

# 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 Airway
    - 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
      - \*  $(16 + \text{age}) \div 4$  or  $(\text{Age} \div 4) + 4$
    - 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

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Note: This protocol is to be used in conjunction with existing protocols in a complementary manner.

