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## PEMC @ICEM2016 – Paediatric SGA Station Learning Outcomes

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NB: This is an *aide memoir* written by Dr Ross Hofmeyr ([ross.hofmeyr@uct.ac.za](mailto:ross.hofmeyr@uct.ac.za); @rosshofmeyr) and is not intended to be a conclusive or peer-reviewed resource.



**NB: Recognition of the crucial role of supraglottic airways in the unexpected difficult airway or where intubation skills are lacking or suboptimal!**

- **Terminology:** LMA is a registered trade mark. Generic term is supraglottic airway (SGA). Many examples: LMA, LTA, i-gel, AMBU, Air-Q, Cobra PLA, SLIPA, etc. Sometimes divided into supraglottic and extraglottic (LTA, Combitube, etc).
- **Generations:** 1<sup>st</sup> generation (simple mask and breathing tube) vs. 2<sup>nd</sup> generation (incorporate means of gastric drainage – less common in small paediatric sizes). (3<sup>rd</sup> generation proposed but not universally accepted yet – watch this space)
- **Pros:** Simple to use; usually easy to insert; require little training; prevent most common causes of airway obstruction; allow oxygenation and ventilation; some protection against aspiration; can be used as conduit for intubation; blind insertion; can easily be used without interrupting chest compressions; fairly low cost.
- **Cons:** Patient must be completely obtunded/unconscious; can cause laryngospasm; no prevention of obstruction below vocal cords; not 'definitive' airway protection (still risk of aspiration); must have correct size; cannot ventilate with high pressures; risk of nerve damage with prolonged use.
- **Indications:** Unconsciousness requiring airway control; lack of skill or equipment to intubate; failed intubation; planned procedure requiring general anaesthesia but not intubation.
- **Contraindications:** Awareness/intact airway reflexes, inability to open mouth, severe airway abnormality.
- **Predictors of difficult SGA placement = "RODS":** Restricted mouth opening, obstruction to placement, deformed anatomy, stiff lungs (high ventilator pressures required).

- **Insertion:** Finger-guided; reverse with twist; oblique “twist-and-plop” or with tongue depressor or laryngoscope. Minimal inflation to obtain seal. Use of pressure manometer advisable, especially if devices needs to stay in for a long transfer.
- **Removal:** Gentle suctioning of oral cavity (not essential but useful); no deflation.
- **Troubleshooting:** Bad leak; no ventilation: pull back partially, jaw thrust, advance. If needing excessive inflation, SIZE IS WRONG, change size. Tricky insertion – consider using laryngoscope or tongue depressor. Pass NGT through drainage channel in 2<sup>nd</sup> gen devices to confirm correct placement. Leak though drain tube – usually too small.

**Sizes/types:**

Supraglottic airway size:	1	2	3	4	5
Approximate ideal body weight	< 5kg	10-20 kg	30-50 kg	50-70 kg	70-100 kg
Supraglottic airway type	Maximum endotracheal tube size (internal diameter, mm)				
air-Q ILA (size 1/2/2.5/3.5/4.5)	4.5	5.5	6.5	7.5	8.5
LMA Classic or Unique	3.5*	4.5*	6.0	6.0	7.0
LMA Supreme	N/A	N/A	N/A	N/A	N/A
LMA Proseal	3.5*	4.5*	5.0*	5.0*	6.0
LMA Fastrach	N/A	N/A	8.0	8.0	8.0
i-gel	3.0	5.0	6.0	7.0	8.0
Aura-i	3.5	5.0	6.5	7.5	8.0
LMA CTrach	N/A	N/A	7.0	7.5	8.0
CobraPLA/CobraPLUS	4.5*	5.5*	6.5	7.5	8.0

*Table 3 - Maximum endotracheal tube sizes that can be passed through various SGAs. Half-sizes, where they exist, are not shown. Some differences exist in the literature due to variation in ETT external diameter between manufacturers. \*Uncuffed tracheal tube where marked \*.*

# LMA™ QUICK REFERENCE GUIDE

LMA | Classic™      LMA | Unique™

The Original LMA™ Airway in single use and reusable

Mask Size	Patient Size	Maximum Cuff Volume (Air)*	Largest ETT ID (mm)
1	Neonates/infants up to 5 kg	up to 4 ml	3.5
1½	Infants 5-10 kg	up to 7 ml	4.0
2	Infants/children 10-20 kg	up to 10 ml	4.5
2½	Children 20-30 kg	up to 14 ml	5.0
3	Children 30-50 kg	up to 20 ml	6.0***
4	Adults 50-70 kg	up to 30 ml	6.0***
5	Adults 70-100 kg	up to 40 ml	7.0***
6**	Large adults over 100 kg	up to 50 ml	7.0***