oro-and nasopharyngeal airways

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Objectives:

• Oropharyngeal airway
• nasopharyngeal airway
• Technique for insertion of the standard LMA
• POTENTIAL COMPLICATIONS OF INTUBATION
Airway obstruction may occur in variety ways:

The most common cause in an unconscious supine patient is from the:
* **tongue falling back** into the hypopharynx
* **decrease in the tone of muscles** attaching the tongue to the mandible, hyoid bone and epiglottis
* The **respiratory efforts** of the unconscious patient tend to pull the tongue backward causing further airway obstruction
Excluding intubation, simple maneuvers to overcome upper airway obstruction in the unconscious supine patient, include:
1. Clearing the airway of any foreign material
2. Using a chin lift maneuver. (Lift the patient’s tongue away from the back of the throat and provide an adequate airway)
3. Using a jaw thrust maneuver.
4. Inserting artificial airways: oropharyngeal, nasopharyngeal or laryngeal mask airway.
5. Positioning the patient on their side in the semi-prone recovery position
Chin Lift Maneuver

- Grasp the angles of the lower jaw and lift with both hands, one on each side, moving the jaw forward.
- If victim's lips are closed, open the lower lip with your thumb.

Jaw Thrust Maneuver
Oropharyngeal airway (guedel)

- Curved plastic tubes, flattened in cross-section and flanged at the oral end. They lie over the tongue, preventing it from falling back into the pharynx.
An estimate of the size required is given by comparing the airway length with the vertical distance between the patient’s incisor teeth and the angle of the jaw.
• Available in a variety of sizes suitable for all patients, from neonates to large adults. The commonest sizes are 2–4, for small to large adults, respectively.

• Initially inserted ‘upside down’ as far as the back of the hard palate rotated 180°. and fully inserted until the flange lies in front of the teeth, or gums.
**The device is removed when the person regains gag reflex and can protect their own airway.**

**Simply remove by pulling on it without rotation.**

**Can facilitate ventilation during CPR (cardiopulmonary resuscitation) and for persons with a large tongue.**
Oropharyngeal airway

(a) (b) (c) (d)
**Nasopharyngeal airway**

**also known as nasal trumpet (because of its flared end), or nose hose**

**Round, malleable plastic** tubes, The purpose of the flared end is to prevent the device from becoming lost inside the patient's nose.
**A guide to the correct size is made by comparing the diameter to the external nares. The diameter of the airway should be the largest that will fit.**

**The common sizes in adults are 6–8 mm, for small to large adults, respectively.**

**Prior to insertion, the patency of the nostril (usually the right) should be checked.**
NOTE: Nasal airways are contraindicated in patients
** with severe trauma to the head and/or face due to the possibility of direct intrusion into brain tissue
** If an obstruction is encountered, do not force the airway as severe bleeding may be provoked. The airway should be removed and inserted in the left nostril.
Nasopharyngeal airway
Technique for insertion of the standard LMA

- The patient’s reflexes must be suppressed to a level similar to that required for the insertion of an oropharyngeal airway to prevent coughing or laryngospasm

1. The cuff is deflated and the mask lightly lubricated
2. A head tilt is performed, the patient’s mouth opened fully and the tip of the mask inserted along the hard palate with the open side facing but not touching the tongue
3. The mask is further inserted, using the index finger to provide support for the tube. Eventually, resistance will be felt at the point where the tip of the mask lies at the upper oesophageal sphincter
4. The cuff is now fully inflated using an air-filled syringe attached to the valve at the end of the pilot tube

- The laryngeal mask is secured either by a length of bandage or adhesive strapping attached to the protruding tube
Figure 1: Fully deflate the mask for insertion. Attach a syringe. Compress the distal tip of the mask with thumb and index finger. Apply slight tension to the inflation line while removing all air until a vacuum is felt. Disconnect the syringe.

Figure 2: Generously lubricate the posterior surface of the cuff and airway tube.

Figure 3: Place the patient’s head in a neutral or slight “sniffing” position. Hold the LMA Supreme™ at the proximal end with the connector pointing downward to the chest and the tip of the distal end pointing toward the palate.

Figure 4: Press the tip of the mask against the hard palate. Maintaining pressure against the palate, continue to rotate the mask inwards in a circular motion following the curvature of the hard and soft palate.

Figure 5: Continue until resistance is felt. The distal end of the mask should now be in contact with the upper esophageal sphincter. The device is now fully inserted.

Figure 6: Maintaining inward pressure, secure the mask into position by taping cheek to cheek across the fixation tab. This should be done prior to inflation. Inflate with the minimum amount of air needed to achieve an effective seal. The recommended intracuff pressure should not exceed 60 cm H₂O.
POTENTIAL COMPLICATIONS OF INTUBATION

• HYPOXIA
• TRAUMA
• REFLEX ACTIVITY
Due to:

- **Unrecognized oesophageal intubation**
  - If there is any doubt about the position of the tube it should be removed and the patient ventilated via a facemask.

- **Failed intubation and inability to ventilate the patient**
  - This is usually a result of abnormal anatomy or airway pathology. Many cases are predictable at the preoperative assessment.

- **Failed ventilation after intubation**
  - Possible causes include the tube becoming kinked, disconnected, or inserted too far and passing into one main bronchus; severe bronchospasm and tension pneumothorax.

- **Aspiration Regurgitated gastric contents**
  - Can cause blockage of the airways directly, or secondary to laryngeal spasm and bronchospasm.
  - Cricoid pressure can be used to reduce the risk of regurgitation prior to intubation.
trauma

• **Direct**
  - During laryngoscopy and insertion of the tube
  - Damage to lips, teeth, tongue, pharynx, larynx, trachea, and nose and nasopharynx during nasal intubation
  - Causing soft tissue swelling or bleeding

• **Indirect**
  - To the recurrent laryngeal nerves, and the cervical spine and cord
REFLEX ACTIVITY

• **Hypertension and arrhythmias**
  - Occurs in response to laryngoscopy and intubation
  - May increase the risk of patients with coronary artery disease
  - In patients at risk, specific action is taken to attenuate the response; for example pretreatment with beta blockers or potent analgesics (fentanyl)

• **Vomiting**
  - This may be stimulated when laryngoscopy is attempted in patients who are inadequately anaesthetized
  - It is more frequent when there is material in the stomach; for example in emergencies when the patient is not starved, in patients with intestinal obstruction, or when gastric emptying is delayed, as after opiate analgesics or following trauma

• **Laryngeal spasm**
  - Reflex adduction of the vocal cords as a result of stimulation of the epiglottis or larynx
Thank You