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*** ***Optional***
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

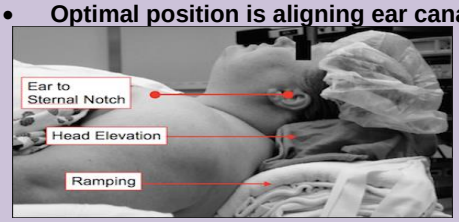
A failed airway occurs when a provider begins a course of airway management and identifies that the method chosen will not succeed.

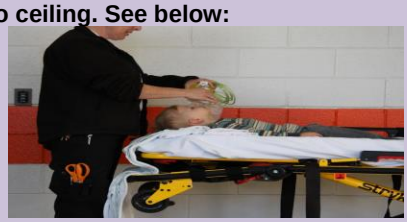
- **A failed intubation and a failed airway are not the same. When a patient can be adequately oxygenated and ventilated by any means, this is not a failed airway.**
- **When you are able to oxygenate and ventilate a patient adequately, you have time to consider all options and choose a method you think will most likely be successful.**

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.

Positioning for Airway Management:

- Refer to Page 2 of Adult, Airway AR 1. Improper position of the patient and provider are responsible for most failed and difficult airway management situations.
- Patient position may be dictated by uncontrolled conditions present at the scene and we must adapt, though uncommon.
- However, many times the provider can control the conditions and does not optimize patient and rescuer position.
- In the obese or late pregnant patient, elevating the torso by placing blankets, pillows, or towels will optimize the position. This can also be facilitated by raising the head of the cot.
- **Optimal position is aligning ear canal (hole) to the sternal notch with face parallel to ceiling. See below:**





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.

Cricothyrotomy/ Surgical Airway Procedure:

- Use in patients 10 years of age and greater only. Percutaneous transtracheal jet ventilation is used in younger patients.

  Relative contraindications include:

  Pre-existing laryngeal or tracheal tumors, infections or 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.**
- **Anticipating the Difficult Airway and Airway Assessment**
  - **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.**
- **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.