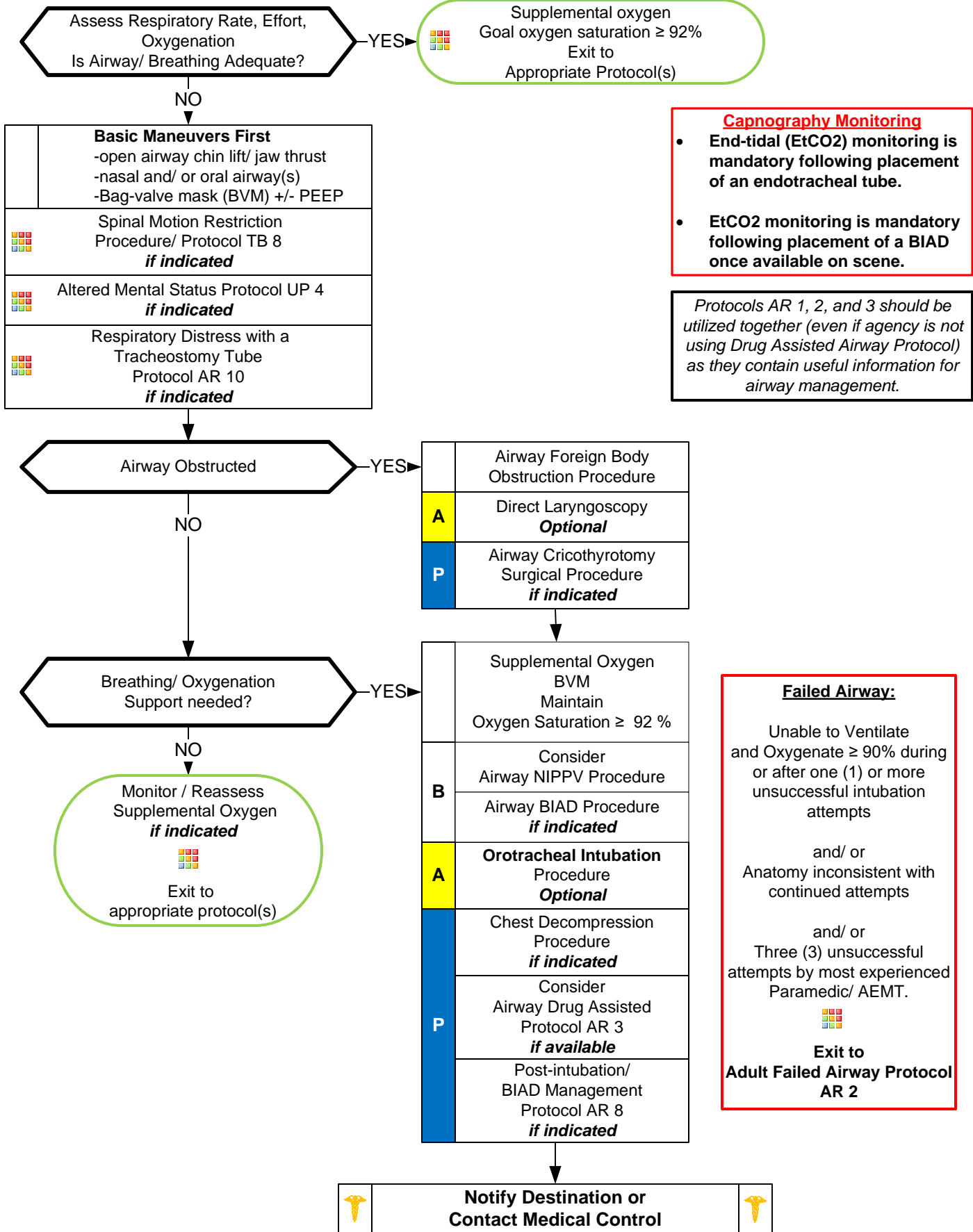




# Adult Airway



## 4 Most Important Elements to Consider in Airway Management:

- **Hypoxia**
  - **Aspiration**
  - **Hypotension**
  - **Acidosis**
- Strategy in airway management is to prevent, or correct, these 4 problems with proper oxygenation and pre-oxygenation, positioning, suctioning, fluid resuscitation, and vasopressor use.
  - We cannot directly treat acidosis, but proper resuscitation will allow the body to correct acidosis.

## Positioning for Airway Management:

- Airway management should not occur with the patient in a flat position. Head of patient should always be elevated.
- Pillows, blankets, towels, and the EMS stretcher all are able to properly position the patient.
- Head should be elevated 10 -20°. Intubation attempts should be performed with patient on the cot and properly positioned.
- With the face parallel to the ceiling, a line drawn from the ear hole to sternal notch should be in parallel with the face:

See below:



## Oxygenation algorithm:

- Patients requiring oxygen will have Nasal Cannula placed initially.
- When additional oxygenation is required, a NRB mask is applied on top of the N/C and both sources will provide O2.
- The N/C remains in place and is used under NIPPV and BVM.
- Adjuncts such as OPA and NPA should also be used as well as BIAD. NPA (1 – 2) are preferred over OPA, but all can be used.

## EtCO2 Cannula:

- Use in patients that are able to manage their own airway, but in those you are worried could stop breathing, such as alcohol or drug use.
- The EtCO2 cannula does not provide good oxygenation due to its design so in patients who need oxygen, use a N/C. You can use both at the same time, the N/C for oxygen delivery, and the EtCO2 for CO2 monitoring.

## Trauma Intubation or BIAD use:

- Use in-line manual cervical spine stabilization and open the C-Collar during the BIAD insertion or intubation attempt.

## Pearls

- **See Pearls section of protocols AR 2 and 3.**
- **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 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):** Radiation treatment/ Restriction; **Obese/ Obstruction/ OB** – 2d and 3d trimesters/ Obstructive sleep apnea; **Mask seal difficulty** (hair, secretions, trauma); **Age  $\geq 55$ ; No teeth.**
  - Difficult Laryngoscopy (LEON):** Look externally for anatomical problems; **Evaluate 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); **Obese, obstruction, OB** – 2d and 3d trimesters; **Neck mobility limited.**
  - Difficulty BIAD (RODS):** Radiation treatment/ Restriction; **Obese/ Obstruction/ OB** – 2d and 3d trimesters/ Obstructive sleep apnea; **Distorted or disrupted airway; Short thyromental distance/ Small mandible.**
  - Difficulty Cricothyrotomy / Surgical Airway (SMART):** Surgery scars; **Mass or hematoma, Access or anatomical problems; Radiation treatment to face, neck, or chest; Tumor.**
- **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:** Displaced tracheostomy tube / ETT, **Obstructed tracheostomy tube / ETT, Pneumothorax and Equipment failure.**