Al Mustaqbal University

College of Health and Medical Techniques

Department of Anesthesia

Practical Anesthesia

Stage Two

Lecture 2

Airway adjuncts

By Lectures

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Airway adjuncts

Oropharyngeal & nasopharyngeal airway

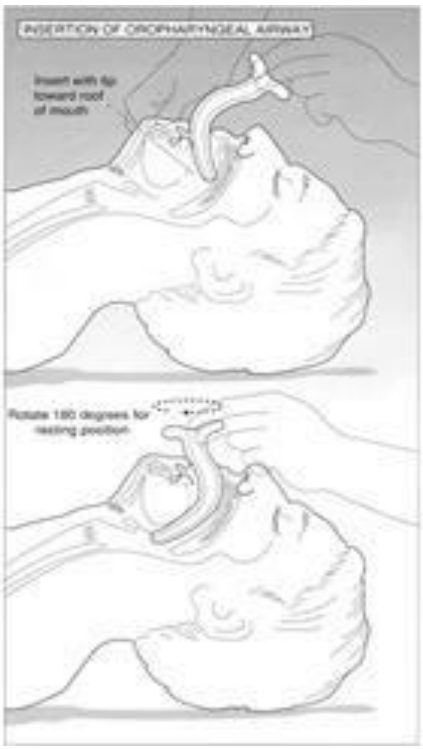
→ Oral airway

Uses:

- It prevents obstruction of **the upper air passage** by lifting the tongue and epiglottis away from the posterior pharyngeal wall
- **It prevents biting** and occlusion of the tracheal tube
- **It protects the tongue** during biting and seizure activity

NOTS…

- The airway is simple and easy to use and is available in all clinical areas.
- The airway is available in a **range of sizes from neonate to adult.**
- It is possible to determine the size that is best for the patient by poitioning the flange at the incisor level and the tip at the mandibular angle.
- **In adults,** the oral airway is usually inserted upside down and then rotated 180 degrees once it has reached the back of the oropharynx.
- **in young children** may result in trauma to their soft palate using the same manoeuvre, so **the airway is usually inserted without inverting it in this age group.**

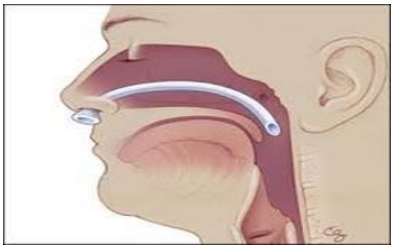


Disadvantages of oral airway oral airways are **poorly tolerated by semiconscious** patients and they may induce vomiting.

- Blind insertion of a oral airway may cause bleeding, especially from upper airway tumours.
- Incorrect sizing may cause obstruction:
  - **too long**, it may push the epiglottis over the laryngeal inlet
  - **too short**, it will not pass the base of the tongue.

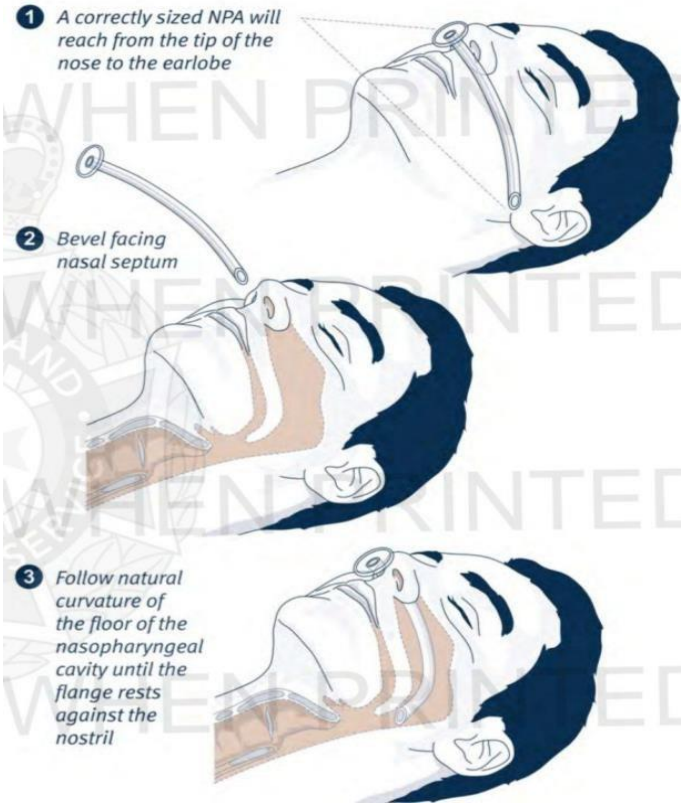
→ Nasopharyngeal airways

- The nasopharyngeal airway adjunct is **used as an alternative** to an oropharyngeal airway.
- It is most commonly used in emergency situations, patients who have poor mouth opening.
- nasal airways should be inserted with caution because of the risk of epistaxis.



Nasopharyngeal airway insertion

1. Place the patient's head in the neutral position.
2. Identify the correct size NPA by **measuring from the tip of the patient's nose to the earlobe.**
3. Lubricate the end of the NPA with aqueous gel.
4. Advance the device carefully along the floor of the nasopharynx, following its natural curvature until the flange rests against the nostri



Advantages

Tolerated in **semi-conscious patients.**

- Suctioning can take place through the nasopharyngeal tube.

→ supraglottic airway device (SAD)

Laryngeal mask airway (LMA)

Uses:

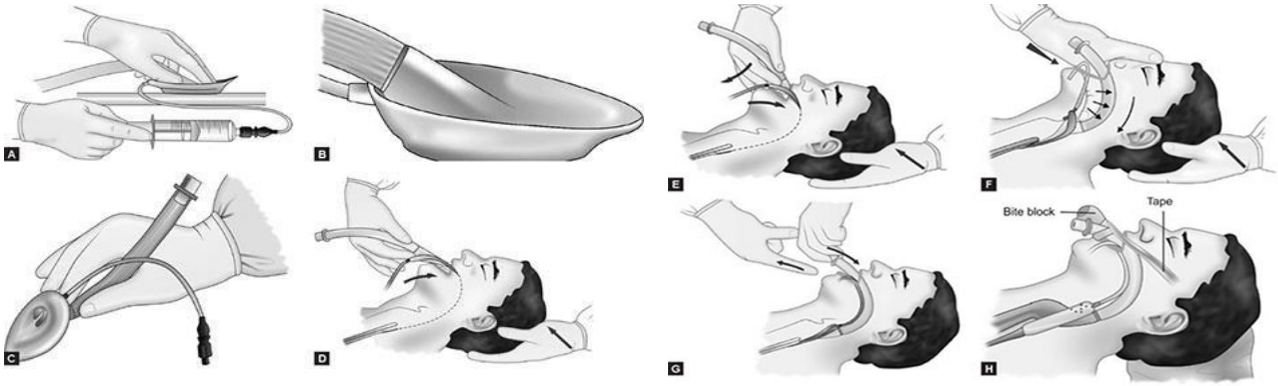
- most commonly used for airway management in fasted patients **who do not suffer from significant gastro-oesophageal reflux.**
- as an emergency airway where a **practitioner skilled in intubation is not available** (e.g. some paramedic crews)
- as an emergency airway in 'can't intubate, can't ventilate' situations.

Mask Size	Patient Size	Weight (kg)	Cuff Volume (mL)
1	Infant	<6.5	2–4
2	Child	6.5–20	Up to 10
2½	Child	20–30	Up to 15
3	Small adult	>30	Up to 20
4	Normal adult	<70	Up to 30
5	Larger adult	>70	Up to 30

Technique for inserting LMA

Prepare the LMA by fully deflating the cuff, apply water-soluble gel to the back of the cuff.

- Hold the LMA like a pen, with the index finger placed anteriorly at the junction of the cuff and tube.
- Push the mask backwards along the hard palate. As the mask moves downwards, the index finger maintains pressure backwards against the posterior pharyngeal wall to avoid collision with the epiglottis .
- Insert the index finger fully into the mouth to complete insertion, stopping when resistance is felt.
- Inflate with the correct amount of air.
- Avoid pharyngeal suction, cuff deflation, or laryngeal mask removal until the patient is awake **(eg, opening mouth on command).**
- **The LMA partially protects the larynx from pharyngeal secretions (but not gastric regurgitation), and it should remain in place until the patient has regained airway reflexes.**



Advantages and disadvantages of LMA compared with face mask

Advantages:

- Hands-free operation
- Better seal in bearded patients
- Protects against airway secretions
- Less facial nerve and eye truma
- Less operating room pollution

Disadvantages:

- More invasive
- More risk of airway truma
- Deeper anesthesia required

Advantages and disadvantages of LMA compared with tracheal intubation

Advantages:

- Less invasive
- Very useful in difficult intubation
- Less laryngospasm and bronchspasm
- No risk of esophageal or endobronchial intubation

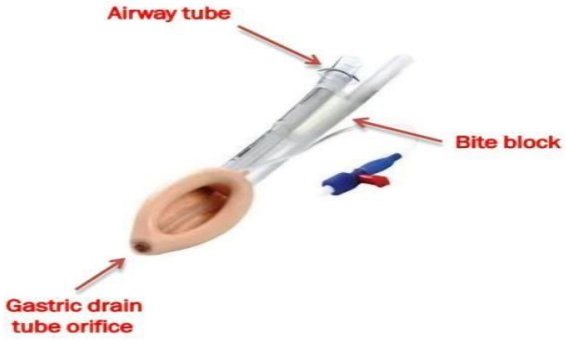
Disadvantages:

- Increased risk of gastrointestinal aspiration
- Greater risks of gas leak and pollution
- Can cause gastric distention
- Less secure airway

Variations in LMA design

- **The ProSeal LMA**

It contains a second lumen that opens at the distal tip of the mask to act as an esophageal vent to keep gases and fluid separate from the airway and facilitate placement of an orogastric tube. This is designed to decrease the risk of regurgitation and aspiration of gastric contents.



- **The LMA Flexible**

has a wire-reinforced, flexible airway tube that allows it to be positioned away from the surgical field. This can be useful for procedures involving the head and neck.

- **The I-Gel** is a single-use supraglottic airway device com posed of a soft, gellike, noninflatable cuff.

- **The Fastrach intubation LMA**

which is designed to facilitate endotracheal intubation through the LMA device