



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, 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.

Preoxygenate 100% O₂
 IV or IO Access Protocol UP 6
2 points of access
 Assemble Airway Equipment
 Suction equipment
 Alternative Airway Device

Hypoxic Or
 Hypotensive Or
 Dangerously Combative?

YES → DSI → P

Ketamine 2 mg/kg IV / IO

**No IV or IO Access:
 Ketamine 4 mg/kg IM
 Maximum 400 mg**

**Pediatric: See Pearls
 2 mg/kg IM
 Maximum 400 mg**

Correct Hypoxia and/ or Hypotension

Age Appropriate Airway Protocol(s) AR 1, 2, 5, 6, as indicated

Hypotension/ Shock Protocol AM 5/ PM 3 as indicated

**Etomidate 0.3 mg/kg IV / IO
 Or
 Ketamine 2 mg/kg IV / IO
 May repeat x 1**

**Succinylcholine 2 mg/kg IV / IO
 Or
 Rocuronium 1 mg/kg IV / IO
 (if Succinylcholine contraindicated)
 May repeat x 1**

Intubate trachea

**Placement Verified
 Continuous Waveform Capnography**

Consider Restraints Physical Procedure
 Consider Gastric Tube Insertion Procedure

Awakening or Moving after intubation

NO → Exit to Appropriate Protocol(s)

YES → Exit to Post-intubation/ BIAD Management Protocol AR 8

Hypoxia corrected
 Hypotension corrected
 Dangerously Combative condition corrected

Patient still requires intubation

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
 Key performance indicators used to evaluate protocol compliance.

A NCOEMS Airway Evaluation Form must be completed for every patient who receives Drug Assisted Airway.



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DAI / RSI Contraindications:

1. Evaluation of patient determines intubation would not be successful – High Degree Difficult Airway Bull-Neck; severe facial trauma causing altered anatomy
2. Predicted inability to adequately manage the airway with a BVM.
3. Complete Upper Airway Obstruction
3. Patient must be 12 years of age or greater, OR longer than Broslow Tape

Providers may choose their Sedation & Paralytic agents based on scenario. Order of meds in protocol boxes may not be the preferred order.

Midazolam may be used for DSI if Ketamine is unavailable or contraindicated.

Midazolam 2.5 mg IV / IO

May repeat every 3 to 5 minutes as needed

Maximum 10 mg

** Do not use if BP <90 Systolic**

Ketamine and/or Paralytic use in pediatrics has to be approved by the Medical Director – via DIRECT ONLINE MEDICAL CONTROL Dr Koontz – 814-332-0340

Pearls

- **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 $\geq 90\%$, 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 only.
Agencies using Ketamine in the pediatric population must also be using in their adult population.
- **KETAMINE:**
Ketamine may be used with or 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 endotracheal tube 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 Ketamine, Etomidate, Succinylcholine and/ or Rocuronium or used to facilitate use of a BIAD and/ or endotracheal intubation.
- Paramedics/ AEMT should consider using a BIAD if endotracheal intubation is unsuccessful.
- Drug Assisted Airway is not recommended in an urban setting (short transport) when able to maintain oxygen saturation $\geq 90\%$.
- **DOPE:** Displaced tracheostomy tube/ ETT, Obstructed tracheostomy tube/ ETT, Pneumothorax and Equipment failure.