# PG01 Pediatric Airway/Oxygenation/Ventilation

#### **Objectives:**

- Ensure patency of airway
- Provide proper oxygenation therapy
- Support the patient's breathing as needed

### General Information:

- Oxygen therapy for patients with altered mental status, hypoperfusion, cardiac chest pain, trauma, carbon monoxide exposure, Dyspnea or sickle cell patient in pain crisis regardless of SPO2 reading
- When possible, a room air pulse oximetry reading should be obtained and documented
- Oxygen therapy
- a) The goal is to maintain SPO2  $\geq$  95% but may not be achievable due to various conditions (eg patient history, device limitations)
  - i) SpO2 90-94% Nasal Cannula at 1 6 lpm
  - ii) SpO2 <90% Non-Rebreather at 10 15 lpm
- b) The pulse oximetry reading should not be the sole factor to determine if the patient needs oxygen
- A BLS airway is adequate for most pediatric patients. However, a brief attempt at oral intubation by an experienced provider is appropriate.
- Assisted Ventilations
- a) BLS Airwav
  - i) The ventilation rate for pediatric patients is 12-20 bpm, or once every 3-5 seconds without CPR ii) Attempts should be made to use 2 providers to ensure adequate BVM ventilations using "E-C" technique
  - iii) Cricoid pressure should be maintained until an advanced airway is in place
- b) ALS (Advanced) Airway 8 -10 breaths per minute, or once every 6-8 seconds with CPR
  - i) Select tube size using one of the following methods:
    - Size indicated on the length based resuscitation tape
    - (16 + age) divided by 4 or (Age divided by 4) + 4
    - ii) Cardiac Monitor and Pulse Oximetry are required
    - iii) Consider OG/NG tube when using BVM or after endotracheal intubation
    - iv) Unconscious Intubated Patients
      - Verify tube placement \*
      - Secure with commercial device \*
      - Package on a long board with Cervical Spine immobilization with CID
      - Reassess tube placement every 5 minute, during transport or after movement of the patient

### Warnings/Alerts:

- Failure to use end-tidal CO2 monitoring increases the risk of an unrecognized misplaced tube
- Failure to confirm tube placement prior to securing or following patient movement may lead to unrecognized tube displacement
- Apnea is an absolute contraindication to nasal intubation

### OMD Notes:

- Needle cricothyrotomy may be used in children 3-12 years old if the cricothyroid membrane can be palpated
- Consider oxygen therapy for sickle cell patients in pain crisis as they may benefit from this therapy **References:**
- 2005 AHA PALS Provider Manual pg 161 Brady SLAM: Street Level Airway Management pg 219
- 2005 AHA ACLS

EMT-B Curriculum

### Performance Indicators:

- Initial and Ongoing SpO2 Confirmation of ETT **Documentation of Breath Sounds** Application of Oxygen Use of Secondary Airway Patient Packaging

#### Note: This protocol is to be used in conjunction with existing protocols in a complementary manner. Consider Supplemental Oxygen The Goal is SpO2 ≥ 95% No Loss of Airway or SpO2 90-94% = Nasal Cannula Inadequate Breathing? SpO2 <90% = Non-rebreather Yes Provide Oxygen Therapy for Altered Consider calling for Mental Status, Hypoperfusion, Chest assistance if <3 Pain, Trauma, Carbon Monoxide providers present or if Exposure, or Dyspnea regardless of SpO2 needed. reading. Consider complete Ε No Airway patent after airway obstruction. I airway maneuvers? Visualize airway, remove Ρ foreign body if necessary Yes Complete No Yes BVM, High Need for breathing Obstruction? concentration oxygen support? Yes No [I] P Percutaneous Needle Tension Exit or return to Yes Cricothyrotomy or Pneumothorax with Needle Ρ appropriate Sanctioned Alternative serious signs and Decompression protocol symptoms? Airway Kit No Yes **BVM effective?** No I **Orally Intubate** Ρ patient Ε Assess placement, Secure ETT, I Package for transport Ρ [I] Consider: 2 mg Valium IV or 2 mg Ρ Versed IV for post-intubation sedation Exit or return to appropriate protocol

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