AIRWAY EMERGENCIES

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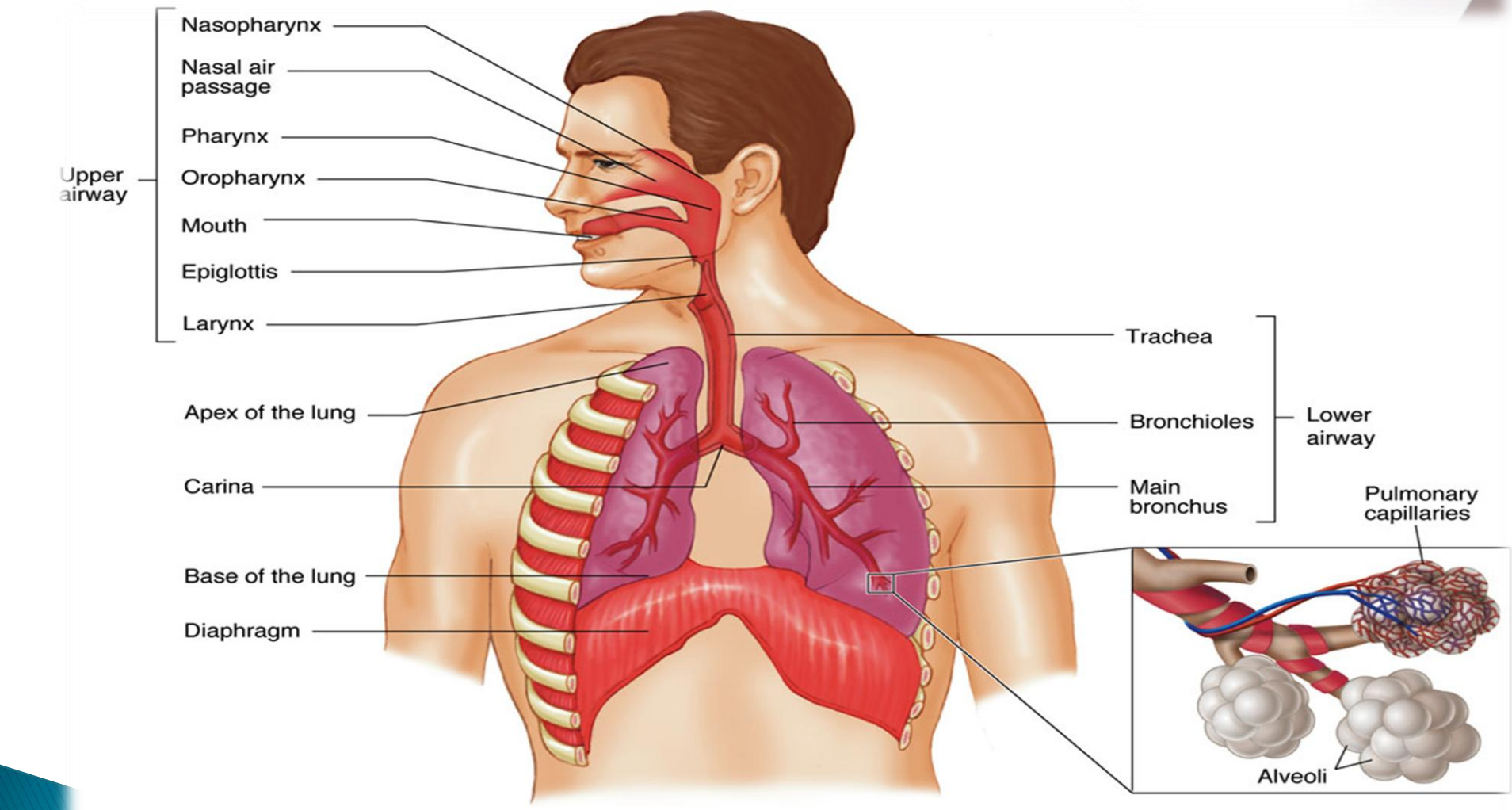
Intensive care and Critical cases

Anatomy of airway



The Aim of Airway Emergency Management

- Patency (airflow integrity)
- Protection against aspiration
- Assurance of oxygenation and ventilation

Causes of Airway Obstruction

- Foreign body
- Tongue with altered LOC, tongue can fall backwards, closing off the airway

- Laryngeal edema
- Laryngeal spasm
- Trauma
- Aspiration
- Infection or severe allergic reaction

Causes of Airway Obstruction

- Tongue
  - With altered LOC, tongue can fall backwards, closing off the airway
    - Partial obstruction: snoring respirations
    - Complete obstruction: no respirations
  - Simple to correct with manual maneuver

Laryngeal Spasm and Edema

- May be relieved by
  - Aggressive ventilation
  - Forceful upward jaw pull
- May be relieved by muscle relaxants
- May recur; transport patient to hospital for evaluation

Aspiration

- Increases mortality
  - Can obstruct the airway
  - Destroys bronchiolar tissue
  - Introduces pathogens into the lungs
  - Decreases patient's ability to ventilate
- Have suction readily available

Clinical Signs of Airway : Obstruction

- Central cyanosis
- diaphoresis
- rapid shallow respirations
- Accessory muscle use
- Retractions
- Abdominal paradox
- Blood in upper airway
- Pus in upper airway
- persistant vomiting
- Loss of protective airway reflexes
- Inspiratory stridor
- Snoring (pharyngeal obstruction)
- Gurgling (foreign matter/ secretions)
- Hoarseness (laryngeal edema/ vc paralysis)
- Paradoxical chest wall movement

Pictures of an Airway Obstruction

- Severe obstruction
  - Inability to breathe, talk, or cough
  - May grasp at throat, turn cyanotic, make frantic movements
  - Cough is weak, ineffective, or absent
  - Weak inspiratory stridor and cyanosis

Techniques of Basic Airway Management

Non-invasive :-

- Head positioning
- -Removal of foreign body
- -Suctioning
- -Mask ventilation
- Opening and head positioning
- • Jaw thrust
- • Head Tilt Chin lift
- • Combined

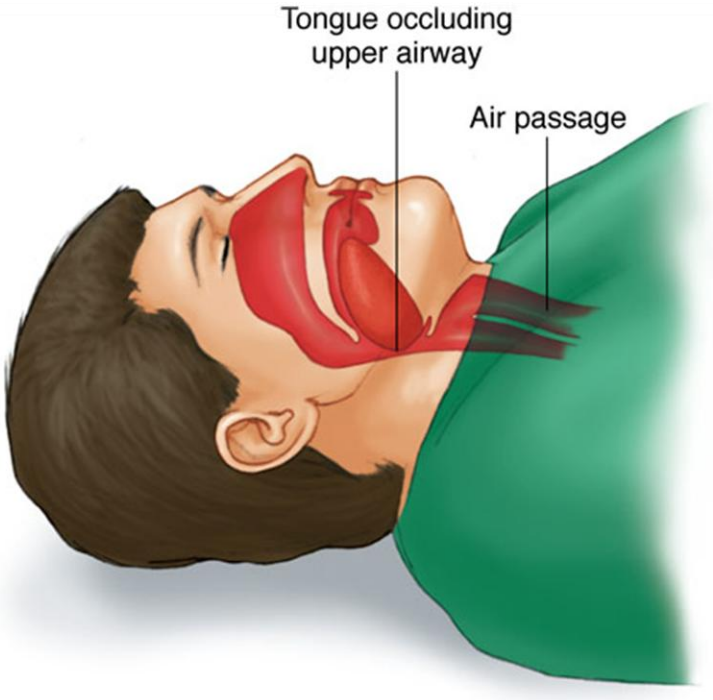
Remember : C-spine stabilization

Head&Positioning the Patien

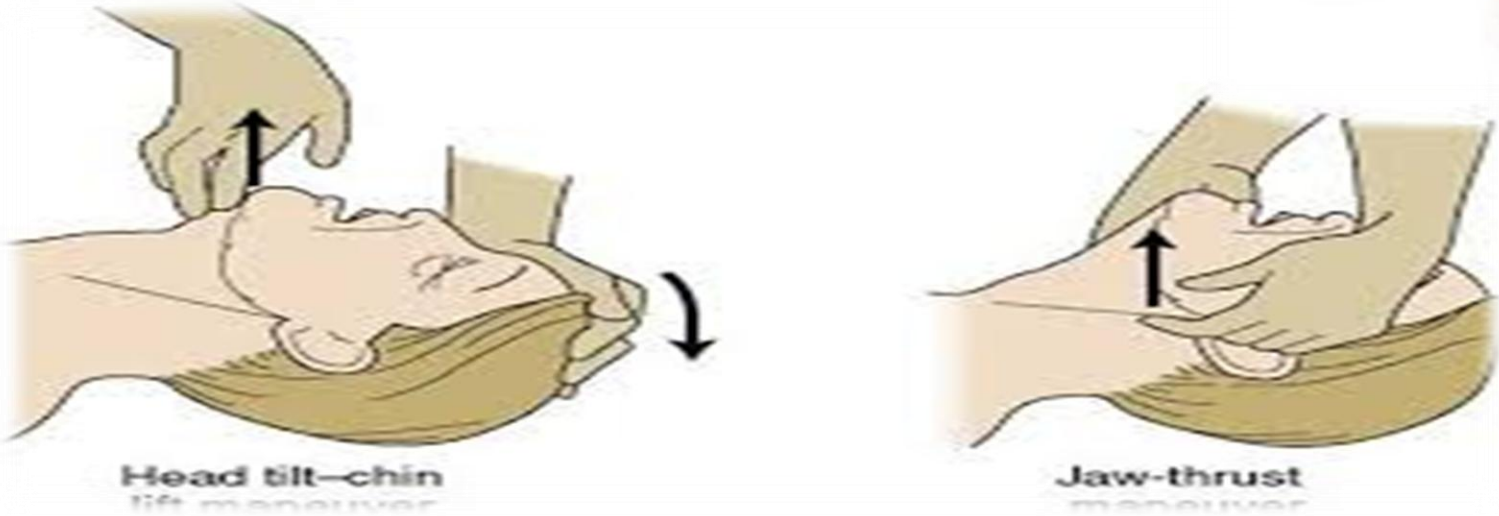
- Move unresponsive patients found in a prone position to a supine position.
  - Log roll and assess for breathing.
- If the patient is breathing adequately and is not injured, move to recovery position.

Manual Airway Maneuvers

- If an unresponsive patient has a pulse but is not breathing, you must open the airway.
  - Maneuver patient's head to propel the tongue forward and open the airway.



Head Tilt-Chin Lift Maneuver



- **Indications:**
  - Unresponsive
  - No spinal injury
  - Unable to protect airway
- **Contraindications:**
  - Responsive
  - Possible spinal injury

- **Advantages**
  - No equipment
  - Noninvasive
- **Disadvantages**
  - Hazardous to spinal injury
  - No protection from aspiration

Jaw-Thrust Maneuver

- **Disadvantages**
  - Cannot maintain if patient becomes responsive or combative
  - Difficult to maintain for an extended time
  - Difficult to use with bag-mask ventilation
  - Thumb must remain in place
  - Requires second rescuer
  - No protection against aspiration

Emergency medical Care for removal of Foreign Body

- Begin treatment immediately if choking is confirmed by a responsive patient.
  - If large pieces of foreign body are found, sweep them out of the mouth with your finger.
  - Insert your finger along the inside of the cheek and into the throat.
  - Try to hook the foreign body to dislodge it.
  - Suction as needed.

Emergency Medical Care for removal of Foreign Body

- Abdominal thrust (Heimlich) maneuver
  - Creates an artificial cough, expelling the object
  - Perform until the object is expelled or the patient becomes unresponsive.

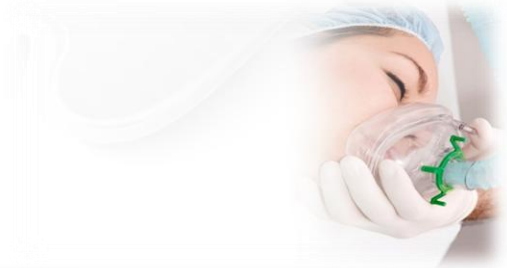
Supplemental Oxygen Therapy

- Administer to any patient with potential hypoxia
  - Enhances compensatory mechanisms during shock and distressed states

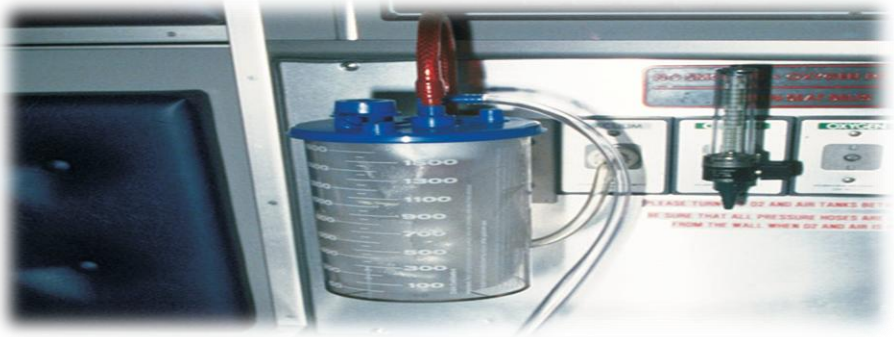
Suctioning

- Removes material from the mouth or throat quickly and efficiently
  - Ventilating with secretions in the mouth will result in upper airway obstruction or aspiration.
- Next priority after opening airway manually

Suctioning Equipment



- Fixed or portable
  - Hand-operated suctioning units with disposable canisters
  - Mechanical or vacuum-powered suction units



Suctioning Techniques

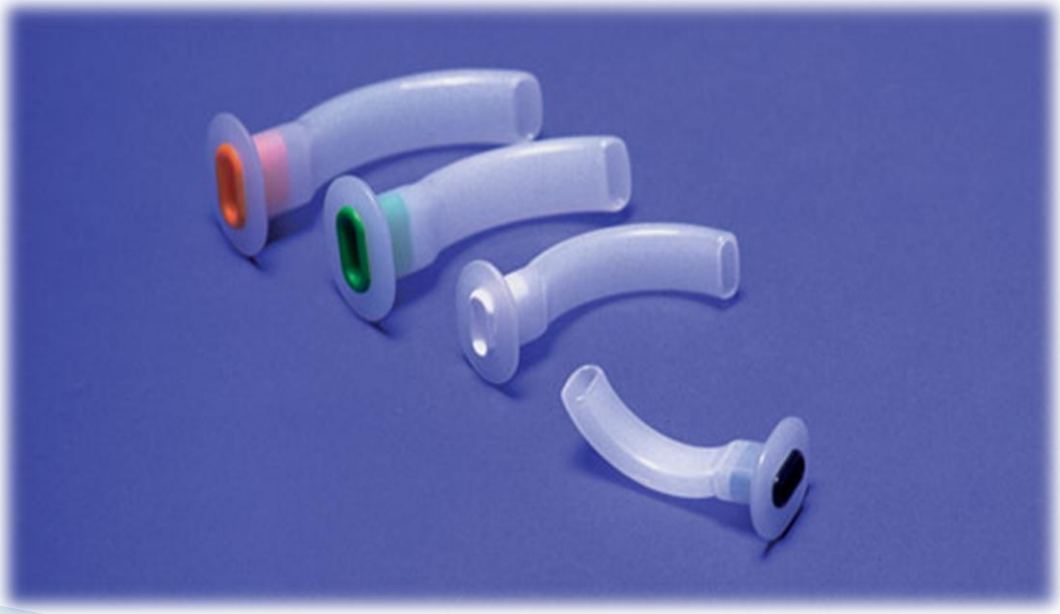
- Suctioning removes oxygen.
  - Preoxygenate before suctioning.
  - Maximum suctioning time
    - Adult: 15 seconds
    - Child: 10 seconds
    - Infant: 5 seconds

Airway Adjuncts

- May be needed to help maintain patency in an unresponsive patient after manually opening and suctioning
  - Not a substitute for proper head positioning

Oropharyngeal (Oral) Airway

- Curved, hard plastic device
- Fits over back of the tongue
- Should be inserted in unresponsive patients who have no gag reflex
- Size: Measure from the tip of the nares to the tragus of ear

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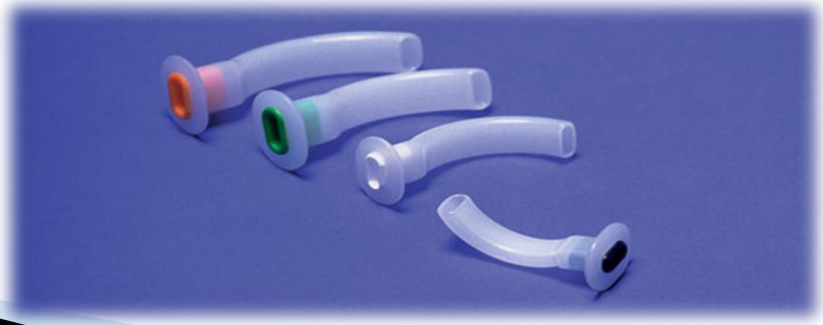
Oropharyngeal (Oral) Airway

- **Indications**
  - Unresponsive patients who have no gag reflex
- **Contraindications**
  - Responsive patients
  - Patients with a gag reflex



- **Advantages**
  - Noninvasive and easily placed
  - Prevents blockage by the tongue
- **Disadvantages**
  - No prevention of aspiration

Nasopharyngeal (Nasal) Airway

- Soft, rubber tube
- Insert through nose
- Better tolerated
  - Do not use with trauma to the nose or skull fracture.
- Lubricate the airway and insert gently.
- The length is 2 – 4 cm longer than oral A/W

Nasopharyngeal (Nasal) Airway

- **Indications**
  - Unresponsive
  - Altered mental status with an intact gag reflex
- **Contraindications**
  - Patient intolerance
  - Facial fracture or skull fracture

- **Advantages**
  - Suctioned through
  - Patent airway
  - Tolerated by responsive patients
  - Can be placed “blindly”
  - No requirement for the mouth to be open

Bag-Mask Ventilation

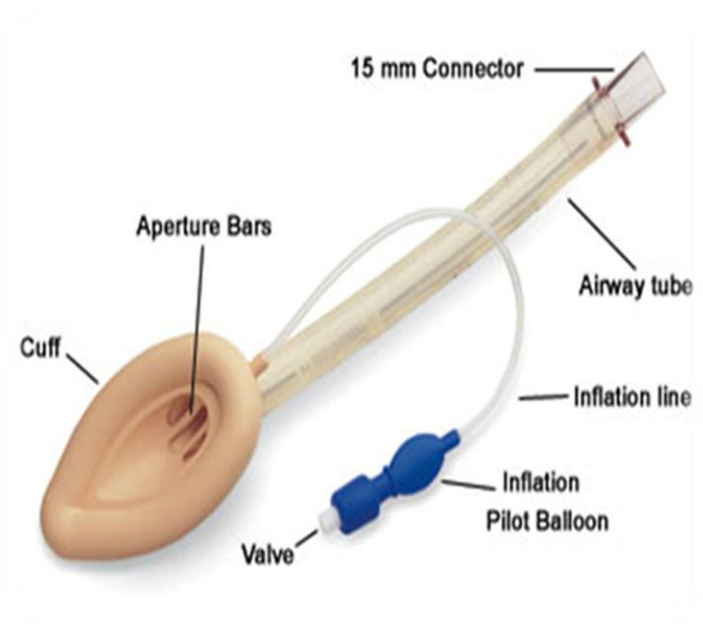
Bag-Mask Ventilation

- Disposable, self-inflating bag
- No pop-off valve, or capability to disable
- Nonrebreathing outlet valve
- Oxygen reservoir
- One-way, no-jam inlet valve system
- Transparent face mask

Bag-Mask Ventilation

- Hold the mask in place while your partner squeezes the bag until the chest visibly rises.
  - Squeeze every 5 to 6 seconds for adults, 3 to 5 seconds for infants and children.

- The most basic rescue technique is two-person BVM ventilation
- Next, the use of the CombiTube® and LMSis recommended.



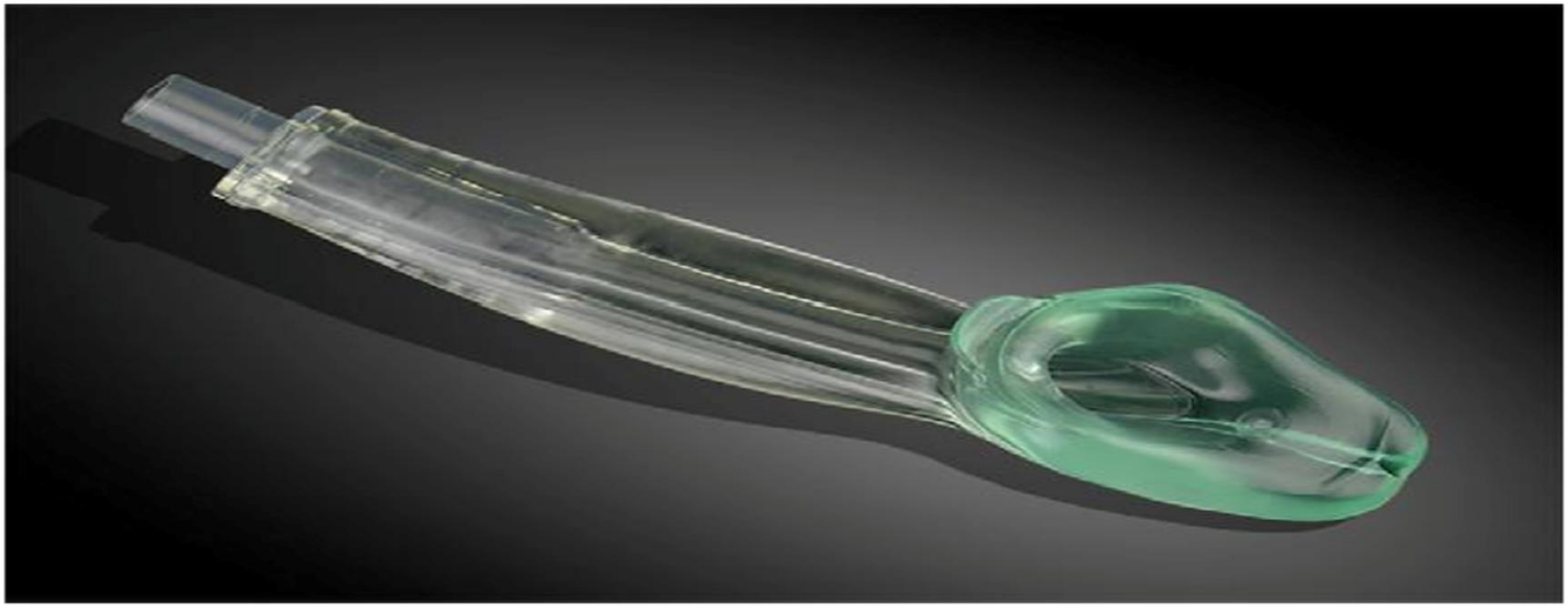
It is easy to use, can be inserted quickly and safely, and can accomplish ventilation when previous airway attempts fail.

It allows for blind insertion in the most difficult of patients and situations and provides some protection against aspiration and higher airway pressures.

Laryngeal Mask Airway

'Supreme' and 'Pro-seal' Laryngeal Mask Airways

"I-Gel' Laryngeal Mask Airway



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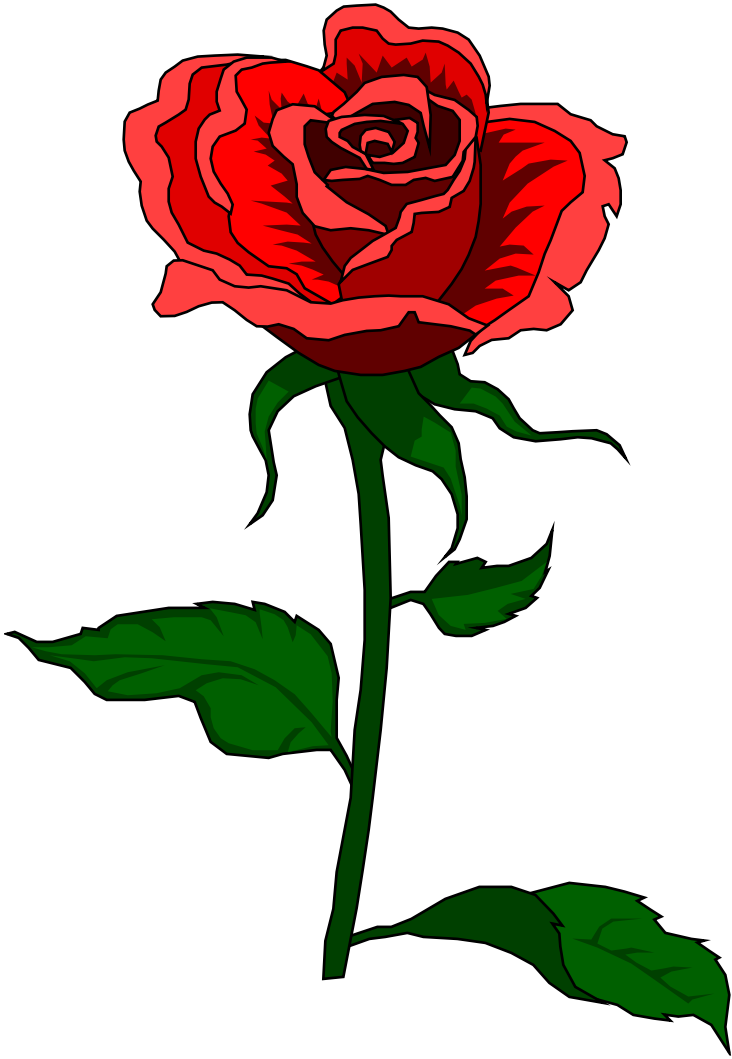

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