

Supraglottic airway (laryngeal mask)

Good practice point

OFFICIAL

Aim

To emphasise the importance of availability of a supraglottic airway (laryngeal mask) as standard equipment for resuscitation of all newborn infants.

Background

All clinicians (medical, nursing and midwifery) who attend births should be trained in basic resuscitation of the newborn, including measures to maintain an open airway and to deliver positive pressure ventilation via a facemask or a supraglottic airway [ANZCOR, 2021, Guideline 13.5, Good Practice Statement].

Effective ventilation is the key to effective resuscitation of the newborn. If the newborn's heart rate is not improving to >100 beats per minute (BPM) with facemask ventilation, or tracheal intubation is unsuccessful or not feasible, insertion of a supraglottic airway can be an effective means of establishing an airway to facilitate effective positive pressure ventilation. The International Liaison Committee on Resuscitation (ILCOR) and the Australian and New Zealand Committee on Resuscitation (ANZCOR) both recommend that a Size 1 supraglottic airway be standard equipment for newborn resuscitation, and personnel attending births be trained in its use.

Supraglottic airway- indications

Insertion of a supraglottic airway (SGA) may be considered in the following clinical situations to safely secure and maintain control of the airway:

- Anticipated or unexpected difficult airway
- A newborn with an airway anomaly (known or suspected)
- Face mask ventilation is unsuccessful: large mask leak/no chest rise/heart rate not improving >100 bpm
- Endotracheal intubation is unsuccessful
 - Consider inserting an SGA after 2 intubation attempts
- Endotracheal intubation is not feasible because the personnel do not have skills in newborn intubation.
 - Insertion of an SGA should be considered by medical/midwifery/nursing clinicians who are trained to insert an SGA

Suitable infants

- Term or near-term newborns
- ≥ 34 weeks' gestation

≥ 2000 g birth weight (>1500 g BW in recent published evidence)

Size

- Size 1 SGA is recommended for newborn infants
- An un-cuffed SGA is recommended (for simplicity of insertion)

Contradictions

The safety and efficacy of administering adrenaline via an SGA has not been determined and is not recommended.

Case vignette

A term infant is born in poor condition (apnoeic, pale, heart rate 70 bpm, poor muscle tone) following birth complicated by shoulder dystocia. Despite mask ventilation with a T-piece device, the infant's heart rate remains 70-80 bpm. The staff attending the birth call a neonatal code blue. A neonatal registrar arrives and attempts to intubate the newborn, but without success. The newborn's heart rate continues to decrease, and no chest wall movement is seen with mask ventilation, despite increasing the peak inspiratory pressure on the T-piece device and checking the seal on the face mask. A size 1 supraglottic airway (SGA) is available in the drawer of the resuscitaire, but none of the staff present have been trained in its use. The infant's heart rate decreases to <60 bpm and chest compressions are commenced. The neonatal retrieval team (PIPER) are contacted for advice and suggest the registrar tries to insert an SGA. This is successful, and positive pressure ventilation via the T-piece device is recommenced. The infant's heart rate begins to rise to above 100 bpm. The airway is maintained with the SGA until a consultant paediatrician arrives and intubates the infant.

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