H₂O.
- B. Connect the oxygen connector hose to the Oxylator and the oxygen tank.
- C. Connect the extension tube to the Oxylator and to the inserted airway adjunct.
- D. With the oxygen tank fully turned on, depress the oxygen release button (gold button) and turn clockwise 1/4 turn to lock. This will allow a constant flow of 600 ml of 100% oxygen per second.
- E. The Oxylator will ventilate the patient, and chest rise and fall will occur.
- F. If a **stuttering sound or rapid cycling occur**, turn the gold button 1/4 turn counterclockwise and checked for airway blockage, a kinked extension tube or possible right mainstem intubation.
- G. Adjust the pressure settings upwards from initial setting of 30 - 35 cm by 5 cm increments until the Oxylator cycles with an inhalation time of **1 ½ to 2 seconds for adults, or 1 second for children above 20 lbs.**
- III. Operation During CPR
- A. During compressions, the Oxylator will not cycle normally. The device is adjusting for lung compliance and exhalation as the chest is being compressed. If a normal ventilation cycle is desired, it is necessary to pause compressions to allow for ventilation to occur.
- B. If ventilation between each compression is desired, set the Oxylator to a range of 40-50 cm H₂O and then engage the automatic mode (gold button). This will allow for oxygen delivery into the lungs between each chest compression, filling the lungs until the 40-50 cm H₂O “pop off” pressure is reached. When that pressure is reached the device goes into passive exhalation mode and each subsequent chest compression then assists in the exhalation phase. The beginning of a new phase is started only when the exhalation phase is completed, preventing the “stacking” of breaths.
- IV. Change in Respiratory Status
- A. If the patient regains spontaneous respirations, discontinue the automatic mode by turning the gold button 1/4 turn counterclockwise. Immediately turn the black INH button all the way to the left. This will now deliver 15 liter per minute flow of O₂ from the device.

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- B. Ventilations may be assisted by depressing the gold button when the patient spontaneously inhales. When the patient exhales, the Oxylator will shut down and allow for passive exhalation.
- V. Maintenance (perform after each patient use)
 - A. Disassemble the Oxylator by unscrewing both ends.
 - B. Discard the filter
 - C. Wash all four parts in soap and water or disinfectant if contaminated.
 - D. Rinse, dry, **replace the filter** and reassemble.

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