



## 10. OXYGEN

### a) Pharmacology

- (1) Increases oxygen content of the blood
- (2) Improves tissue oxygenation
- (3) Decreases energy expended for respirations

### b) Pharmacokinetics

Changing the percentage of inspired oxygen results in an increased blood and tissue level equilibration within 5–20 minutes.

### c) Indications

- (1) If evidence of hypoxia (Less than 94% SpO<sub>2</sub>)
- (2) Respiratory distress
- (3) Cardiopulmonary arrest
- (4) Trauma
- (5) Suspected CO exposure
- (6) Dyspnea

### d) Contraindications

Not clinically significant

### e) Adverse Effects


High concentrations of oxygen will reduce the respiratory drive in some COPD patients; these patients should be carefully monitored.

### f) Precautions

- (1) Never withhold oxygen from those who need it.
- (2) Oxygen should be given with caution to patients with COPD.
- (3) Simple or partial rebreather face masks must be supplied with a minimum 6 lpm.
- (4) Non-breather (NRB) face masks must be supplied with a minimum 12 lpm.

### g) Dosage

- (1) Adult: Administer 12–15 lpm via NRB mask or 2–6 lpm via nasal cannula, as needed.  
CO exposure: Administer 100% oxygen via NRB mask. Maintain SpO<sub>2</sub> at 100%
- (2) Pediatric: Administer 12–15 lpm via NRB mask or 2–6 lpm via nasal cannula, as needed.  
CO exposure: Administer 100% oxygen via NRB mask. Maintain SpO<sub>2</sub> at 100%

| Percent O <sub>2</sub> Saturation   | Ranges           | General Patient Care  |
|---|------------------|---|
| 94–100%   | Normal           | Give oxygen as necessary  |
| 91–93%  | Mild Hypoxia     | Give oxygen as necessary  |
| 86–90%  | Moderate Hypoxia | Give 100% oxygen<br>Assisting Ventilations if necessary           |
| less than or equal to 85%   | Severe Hypoxia   | Give 100% oxygen<br>Assist Ventilations<br>If indicated, Intubate |
|  INACCURATE OR MISLEADING SpO <sub>2</sub> READINGS MAY OCCUR IN THE FOLLOWING PATIENTS: HYPOTHERMIC, HYPOPERFUSION (SHOCK), CO POISONING, HEMOGLOBIN ABNORMALITY, ANEMIA, AND VASOCONSTRICTION. |                  |   |