

S.A.V.E.S.

SOMERSET ACCIDENT VOLUNTARY EMERGENCY SERVICE

Affiliated to the British Association for Immediate Care

Standard Operating Procedure 004

PHARMACOLOGICALLY ASSISTED LARYNGEAL MASK INSERTION (PALM)

This SOP provides an alternative to pre-hospital rapid-sequence tracheal intubation for physicians who do not have adequate training to perform RSI or who do not perform that procedure frequently enough to maintain skills. It may also provide emergency airway control in situations where RSI is impracticable eg due to patient entrapment. Laryngeal Mask insertion skills are more easily learnt and maintained than those required for RSI and pharmacologically assisted LMA use provides many of the advantages of RSI without the need for paralysis. Either an LMA Supreme or intubating LMA may be used. Both of these devices have advantages over the standard LMA. The LMA supreme allows higher airway pressures to be administered without leakage and offers improved protection against aspiration of regurgitation. The Intubating LMA allows blind endotracheal intubation after ventilation has been re-established – either on scene or on arrival in hospital. The choice of device carried will depend on the physician's experience and preference.

This SOP aims to:

- Define the training of scheme members to perform PALM
- Define the indications for PALM
- Describe the procedure for performing PALM
- Describe the procedure for failed PALM

Training

This procedure should always be lead by an appropriately trained and experienced physician who has been approved by the medical committee to perform the procedure. To be approved the physician should be able to demonstrate:

- Experience – The physician will be an accredited SAVES physician with experience in responding for the service. He will have appropriate experience in simple airway management and LMA skills.
- Knowledge – The physician will be familiar with the background of pre-hospital emergency anaesthesia, laryngeal mask use, the pharmacology of the drug used, the potential complications and their management.
- Practical Skills – The physician will be competent in the practical skills required for all aspect of the procedure.

Training will comprise: Background reading, Experience in LMA Insertion, theoretical teaching of the procedure to be followed and practical training using realistic scenarios and patient simulators.

Indications

PALM is indicated where the physician determines a need to take control of the patient's airway and ventilation where the patient's level of consciousness precludes intubation or LMA insertion without the use of sedating agents.

- Actual or impending airway compromise
- Ventilatory failure
- Humanitarian reasons
- Unmanageable or severely agitated head injury patients

The decision should always include a risk assessment ie;

- Scene safety should have been established before considering PALM.
- A risk-benefit consideration should be made: ie do the potential benefits of the procedure outweigh the potential risks.

The Procedure

Preparation

1. The Team: The physician should nominate an assistant to help with drug administration, passing equipment etc. A 3rd person will be necessary to maintain MILS of the cervical spine ideally from the front of the patient and the opposite side to the assistant.
2. Scene: Access to the patient should be maximised as far as possible to facilitate the procedure. Quiet should be requested
3. The Patient:
Good IV access with crystalloid drip
Loosen/Remove collar and maintain MILS
Oxygenate at 15l/min. If poor respiratory effort/apnoea assist with bag-valve-mask ventilation.
Open and assess airway
Monitoring: NIBP (On other arm), SaO₂.
GCS An experienced practitioner should **calculate** (not guess) the patient's GCS and record it.
4. The Kit: (MEDDS) **M**onitoring, **E**quipment, **D**rugs, **D**rill and **S**upply of Oxygen (min 2 cylinders) should be readily to hand and laid out and checked by the physician and assistant.

The Procedure

(CALL ME)

Check Equipment and drugs with assistant and talk through the procedure using written checklist (appendix

Administer intravenous midazolam at a dose of 0.5mg I/V for every point on the GCS scale over 3, wait up to 2 minutes and then repeat the dose if necessary. This initial couple of minutes allows time to concentrate on pre-oxygenation before attempting insertion of the LM device.

Laryngeal Mask Insertion using LMA Supreme or intubating laryngeal mask airway. A laryngoscope may be used to facilitate LMA insertion if required.

Look for problems: Check for chest movement. Auscultation in both axillae and over the stomach. End-Tidal CO₂

Maintain the Airway: Secure the airway using tape and Connect to Bag-Valve Mask to augment ventilation as required or to a portable ventilator (adult standard: V_t 8ml/Kg, Rate 10/min, Pressure Limit 30)

En-Route Care

- o Reassess patient's vital signs and monitor heart rate and blood pressure
- o Maintain sedation (boluses of 1-2mg midazolam PRN) and analgesia (morphine) as required

Procedure for Failed LMA Insertion

If LMA insertion is unsuccessful the physician should proceed to an alternative methods of establishing an airway and ventilation. Simple Airway and Bag-Valve-Mask ventilation or Surgical Airway (Portex Cricothyrotomy device)

Appendix 1: Equipment List

- o Suction
- o Oxygen
- o Laryngoscope (Check Light)
- o Lubricant
- o LMA (Expected and alternative sizes) (Check cuffs)
- o 50ml syringe
- o Magills Forceps
- o Filter
- o Tape
- o Ventilator (settings: adult standard V_t 8ml/Kg, Rate 10/min, Pressure Limit 30)
- o Midazolam 2mg/ml. 5ml ampoules
- o Reserve Airways: OPA/NPA. Cricothyrotomy Kit