**Laryngeal Mask Airway (LMA)**

**Designation of Condition:** Patients with apnea, severe hypoxia or bradypnea should be primarily managed with basic airway maneuvers and good BVM technique. Those unresponsive to oxygen and basic airway maneuvers (jaw thrust, foreign body removal, BVM) should be managed with more advanced maneuvers and devices such as the LMA.

BLS—The LMA is a BLS advanced airway option utilized when either basic ventilatory technique is inadequate or more definitive airway security is needed. The LMA is the primary advanced airway in children.

ALS—The LMA may be used as primary adult airway device or as a secondary adult airway device when attempts at intubation have failed or when intubation is not practical. The LMA is the primary advanced airway device in children. The LMA provides good aspiration protection, though not as definitive as endotracheal intubation.

**Indication:**
- Patient is unconscious without protective airway reflexes
- Providers are unable to adequately ventilate and oxygenate patient using basic airway management

**Absolute contraindications:**
- Responsive patient with an intact gag reflex

**Relative contraindications:**
- Laryngeal edema
- Patients who have ingested caustic substances

**Preparation:**
- Optimize oxygenation and ventilation while preparing equipment
- Select the appropriate size LMA using the OPA method:
  - Find the OPA that fits correctly between the angle of the patient’s jaw and the corner of the mouth. Use the OPA and Table 1 as a baseline for sizing #3, #4, or #5 LMA
  - If faced with a choice between two sizes, choose the smaller size
  - Rule of thumb: average size adults—#4; small adult/large child—#3; large adults—#5
  - When the LMA required is smaller than a size #3; refer to Table 2 (weight based method)
- Inspect LMA for cuff tears, obstructions in tube, etc.
- Inflate cuff with one-half the maximum recommended volume of air to ensure that it does not leak
- Completely deflate cuff and lubricate palatal side prior to insertion

**Insertion:**
- If C-spine injuries are NOT suspected, place the head in the neutral or slight “sniffing” position
  - NOTE: If C-spine injuries are suspected, maintain the head in neutral position
- Do not apply cricoid pressure during insertion
- Insert LMA maintaining gentle pressure against the palate and following the natural curvature of the airway. Do not push tongue back into the hypopharynx during insertion
- Insert until resistance is felt as the distal end of the LMA meets the upper esophageal sphincter
- The integral bite block should lie between the teeth
  - If >2cm of the integral bite block extends outside of the mouth, use smaller size LMA
- If the fixation tab presses on the upper lip, change the LMA to the next larger size

**Inflation:**
- Inflate the cuff initially with one-half the maximum recommended volume. Assess ventilation and assess for air leaks around the cuff. Inflate with just enough air to achieve a seal sufficient to permit ventilation without leaks
- Note: Over-inflation can result in an inadequate seal and excessive cuff pressure
- Never inflate cuff with more than the maximum recommended volume
# Laryngeal Mask Airway (LMA)

**Ventilation:**
- Attach BVM and ventilate the patient. Listen for lung and epigastric sounds, and observe for bilateral chest rise.
- These clinical assessment parameters for appropriate LMA placement are of paramount importance as qualitative EtCO2 (colorimetric) devices are not recommended.
- If quantitative EtCO2 waveform [capnography](#) is available, it may be utilized to monitor trends in ventilatory efforts.

**Fixation:**
- Tape across the fixation tab so the tape adheres to the patient’s cheeks and the LMA is gently pressed inward.

**Gastric suctioning:**
- The drain tube facilitates channeling of fluids and gases emerging from the stomach.
- Suction SHOULD NOT be applied directly to the end of the drain tube port, as this may cause the drain tube to collapse and might injure the upper esophageal sphincter.
- To facilitate gastric drainage, a 14 fr. orogastric tube may be passed through the drain tube port into the stomach at any time.
- Refer to Tables 1 and 2 for maximum OG tube sizes.
- The gastric tube should be well lubricated and passed gently.
- Suction should not be performed until the gastric tube has reached the stomach.

**Reassessment:**
- Reassess frequently to ensure proper LMA placement, cuff inflation, and adequacy of ventilation and oxygenation.

**Special Considerations:**
- If LMA has been placed prior to your arrival:
  - Device may be left in place for transport if ventilation and oxygenation are adequate.
  - Ask about difficulties encountered with initial intubation attempt(s) and/or LMA insertion.
- Consider intubation if:
  - Long transport time.
  - Unable to adequately ventilate and/or oxygenate patient with LMA.
  - High risk of laryngeal edema.

**Documentation:**
- The run report should include patient’s mental status and respiratory status, all procedures done to manage ventilation and pre-oxygenation, LMA size used, ease of insertion, and how LMA placement was verified and maintained.
- All LMA insertions will be reviewed by agency QA and/or Medical Director. Document procedure on QA report per agency requirements.