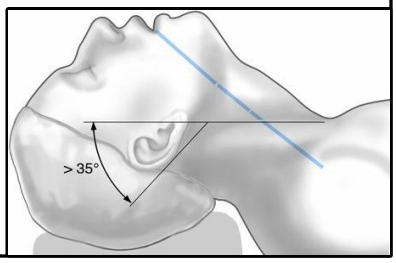
Sierra – Sacramento Valley EMS Agency Treatment Protocol	PR-2 (LALS)
Airway & Ventilation Managment	
Approval: Troy M. Falck, MD – Medical Director	Effective: 04/01/2025
Approval: John Poland – Executive Director	Next Review: 01/2028

INDICATIONS

- Airway & ventilation management techniques may include: basic airway maneuvers, use of airway adjuncts (oropharyngeal/nasopharyngeal airways & supraglottic airway devices) based on the situation – Indications for airway management may include but are not limited to:
  - Obstructed airway
  - Respiratory distress/failure
  - Altered mental status
  - Severe shock (hemorrhagic, septic, cardiogenic)
  - Cardiac arrest
  - Trauma/burns/smoke inhalation
- During cardiac arrest, advanced airway placement should not delay or interrupt CPR & shall not be considered until after the 1st round of defibrillation (if indicated) & administration of epinephrine

BLS AIRWAY PROCEDURE

- Look, Listen, and Feel for level of responsiveness, chest movement, breath sounds, obstructions
- Positioning of unresponsive pts:
  - Place in the Head Elevated Laryngoscopy Position (HELP) to facilitate alignment of the pharyngeal, laryngeal & oral axis of the airway
  - Use the Head-Tilt/Chin-Lift, Jaw-Thrust, or Lateral Recovery Position (as appropriate)
- Remove visible obstructions &/or suction fluids as necessary, limiting suctioning to 10-15 secs
- Maintain airway patency – insert OPA/NPA as appropriate



BAG-VALVE-MASK (BVM) VENTILATION PROCEDURE

BVM ventilation should be performed by two rescuers whenever possible

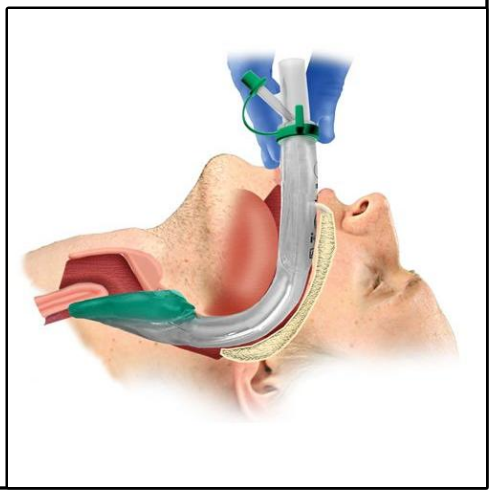
- Attach oxygen to BVM at a minimum flowrate of 10-15 L/min
- For one rescuer ventilation, position the mask over the nose & mouth & ensure a tight seal with an E-C clamp technique
- Squeeze the bag slowly, delivering breath over 1-2 secs
- Deliver only enough volume to achieve normal chest rise & fall **avoid excessive ventilation**
- If utilizing a Positive End Expiratory Pressure (PEEP) valve, maintain between 5-10 cmH_2O. Do not utilize PEEP in any of the following circumstances:
  - Suspected pneumothorax
  - Suspected TBI or increased intracranial pressure
  - Hypovolemic shock
- Ventilate to maintain SpO_2 & $EtCO_2$ within appropriate range for pt condition
- An Impedance Threshold Device (ITD) may be utilized in adult non-traumatic pulseless arrest pts; however, two rescuers are required to maintain effectiveness if no advanced airway is in place

i-gel SUPRAGLOTTIC AIRWAY (SGA) PROCEDURE

Contraindications:
- Intact gag reflex
- Caustic ingestion
- Unresolved complete airway obstruction

Relative Contraindications:
- Trismus or limited ability to open the mouth
- Oral trauma
- Distorted anatomy that prohibits device placement

- Pre-oxygenate pt with high-flow O_2, via NRM or BVM as appropriate, for a minimum of 3 mins
- Administer 10-15 L/min O_2 via NC, in addition to NRM/BVM O_2 to augment pre-oxygenation
- Select the correct size i-gel SGA device
- Lubricate the back & sides of the i-gel SGA device with a water-based lubricant
- Place the pt in a sniffing position or use a Jaw-Thrust maneuver if spinal injury is suspected
- Grasp the i-gel SGA device by the proximal end with the dominant hand, making sure the cuff is pointing downwards & the airway tube is aligned in the midline
- Gently press down on the chin & introduce the soft tip into the mouth towards the hard palate
- Glide the i-gel SGA device downwards & backwards Along the hard palate with a continuous but gentle Push until a definitive resistance is felt
- Begin ventilating with a BVM at the appropriate ventilation rate
- Follow **ADVANCED AIRWAY DEVICE PLACEMENT CONFIRMATION & POST-PROCEDURE** instructions on page 3



ADVANCED AIRWAY DEVICE PLACEMENT CONFIRMATION & POST-PROCEDURE

- Using a stethoscope, check for the absence of gurgling sounds over the epigastrium & the presence of equal breath sounds over the lungs while observing for chest rise and fall. Gurgling may still be heard in pts who are breathing spontaneously or when an i-gel SGA device is in place
- Attach an $EtCO_2$ monitoring device, which must remain in place until arrival to the hospital or cessation of resuscitation efforts
- At least four (4) of the following techniques must be utilized to confirm advanced airway placement
  - Bilateral breath sounds
  - Bilateral chest rise and fall
  - Consistent $EtCO_2$ waveform
  - Change in Colorimetric CO_2 detector from purple to yellow
  - Condensation in the airway tube
  - SpO_2 rising to/or remaining above 94%
- LALS personnel must immediately confirm patency of an advanced airway placed by an EMT
- Airway patency must be reassessed at a minimum of every 15 mins and:
  - Each time the patient is moved
  - If ventilation becomes difficult
  - If vital signs, including SpO2 & EtCO2 change unexpectedly
- If a pt with an advanced airway in place regains consciousness:
  - Use restraints as necessary to avoid displacement of the advanced airway device
  - Consider sedation with **Midazolam 10 mg IV/IO/IM/IN (AEMT II)** for adult pts (may repeat x 1)
  - Contact base/modified base hospital for pediatric Midazolam dosing if needed
- Document all methods/devices used to confirm advanced airway device placement in the PCR