Oxygen Administration

Assuring adequate patient oxygenation is a fundamental responsibility of EMS providers at all levels. Supplemental oxygen when clinically indicated and through the proper delivery system can have an important impact on patient outcome.

INDICATIONS FOR OXYGEN ADMINISTRATION

1. Real or suspected hypoxia
2. Patients in respiratory or cardiac arrest
3. Respiratory distress
4. Chest pain, stroke, seizures, or altered mental status when pulse oximetry is unavailable or when oxygen saturation is less than 94%
5. Major multiple system trauma or isolated chest trauma
6. Shock
7. Suspected carbon monoxide and/or cyanide poisoning (including smoke inhalation) regardless of pulse oximetry value
8. Complicated childbirth
9. Patients who normally use supplemental oxygen as part of their routine care
10. Any condition in which pulse oximetry is <94%, when available

CONTRAINDICATIONS FOR OXYGEN ADMINISTRATION

1. There are no absolute contraindications to oxygen administration.
2. In general, supplemental oxygen should be guided by pulse oximetry (when available) to maintain oxygen saturations ≥94%.
3. Patients with COPD may develop a hypoxic drive to breath. High concentrations of oxygen may suppress their respiratory drive. Oxygen should still be administered when clinically indicated. Providers should monitor for respiratory depression and assist ventilations when indicated.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

1. Assure the patient has an adequate airway or establish an airway in accordance with the **Emergency Airway Procedure.**
2. In spontaneously breathing patients administer supplemental oxygen by appropriate means.
   A. Nasal cannula at 2-6 LPM (decrease for peds): This is appropriate for most patients with mild to moderate hypoxia and minimal or no respiratory distress. Most patients tolerate nasal cannulas.
   B. Non-rebreather (NRB) mask at 8-12 LPM (adjust flow rate to keep reservoir bag inflated). An NRB should be used on all spontaneously breathing patients with moderate to severe respiratory distress and all patients with suspected carbon monoxide and/or cyanide poisoning (e.g., smoke inhalation).
3. In patients not breathing or breathing below their normal respiratory rate use a bag-valve-mask to provide ventilations at 8-12 LPM (decrease in peds to assure reservoir bag inflated). See **Emergency Airway Procedure.**
4. Pediatric "blow-by" oxygen is an ineffective means of delivering supplemental oxygen to pediatric patients and should be avoided when possible. Pediatric nasal cannulas are well tolerated by most children. When using, blow-by technique, keep mask as close to face as possible and use high flow (e.g., ~15 LPM).
5. When caring for patients with stomas, use pediatric size masks.