University college of Health Sciences

"Transforming dreams into reality"

ACLS AIRWAY MANAGEMENT

Presented by:

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UCHS

Objectives

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{1} Provide supplement oxygen with the adjuncts

{2} Open the airway with the maneuvers & adjuncts

{3} Maintain the open airway with the adjuncts

{4} Ventilate the patients using mouth to mouth/mouth to nose or bag - mask technique

{5} Provide advanced ventilation by adding bag mask ventilation to the advanced airway devices

{6} Provide definitive airway control with tracheal intubation using an inflatable cuffed tracheal tube

{7} Provide primary and secondary tracheal tube confirmation plus protection from dislodgement

O_2 Supplemental

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- Nasal Cannula
- Face Mask
- Face mask with O_2 reservior
- Venturi Mask

Abnormal sounds in airway obstruction

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- Snoring - due to obstruction of upper airway by the tongue
- Gurgling - due to obstruction of upper airway by liquids (blood, vomit)
- Wheezing - due to narrowing of the lower airways
- Complete airway obstruction is silent.

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Open the Airway

- Head tilt Chin lift
- (NOT if cervical-spine injury)

- Jaw thrust

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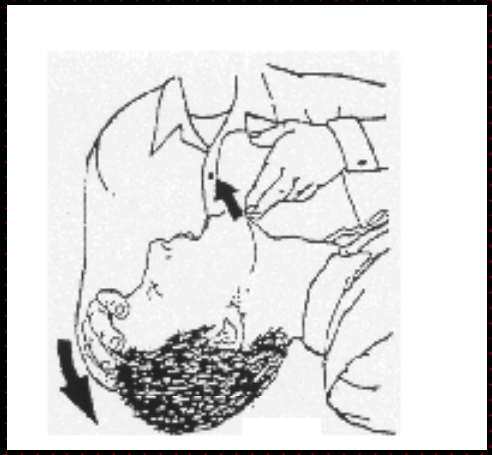
Head tilt Chin lift



🔔 (NOT if cervical-spine injury)

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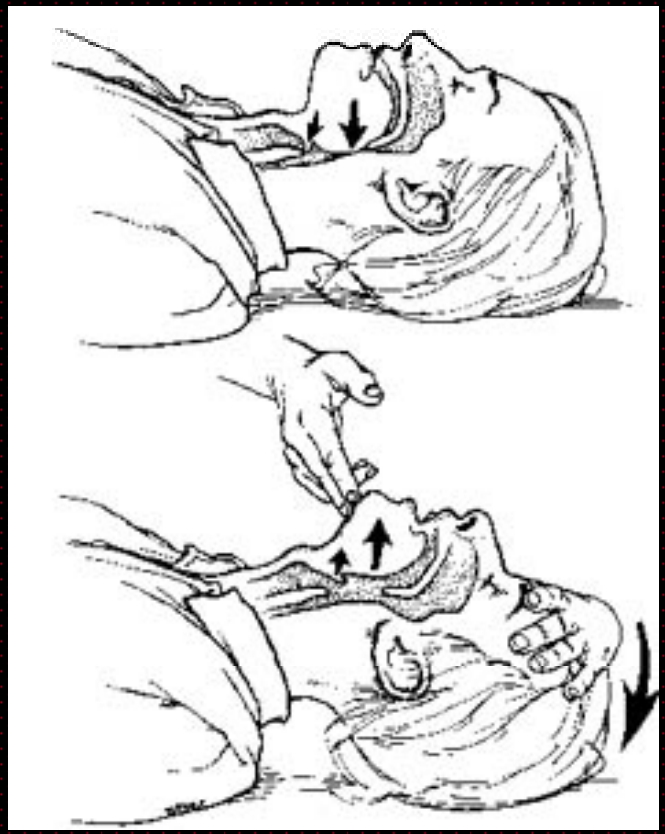
Head tilt Chin lift



🔔 (NOT if cervical-spine injury)

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Jaw thrust

- 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.

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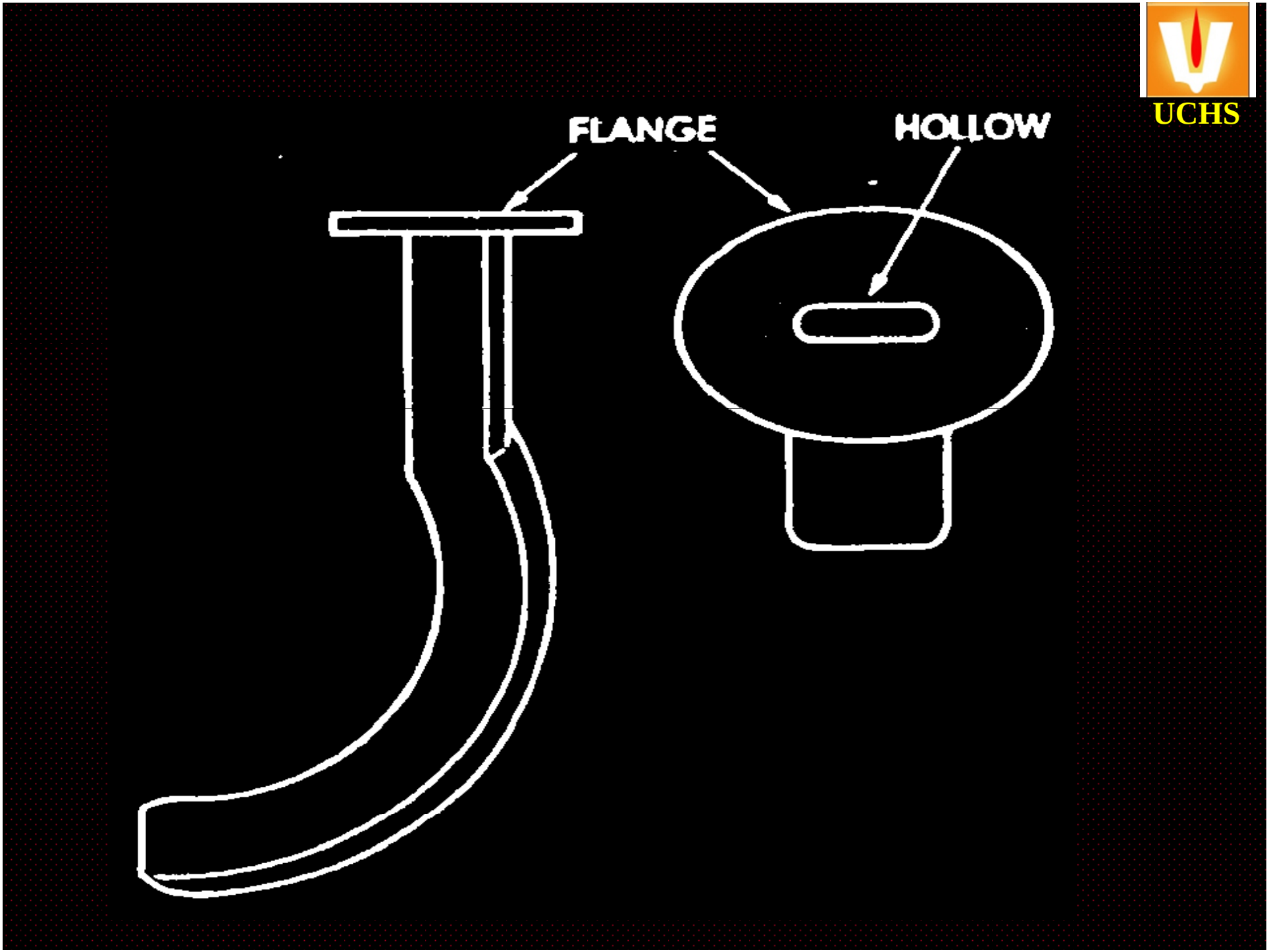
Maintain the open airway with airway adjuncts

- Oropharyngeal airway
- Nasopharyngeal airway


FLANGE
HOLLOW

Sizing an oropharyngeal airway

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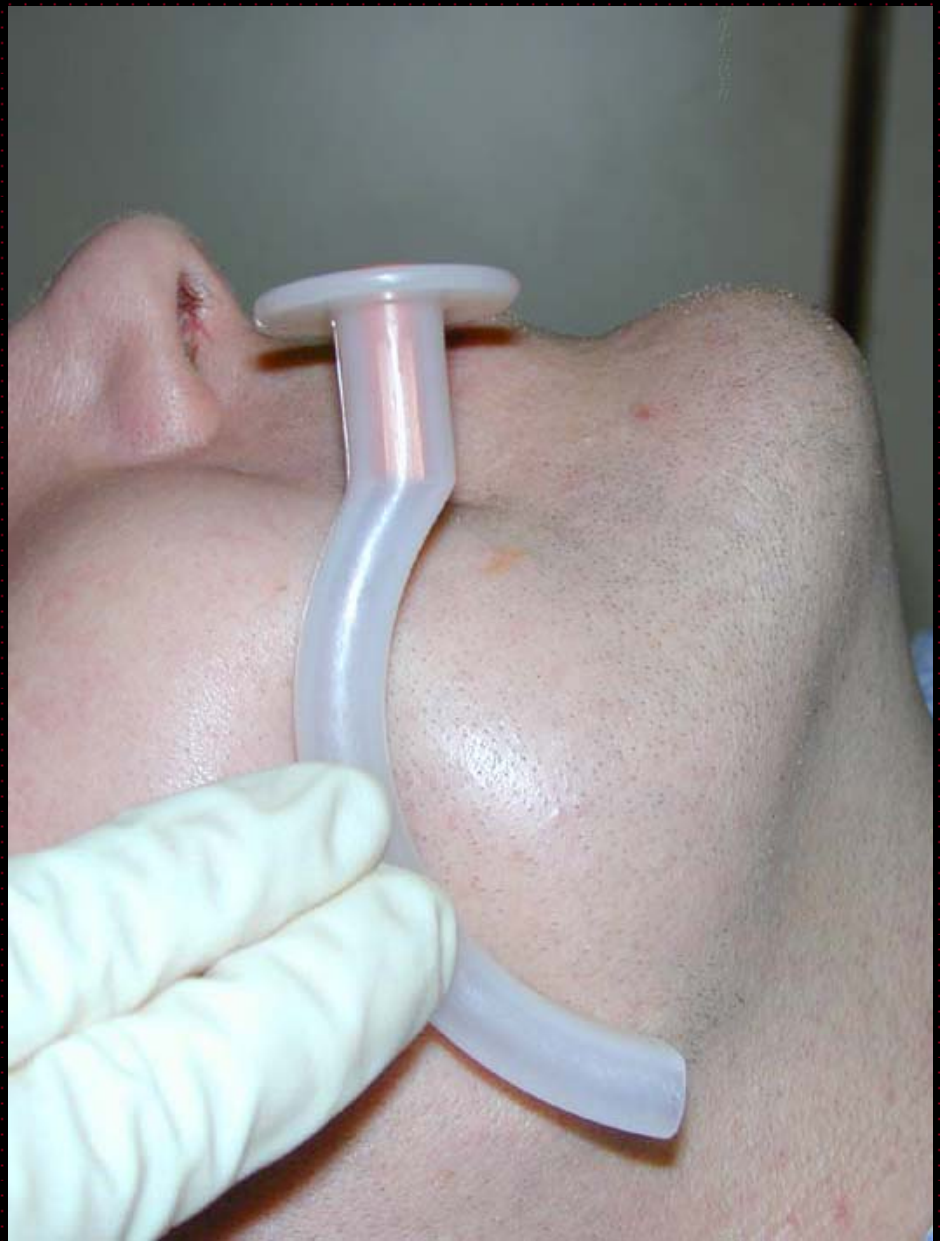

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Oropharyngeal airway

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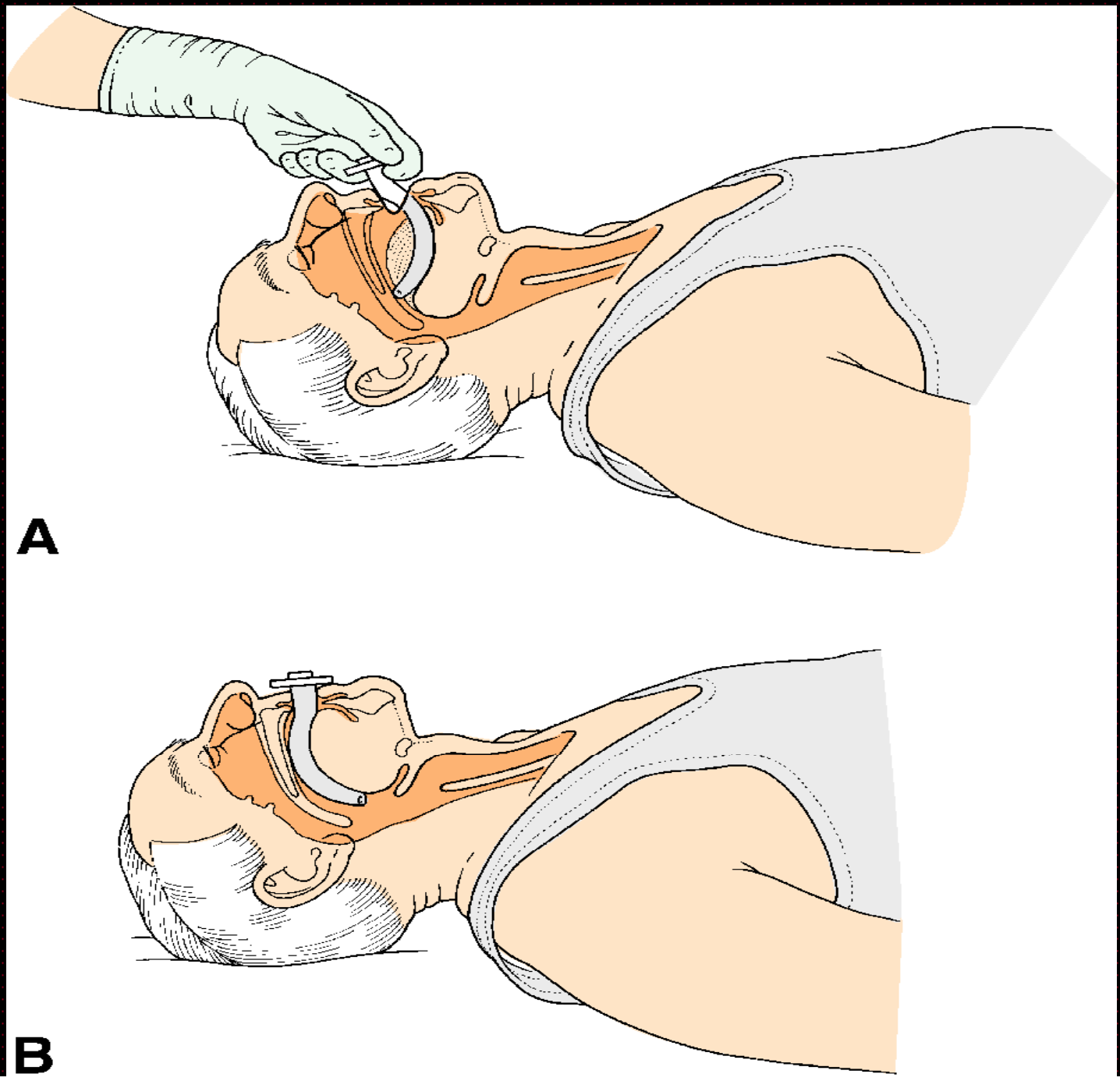
Oropharyngeal airway


A
B

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Nasopharyngeal airway

Nasopharyngeal airway

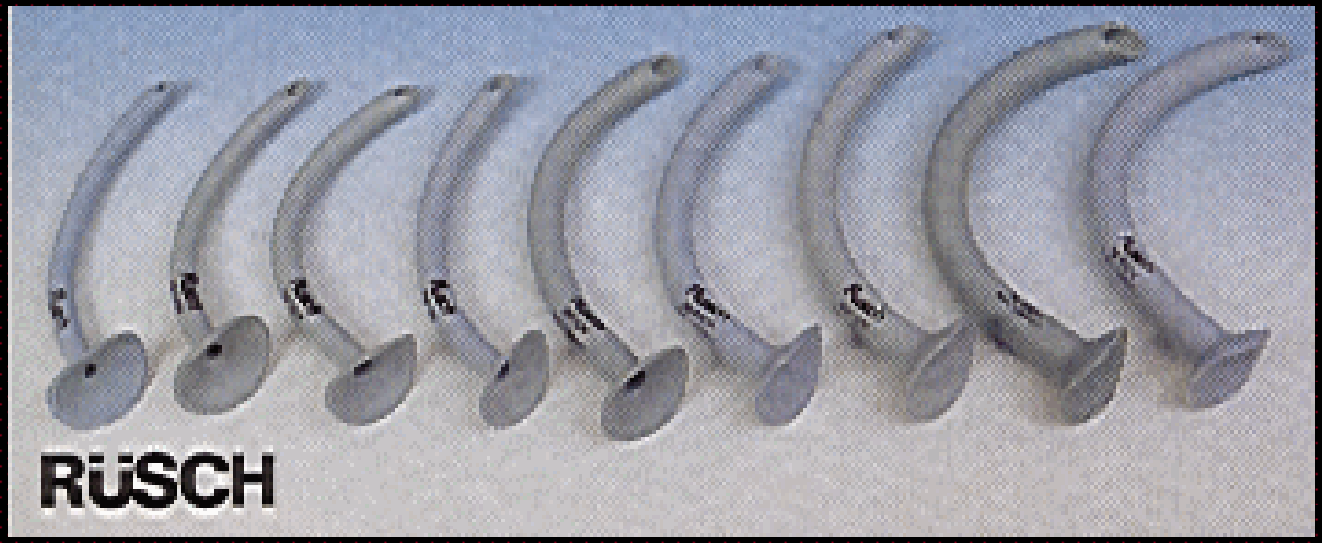
UCHS

UCHS

Nasopharyngeal airway

UCHS

Nasopharyngeal airway



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Ventilate the patient

- Mouth to mouth and mouth to Nose ventilation
- Mouth to pocket Face Mask Ventilation
- Bag Mask ventilation

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Barrier Device - Face shield

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Pocket Face Mask

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Pocket Face Mask

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Bag & Mask

UCHS

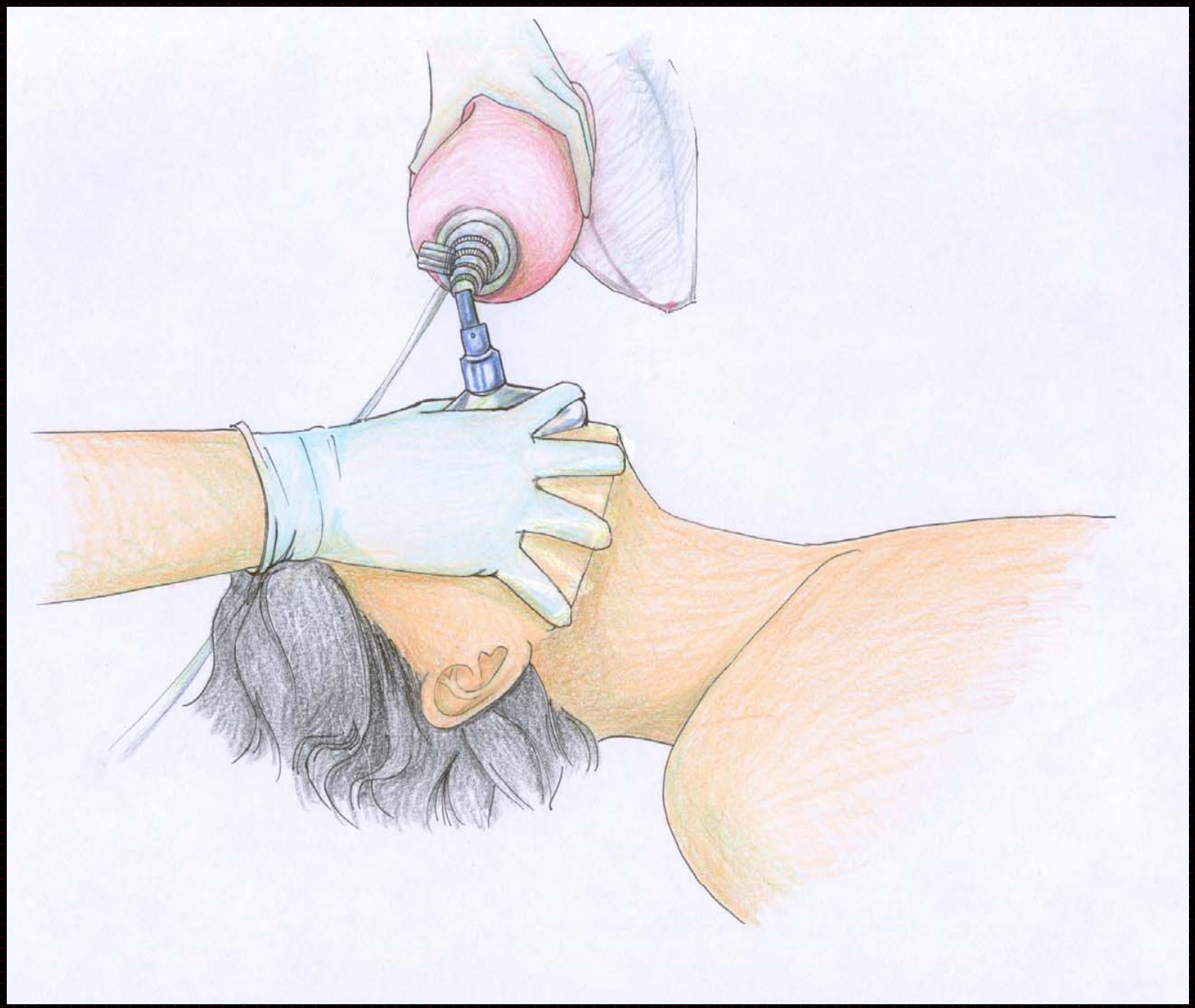
Bag & Mask

UCHS

Bag & Mask

UCHS

Face Mask



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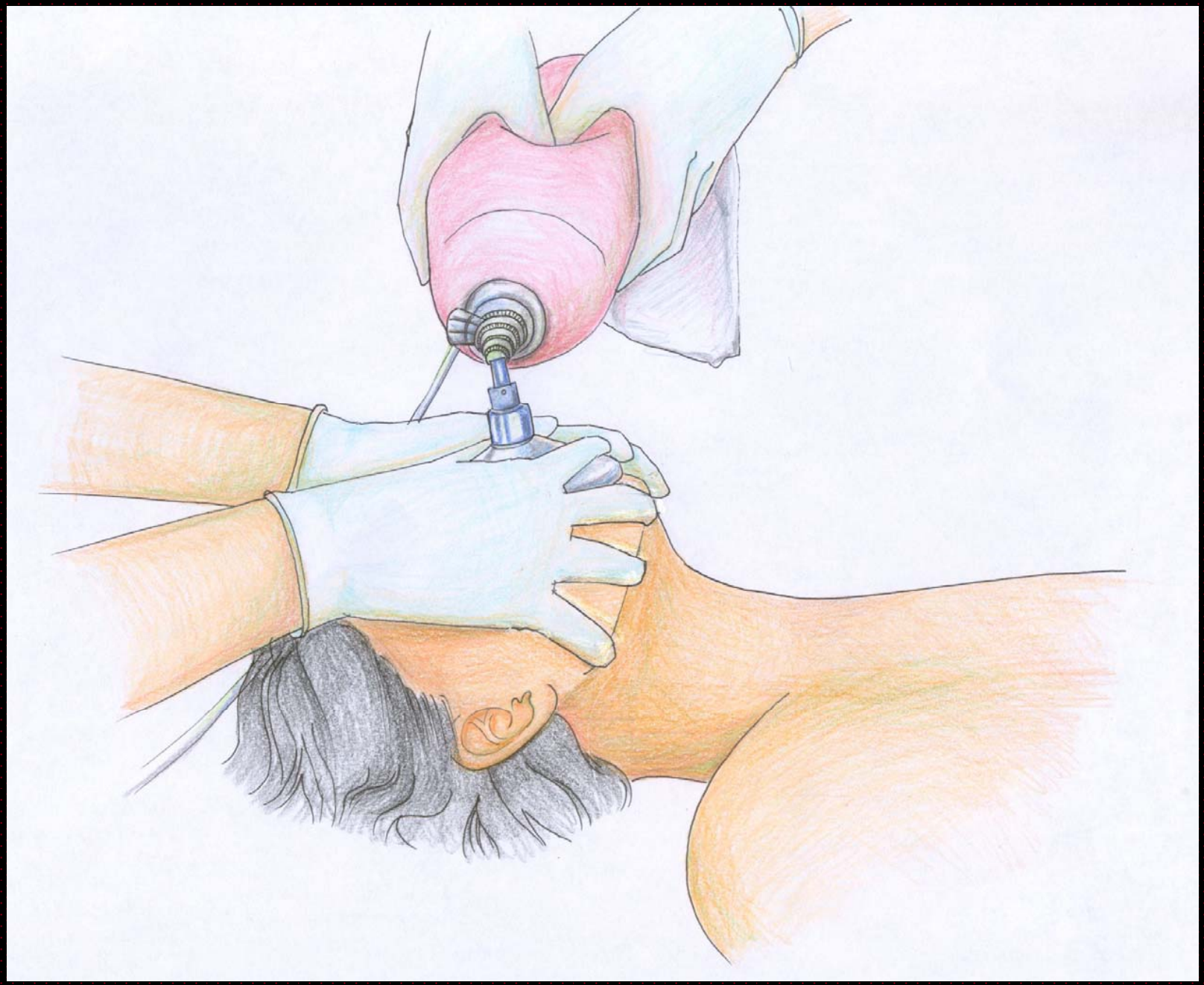

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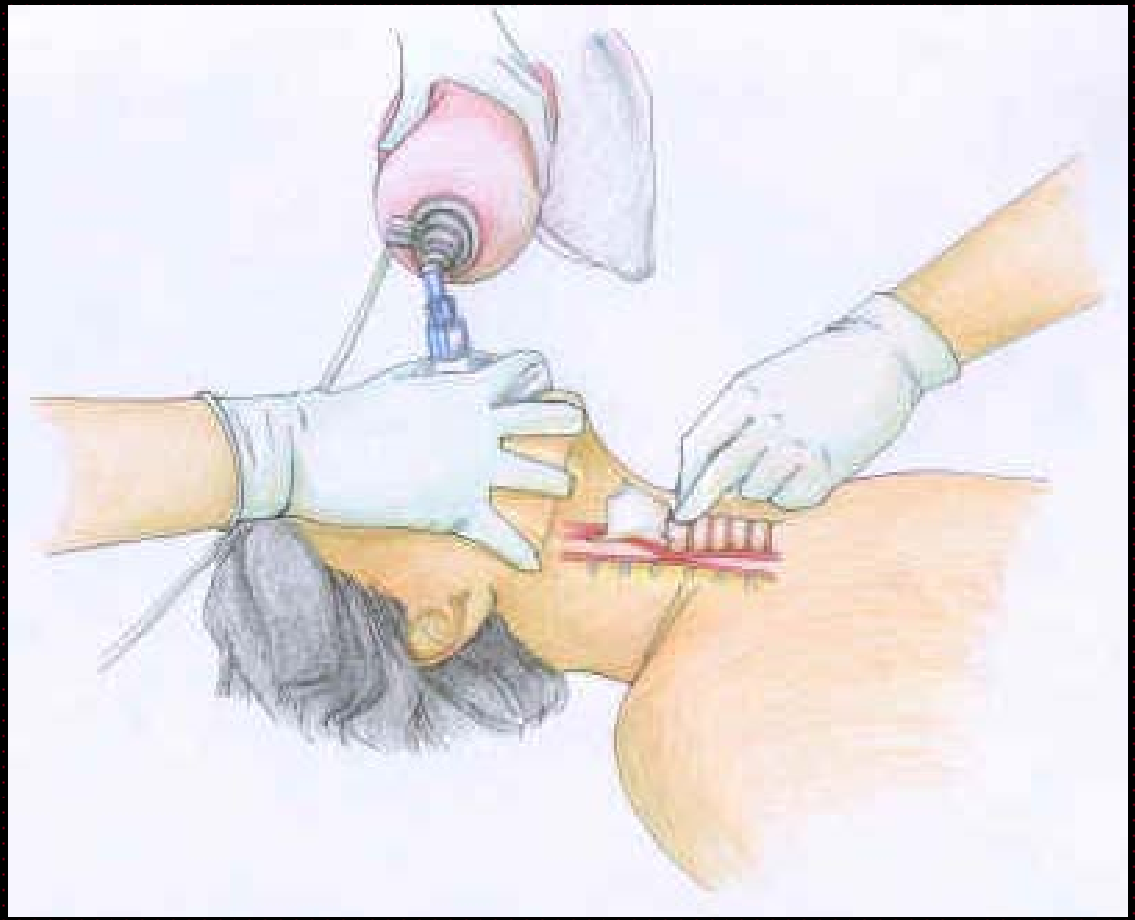
Cricoid pressure (Sellick Maneuver)



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Definitive airway control & Advanced Ventilation

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- Tracheal Intubation
- Primary Confirmation
- Secondary Confirmation
- Secure the Tube
- Ventilation

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Endotracheal Tube

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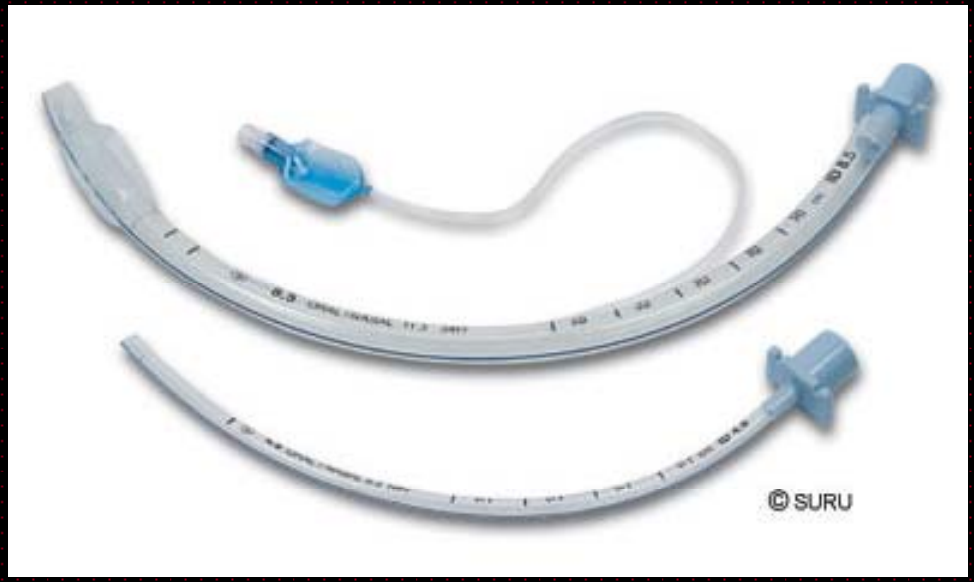
Endotracheal Tubes



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Endotracheal Tubes

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Laryngoscope

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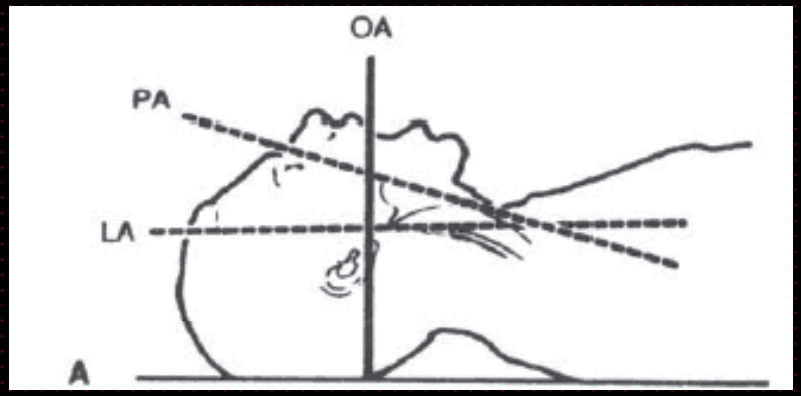
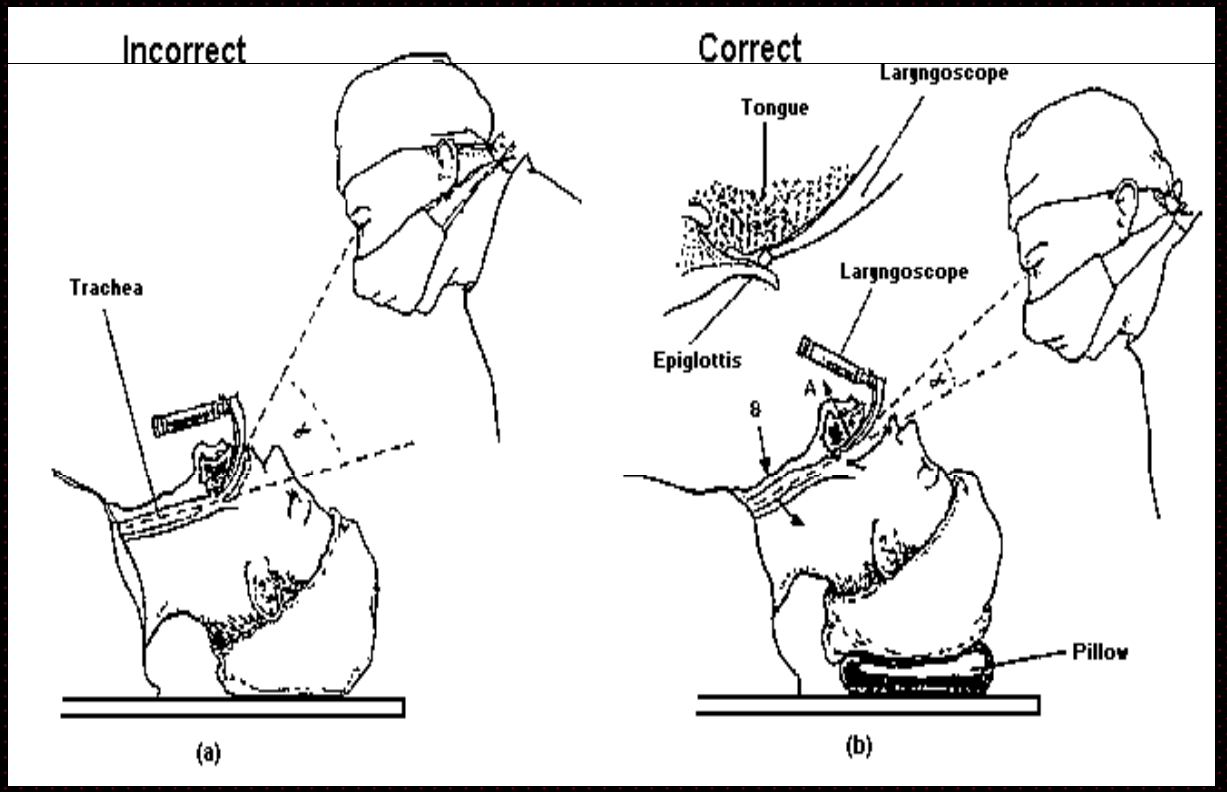


Laryngoscopy



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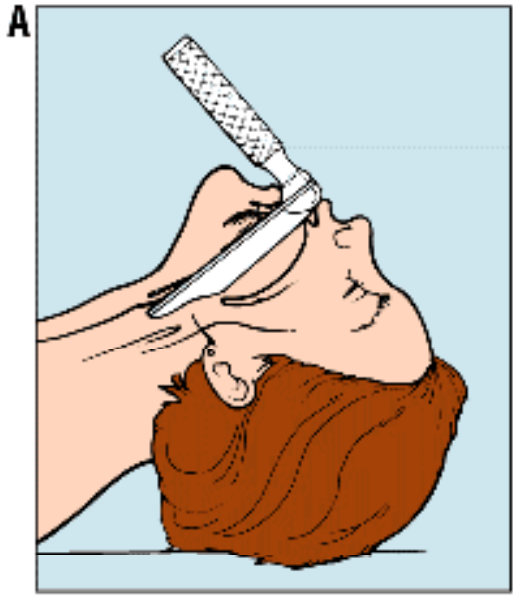
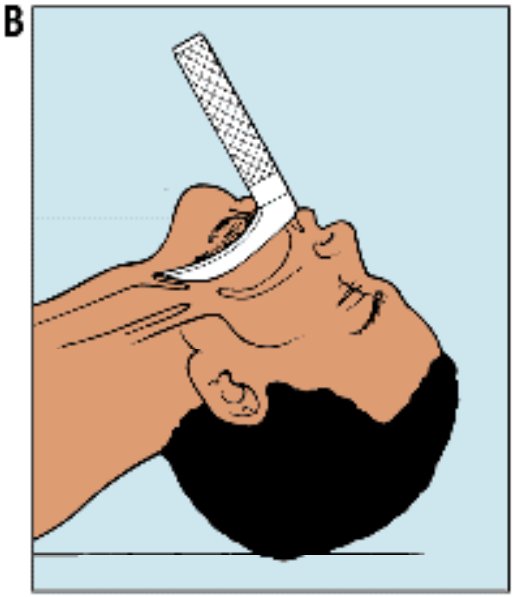
Laryngoscopy





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Orotracheal intubation

BURP

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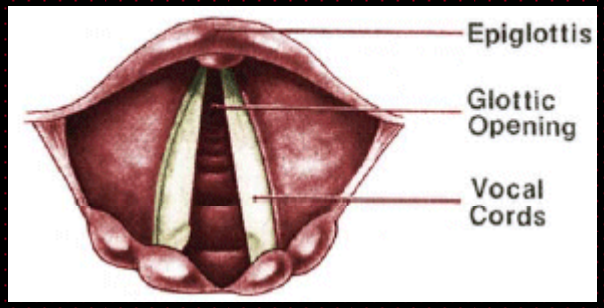
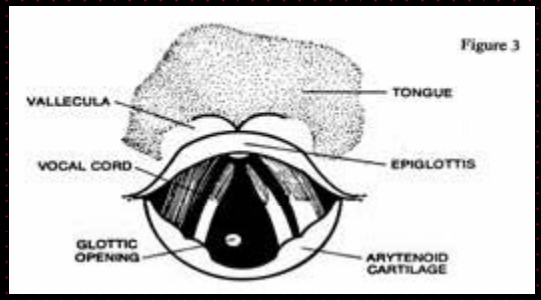
Laryngoscopic View – vocal Cords





Laryngoscopic View Grades

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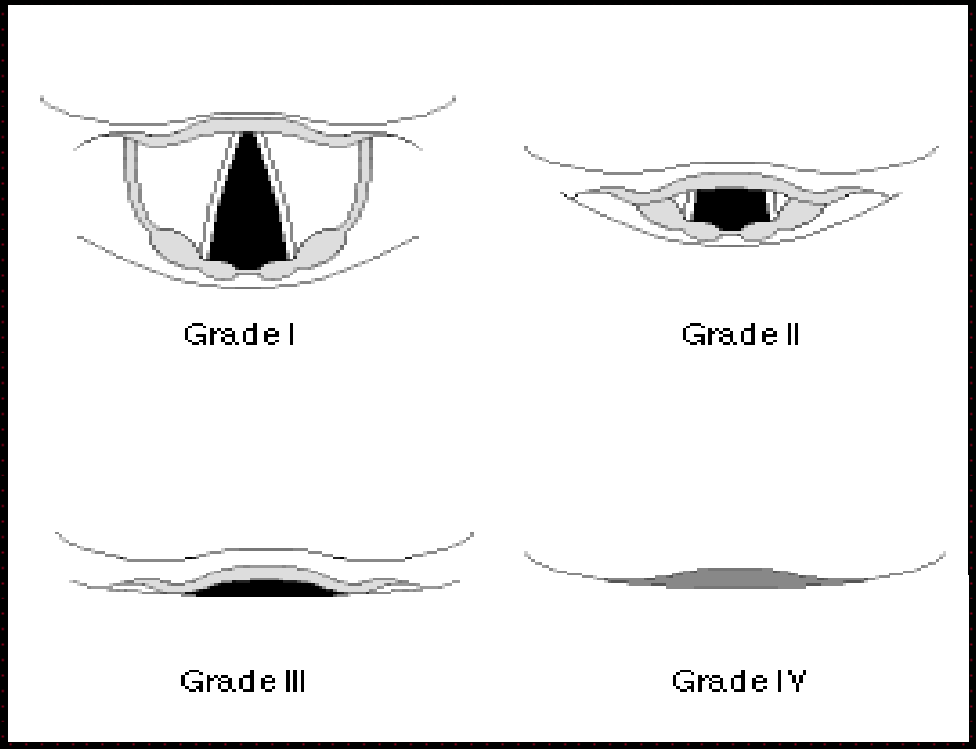
Grade I = visualization of the entire laryngeal aperture.
Grade II = visualization of just the posterior portion of the laryngeal aperture.
Grade III = visualization of only the epiglottis.
Grade IV = visualization of just the soft palate only, not even the epiglottis is visible.



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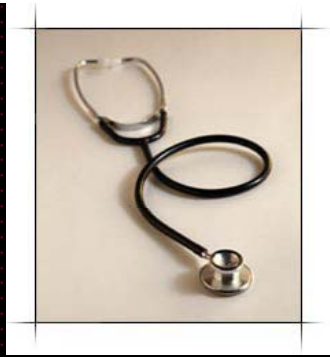
Primary Confirmation

- Direct visualization of tube passing through Vocal cords
- Chest Movements
- 5- Points Auscultation

5 – Points Auscultation



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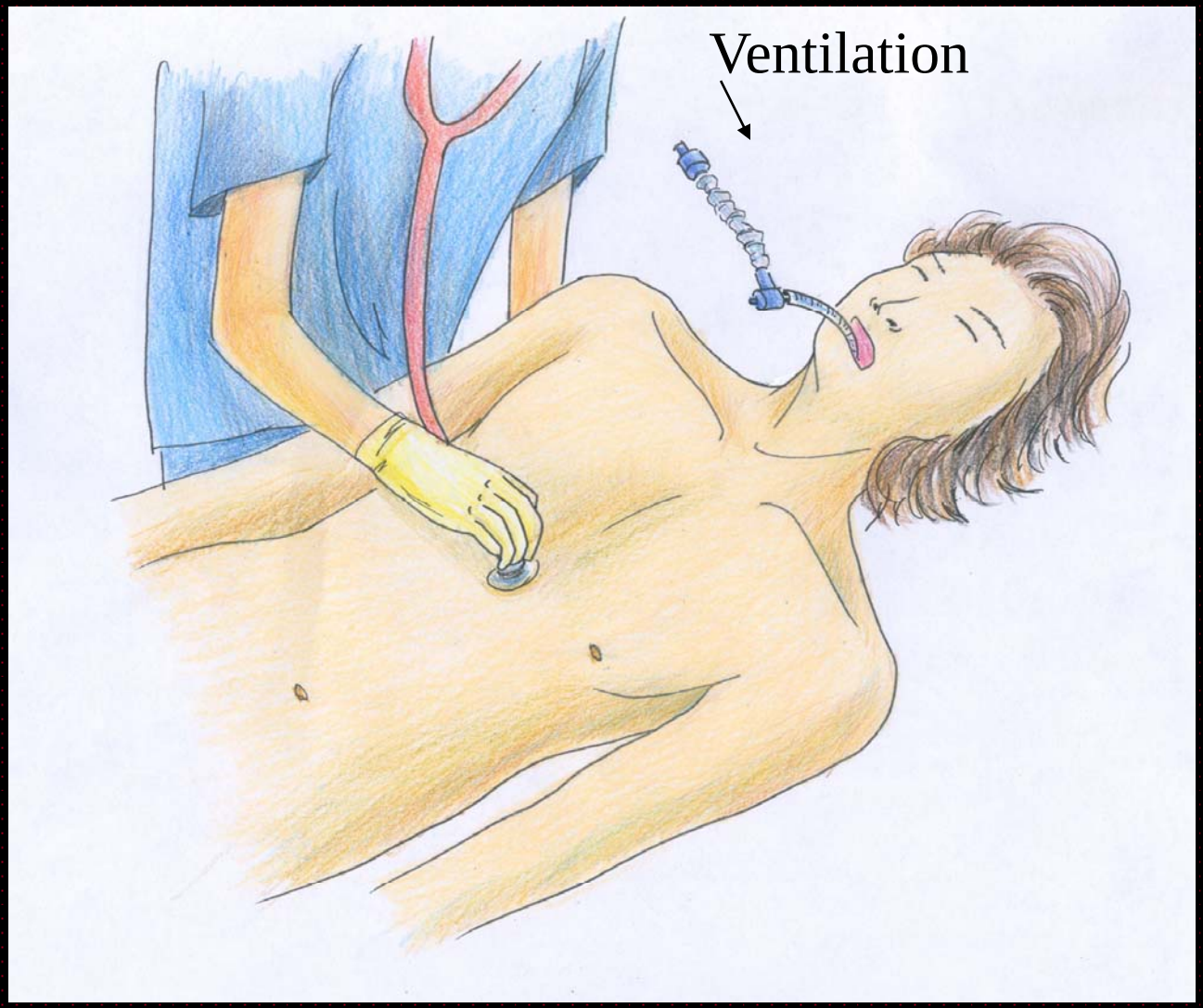

5 – Points Auscultation

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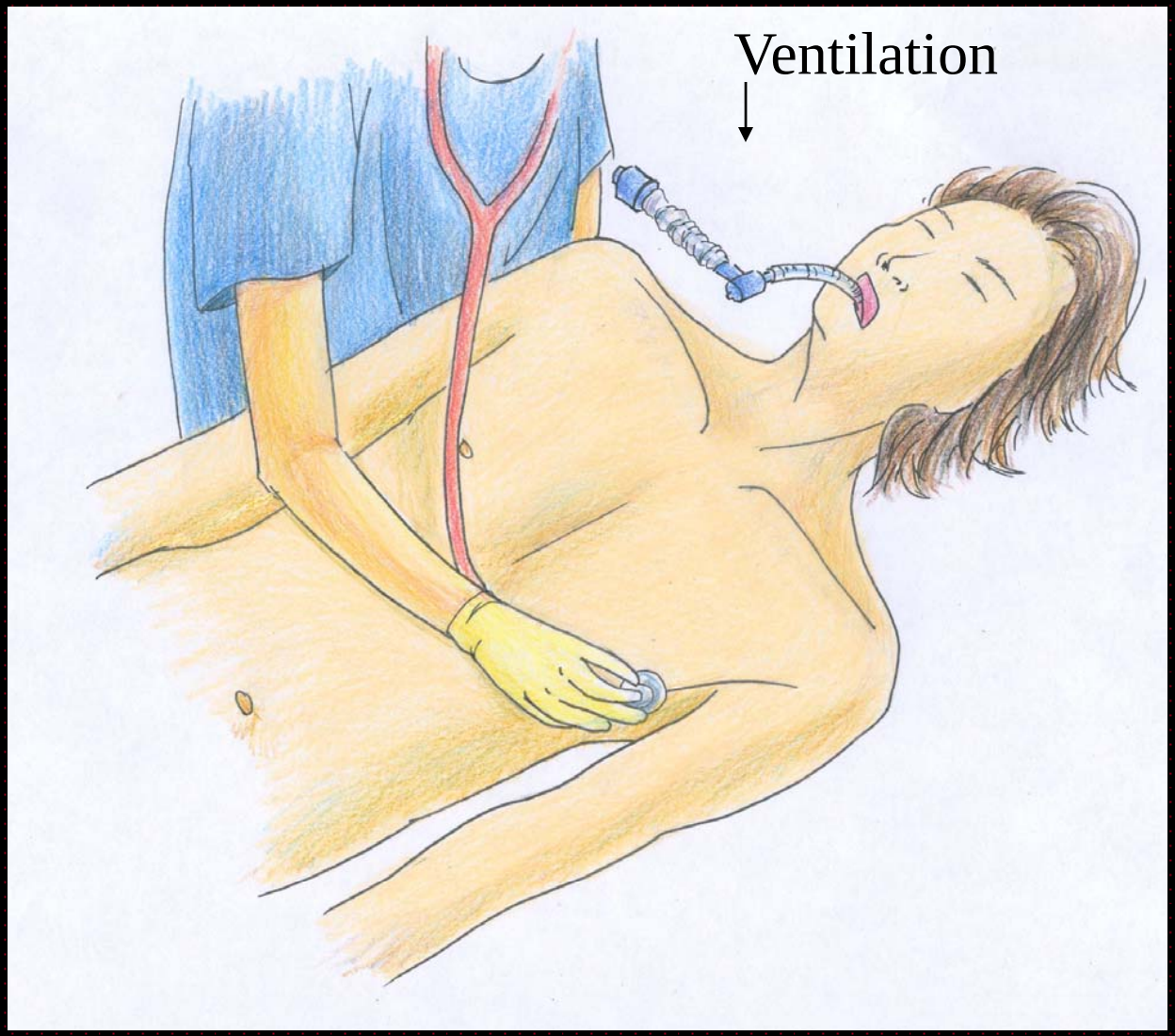

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End tidal CO_2 Detector

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End tidal CO_2 Detector

Yellow ---------- Positive

(CO_2 present)

Blue ---------- Negative

(CO_2 Abesnt)

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Esophageal Detector device

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Esophageal Detector device

- Suction sustained ---------- Positive
  (Tracheal Tube is in Esophagus)

- Suction not sustained ----------Negative
  (Tracheal Tube is in Trachea)

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Ventilation

- Tidal Volume of 10-15 mL/Kg
- Rate – 1 breath every 5 seconds
- Ventilate 2 seconds for each bag ventilation
- Ventilate with 100 % oxygen
- Insert oropharyngeal airway / bite protector
- Secure the tracheal tube with tape
- Note the depth marking on the tube at front teeth

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Alternative Definitive Airway

- LMA
- Combitube

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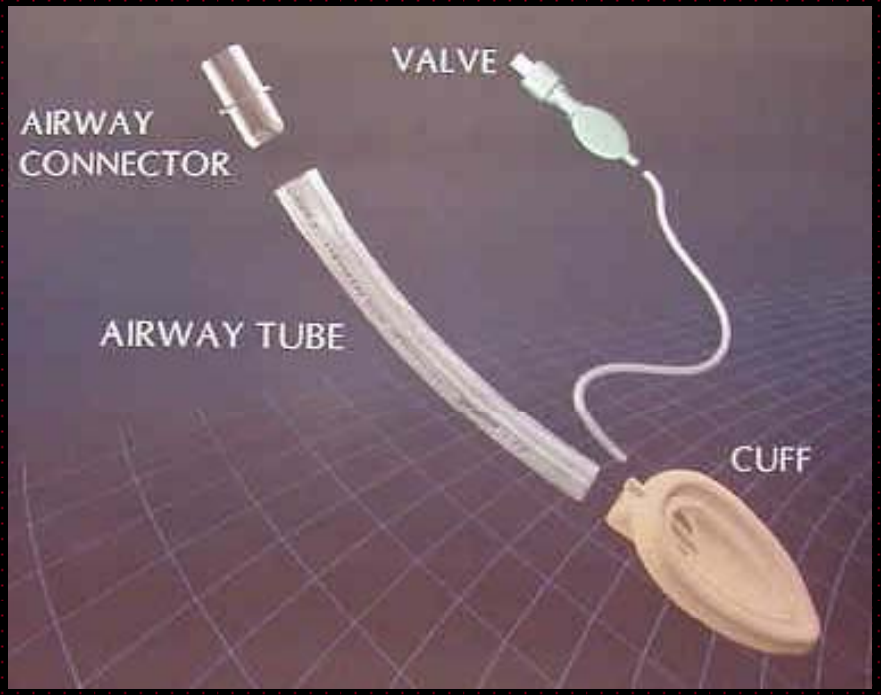
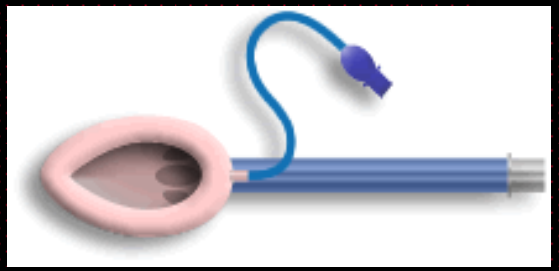
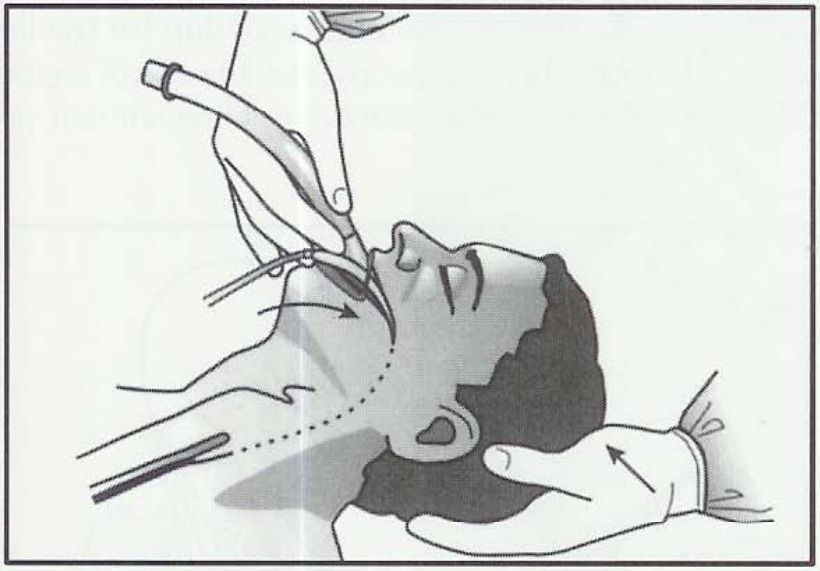
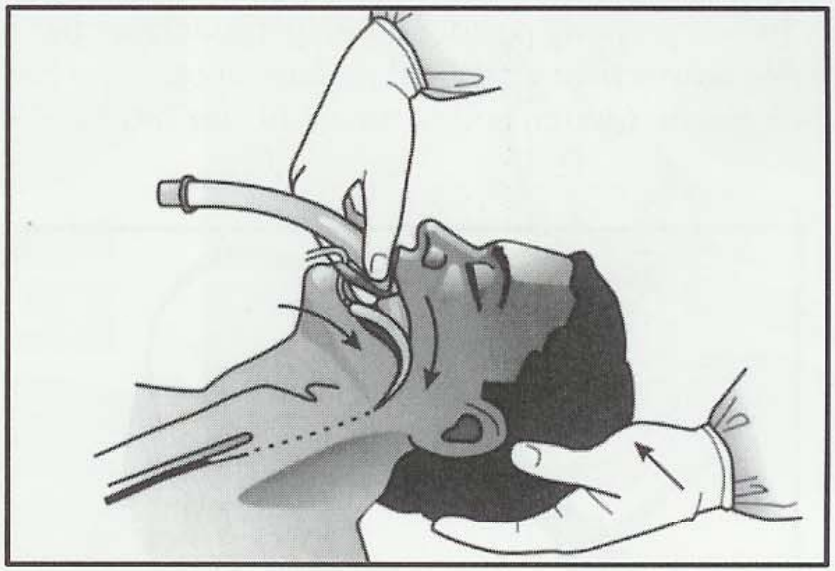
Laryngeal Mask Airway
LMA







A



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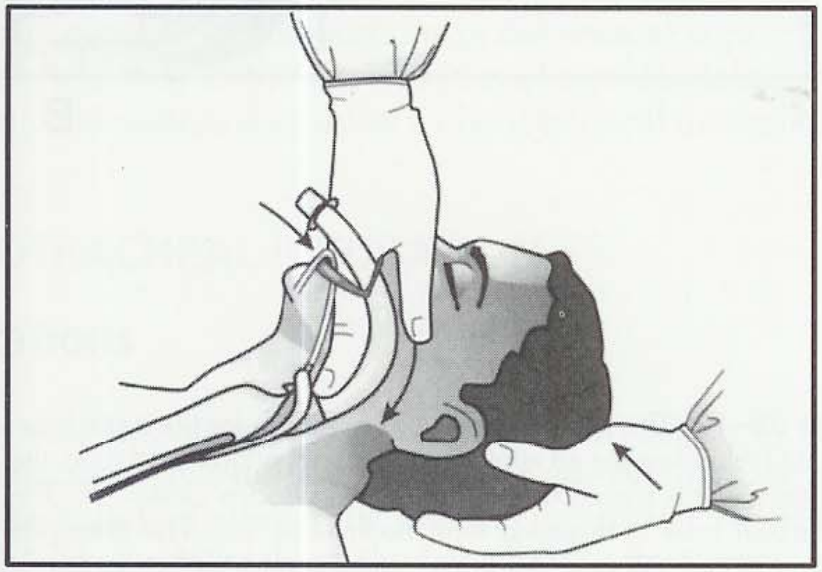

C

D

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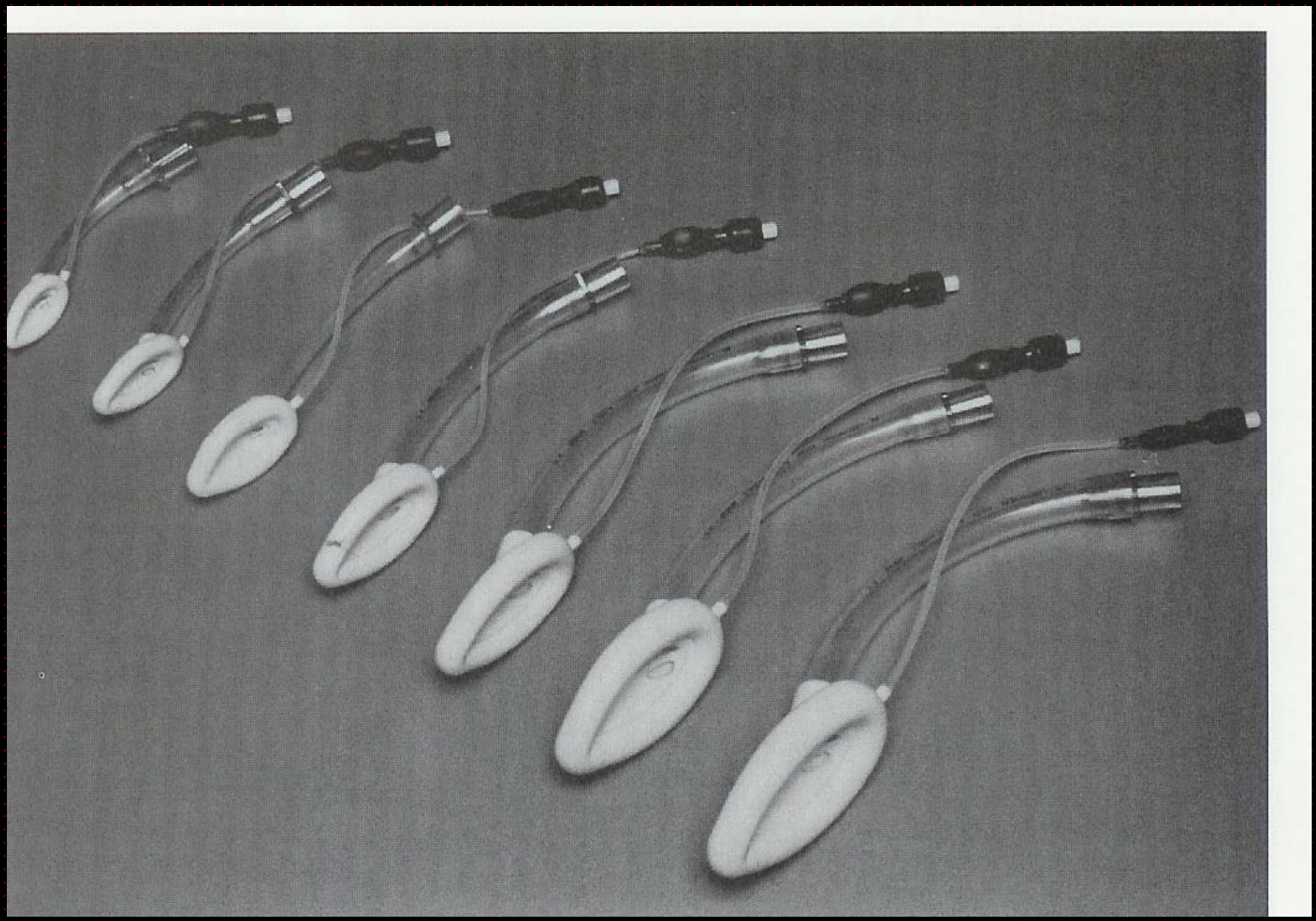
Different sizes of LMA



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Different Types of Laryngeal Mask Airway

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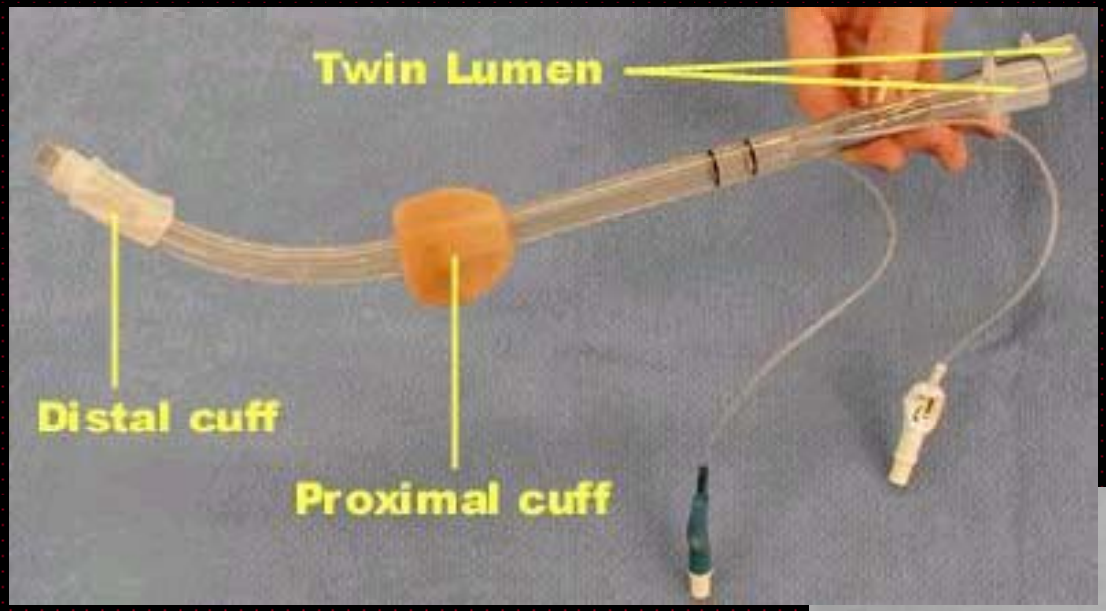
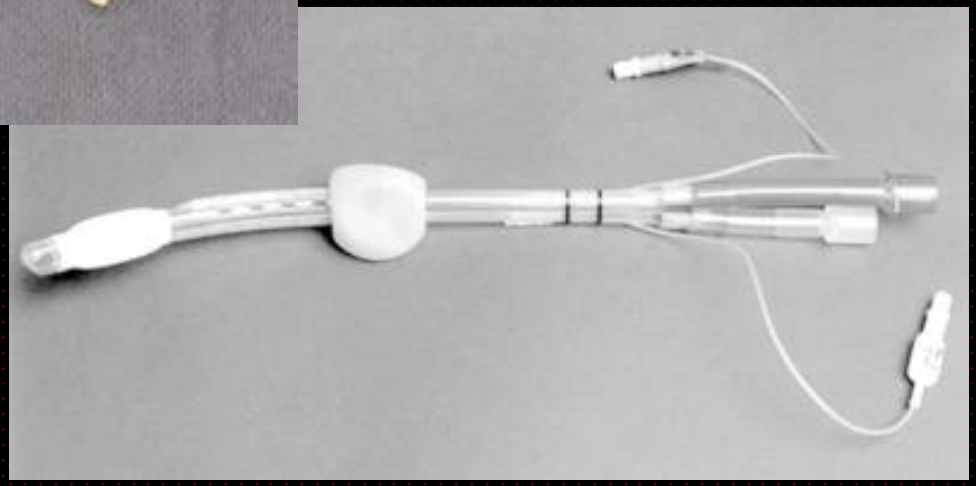
Comibitube





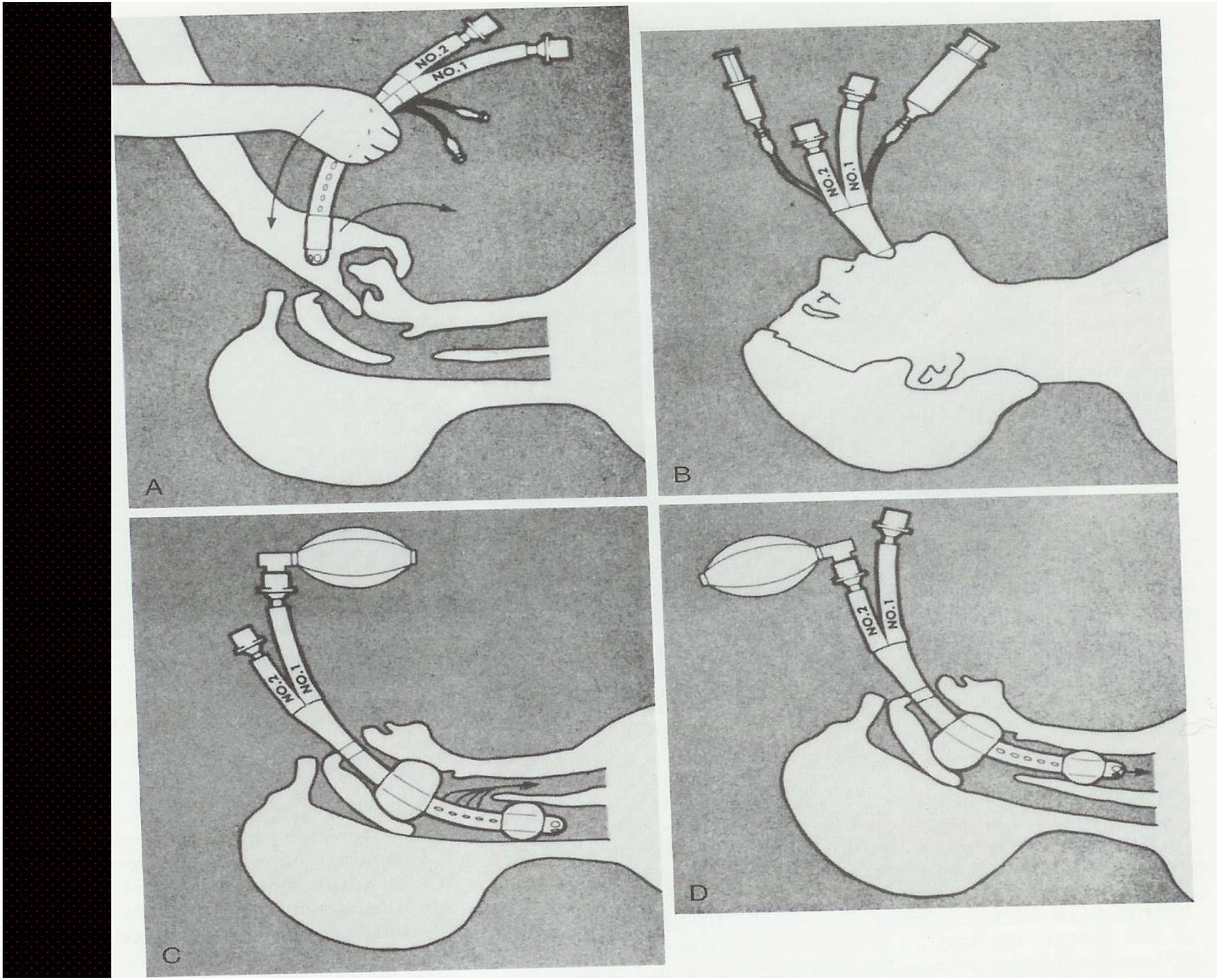

NO.2
NO.1
A
NO.2
NO.1
B
NO.2
NO.1
C
NO.2
NO.1
D

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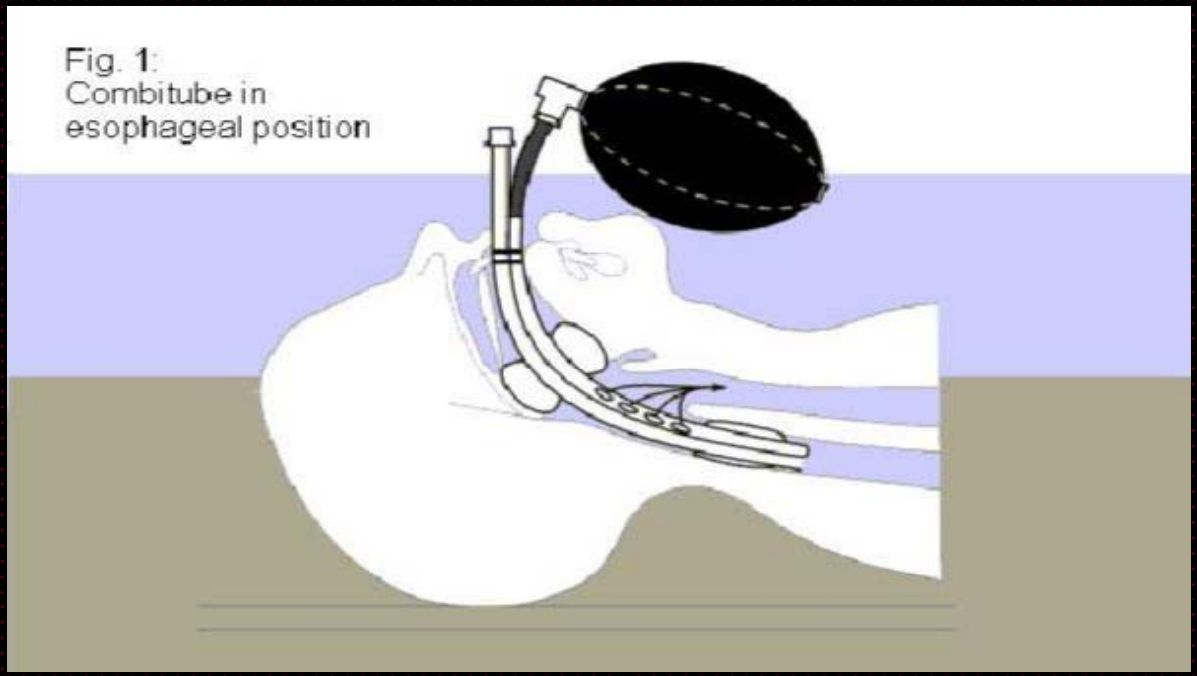
Fig. 1:
Combitube in
esophageal position



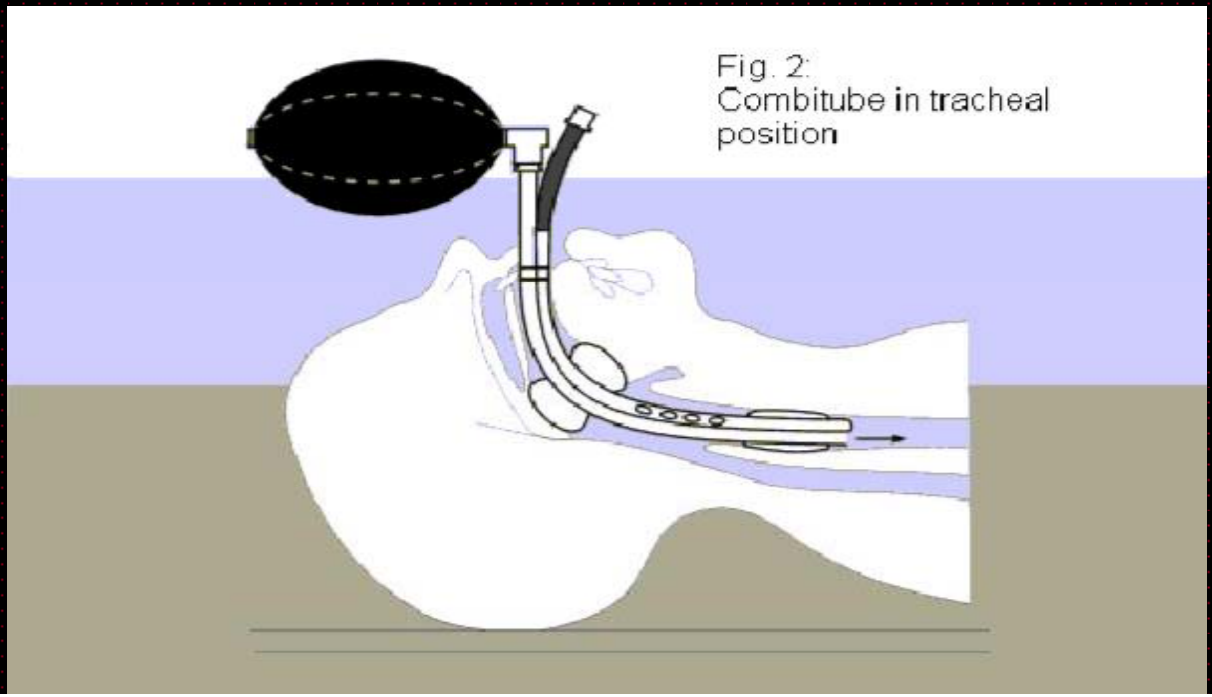


Fig. 2:
Combitube in tracheal
position

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Airway adjuvant

- Stylet
- Bougie

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Intubating Stylet

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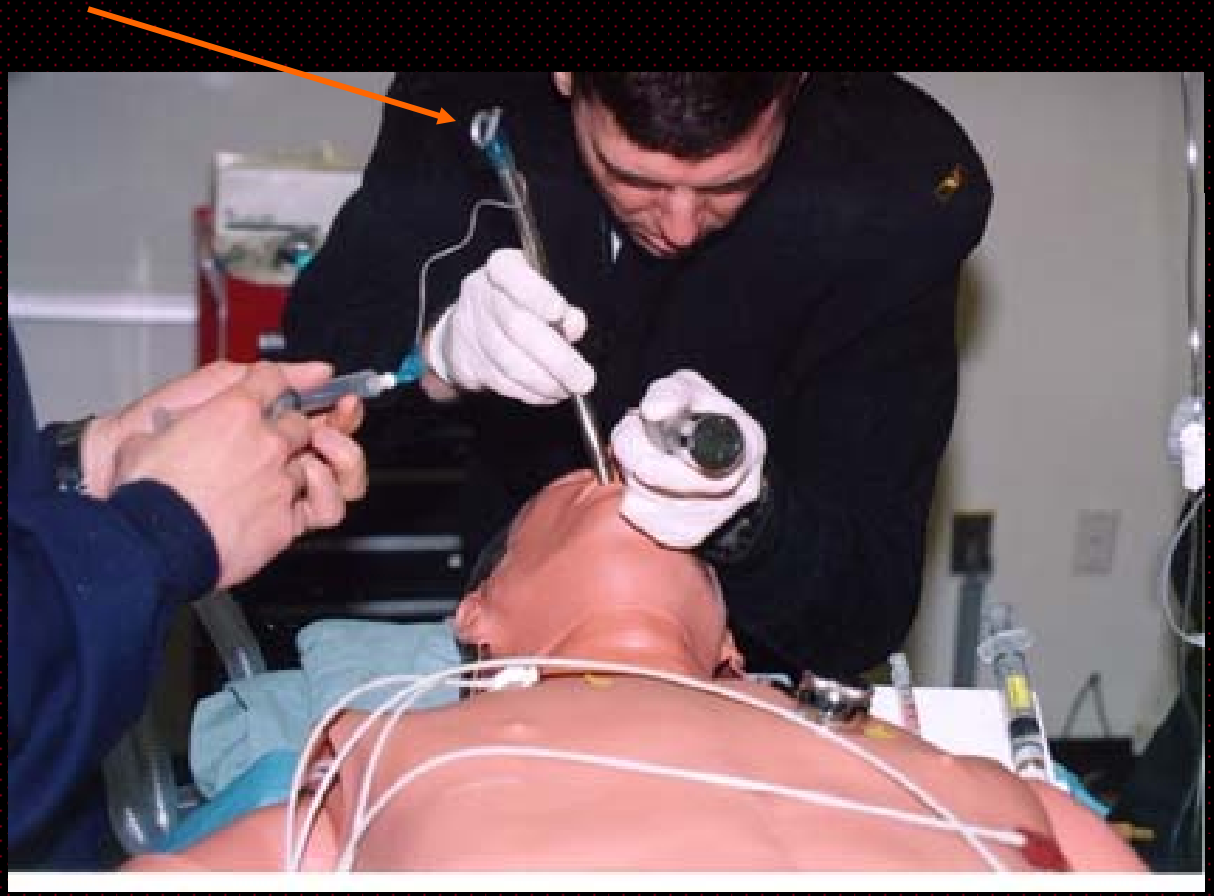
Intubating Stylet



Bend in ETT Stylet Affects Ease of Intubation

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Emergency Medicine *January 26, 2007*

- Thirty-two operators performed direct laryngoscopy and intubation
- Performed on each of eight nonformalin-fixed human cadavers using randomly ordered straight-to-cuff styletted tubes bent at four different angles: (25 degrees, 35 degrees, 45 degrees, and 60 degrees)
- Operators subjectively rated ease of tube passage during each intubation attempt as no resistance, some resistance, or impossible to advance.
- Of 256 intubation attempts for each angle

Bend in ETT Stylet Affects Ease of Intubation

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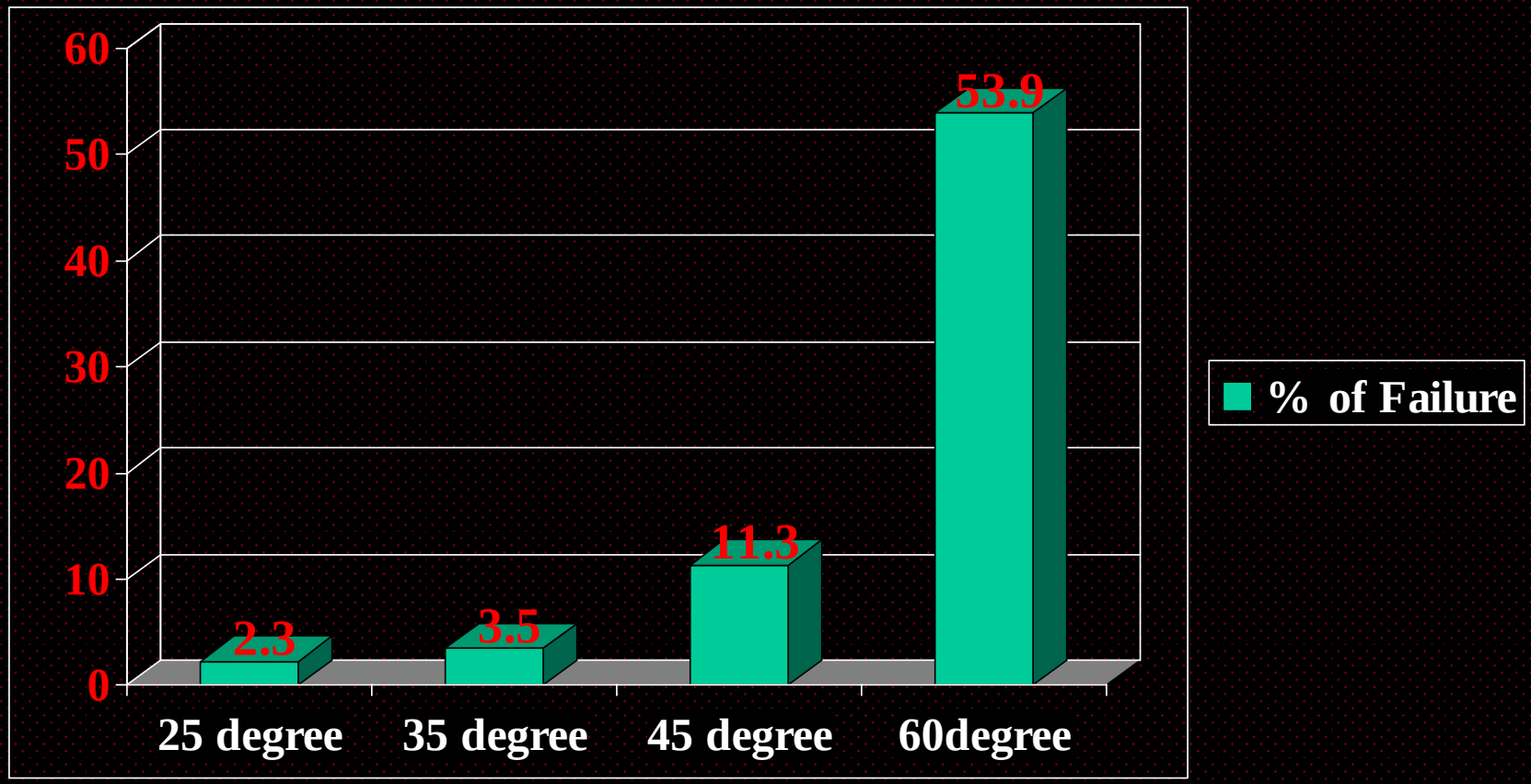
Emergency Medicine *January 26, 2007*



Bends greater than 35 degrees might increase risk of difficult intubation

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Elastic Gum Bougie

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Surgical

- TTJV
- Cricothyrotomy

Transtracheal Jet Ventilation
TTJV

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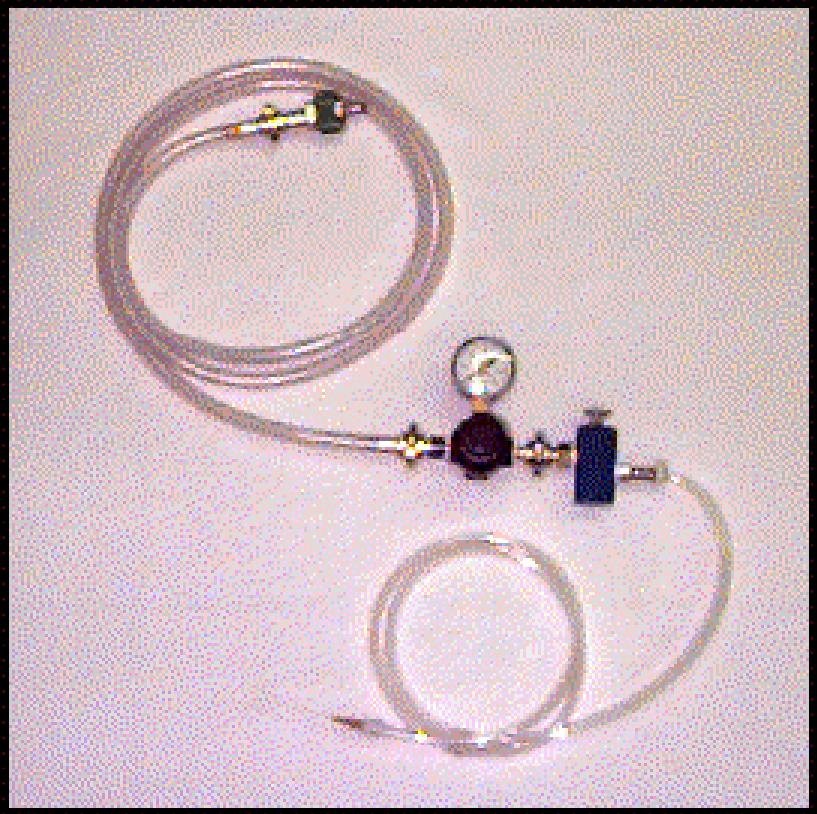

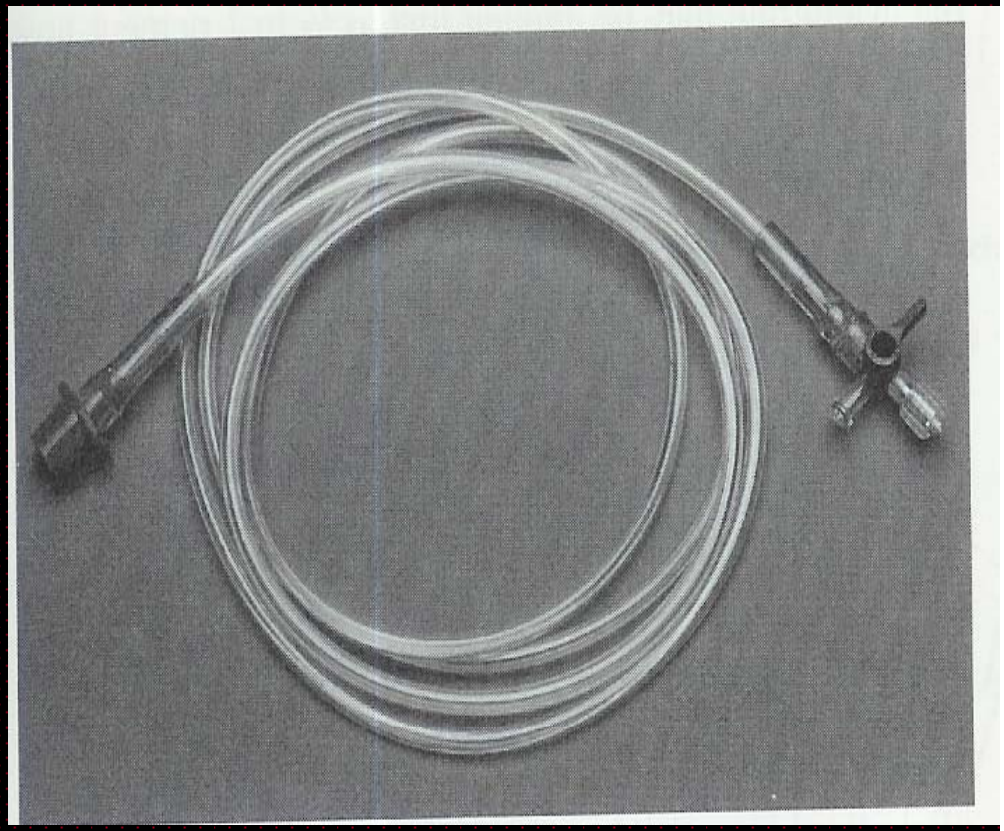

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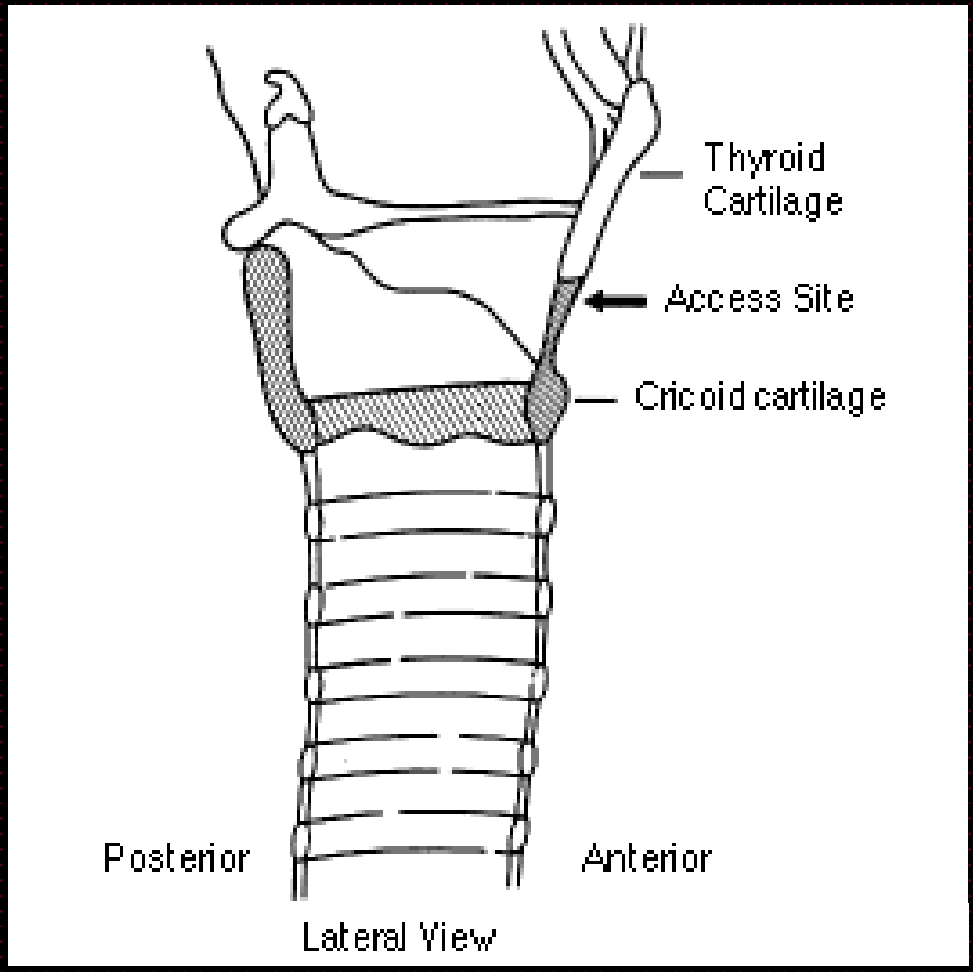
Cricothyrotomy



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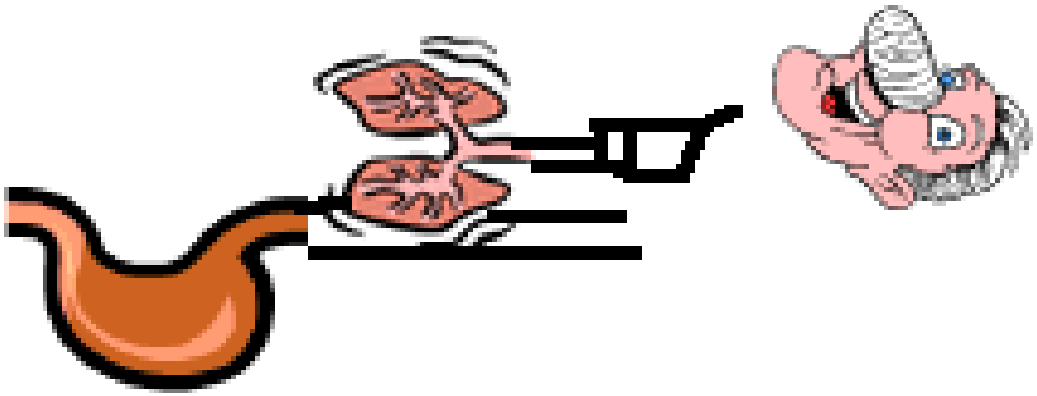
Cricothyrotomy Devices

Ventilation Is The Utmost Process For **LIFE**

Endotracheal Intubation Is One Of The Way Of Ventilation

End Tidal CO_2



Thank You !