

ADVANCED AIRWAY

PURPOSE

The purpose of this policy is to outline the clinically indicated and required steps for advanced airway management and highlight the steps of basic airway management. The approved advanced airway management procedure for the adult patient consists of endotracheal intubation or insertion of a supraglottic airway device.

AUTHORITY

Health and Safety Code 1797.220 and 1798 California Code of Regulations, Title 22, Division 9

POLICY

- A. The YEMSA approved advanced airway management procedures for adult patients consist of the following:
 1. Endotracheal Intubation
 2. Insertion of a King Airway device
- B. The preferred method of airway management for pediatric patient age twelve (12) and under is Bag-Valve-Mask (BVM) ventilation. Intubation in this age group should be performed only if BVM ventilation is unsuccessful or impossible. Refer to the Pediatric Airway Policy.
- C. ALS (Paramedic) personnel are authorized to perform any of the advanced airway skills listed in this policy.
- D. AEMT & LALS personnel are authorized to perform the skill of insertion of a King Airway device only. LALS personnel may not intubate.
- E. BLS personnel are authorized to perform the skill of insertion of a King Airway device **only** if their provider has been authorized by the YEMSA as an approved EMT optional skills provider and they have successfully completed an approved training program. BLS personnel may not intubate.
- F. Defer advanced airway insertion rather than interrupt chest compressions in the cardiac arrest patient.
- G. ALS / LALS and BLS personnel must confirm correct advanced airway placement with physical assessment (auscultation, observation of chest rise, visualization of the tube passing through the cords, etc.) in addition to one or more of the following methods:
 1. Waveform Capnography (Preferred)
 2. Capnometry
 3. Colorimetric end-tidal CO₂ detector device
- H. ALS / LALS personnel must re-confirm correct advanced airway placement utilizing the methods listed above on any patient where the airway has been established by a BLS provider. ALS / LALS personnel assume responsibility for the advanced airway once they have arrived on scene and established patient care.

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- I. An ALS / LALS 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 / LALS provider (Air Ambulance, Air Rescue). In these cases, the receiving ALS / LALS provider must re-confirm correct advanced airway placement immediately upon transfer of patient care.
- J. Advanced airway placement must be re-confirmed by the EMT, Advanced EMT, or Paramedic utilizing the methods listed above, any time there is concern about the patency of the airway or any time there is a movement of the patient; including but not limited to:
 1. Movement of the patient onto the ambulance gurney
 2. Movement of the patient into or out of the ambulance
 3. Movement of the patient from the ambulance gurney to the hospital gurney when able.

If the advanced airway is determined to no longer be patent during a re-confirmation assessment, appropriate measures must be immediately taken to re-establish the patency of the airway. This may include removal of the advanced airway and the utilization of BLS airway measures until the advanced airway can be appropriately re-established. The paramedic shall confirm that the advanced airway remains patent when the patient is transferred from the ambulance gurney to the hospital gurney and any concerns must be reported immediately to the receiving ED physician.

INDICATIONS

- A. Non-traumatic cardiac and/or respiratory arrest.
- B. Traumatic cardiac and/or respiratory arrest.
- C. Severe ventilator compromise where the airway cannot be adequately maintained by BLS techniques.

PROCEDURE

- A. Endotracheal Intubation – (ALS – Paramedic personnel only):
 1. Definition: An intubation attempt is defined as the introduction of an endotracheal tube past the patient's teeth.
 2. Make no more than **one (1) total attempt per patient** at placing the endotracheal tube. This attempt should not last longer than fifteen (15) seconds. If unsuccessful after one (1) attempt at endotracheal intubation, use a supraglottic airway (King Tube).
 3. If patient has Cormack-Lehane grade of three to four (3 or 4), epiglottis is not or is barely visible, consider primary use of a supraglottic airway. Paramedic may use King Tube.
 4. Pediatric intubation should be performed **only** if BVM ventilation is unsuccessful or impossible. *Note:* If unable to maintain respirations using BVM device in pediatric patient, endotracheal tube is indicated.

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B. Supraglottic Airway Device (King Tube) – This device is **required in adult cardiac arrest** if unable to adequately ventilate using the BVM; as it can be performed during chest compressions. It may be used in other cases at the paramedic's discretion and it must be used after one (1) unsuccessful attempt at endotracheal intubation.

1. The King Airway comes in three sizes:
 - a. Size 3 – Patient between 4 and 5 feet tall
 - b. Size 4 – Patient between 5 and 6 feet tall
 - c. Size 5 – Patient over 6 feet tall
2. The King Airway devices are not to be used in patients < 4 feet tall.

C. Confirm Advanced Airway Placement:

Auscultate both lung fields for breath sounds, confirm chest rise with ventilation. Listen over left upper quadrant of the abdomen for air in the stomach.

Attach an approved end-tidal CO₂ detector (colorimetric device), capnometry or waveform capnography unit, that must remain in place until arrival at the hospital, **Waveform Capnography is preferred and must be used if available.**

All devices used to confirm advanced airway placement must be documented on the PCR (EDD, ETCO₂ – colorimetric or capnography)

If there is any doubt as to the proper placement of the endotracheal tube, visualize the pharynx and vocal cords with laryngoscope and use capnography. If still in doubt, suction the patient, deflate the cuff and remove the endotracheal tube

DOCUMENTATION

All devices used to confirm tube placement must be documented on the PCR:

1. Method of confirmation (wave form capnography/capnometry – REQUIRED).
2. Description of waveform (e.g. - box, shark fin, straight line, bumpy line, etc.).
3. Capnometry number in mmHg (e.g. 15 mmHg).
4. Visualization, auscultation, chest rise; in addition to waveform capnography.
5. Depth of insertion, size of tube or supraglottic airway and method of securing tube.

CROSS REFERENCES

Policy and Procedure Manual
EMT Scope of Practice
Advanced EMT Scope of Practice
Paramedic Scope of Practice
Cardiac Arrest Resuscitation
Airway Obstruction
Respiratory Arrest
EtCo₂ Monitoring
King Airway Device
Pediatric Advanced Airway