I. BACKGROUND: Supraglottic airways (SGA) offer an alternative to Endotracheal Intubation in a number of circumstances. Currently there are two Supraglottic Airways in the ACCESS/ACP system: The Laryngeal Mask Airway (LMA) Supreme and the KING LTS-D. This document provides general guidance on procedure, with the understanding that specific circumstances may necessitate some variance from standard procedure.

II. Indications and Contraindications

General Indications
- Cardiopulmonary arrest
- Respiratory arrest
- Comatose with non-maintainable airway
- Pronounced hypoxia
- Inadequate ventilation by BVM or other airway device.

STRONGLY CONSIDER WITH
- As an alternative (i.e. a “rescue airway device”) to other airway devices/interventions in actual or anticipated difficult airway situations
- After unsuccessful endotracheal intubation attempts, or where endotracheal intubation is not available or feasible.
- Any patient with a decreased level of consciousness with compromised ability to manage their airway
- Those patients who fail to respond to positive pressure ventilation/airway support
- Anticipated clinical course such as impending respiratory or airway failure

Absolute Contraindications
- Intact gag reflex
- Inadequate mouth opening to allow placement

Relative Contraindications
- Known/suspected esophageal disease such as Esophageal Varices or Esophageal cancer
- Known or suspected ingestion of a caustic substance
- Edema of the airway such as burns or anaphylaxis

Cautions
- Morbid Obesity (LMA – Increased risk of aspiration, increased difficulty ventilating)
- Obstructive and reactive airway disease (LMA - airway pressures needed may exceed mask/cuff pressure)
- Pregnancy > 14 weeks (LMA - increased risk of aspiration)
- If airway problems persist or ventilation is inadequate, the SGA should be removed and an airway established by some other means
## III. Procedure

### LMA Supreme

#### Procedure
- Place patient in supine position if possible.
- Pre-oxygenate patient to attain SpO2 of > 94% if possible.
- Chose the correct size
  - NOTE: The LMA is selected based on Patient size (weight) not Height

<table>
<thead>
<tr>
<th>LMA Size</th>
<th>Patient estimated or actual Size</th>
<th>Maximum Cuff volume*</th>
<th>Maximum OG size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Neonates/Infants up to 5 kg (11 pounds)</td>
<td>5 ml</td>
<td>6 fr.</td>
</tr>
<tr>
<td>1.5</td>
<td>Infants 5-10 kg (11-22 pounds)</td>
<td>8 ml</td>
<td>6 fr.</td>
</tr>
<tr>
<td>2</td>
<td>Infants 10-20 KG (22-44 pounds)</td>
<td>12 ml</td>
<td>10 fr.</td>
</tr>
<tr>
<td>2.5</td>
<td>Children 20-30 KG (44-66 pounds)</td>
<td>20 ml</td>
<td>10 fr.</td>
</tr>
<tr>
<td>3</td>
<td>Children 30-50 KG (66-110 pounds)</td>
<td>30 ml</td>
<td>14 fr.</td>
</tr>
<tr>
<td>4</td>
<td>Adults 50-70 kg (110-154 pounds)</td>
<td>45 ml</td>
<td>14 fr.</td>
</tr>
<tr>
<td>5</td>
<td>Adults 70-100 kg (154-220 pounds)</td>
<td>45 ml</td>
<td>14 fr.</td>
</tr>
</tbody>
</table>

*These are maximum volumes that should never be exceeded. It is recommended that the cuff be inflated no more than a maximum of 60 cm H2O intracuff pressure if known.
- Chose an appropriate size LMA.
  - For normal adults, use the size 4 device as a first choice.
  - An approximate estimate of suitable sizing can be made by holding each device against the side of the patient’s face in the position corresponding to that shown below.
• Inspect the cuff for damage or tears.
• Check the cuff for proper inflation/deflation. **Deflate** the cuff completely using at least 50 cc of aspiration and watch for re-inflation (indicates there is a leak)
• Apply a water based lubricant to the DORSAL/POSTERIOR aspect of the LMA, including the shaft.
• Insert the LMA into the hypopharynx until resistance is met.
• Connect the LMA to the desired ventilation device/method and ventilate the patient.
• Use as many as possible of the following confirmation techniques:
  o Misting in the tube
  o Quantitative and Qualitative end tidal CO₂ (EtCO₂)
    ▪ Maintain at 35-45 mmHg
    ▪ Monitor Waveform
  o Auscultation of gastric region and bilateral chest
    ▪ Equal chest rise with assisted ventilations
    ▪ No Epigastric sounds
  o Recovery/maintenance of SpO₂
• Record depth markings
• Secure
• Place c-collar
• Reassess frequently
KING LTS-D
Procedure:
- Place patient in supine position if possible.
- Pre-oxygenate patient to attain SpO2 of > 94% if possible.
- Choose the correct KING LTS-D size, based on patient’s height:
  - Size 3 = 4-5 feet in height
  - Size 4 = 5-6 feet in height
  - Size 5 = greater than 6 ft in height
- Test cuff inflation system.
  - 60-90 ml air based on device size
  - If no leaks are detected, deflate the cuffs being certain to remove all air
- Apply a water based lubricant to the beveled distal tip
- Position the head; ideal position is the sniffing or neutral head angle
- Hold the KING LTS-D at the connector with dominant hand, hold the mouth open and apply the jaw lift technique
- Rotate the KING LTS-D laterally 45-90° (clockwise) such that the blue orientation line is touching the corner of the mouth and then introduce the tip into the mouth and advance behind the tongue, never force the tube
- As the tube passes under the tongue, rotate tube 45-90° (counter-clockwise) back to midline such that the blue orientation line will now be facing the chin
- Advance the KING LTS-D until the proximal opening of the gastric access lumen is aligned with the teeth or gums
- Inflate the KING LTS-D cuffs with minimum volume
  - Size 3: 45-60 ml
  - Size 4: 60-80 ml
  - Size 5: 70-90 ml
- Attach the BVM and assess for proof of placement
- Use as many as possible of the following confirmation techniques:
  - Misting in the tube
  - Quantitative and Qualitative end tidal CO2 (EtCO2)
    - Maintain at 35-45 mmHg
    - Monitor Waveform
  - Auscultation of gastric region and bilateral chest
    - Equal chest rise with assisted ventilations
    - No Epigatsric sounds
  - Recovery/maintenance of SpO2
- Record depth markings
- Secure
- Place c-collar