Post-intubation / BIAD Management

Capnography Monitoring

- **End-tidal (EtCO2) monitoring is mandatory following placement of an endotracheal tube.**
- **EtCO2 monitoring is mandatory following placement of a BIAD once available on scene.**

Protocols AR 1, 2, 3, 5, and 6 should be utilized together (even if agency is not using Drug Assisted Airway Protocol) as they contain useful information for airway management.

ETT or Blind Insertion Airway Device Successful

NO → Exit to Appropriate Adult or Pediatric Airway Protocol(s) 1 – 7

YES

Continue Airway Adjuncts
Maintain SpO2
92% - 98%
Ventilate Age Appropriate breaths / minute
May require faster rate
See Pearls

B	12 Lead ECG Procedure CSP 1 ***as indicated***
A	IV / IO Access Protocol UP 6 (preferably 2 sites)
P	Cardiac Monitor
P	Transport Ventilator Procedure ***If available***

Awakening or Moving after Intubation / BIAD Placement

Evidence of Anxiety / Agitation

NO → Notify Destination or Contact Medical Control

YES

P

Ketamine 2.0 mg/kg IV / IO

Fentanyl 50-100 mcg IV / IO / IM / IN
Age ≥ 65: 25-50 mcg IV / IO / IM / IN
Repeat **25-10 mcg** every 5 minutes **Maximum 200 mcg**
Peds: 1 mcg/kg IV / IO / IM / IN
May repeat 0.5 mcg/kg every 5 minutes
Maximum 2 mcg/kg
Or
Morphine 5 mg IV / IO / IM
Age ≥ 65: 2.5 mg IV / IO / IM
Repeat **2.5 mg** every 5 minutes as needed
Peds: 0.1 mg/kg up to Max 5mg
IV / IO / IM
May Repeat every 5 minutes
Maximum of 10 mg

Midazolam 2.5 mg IV / IO
Age ≥ 65: 1 mg
Repeat every 5 minutes as needed
Maximum 10 mg
Pediatric: 0.2 mg / kg IV / IO / IN

Consider long term paralytic (see pearls)
Rocuronium 1 mg / kg IV / IO
if needed for patient movement
Not indicated in Pediatrics

Notify Destination or Contact Medical Control

Airway Respiratory Protocol Section

Post-intubation / BIAD Management

**** Refer to Length-Based Medication Tape for Medication Doses IF pediatric patients weight is unknown ****

Rocuronium may only be administered by technicians who are approved to perform Drug Assisted Intubation by the Harnett County EMS System Medical Director.

Consider Push-Dose Vasopressor Agent for any of the following indications:

1. **Indications**
   - a. Peri-intubation hypotension
   - b. Post-arrest (post-ROSC) hypotension
   - c. Hypotension requiring initiation of vasopressor drip – prior to drip setup
   - d. Unstable bradycardia (as a supplement to other therapy)
2. **Instructions**
   - a. Draw up 1mL of 1:10,000 epinephrine
   - b. Waste 1mL of saline from a 10mL saline flush
   - c. Add the 1mL of epinephrine to the remaining 9mL of saline
     - i. This yields epinephrine in a concentration of 10mcg/mL
   - d. Place a medication added label on this syringe to identify it as a vasopressor
   - e. Administer 10mcg (1mL) every 2 minutes as needed to achieve desired blood pressure or heart rate

Pearls

- Continuous pulse oximetry and capnography is **MANDATORY**.
- **Recommended Exam: Mental Status, HEENT, Heart, Lungs, Neuro**
- **Patients requiring advanced airways and ventilation commonly experience pain and anxiety.**
- **Unrelieved pain can lead to increased catecholamine release, ischemia, immunosuppression, and prolonged hospitalization.**
- **Ventilated patients cannot communicate pain/ anxiety and providers are poor at recognizing pain/ anxiety.**
- **Vital signs such has tachycardia and/ or hypertension can provide clues to inadequate sedation, however they are not always reliable indicators of a patient's lack of adequate sedation.**
- **Sedation strategy:**
  - **Pain is the primary reason patients experience agitation and must be addressed first.**
  - **Opioids and/ or Ketamine are the first line agents, alone or in combination.**
  - **Benzodiazepines may be utilized if patient is not responding to adequate opioid and/ or Ketamine doses.**
  - **Paralysis is considered a last resort, only when patients are not responding to opioid, Ketamine, or benzodiazepines.**
  - **Patients that have received paralytics may be experiencing pain with no obvious signs or symptoms.**
  - **Consider sedation early after giving paralytics, especially in patients receiving Rocuronium.**
- **Ventilation rate:**
  - **Guidelines: 30 for Neonates, 25 for Toddlers, 20 for School Age, and for Adolescents the normal Adult rate of 10 – 12 per minute.**
  - **Maintain EtCO2 between 35 - 45 and avoid hyperventilation.**
- **Ventilator/ Ventilation strategies will need to be tailored to individual patient presentations. Medical director can indicate different strategies above.**
- In general, ventilation with BVM should cause chest rise. With mechanical ventilation a reasonable tidal volume should be about 6 - 8 mL/kg and peak pressures should be < 30 cmH_20. Plateau Pressures should be < 30 cmH_20.
- Head of bed should be maintained at least 10 – 20 degrees of elevation when possible, to decrease aspiration risk.
- With abrupt clinical deterioration, if mechanically ventilated, disconnect from ventilator to assess lung compliance.
- **DOPE: D**isplaced tracheostomy tube/ ETT, **O**bstructed tracheostomy tube/ ETT, **P**neumothorax and **E**quipment failure.