



Yolo County Emergency Medical Services Agency

Procedure

Revised Date: January 29, 2019

AIRWAY MANAGEMENT	
Adult	Pediatric
Basic Airway Management	
Indication	
<ul style="list-style-type: none"> • Signs and Symptoms of respiratory distress (rapid, slow, shallow, irregular, labored and/or noisy breathing, cyanosis, agitation, confusion or apnea). • Respiratory arrest 	
BLS	
<p style="text-align: center;">Position of comfort Determine degree of physiologic distress Evaluate RR Open and position the airway Airway Adjuncts: OPA/NPA as needed to control the airway O₂ via selected device based on the patient's condition, titrate SpO₂ to ≥ 94% Oral pharyngeal suctioning as needed Avoid hyperventilation</p>	
<ul style="list-style-type: none"> • Nasal Cannula: 2 - 6 LPM • Non-rebreather mask: 10 - 15 LPM • BVM ventilations: 10 breaths/min • CPAP when available 	<ul style="list-style-type: none"> • Nasal Cannula: 2 - 6 LPM • Non-rebreather mask: 10 - 15 LPM • BVM ventilations: 12 - 20 breaths/min • CPAP when available
Advanced Airway Management	
Guidelines	
<ul style="list-style-type: none"> • An intubation attempt is defined as the introduction of an advanced airway device past the patient's teeth • Make no more than 2 attempts • Each attempt should last no longer that 15 seconds • ALS personnel must re-confirm correct advanced airway placement on any patient when the advanced airway has been established by a BLS Service Provider • ALS personnel assume responsibility for the advanced airway once they have arrived on scene and assume patient care • An ALS Service Provider who establishes an advanced airway shall accompany the patient to the hospital if the patient is transported. This does not apply to multiple patient incidents or when patient care is appropriately transferred to another ALS Service Provider (e.g. air ambulance, air rescue). In these cases, the receiving ALS Service Provider must re-confirm correct advanced airway placement immediately upon transfer of patient care. • Advanced airway placement must be re-confirmed any time there is concern for the patency of the airway or anytime there is movement of the patient including but not limited to: <ul style="list-style-type: none"> • Movement of the patient onto the ambulance gurney • Movement of the patient into or out of the ambulance • Movement of the patient from the ambulance gurney to the hospital gurney 	



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Supraglottic Airway

BLS Optional Scope

15 years of age or older

Indications

1. The inability to adequately ventilate with a BVM and airway adjuncts and the patient is unresponsive, without a gag reflex, apneic and/or has a decreased respiratory effort
2. Patients \geq 15 years of age

Contraindications

- Patient with known esophageal disease
- Extensive airway burns

King Tube


- Select appropriate sized King Tube
- Prepare, position, and oxygenate the patient with 100% O₂
- Lubricate with a water based lubricant
- Grasp the patient's tongue and jaw and pull forward
- Advance the tip behind the base of the tongue while rotating the tube back to midline so that the blue orientation line faces the chin of the patient
- Without exerting force, advance tube until base connector is aligned with the teeth or gums
- Inflate cuff with 45 – 90 mL of air depending on the size of the device used
- Attach BVM, gently bag the patient to assess ventilation, withdraw the tube until ventilation is easy and free flowing
- Secure with a commercial tube holder
- Verify placement by **ALL** of the following:
 1. Rise and fall of the chest
 2. Bilateral breath sounds



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ALS	
Adult	Pediatric
i-gel[®]	
<ul style="list-style-type: none"> • Select appropriate sized i-gel[®] <ol style="list-style-type: none"> 1. For pediatric patients a length based tape is required to determine weight for tube sizing • Prepare, position, and oxygenate the patient with 100% O₂ • Lubricate with a water based lubricant • Position the device so the cuff outlet is facing towards the chin of the patient • Introduce the leading soft tip into the mouth in a direction towards the hard palate • Glide the device downward and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt • Attach BVM, gently bag the patient to assess ventilation • Secure • Verify placement by ALL of the following: <ol style="list-style-type: none"> 1. Rise and fall of the chest 2. Bilateral breath sounds 3. Waveform EtCO₂ required for verification • Place an OG tube down the i-gel[®] gastric channel 	
	
Endotracheal Tube (ETT)	
Indications	
<ul style="list-style-type: none"> • The inability to adequately ventilate with a BVM and airway adjuncts and the patient is unresponsive, without a gag reflex, apneic and/or has a decreased respiratory effort • Patients ≥ 15 years of age 	
15 years of age or older	
Procedure	
<ul style="list-style-type: none"> • Prepare, position, and oxygenate the patient with 100% O₂ • Evaluate for difficult airway • Select proper ETT and stylet • The use of a Bougie device is strongly encouraged with all ETT intubation attempts and is required for the second attempt • Intubate the trachea via direct laryngeal visualization • Inflate ETT cuff 	
<ul style="list-style-type: none"> • Verify placement by ALL of the following: <ol style="list-style-type: none"> 1. Rise and fall of the chest 2. Bilateral breath sounds 3. Negative epigastric sounds 4. Condensation in the tube 5. Continuous waveform EtCO₂ • Secure with commercial tube holder • Place a nasogastric or orogastric tube if not already placed during BLS airway 	



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Endotracheal Tube Inducer (Bougie)

Indications

- Patient meets clinical indicators for oral intubation
- One failed attempt at ETT intubation
- Predicted difficult airway

Procedure

- Prepare, position, and oxygenate the patient with 100% O₂
- Select proper ETT without stylet, test cuff and prepare suction
- Lubricate the distal end and cuff of the ETT and the distal half of the Bougie
- Using a laryngoscope visualize the vocal cords, maintain direct visualization during the procedure
- Introduce the Bougie with curved tip anteriorly and visualize the tip passing the vocal cords or above the arytenoids if the cords cannot be visualized
- Once inserted, gently advance the Bougie until you meet resistance, feel for the tracheal rings. If you do not meet resistance you have probable esophageal intubation and insertion should be removed
- While maintaining a firm grasp on the proximal Bougie, introduce the ETT over the Bougie passing the tube to its appropriate depth
- If you are unable to advance the ETT into the trachea withdraw the ETT slightly and rotate the ETT 90 degrees counter clockwise to turn the bevel of the ETT posteriorly
- Once the ETT is correctly placed, hold the ETT securely and remove the Bougie
- Confirm tracheal placement according to ETT procedure

Consider

- **Basic airway management is the preferred method of airway management** with cardiac arrest and multisystem trauma patients unless unable to effectively manage the airway with BLS maneuvers.
- Intubation of head injury or stroke patients is best addressed at the hospital. Intubation has the potential to increase ICP.
- If there is any doubt as to the proper placement of an advanced airway, attempt to re-verify using the verification steps in the guidelines above. If still in doubt or EtCO₂ is < 10 after 3 ventilations, check for adequate circulation, equipment, and ventilator rate. If EtCO₂ remains less than 10 without physiologic explanation, remove the advanced airway and ventilate using an airway adjunct and BVM.

Direction

- All patients being manually ventilated with a (BLS) or (ALS) airway shall have an NG/OG tube placed

Documentation

- Device size
- Intubation time
- Number of attempts (successful/unsuccessful)
- Placement location at teeth or gums
- All devices and methods used to confirm placement
- Reason the advanced airway was placed
- Continuous waveform capnography readings and description of waveform (ALS)