Procedures

ADVANCED AIRWAY MANAGEMENT

1. **INTRODUCTION:** The approved airway management procedure for the adult consists of endotracheal intubation, or insertion of a supraglottic airway device.

Nasotracheal intubation is NOT an approved skill in Alameda County

- 1.1 The preferred method of airway management for the pediatric patient age 12 and under is bag-valve-mask (BVM) ventilation. (see **page 68** Routine Medical Care) *Intubation in this age group should be performed only if BVM ventilation is unsuccessful or impossible*
- 1.2 ALS personnel are authorized to perform the skill of endotracheal intubation and insertion of a supraglottic airway. NOTE: A supraglottic airway is defined as an airway device that rests in the pharynx when properly positioned (e.g. King-LTD[®])
- 1.3 BLS personnel are authorized to perform the skill of insertion of a supraglottic airway only after completing an approved training program and with the approval of the EMS medical director. BLS personnel may not intubate
- 1.4 Defer advanced airway insertion rather than interrupt chest compressions in the cardiac arrest patient. If after 2 minutes of continuous chest compressions and BVM support an immediate endotracheal airway can not be obtained, consider use of supraglottic airway.
- 1.5 ALS and BLS personnel must confirm tube placement (ET or supraglottic airway) with capnography/ capnometry or a colorimetric EtCO₂ device, auscultation and physical assessment (auscultation, observation of chest rise, visualization of the tube passing through the cords, etc.). See #4 below. NOTE: It is no longer required to use an EDD as a confirmation device. Capnography/ capnometry is a far more accurate confirmation tool that negates any value the EDD provided in the past

2. INDICATIONS:

- 2.1 Non-traumatic cardiac and/or respiratory arrest
- 2.2 Traumatic cardiac and/or respiratory arrest or severe ventilatory compromise where the airway cannot be adequately maintained by BLS techniques

3. APPROVED ADVANCED AIRWAY MANAGEMENT PROCEDURE:

- 3.1 Endotracheal intubation (ALS only)
 - 3.1.1 **Definition:** An <u>intubation attempt</u> is defined as the introduction of an endotracheal tube past the patient's teeth
 - 3.1.2 Make no more than <u>2 total attempts</u> per patient at placing the endotracheal tube. Each attempt should not last longer than 30 seconds. Ventilate with 100% oxygen for one minute prior to each attempt
 - 3.1.3 If patient has a Cormack-Lehane* grade of 3 or 4 (epiglottis is not or is barely visible), consider primary use of a supraglottic airway
 - 3.1.4 Note: If you are unable to maintain respirations using a BVM device in a pediatric patient, intubate. (see 1.2 above)

*Cormack-Lehane scale			
			C C C C C C C C C C C C C C C C C C C
Grade 1	Grade 2	Grade 3	Grade 4

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3.2 Supraglottic Airway Device (King-LTD®)

- 3.2.1 A supraglottic airway (King-LTD[®]) device may be placed as a primary airway or after unsuccessful attempt(s) at endotracheal intubation. (ALS only)
- 3.2.2 The King-LTD® comes in three sizes:
 - ► Size 3 (height: 4 ft. 5 ft.)
 - ► Size 4 (height: 5 ft. 6 ft.)
 - ► Size 5 (height: > 6 ft.)
- 3.2.3 Do not use the King-LTD® in persons < 4 feet tall
- 3.2.4 Use a tongue blade or laryngoscope to facilitate placement
- 3.2.5 Remove and replace the King-LTD® if resistance is met
- CONFIRM TUBE PLACEMENT: To be used on an endotracheal tube and the King-LTD[®] device in the order stipulated below
 - 4.1 Attach an end tidal CO2 detector (EtCO₂)
 - ▶ Waveform capnography/ capnometry is preferred and *must be used* if available
 - ► If capnography/ capnometry is not available, use an approved colorimetric EtCO₂ device (e.g. – Easy Cap[®]) until capnography/ capnometry becomes available
 - ► EtCO₂ detector must remain in place until transfer of patient care at the hospital
 - 4.2 **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

<u>All devices used to confirm tube placement must be documented on the PCR</u> ✓End tidal CO2 detector (EtCO₂)

→ Capnography/ capnometry

- Describe waveform (e.g. box, shark fin, straight line, bumpy line, etc.)
- Specify capnometry number in mmHg (e.g. 15 mmHg)
- → Colorimetric EtCO, device (include the color of litmus paper)

Visualization, auscultation, chest rise

- 5. If there is any doubt as to proper placement of the endotracheal tube, visualize the pharynx and vocal cords with laryngoscope and use capnographic waveform to make decision. If still in doubt, suction the patient, deflate the cuff, remove the endotracheal tube and replace with a supraglottic airway. (Be prepared removal of an ET tube may induce vomiting). Ventilate between attempts with 100% oxygen
- 6. If the patient regains consciousness while intubated, do not extubate. Use restraints as necessary to prevent uncontrolled extubation. Consider Sedation (see Sedation **page 139**)

7. If the patient has a suspected spinal injury:

- ► Open the airway using a jaw-thrust without head extension
- ▶ If airway can not be maintained with jaw thrust use a head-tilt/chin-lift maneuver
- Manually stabilize the head & neck rather than using an immobilization device during CPR