Subject: Treatment Guidelines – BLS
Oxygen Administration Protocol

Associated Policies:

I. Purpose:

1. The purpose of this policy is to ensure that high quality care is delivered to patients with regard to the administration of oxygen and the appropriate monitoring of patients receiving oxygen.
2. The administration of supplemental oxygen is an essential element of appropriate management for a wide range of clinical conditions. However, oxygen should be regarded as the drug that it is and not administered unless the patient's condition warrants its use.
3. Failure to administer oxygen appropriately can result in serious harm to some patients.

II. Definitions:

1. High vs. Low Concentration
   a. Low Concentration (21% to 50%)
   b. High Concentration (50% to 100%)
2. High or Low flow -
   a. Low flow adds oxygen to patients' inspiratory flow.
   b. High flow provides all inspiratory flow. (40-60liters per minute)

III. Equipment:

1. Low Flow devices:
   a. Nasal Cannulas
   b. Simple Face Masks
   c. Non Rebreather Masks
2. High Flow devices:
   a. CPAP Mask Device
   b. Bag Valve Mask Device
   c. Mechanical Ventilators (*not in BLS scope*)

IV. Indications:

1. The lowest flow of supplemental oxygen should be given to patients to maintain normal oxygen saturations.
2. Noninvasive monitoring of blood oxygen saturation can be useful to decide on the need for oxygen administration and how much should be administered.
3. It is appropriate to administer high concentrated oxygen to patients during the initial assessment to avoid any unnecessary delay for those patients who are truly hypoxic.
4. Once the initial assessment has been completed, oxygen administration than can be titrated to the patient's needs.

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5. Patients who should always receive high concentrations of oxygen include those patients with evidence of hypoxia, (IE agitation or cyanosis), altered mental status, poor tissue perfusion or Carbon Monoxide exposure.
6. Severe trauma patients, GI bleeds or potential hypovolemic patients should receive high concentrations of oxygen.
7. In addition, any patient with actual or potential airway compromise or respiratory compromise should receive high concentrations of oxygen.
8. Critically ill or injured patients should be given low flow/ high concentrated oxygen via a non-rebreather mask without delay and reevaluated frequently to determine if supplemental oxygen is being delivered in the appropriate amounts.
9. Patient who should not receive high concentrated oxygen:
   a. Patients who have oxygen saturations of greater than 94% without signs or symptoms of hypoxia or impending airway compromise.
   b. Chest pain or stroke patients without respiratory distress and adequate vital signs.
   c. Patients without hypoxia or hemodynamically compromised.
   d. Patient with history of COPD without signs of respiratory failure.
10. Any patient may benefit from low concentration/low flow administration of oxygen but the clinician needs to weigh the risks and benefits of doing so.

V. Procedure

1. Assemble supplies and equipment:
2. Obtain baseline Pulse Oximetry level when available.
3. Ensure oxygen is available in quantity needed
4. Determine patient's oxygen need and provide oxygen via appropriate device.
5. Connect device to oxygen source, and adjust liter flow to desired rate. Be sure oxygen is flowing before patient application.
6. Apply delivery device to patient.
7. Recheck patient frequently for signs of improvement or deterioration.
8. Evaluate Pulse oximetry reading frequently.
9. Titrate oxygen delivery to maintain Pulse Oximetry of 94%.

VI..Dosage

1. Mild Distress: - No signs of hypoxia or hemodynamic compromise. Patients with Pulse Oximetry of 94% to 100%.
   a. Low flow/low concentration - 2 to 6 liters via Nasal Cannula or blow by.

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2. Medium Distress: - Signs of hemodynamic compromise and a normal mentation with adequate respiratory rate and effort. During initial evaluation of potentially critical patients. (e.g. --multi system trauma patients, altered level of consciousness or complicated chest pain or stroke patients.)
   Patients with Pulse Oximetry of 90% to 94%
   a. Low flow/Medium to High Concentration Simple face mask or Non Rebreather Mask-

3. Severe Distress: - Unresponsive with or without adequate respiratory effort and/or rate. Respiratory and/or cardiac arrest. Partial airway obstruction or impending airway compromise. Critically ill, hemodynamically unstable patients who are altered from possible hypoxic causes. Severe congestive heart failure patients or COPD patients that would benefit from positive pressure.
   a. Low Flow/High Concentration - Non-rebreather mask - 12 to 15 liters per minute, if respiratory effort is adequate.
   b. High Flow/High Concentration - CPAP mask device - 10 to 20 liters per minute for respiratory distress secondary to CHF or COPD in the conscious patient.
   c. High Flow/ High Concentration - Assist Ventilations with BVM with 15 to 25 liters, when respiratory effort or rate is inadequate at appropriate ventilatory rate:
      Adults and children: 10 to 12 times a minute.
      Infants < one (1) year: 20 times a minute.

VII. Precautions:
1. Monitor respiratory effort and rate closely if patient has a history of COPD. In isolated cases, respiratory depression may occur during administration of high concentrated oxygen to COPD patients.
2. Evaluate all patients frequently and determine the need to titrate oxygen administration either more aggressively or the need to reduce the administration rate.
3. When pulse Oximetry is available, leave in place to allow for serial levels to be monitored.

Approved: _____

Approved as to Form: _____

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