COUNTY OF VENTURA HEALTH CARE AGENCY		EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Airway Management		Policy Number 710
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APPROVED: Medical Director:	Daniel Shepherd, MD	Date: July 1, 2026
Origination Date: Date Revised: Date Last Reviewed:	June 1986 April 9, 2026 April 9, 2026	Effective Date: July 1, 2026

I. Purpose: To define the indications, procedure, and documentation for airway management by Ventura County EMS personnel.

II. Authority: California Health and Safety Code, §1798, §1798.2; §1798.160 and §1798.170 and California Code of Regulations, Title 22, §100091.01 and §100091.02.

III. Policy: Airway management shall be performed on all patients with the following indications:

- Hypoxic and/or hypercapnic respiratory failure with ineffective breathing
- Inability to maintain their own airway
- Airway Obstruction

A. Supraglottic Airway Device (SAD): May be performed by Accredited EMTs (***ONLY*** Accredited EMTs who have completed the VCEMS approved training course and are approved by the VCEMS Medical Director in accordance with VCEMS Policies 303 and 303B) and Paramedics.

B. Endotracheal Intubation (ETI): May be performed by Paramedics and is approved for the following patients:

1. Adults
2. Pediatric patients who are longer than the standard pediatric length-based tape

IV. Definitions:

A. **Attempt:** An interruption of ventilation, with,

1. the purpose of inserting an endotracheal tube, OR
2. a supraglottic airway device.

B. **Airway Management**: Techniques and interventions intended to address respiratory failure and/or airway obstruction. Techniques include repositioning, supplemental oxygen, suctioning, use of CPAP/BiPAP per VCEMS Policy 723, BVM ventilation, SAD and/or Endotracheal Intubation (ETI).

V. Procedure:

A. Bag-Valve-Mask (BVM):

1. Contraindications
   a. None
2. Equipment
   a. PREEMIE – 2YR on Handtevy
      - Infant BVM and mask: 240 mL with manometer
      - Infant $ETCO_2$ filter line: < 0.5 mL sidestream -OR- < 1mL mainstream
   b. 3 YR – 10 YR on Handtevy
      - Child BVM and mask: 500 mL with manometer
      - Pediatric/Adult $ETCO_2$ filter line: 6.6 mL sidestream -OR- < 5 mL mainstream
   c. 11 YR – 13 YR on Handtevy & Adult
      - Small Adult BVM and mask: 1,000 mL with manometer
      - Pediatric/Adult $ETCO_2$ filter line: 6.6 mL sidestream -OR- < 5 mL mainstream
3. Technique
   a. 2-Person is the preferred technique for BVM

B. Supraglottic Airway Device (SAD): Authorized personnel may utilize the VCEMSA approved SAD as the primary airway management modality if determined it would be the most appropriate airway management device for the patient.

1. SAD Additional Indications
   a. The VCEMSA approved SAD shall be used if BVM ventilation is inadequate and attempts at ETI have failed.
2. SAD Contraindications
   a. Intact gag reflex
   b. Caustic ingestion
   c. Unresolved complete airway obstruction
   d. Trismus or limited ability to open the mouth such that the device cannot be inserted
   e. Oral trauma
   f. Distorted anatomy that prohibits proper placement (e.g. oropharyngeal mass or abscess).

3. SAD Equipment
    a. Choose correct size based on Handtevy for pediatrics and recommended weight range for adults.
4. SAD Attempts
    a. The patient shall be ventilated with 100% O_2 by BVM for one minute before each attempt.
    b. There shall be no more than two (2) attempts, lasting no longer than 40 seconds each.
        i. If SAD placement cannot be accomplished in two (2) attempts, try again to ventilate the patient with BVM and progress to ETI if indicated.
    c. For patients in cardiac arrest, chest compressions will not be interrupted.
    d. Secure the SAD with appropriate strap, and prior to movement, patients shall have their head and neck maintained in a neutral position with head supports.
5. SAD Confirmation
    a. Attach $ETCO_2$ filter line and bag-valve device to verify placement utilizing capnography waveform.

C. Endotracheal Intubation (ETI):
1. ETI Additional Indications
    a. Unable to adequately ventilate with BVM and/or SAD.
    b. Tracheal stoma intubation may be performed for patients where ETI is indicated and there is no replacement tracheostomy tube available.
    c. After Base Hospital (BH) contact has been made, the BH Physician may order ETI in other situations.
2. ETI Contraindications
    a. Intact gag reflex
3. ETI Attempts
    a. The patient shall be ventilated with 100% O_2 by BVM for one minute before each attempt.
    b. There shall be no more than two (2) attempts, lasting no longer than 40 seconds each.
        i. If ETI cannot be accomplished in two (2) attempts, the VCEMSA approved SAD shall be inserted.
    c. For patients in cardiac arrest, chest compressions will not be interrupted.
    d. Insert ETT, advance, and hold at the following depth:

i. Less than 5 ft. tall: balloon 2 cm past the vocal cords.
ii. 5'-6'6" tall: 22 cm at the teeth.
iii. Over 6'6" tall: 24 cm at the teeth or 2 cm past the vocal cords.

e. Secure the ETT with the appropriate strap, and prior to movement, patients shall have their head and neck maintained in a neutral position with head supports.

4. ETI Confirmation
   a. Attach $ETCO_2$ filter line and bag-valve device to verify placement utilizing capnography waveform.
   b. If CO_2 measurement device indicates that the ETT may be in the esophagus, immediately reevaluate the patient.
      i. The ETT should be removed if there is concern for esophageal intubation.
      ii. If you are confident that the ETT is in the trachea, you must confirm placement by performing repeat laryngoscopy. If VL is available, confirm placement and document placement with a screenshot.
      iii. When in doubt, take it out.
   c. The paramedic who performed the ETI has the responsibility for confirmation, ongoing management, and documentation of ETT placement until a formal transfer of care has been made.
5. Special Considerations
   a. Video Laryngoscopy
      i. Providers may utilize a VL device if authorized by VCEMS.
      ii. The VL device must be equipped with the ability to record the intubation attempt for post-event analysis.
      iii. A "screenshot" confirming placement will be attached to the VCePCR for the incident.
      iv. Optimal technique varies by device and shall be addressed in training prior to use of the device.
   b. Flexible stylet
      i. A flexible stylet may be used for any ETI attempt that involves an ETT size of at least 6.0 mm.
   c. Tracheal stoma intubation
      i. Select the largest ETT that will fit through the stoma without force, it should not be necessary to use lubricant, do not use a stylet.

D. $ETCO_2$ Measurement (Additional information in Policy 711: Capnography):

1. $ETCO_2$ monitoring shall be utilized with all airway management modalities.
   a. Ensure appropriate waveform is present with each ventilation. Troubleshoot appropriately for irregular waveforms.
   b. The typical normal range of exhaled carbon dioxide is 35-45 mmHg. Patients with underlying pulmonary conditions may have baseline values higher than this. Target 40 mmHg if no known such history. Otherwise, higher values may be acceptable (40-50 mmHg).
   c. If the patient has been in cardiac arrest for a prolonged time (more than 5-10 minutes) the waveform may be diminished or, very rarely, absent.
2. $ETCO_2$ device failure: If the measurement device fails, and second device is not immediately available, use a colorimetric CO_2 detector.
   a. Colormetric CO_2 detector:
      i. Observe the color at the end of exhalation after six ventilations.
      ii. Yellow indicates the presence of >5% exhaled CO_2 and tan 2-5% CO_2.
      iii. Yellow or tan indicates successful ventilation.
      iv. Purple indicates less than 2% CO_2 and is a strong indicator that ventilations are not success and the esophagus.
3. Continuous $ETCO_2$ monitoring
   a. If the waveform diminishes or disappears, reassess the patient for a change in circulation status and reassess SAD/ETT placement.

VI. Documentation

A. All airway management techniques shall be documented in the procedure section of the Ventura County Electronic Patient Care Report (VCePCR)

B. If a VL is used, a screenshot confirming placement will be attached to the VCePCR.

C. Cardiac monitor data

1. An electronic upload including $ETCO_2$ waveform is required in the VCePCR for all airway management techniques.
2. In the event an upload cannot occur, a printed code summary shall be mounted, labeled, scanned, and attached to the VCePCR. The code summary must include a capnography waveform at the following key points.
   a. Initial BVM ventilation, ETT, or SAD confirmation
   b. Movement of patient
   c. Transfer of care

D. An electronic signature shall be captured on the mobile device used to document the care provided.
   1. The treating emergency room physician will sign the ‘Advanced Airway Verification’ section of the VCePCR, as well as document the supporting information (placement, findings, method, comments, name, and date).
   2. In the event the patient was not transported, another on-scene paramedic (if available) will sign and complete the verification section.

VII. CQI

A. For all VL attempts, the ImageTrend intubation CQI module must be completed monthly. Provider agencies are encouraged, though not required, to complete the CQI module for all other intubation attempts.

B. Failure to complete the module may result in loss of authorization to perform VL.

C. VCEMSA reserves the right to request the complete video file as part of the VCEMS CQI program and medical oversight.

D. Provider Agency EMS Medical Director commits to meeting with VCEMS Medical Director quarterly to review fall outs and complications.

E. CQI Metrics
   1. Type of patient: med vs trauma
   2. Suction utilized appropriately?
   3. Grade view?
   4. Number of attempts?
   5. Bougie used?
   6. Blade entry to intubation time? (Defined as when the laryngoscope blade passes the teeth to when the ETT passes through the cords)
   7. Complications (Hypoxia, bleeding, bradycardia, etc.)