Clinical Practice Procedures: Airway management/ Supraglottic airway – LMA Supreme™

<table>
<thead>
<tr>
<th>Policy code</th>
<th>CPP_AM_LMA_0919</th>
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<tbody>
<tr>
<td>Date</td>
<td>September, 2019</td>
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<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to supraglottic airway – LMA Supreme™.</td>
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<tr>
<td>Scope</td>
<td>Applies to Queensland Ambulance Service (QAS) clinical staff.</td>
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<tr>
<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
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<tr>
<td>Population</td>
<td>Applies to all ages unless stated otherwise.</td>
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<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
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<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
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<tr>
<td>Review date</td>
<td>September, 2022</td>
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Supraglottic airway – LMA Supreme™

The laryngeal mask airway (LMA) Supreme™ is a second generation, preformed, disposable, supraglottic airway with an inflatable cuff designed to conform to the contours of the hypopharynx.

The LMA Supreme™ provides easy insertion without the need for digit or introducer guidance and contains a built-in bite-block and gastric drainage tube allowing for early indication of regurgitation[1] and suctioning with a Y-suction catheter if required.

**Indications**
- Actual loss of airway patency and/or airway protection.

**Contraindications**
- Nil in this setting

**Complications**
- Failure to provide adequate airway or ventilation
- Can precipitate vomiting and aspiration in a patient with intact airway reflexes
- Airway trauma
- Maxillofacial trauma
- Patient intolerance
- Can precipitate laryngospasm on insertion and removal
**Insertion**

1. Open the LMA package and remove the protective case.
2. Remove the red safety lock from the LMA’s pilot balloon.
3. Attach a 50 mL Luer-LokTM syringe to the pilot balloon.
4. Hold the LMA with the non-dominant hand and compress the cuff between the index finger and thumb.
5. Move the connected 50 mL syringe away from the LMA until the inflation line is stretched straight.
6. Withdraw air whilst simultaneously compressing the LMA cuff, ensuring the distal end of the cuff is curled anteriorly.
7. After achieving the desired cuff shape, disconnect the syringe from the pilot balloon.
8. Lubricate the posterior surface of the mask with water-soluble lubricant.
9. Place the patient’s head in the appropriate position to align the oral, pharyngeal and laryngeal axes (neutral position with MILS if c-spine injury suspected).
   - **Infant:** slight elevation of the shoulders
   - **Small child:** slight extension of the head
   - **Older child/adult:** extension of the head (elevation of the head may also be required).
10. Open the mouth by gently pressing the chin and position the LMA’s distal tip against the inner aspect of the upper teeth or gums.

11. Slide inwards using a slightly diagonal approach (direct the tip away from the midline).

12. Continue to insert the LMA inwards by rotating the hand in a circular motion so that the device follows the curvature behind the tongue until definite resistance is felt.

13. Ideally, tape the airway in place prior to inflation of the airway cuff. This will ensure that the airway stays seated under the arytenoids and does not back out once its inflated. Clinician, can also simply hold the airway in place prior to inflating the cuff if they do not want to tape first.

14. Inflate the LMA cuff to the desired volume.

15. Confirm correct positioning by ensuring a minimum of 1 cm gap between the upper lip and fixation tab.
**Procedure – Supraglottic airway – LMA Supreme™**

**Removal**

1. Suction the patient’s upper airway.
2. If appropriate, place the patient in the lateral position.
3. With a 50 mL syringe fully deflate the LMA’s cuff.
4. Remove the LMA (if possible this should be performed during exhalation or when coughing).

**Additional information**[^2-3-4]

- An LMA does not fully protect the airway from aspiration.
- An LMA typically causes less gastric insufflation than bag-valve mask ventilation alone.
- Size 4 LMAs should be considered as first choice for all average sized adult patients.
- To assist with LMA/BVM stability, use of the Disposable Catheter Mount should be considered.
- CCPs may facilitate gastric drainage by passing a well lubricated and correctly sized Y-suction catheter or orogastric tube into the patient’s stomach via the LMA’s gastric drainage tube.
Additional information (cont.)

- The LMA’s gastric drainage port is designed to facilitate the channelling of gastric contents. To mitigate the risk of gastric contents being expelled during CPR, officers may consider connecting a Urimaxx® drainage bag to the LMA’s gastric drainage port via a shortened length of suction tubing.

- Under NO circumstances should active suction be applied directly to the end of the LMA’s gastric drainage port as this may cause the drainage tube to collapse and cause injury to the upper oesophageal sphincter.

### NUMBER OF ATTEMPTS

- This procedure is limited to two attempts per officer.

QAS supplies the LMA Supreme™ in the following sizes:

<table>
<thead>
<tr>
<th>LMA size</th>
<th>Weight guide</th>
<th>Max suction catheter size and type</th>
<th>Max inflation volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt; 5 kg</td>
<td>6 Fr – Y suction catheter</td>
<td>5 mL</td>
</tr>
<tr>
<td>1.5</td>
<td>5–10 kg</td>
<td>6 Fr – Y suction catheter</td>
<td>8 mL</td>
</tr>
<tr>
<td>2</td>
<td>10–20 kg</td>
<td>8 Fr – Y suction catheter</td>
<td>12 mL</td>
</tr>
<tr>
<td>2.5</td>
<td>20–30 kg</td>
<td>8 Fr – Y suction catheter</td>
<td>20 mL</td>
</tr>
<tr>
<td>3</td>
<td>30–50 kg</td>
<td>12 Fr – Orogastric catheter</td>
<td>30 mL</td>
</tr>
<tr>
<td>4</td>
<td>50–70 kg</td>
<td>12 Fr – Orogastric catheter</td>
<td>45 mL</td>
</tr>
<tr>
<td>5</td>
<td>70–100 kg</td>
<td>12 Fr – Orogastric catheter</td>
<td>45 mL</td>
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