ADULT, FAILED AIRWAY

Definition of Failed Airway:
Unable to Ventilate and Oxygenate ≥ 90% during
or after one (1) or more unsuccessful intubation attempts

and/ or
Anatomy inconsistent with continued attempts

and/ or
Three (3) unsuccessful attempts by most experienced Paramedic/AEMT.
Each attempt should include change in approach or equipment

NO MORE THAN THREE (3) ATTEMPTS TOTAL

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 as they contain useful information for airway management.

Failed Airway

Call for additional resources if available

BVM
Adjunctive Airway NPA/ OPA
Maintains
Oxygen Saturation ≥ 92 %

YES → Continue BVM
Supplemental Oxygen

Exit to
Appropriate Protocol(s)

NO

B	Attempt Airway Blind Insertion Airway Device Procedure
A	Airway Video Laryngoscopy Device Procedure ***if available***
P	Airway Cricothyrotomy Surgical Procedure
	Supplemental oxygen BVM with Airway Adjuncts Maintain Oxygen Saturation ≥ 92 %
	Post-intubation BIAD Management Protocol AR 8

Notify Destination or Contact Medical Control

Airway Respiratory Protocol Section

ADULT, FAILED AIRWAY

The most important way to avoid a failed airway is to identify patients with expected difficult airway, difficult BVM ventilation, difficult BIAD, difficult laryngoscopy, and/or difficult cricothyrotomy. SEE PEARLS BELOW.

Position of patient: In the field setting, improper position of the patient and rescuer are responsible for many failed and difficult intubations. Often, this is dictated by uncontrolled conditions present at the scene and we must adapt. However, many times the rescuer does not optimize patient and rescuer position. The sniffing position or the head simply extended upon the neck are generally the best positions. The goal is to align the ear canal with the suprasternal notch in a straight line. In obese or late pregnant patients, elevating the torso by placing blankets, pillows, or towels will optimize the positions. This can be facilitated by raising the head of the cot.

Use of cot in optimal patient/rescuer position: The cot can be elevated and lowered to facilitate intubation. With the patient on the cot, raise until the patient's nose is at the level of your umbilicus which will place you at the optimal position.

Trauma:*Utilize in-line cervical stabilization during intubation, BIAD, or BVM use. During intubation or BIAD, the cervical collar front should be open or removed to facilitate translation of the mandible/mouth opening.*

Cricothyrotomy/Surgical Airway Procedure: Use in patients 12 years of age and older only. Relative contraindications for cricothyrotomy include**:** Pre-existing laryngeal or tracheal tumors, infections, abscess overlying the cricoid area, hematoma or anatomical landmark destruction/injury.

Pearls

- **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 should be 10 - 12 per minute to maintain a EtCO2 of 35-45 and avoid hyperventilation.**
- **<u>Anticipating the Difficult Airway and Airway Assessment</u>**
  - **Difficult BVM Ventilation (ROMAN): R**adiation treatment/ **R**estriction; **O**bese/ **O**bstruction/ **O**B – 2d and 3d trimesters/ **O**bstructive sleep apnea; **M**ask seal difficulty (hair, secretions, trauma); **A**ge ≥ 55; **N**o teeth.
  - **Difficult Laryngoscopy (LEON): L**ook externally for anatomical problems; **E**valuate 3-3-2 (Mouth opening should equal 3 of patients finger's width, mental area to neck should equal 3 of patient's finger's width, base of chin to thyroid prominence should equal 2 of patients finger's width); **O**bese, obstruction, OB – 2d and 3d trimesters; **N**eck mobility limited.
  - **Difficulty BIAD (RODS): R**adiation treatment/ **R**estriction; **O**bese/ **O**bstruction/ **O**B – 2d and 3d trimesters/ **O**bstructive sleep apnea; **D**istorted or disrupted airway; **S**hort thyromental distance/ **S**mall mandible.
  - **Difficulty Cricothyrotomy / Surgical Airway (SMART): S**urgery scars**; M**ass or hematoma**, A**ccess or anatomical problems**; R**adiation treatment to face, neck, or chest; **T**umor
- **Complete an Airway Evaluation Form with any BIAD or Intubation procedure where medications are used to facilitate.**
- **<u>Nasotracheal intubation</u>:**
  - **Procedure requires spontaneous breathing and may require considerable time, exposing patient to critical desaturation.**
  - **Contraindicated in combative, anatomically disrupted or distorted airways, increased ICP, severe facial trauma, basal skull fracture, and head injury. Orotracheal route is preferred.**
- **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)**
- AEMT and Paramedics should consider using a BIAD if oral-tracheal intubation is unsuccessful.
- During intubation attempts use External Laryngeal Manipulation to improve view of glottis.
- Gastric tube placement should be considered in all intubated patients if available or time allows.
- It is important to secure the endotracheal tube well to better maintain ETT placement. Manual stabilization of endotracheal tube should be used during all patient moves/ transfers.
- **DOPE: D**isplaced tracheostomy tube/ ETT, **O**bstructed tracheostomy tube/ ETT, **P**neumothorax and **E**quipment failure.