Airway, Drug Assisted

Indications for Drug Assisted Airway
Failure to protect the airway
and/or
Unable to oxygenate
and/or
Unable to ventilate
and/or
Impending airway compromise

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

Preoxygenate 100% O2

IV / IO Access Protocol UP 6 (preferably 2 sites)

P — Assemble Airway Equipment
Suction equipment
Alternative Airway Device

Hypoxic Or Hypotensive Or Dangerously Combative?

YES →

P — **Airway Management**
Ketamine 2 mg/kg IV / IO

Airway Management + Dangerously Combative
Ketamine 400 mg IM
Ketamine 2 mg/kg IV / IO

Correct Hypoxia and/or Hypotension

Adult Airway
Adult Failed Airway
Protocol(s) AR 1, 2
as indicated

Hypotension / Shock
Protocol AM 5
as indicated

NO ↓

P
Ketamine 2 mg/kg IV / IO
May repeat x 1

Rocuronium 1.5 mg/kg IV / IO
May repeat x 1

Intubate trachea
(Direct AP 6 or Video AP 7)

Placement Verified By:
Continuous SPO2 & Capnography
ASP 5, 6

Consider
Restraints: Physical Procedure USP 5

Hypoxia corrected
Hypotension corrected
Dangerously Combative condition corrected
Patient still requires intubation?

YES → (to Ketamine 2 mg/kg IV / IO)

NO ↓

Awakening or Moving after intubation

NO → Exit to Appropriate Protocol(s)

YES ↓

Exit to Post-intubation / BIAD Management Protocol AR 8

Procedure will remove patient's protective airway reflexes and ability to breath.

You must be sure of your ability to intubate before beginning this procedure.

Must have two (2) Paramedics on scene

Red Text
are the key performance indicators used to evaluate protocol compliance.

An Airway Evaluation Form must be completed on every patient who receives Rapid Sequence Intubation.

Airway Respiratory Protocol Section

Airway, Drug Assisted

Consider Push-Dose Vasopressor Agent

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

- **Capnography Monitoring (EtCO2):**
  - **Continuous Waveform or Quantitative Capnography and Pulse Oximetry are required for intubation verification and ongoing patient monitoring (Not validated and may prove impossible in the neonatal population - Verification by two (2) other means is recommended in this population.)**
  - **Capnography verification and monitoring is required for BIAD verification and monitoring once available on scene**
- **Agencies must maintain a separate Performance Improvement Program specific to Drug Assisted Airway.**
- **This procedure requires at least 2 Paramedics. See Pearls section of protocols AR 1 and 2.**
- **For the purposes of this protocol a secure airway is when the patient is receiving appropriate oxygenation and ventilation.**
- **If an effective airway is being maintained by BVM with continuous pulse oximetry values of ≥ 90%, it is acceptable to continue with basic airway measures.**
- **Ventilation rate:**
  - **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.**
- **Hypoxia and/or Hypotension:**
  - **Increased risk of cardiac arrest when a sedative with paralytic medications are administered while hypoxic and/ or hypotensive.**
  - **Resuscitation and correction of hypoxia and/ or hypotension are paramount prior to use of these combined agents.**
  - **Ketamine administration allows time for appropriate resuscitation of hypoxia and/or hypotension while managing the airway.**
- **Ketamine for airway intervention and/ or sedation purposes:**
  - **Ketamine may be used in pediatric patients (fit within a Pediatric Medication/ Skill Resuscitation System product, ≤ 15 years of age, or ≤ 49 kg) with DIRECT ONLINE MEDICAL ORDER by the system MEDICAL DIRECTOR or ASSISTANT MEDICAL DIRECTOR only.**
  - **Agencies using Ketamine in the pediatric population must also be using in their adult population.**
- **KETAMINE:**
  - **Ketamine may be used with and without a paralytic agent in conjunction with either an OPA, NPA, BIAD or endotracheal tube. (BIAD is preferred over endotracheal tube until hypoxia and/ or hypotension are corrected).**
  - **Ketamine may be used during the resuscitation of hypoxia or hypotension in conjunction with airway management. Once hypoxia and hypotension are corrected, use of a sedative and paralytic can proceed if indicated.**
  - **Ketamine may be used in the dangerously combative patient requiring airway management IM. IV / IO should be established as soon as possible.**
  - **Ketamine may be used for sedation once a BIAD or ETT are established and confirmed.**
  - **Agencies using Ketamine must follow Standards Policy: Medial Policy Section Ketamine Program Requirements. Medical Policy 2.**
- **Intubation attempt defined as laryngoscope blade passing the teeth or endotracheal tube passed into the nostril.**
- **If first intubation attempt fails, make an adjustment and try again: (Consider change of provider in addition to equipment)**
- **NC EMS Airway Evaluation Form:**
  - **Fully complete and have receiving healthcare provider sign confirming BIAD or endotracheal tube placement.**
  - **Complete online in region specific *ReadyOp* and upload completed form.**
  - **Complete when any drug is used for airway management.**
- Paramedics / AEMT should consider using a BIAD if oral-tracheal intubation is unsuccessful.
- Drug Assisted Airway is not recommended in an urban setting (short transport) when able to maintain oxygen saturation ≥ 90 %.
- **DOPE: D**isplaced tracheostomy tube / ETT, **O**bstructed tracheostomy tube / ETT, **P**neumothorax and **E**quipment failure.