بسم الله الرحمن الرحیم

ومن احیاها فکانما احیاالناس جمیعا

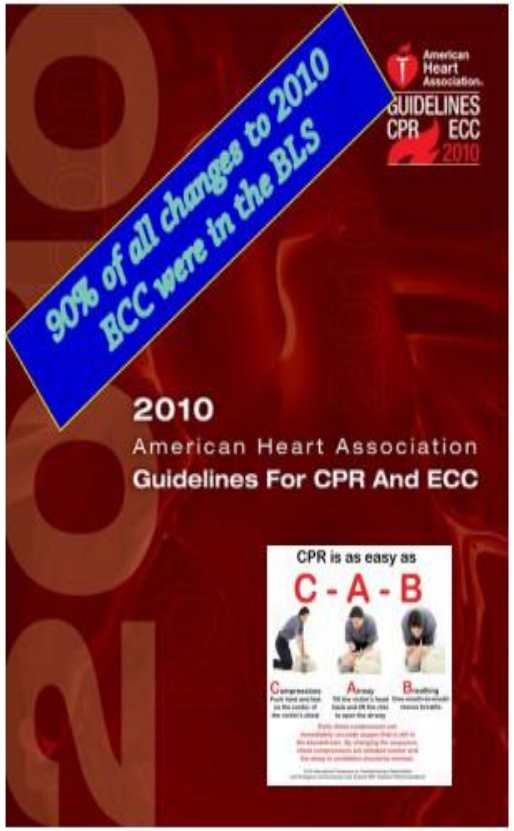
(مائده32)

Airway Management In CPCR 2020

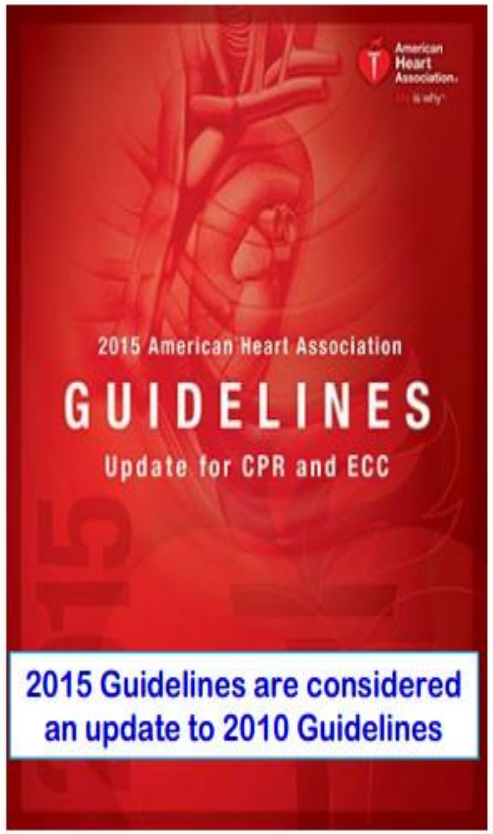
Dr. S. Hadi Saghaleini

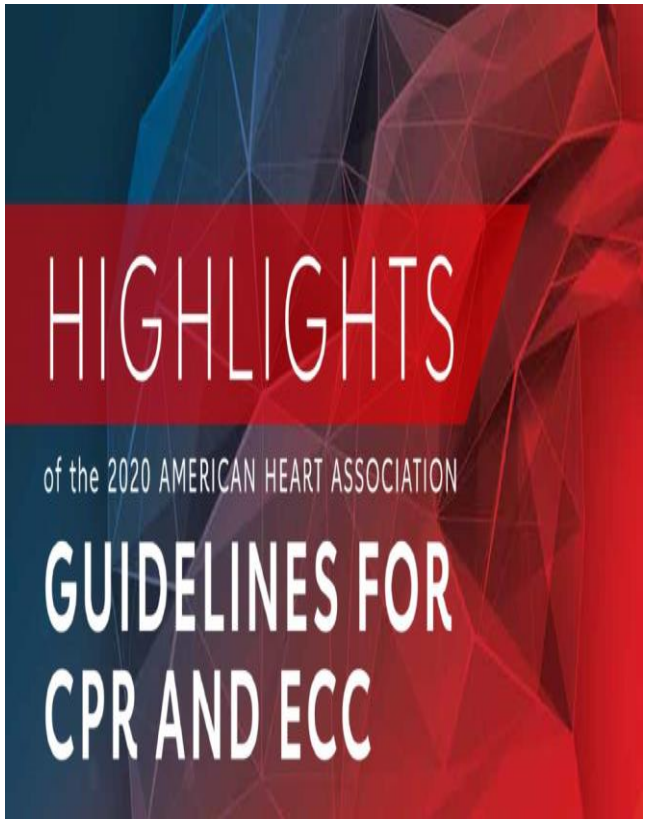
Intensivist

Beware of this



Comply with this



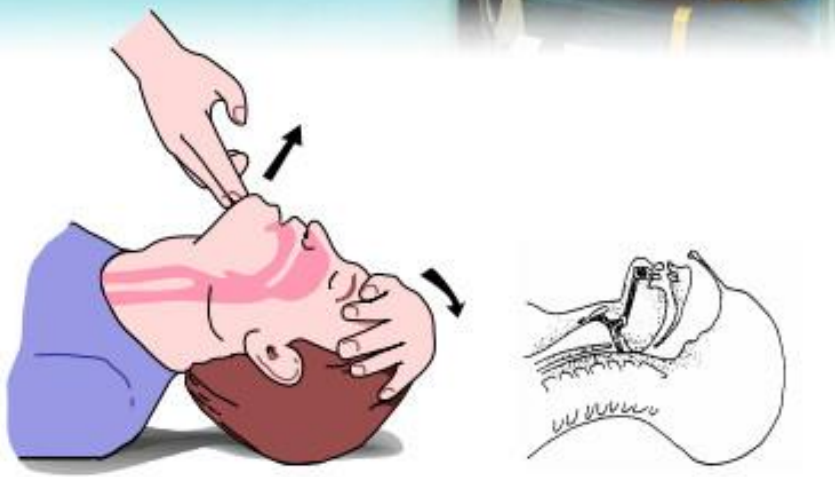


Despite recent gains, **less than 40% of adults receive layperson-initiated CPR**, and fewer than 12% have an AED applied before EMS arrival.

CAB

A – Airway

- **Open the airway**
  - ✓ **Head tilt chin lift** (lay rescuer-- for both injured and noninjured victims)
  - ✓ **Jaw thrust** (no longer recommended for lay rescuers but for healthcare providers ,If suspicious of a cervical spine injury, jaw thrust without head extension)



If suspected spinal injury → manual spinal motion restriction

because

use of immobilization devices by lay rescuers may be harmful

&

Spinal immobilization devices

may interfere with maintaining a patent airway


IF VICTIM STARTS TO BREATHE NORMALLY PLACE IN RECOVERY POSITION

Recovery position

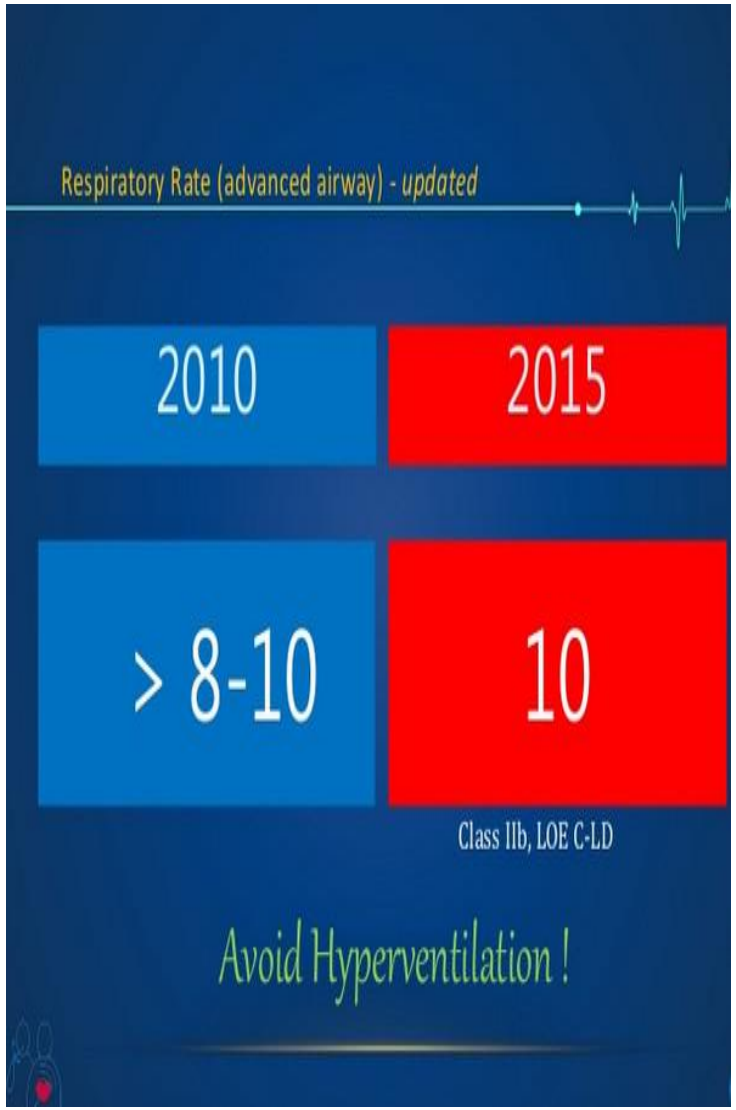
- **Unresponsive** adult victims *with* **normal breathing** and **effective circulation**
- The position should be stable, near a true lateral position, with the head dependent and with no pressure on the chest to impair breathing

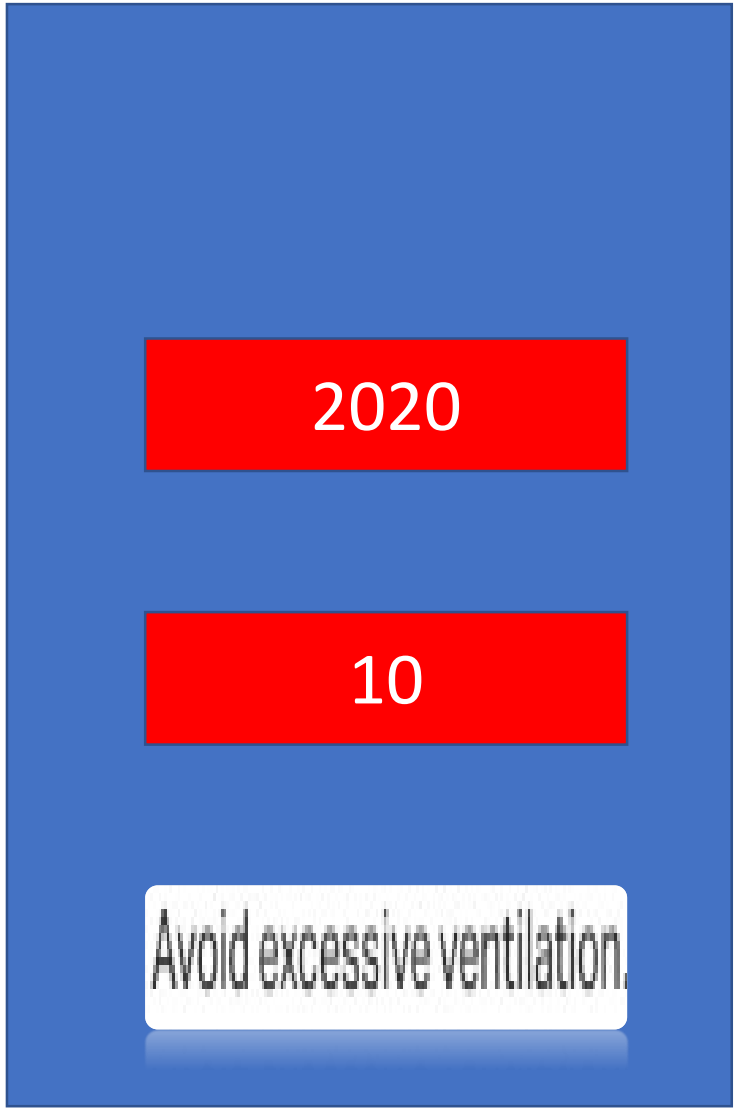
❑ Breathing

After 30 compressions,
Give *2 breaths*, each *over 1 second*,
with enough volume to produce *visible chest rise*

Breathing

- Reassess after 2 min. (not > 10sec.)
  - Loosen restrictive clothing around the neck
  - No chest compressions when there are signs of circulation *(if in doubt continue chest comp.)*


Respiratory Rate (advanced airway) - updated
2010
2015
> 8-10
10
Class IIb, LOE C-LD
Avoid Hyperventilation !


2020
10
Avoid excessive ventilation.

Hyperventilation-Induced Hypotension During Cardiopulmonary Resuscitation

Tom P. Aufderheide, MD; Gardar Sigurdsson, MD; Ronald G. Pirrallo, MD, MHSA;
Demetris Yannopoulos, MD; Scott McKnite, BA; Chris von Briesen, BA, EMT;
Christopher W. Sparks, EMT; Craig J. Conrad, RN; Terry A. Provo, BA, EMT-P; Keith G. Lurie, MD

Remember :lower tidal vol. & resp. rate than normal

If no advanced airway, 30:2 compression-ventilation ratio


» ADVANCED CARDIAC LIFE SUPPORT
Airway
Management
Save a Life
INITIATIVE
Empowered by the Disque Foundation

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

Advanced Airway

- In pregnancy, a difficult airway is common. Use the most experienced provider.
- Provide endotracheal intubation or supraglottic advanced airway.
- Perform waveform capnography or capnometry to confirm and monitor ET tube placement.
- Once advanced airway is in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions.

Cardiac Arrest in Pregnancy

2020 (New): Because pregnant patients are more prone to hypoxia, oxygenation and airway management should be prioritized during resuscitation from cardiac arrest in pregnancy.

2020 (New): Because of potential interference with maternal resuscitation, fetal monitoring should not be undertaken during cardiac arrest in pregnancy.

2020 (New): We recommend targeted temperature management for pregnant women who remain comatose after resuscitation from cardiac arrest.

2020 (New): During targeted temperature management of the pregnant patient, it is recommended that the fetus be continuously monitored for bradycardia as a potential complication, and obstetric and neonatal consultation should be sought.

Recommendations for managing cardiac arrest in pregnancy

- Airway, ventilation, and oxygenation are particularly important in the setting of pregnancy because of an increase in maternal metabolism, a decrease in functional reserve capacity due to the gravid uterus, and the risk of fetal brain injury from hypoxemia.

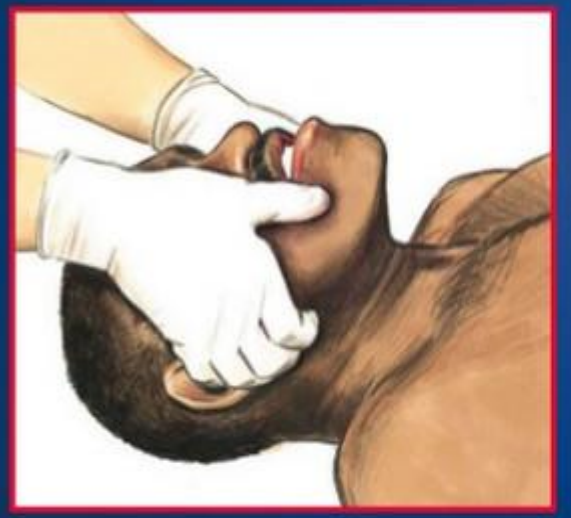
Airway Obstruction

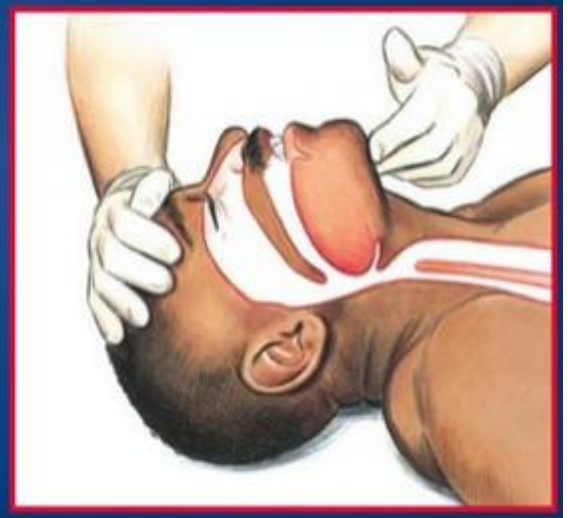
Most common cause: tongue and/or epiglottis

Opening the Airway

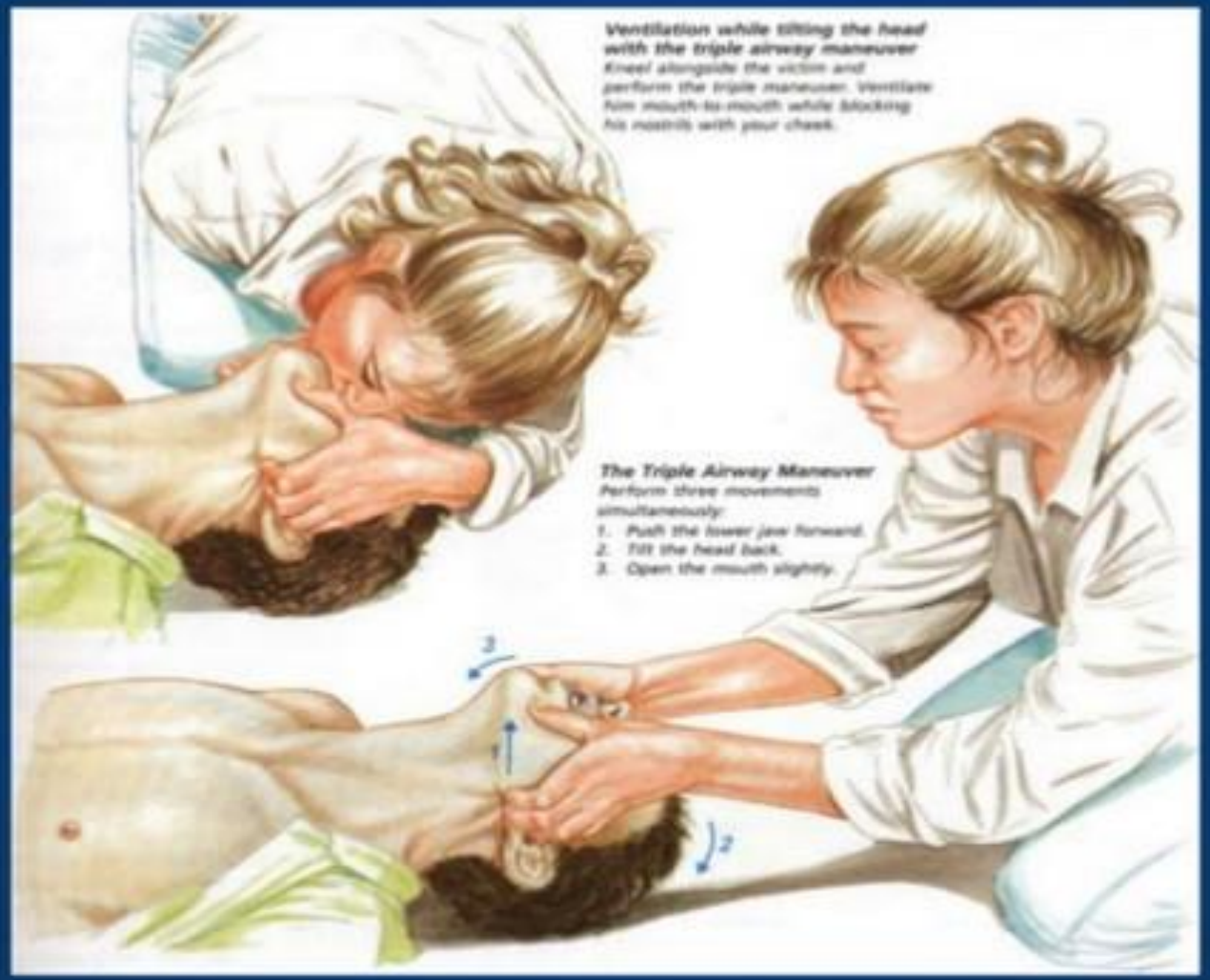
- Jaw thrust

Head tilt–chin lift





JAW THRUST (IN TRAUMATIC PATIENT)

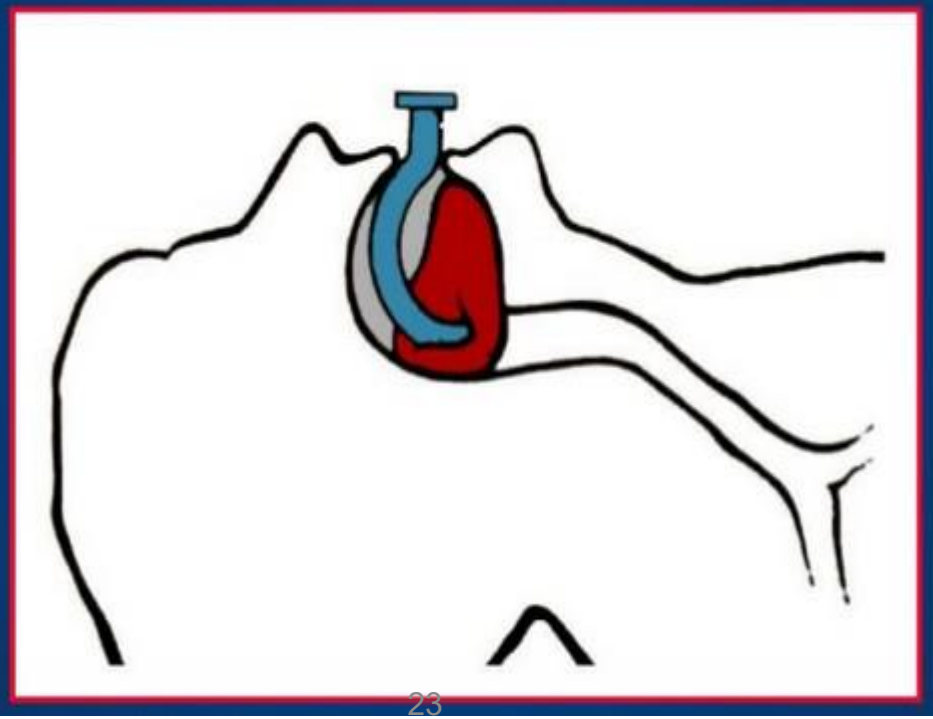


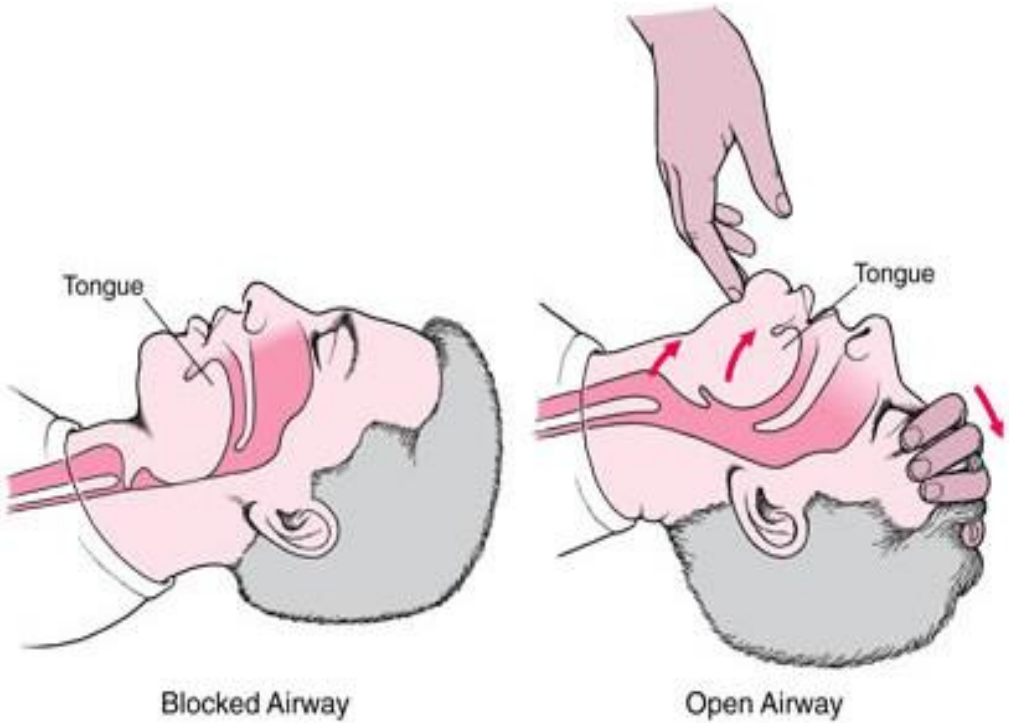
Nasopharyngeal Airway

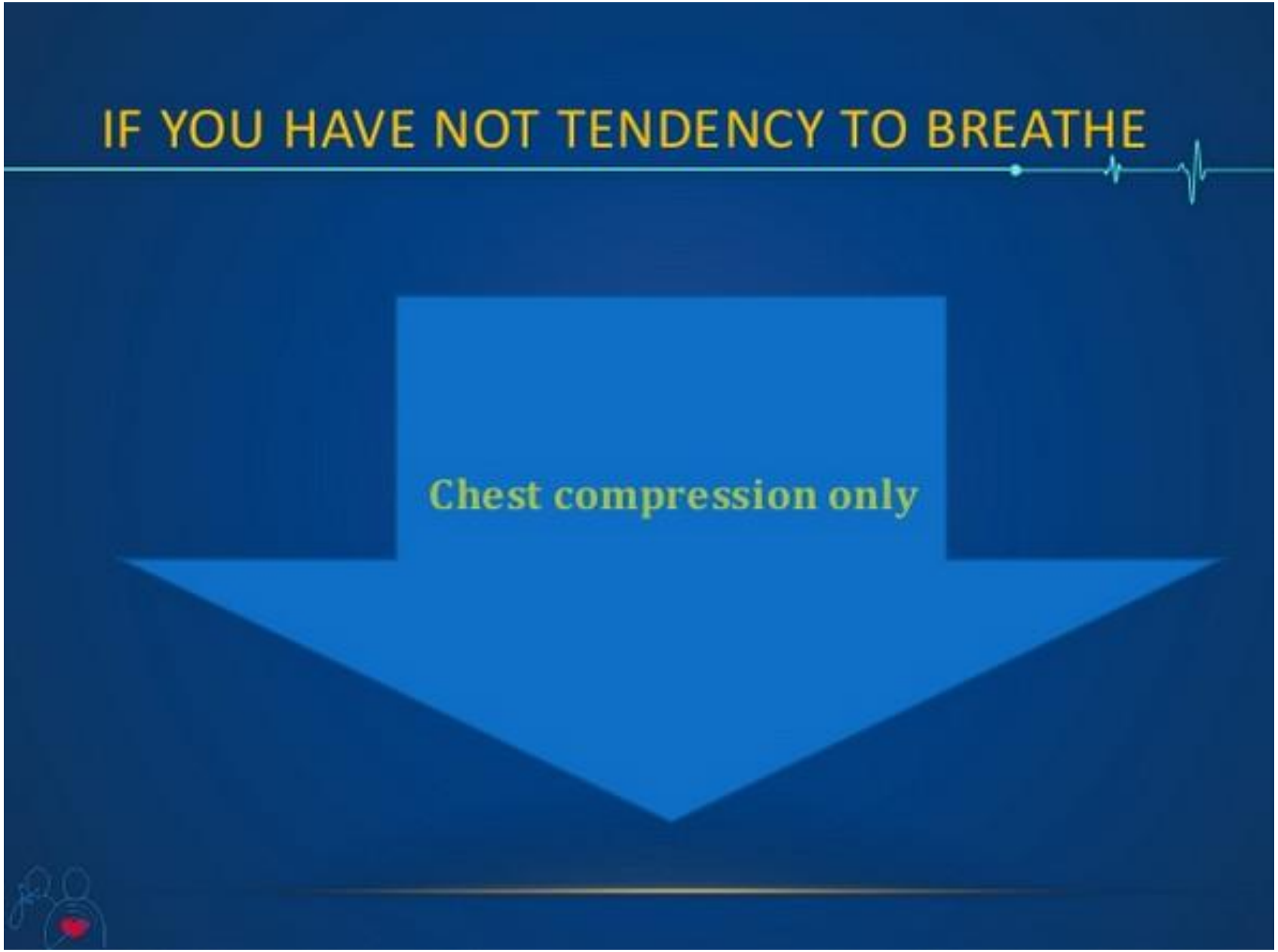
- Insertion technique

Malposition of Oropharyngeal Airway

American Heart Association
Learn and Live

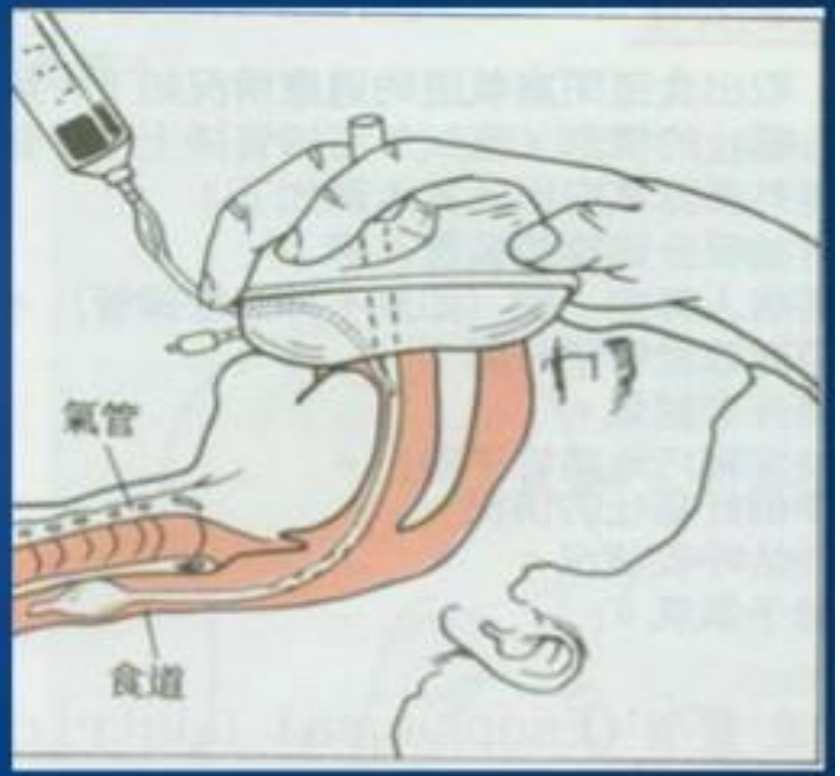



Tongue
Tongue
Blocked Airway
Open Airway

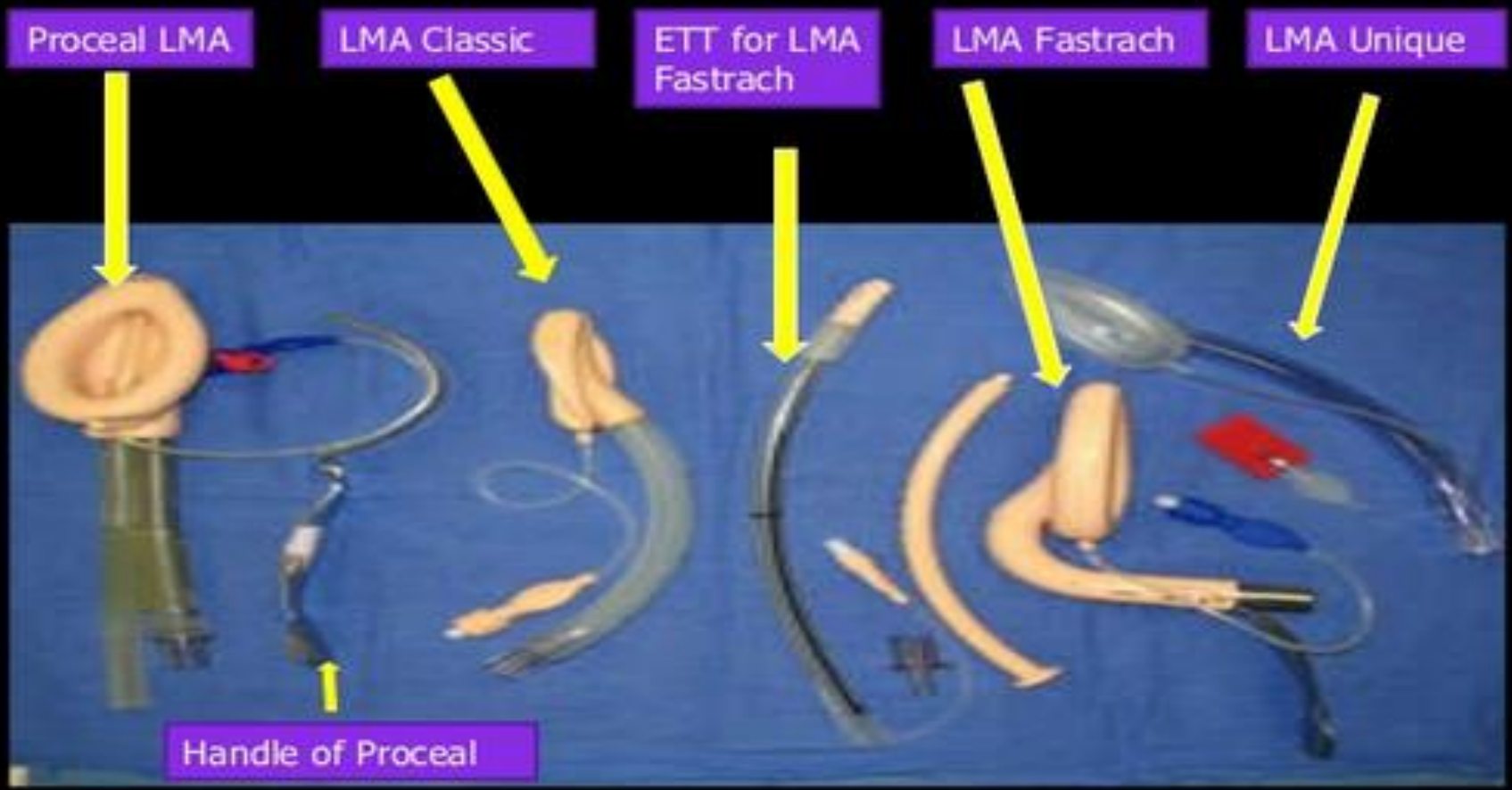

IF YOU HAVE NOT TENDENCY TO BREATHE
Chest compression only

Breathing devices

- Plastic oropharyngeal airways
- Esophageal obturators
- Ambu bag- usual method for continuing breathing in hospital before ET tube can be inserted.
- Endotracheal tube

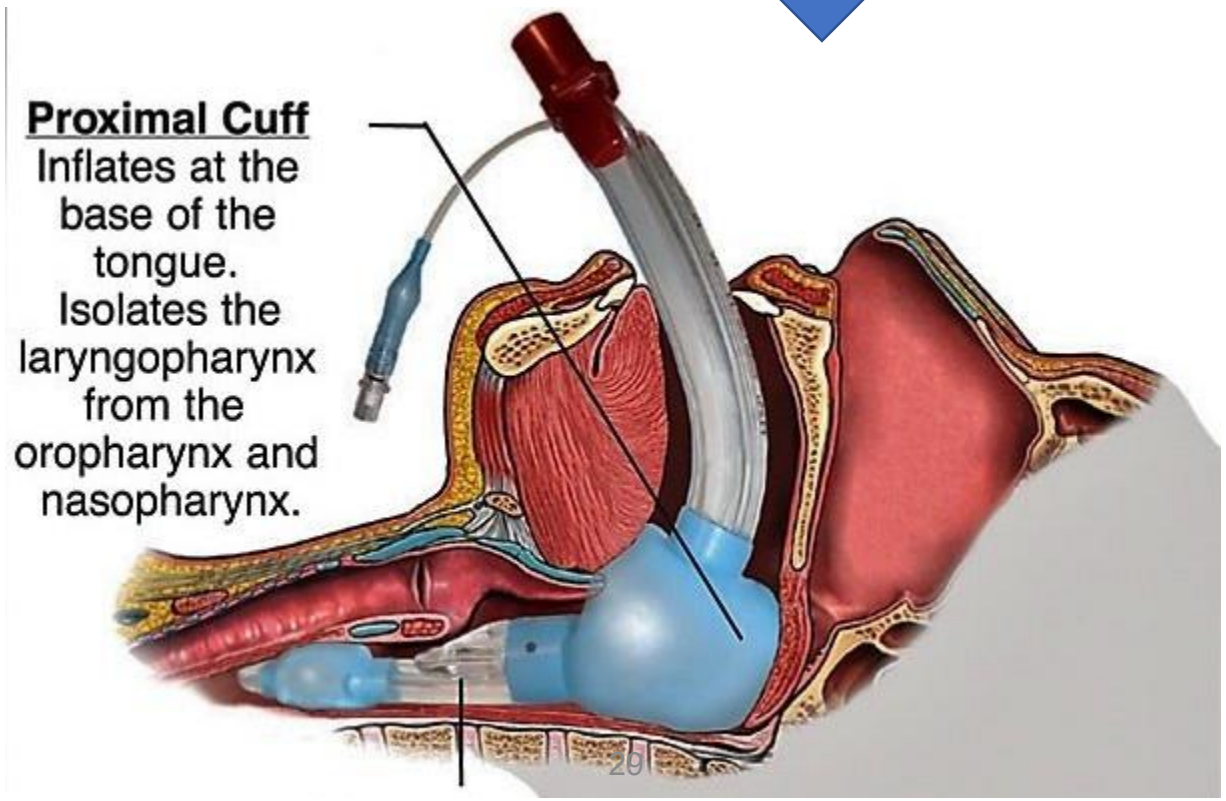

氣管
食道

LARYNGEAL MASK AIRWAY



Combi tube

Laryngeal tube



Bag-mask ventilation vs advanced airway placement during CPR

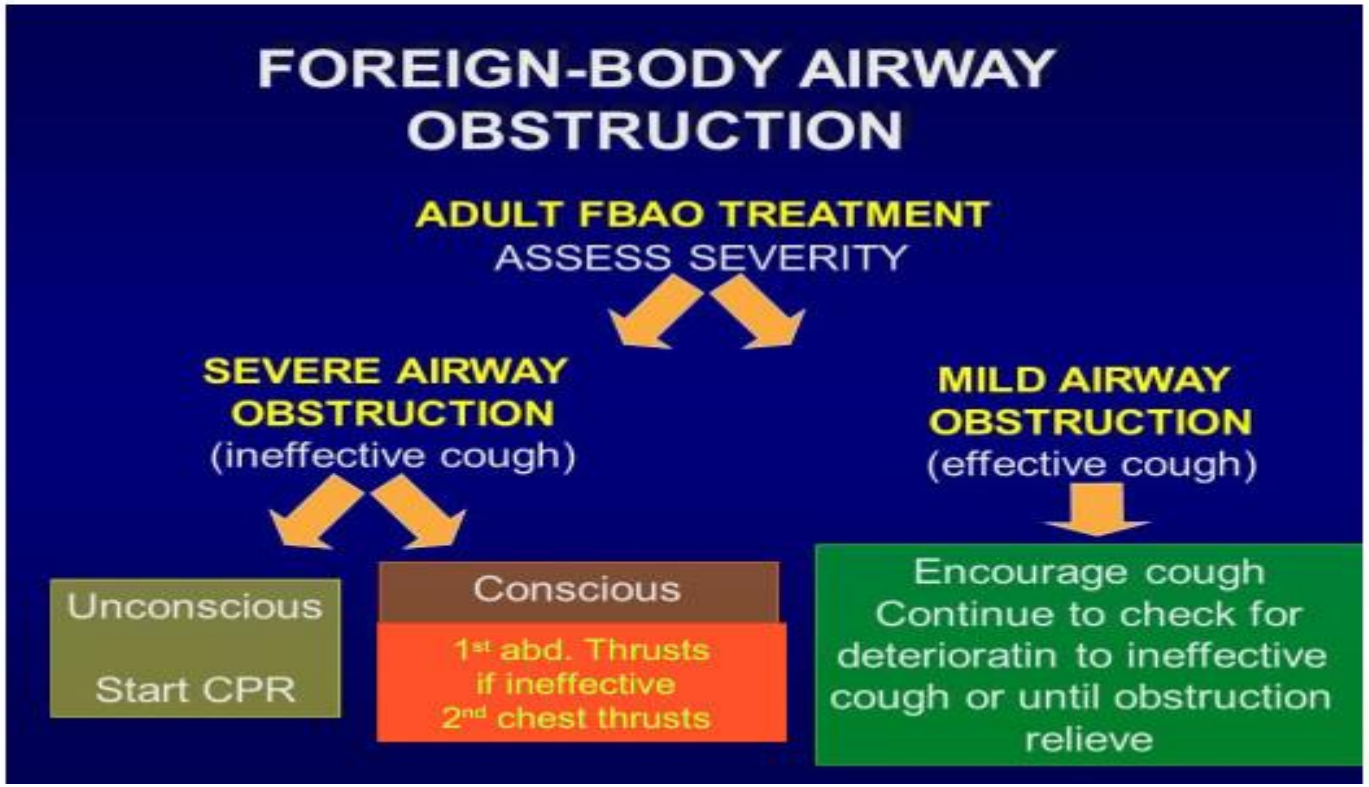
Bag-mask ventilation vs advanced airway placement during CPR

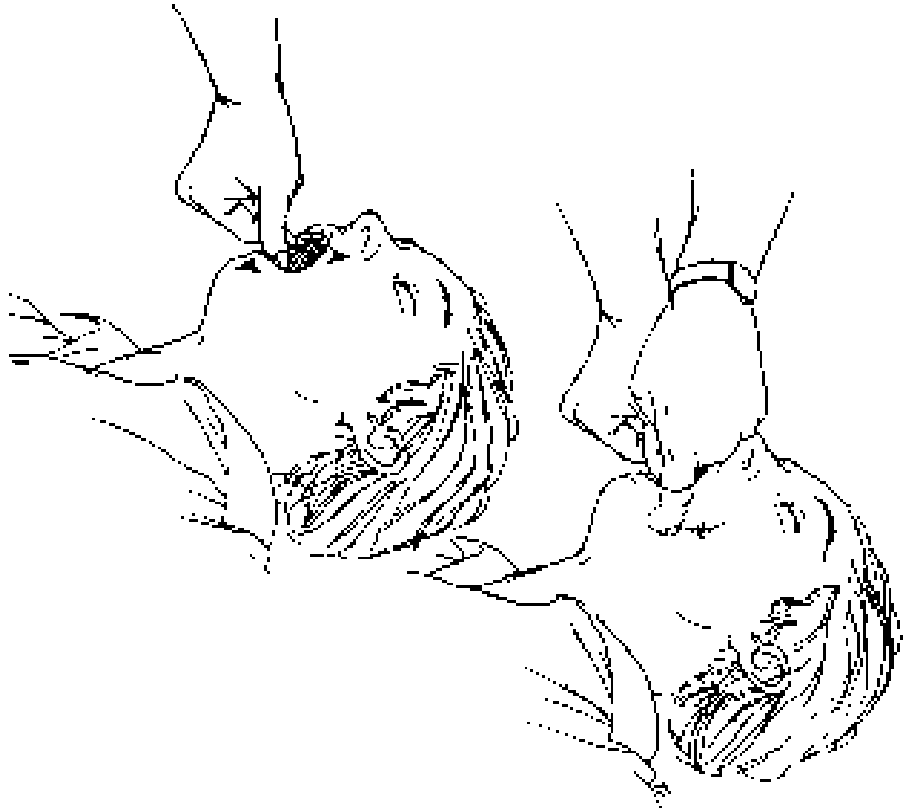
- Either a bag-mask device or an advanced airway may be used for oxygenation and ventilation during CPR in both the in hospital and out-of-hospital setting

- The choice of bag-mask device versus advanced airway insertion will be determined by the skill and experience of the provider

Foreign body airway obstruction (FBAO)

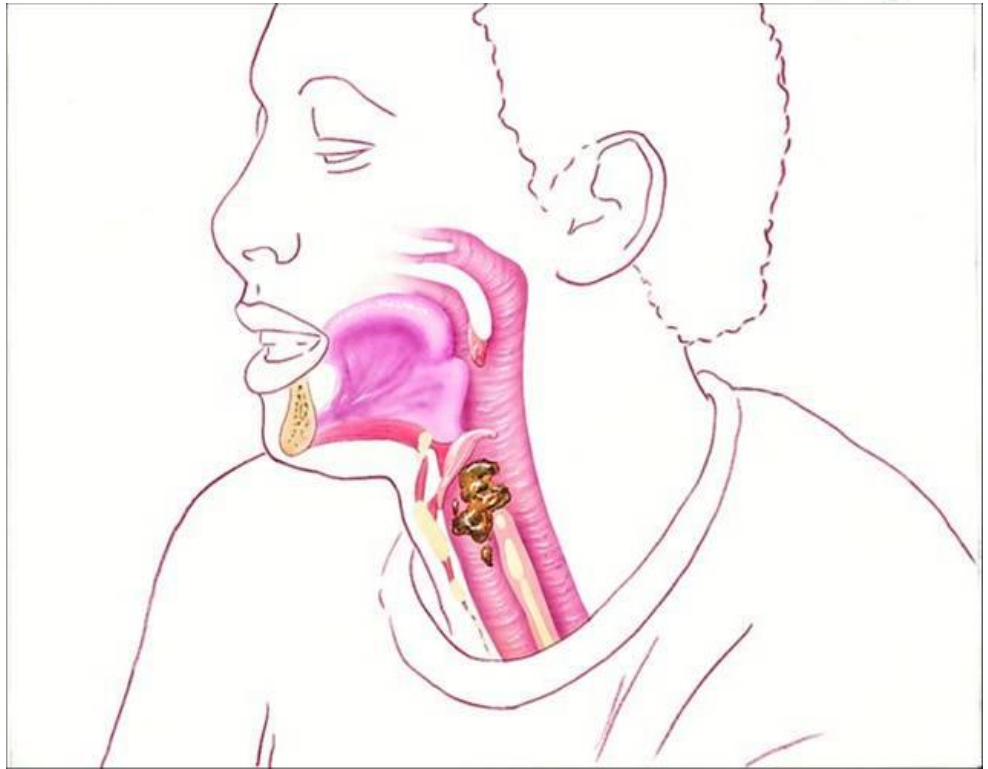
- **Uncommon, but preventable**, cause of death
- In adults , **mostly while eating**
- Choking is **commonly witnessed**, and the victim is **still responsive**
- Rx : usually successful, and **survival rates˃95%**





Cover your fist with your other hand and thrust up and in with sufficient force to lift the victim off his feet

Place one fist just above the person's navel with your thumb against the abdomen



Heimlich Maneuver

1. Lean the person forward slightly and stand behind him or her.

2. Make a fist with one hand.

3. Put your arms arund the person and grasp your fist with your other hand near the top of the stomach, just below the center of the rib cage.

4. Make a quick, hard movement, inward and upward.

Place the infant stomach-down across your forearm and give five thumps on the infant's back with heel of your hand

ADAM.

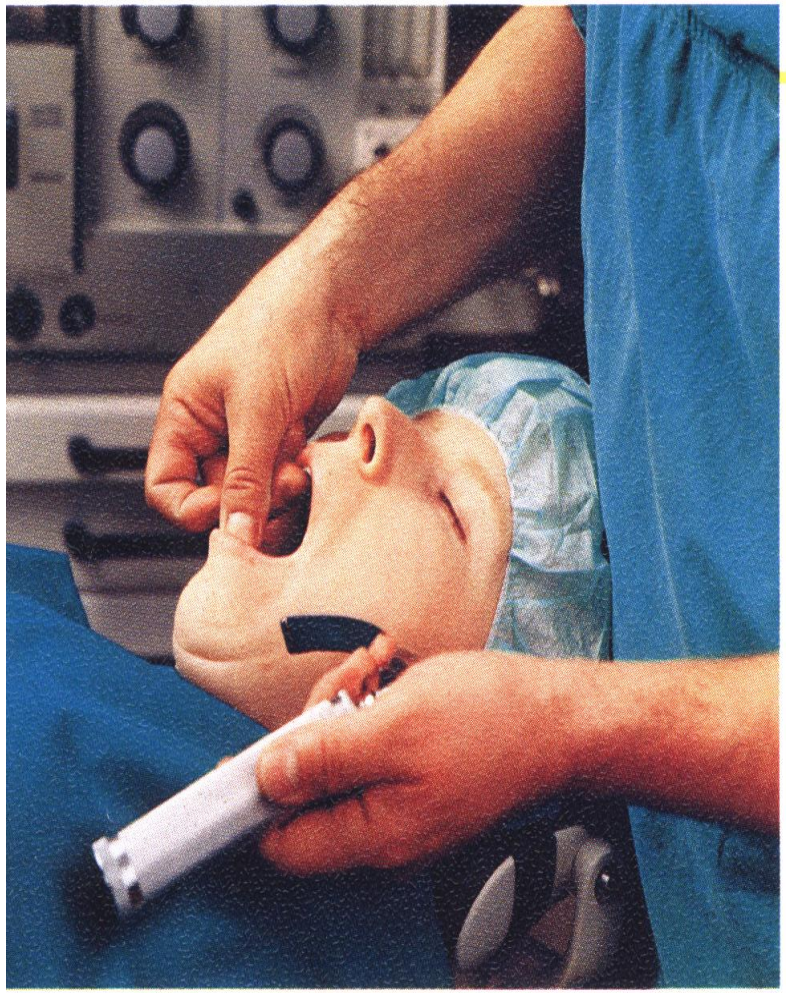
Place fist above navel while grasping fist with other hand. Leaning over a chair or counter-top, drive your fist towards yourself with an upward thrust

ADAM.

Ventilation

- ★ Mouth to Mouth
- ★ Mouth to Nose
- ★ Mouth to Mouth and nose
- ★ Mask to Mouth (Ambu)

Endotracheal Intubation

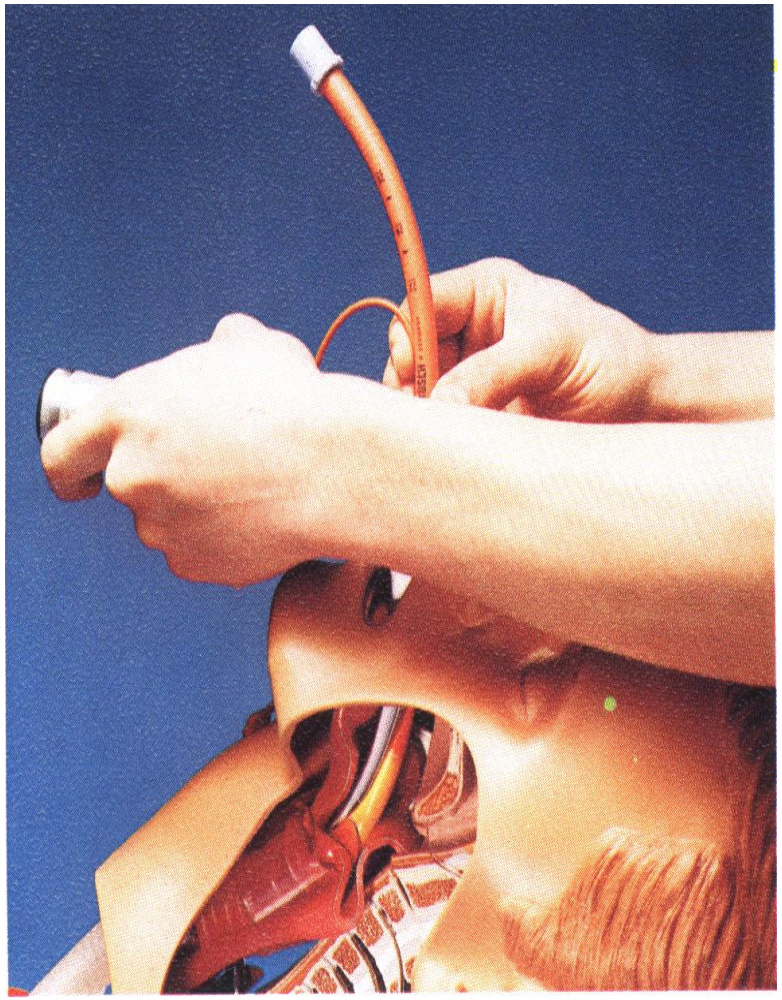


Opening the mouth with the crossed fingers maneuver

The patient's mouth is opened with the right hand using the socalled crossed fingers maneuver. The thumb is crossed over the bent index or middle finger, the tip of which is placed against the biting surface of the upper incisors. This finger then pushes upward on the teeth in the direction of their axis, while the thumb pushes the lower incisors downward to open the mouth.

Crossing one's fingers in this way utilizes the fact that more strength can be applied when the fingers are bent than when they are stretched or spread.

1



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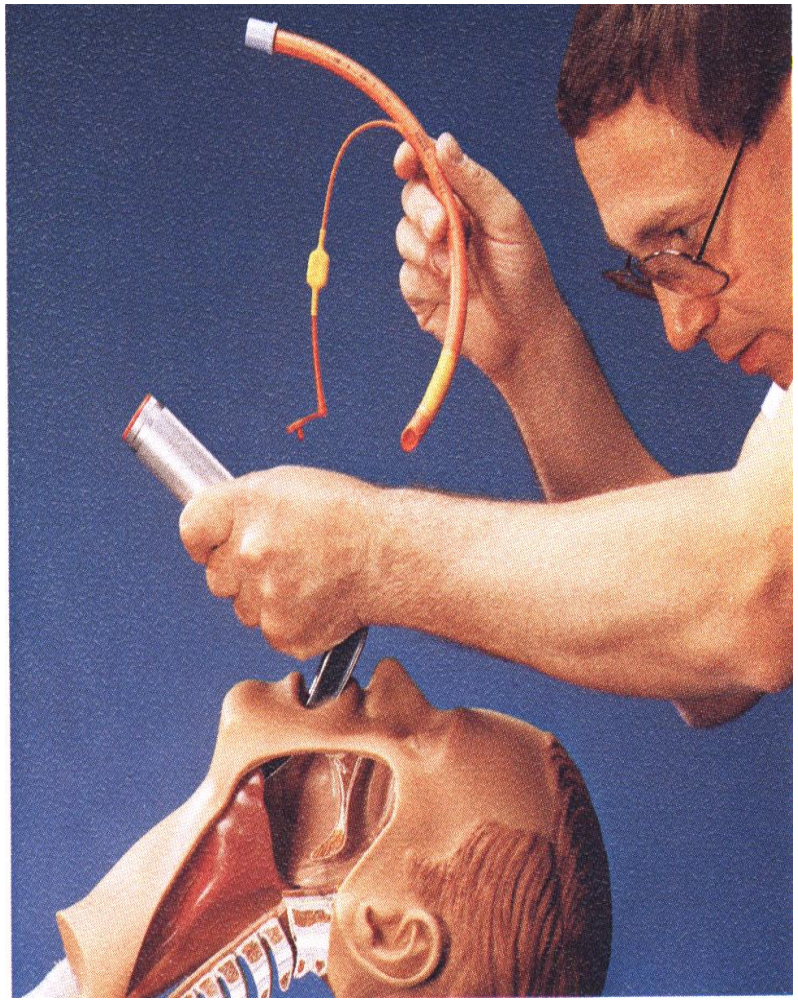

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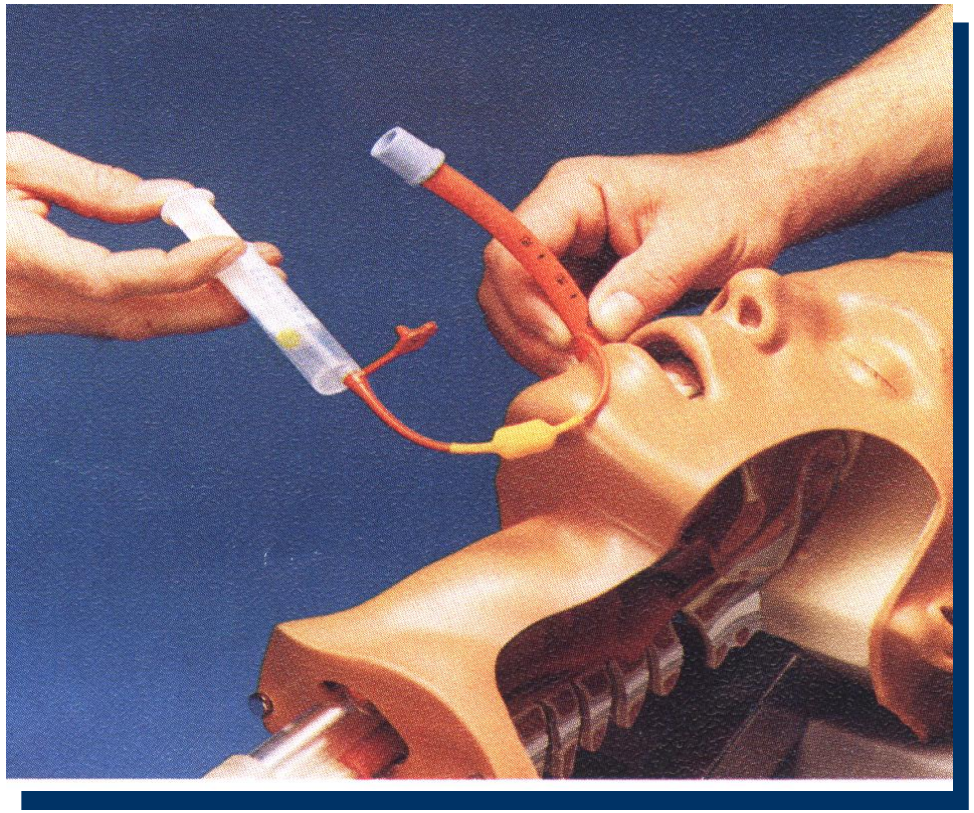

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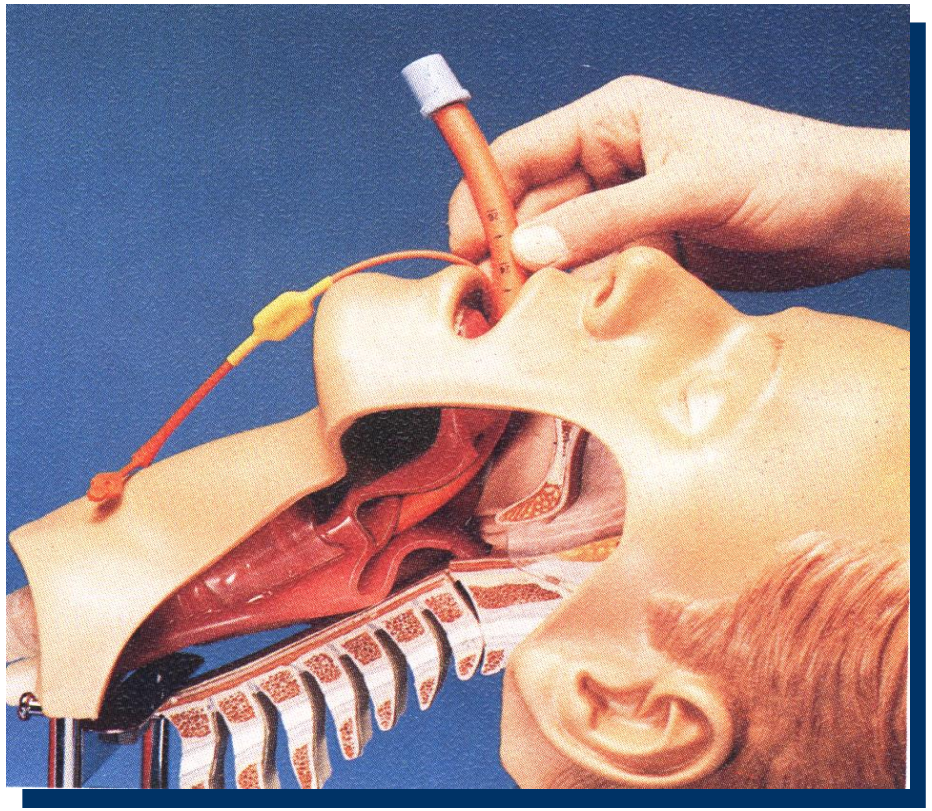

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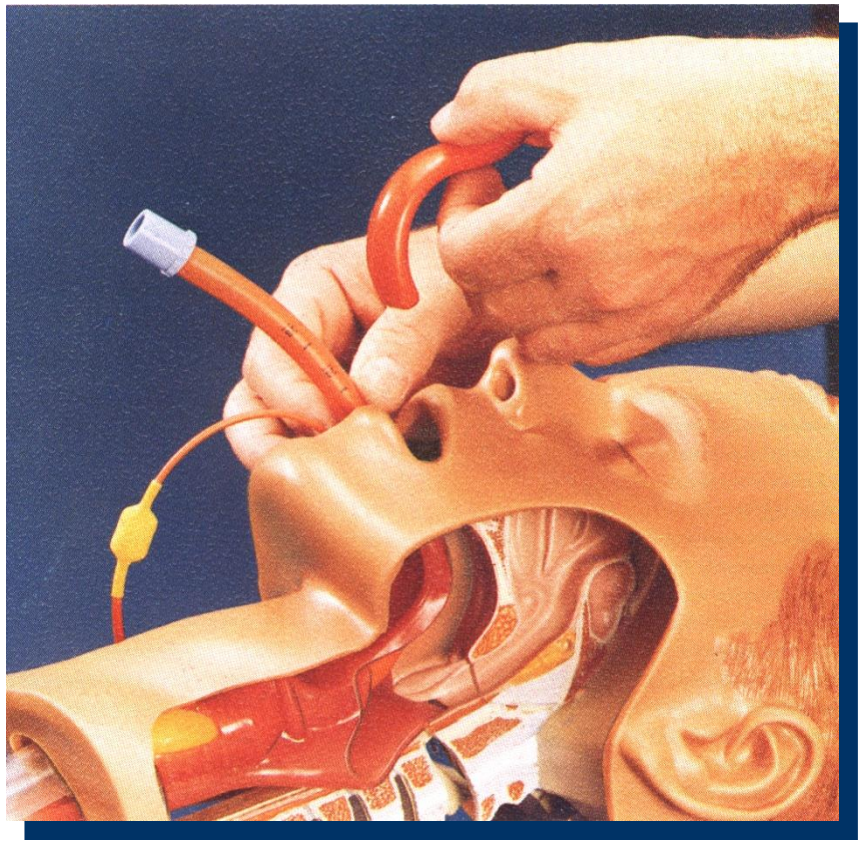

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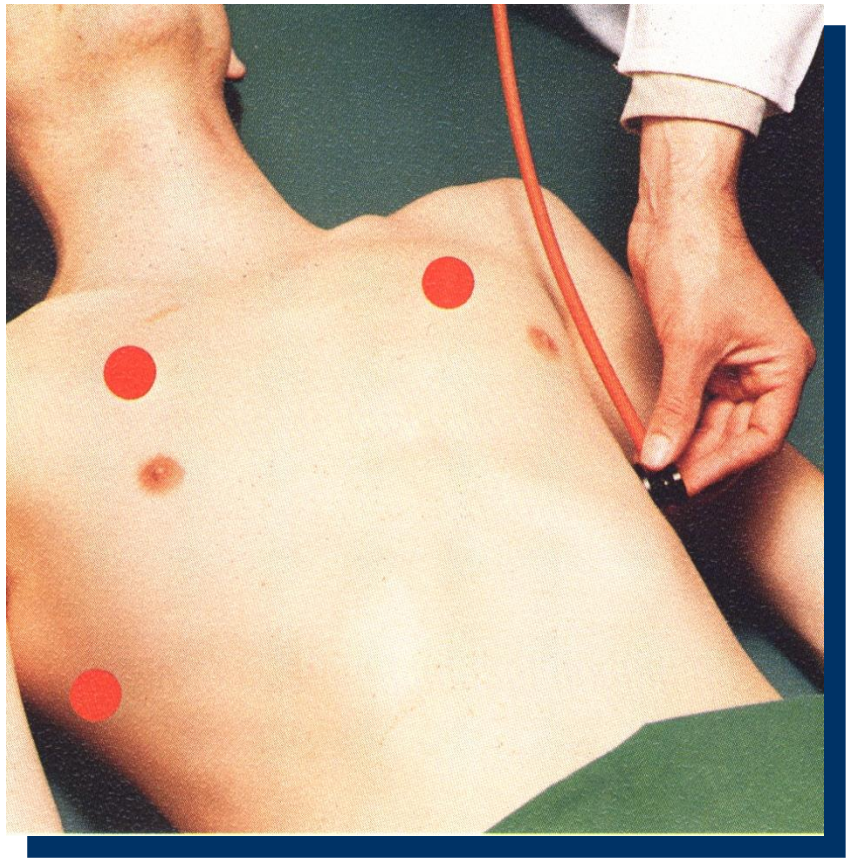

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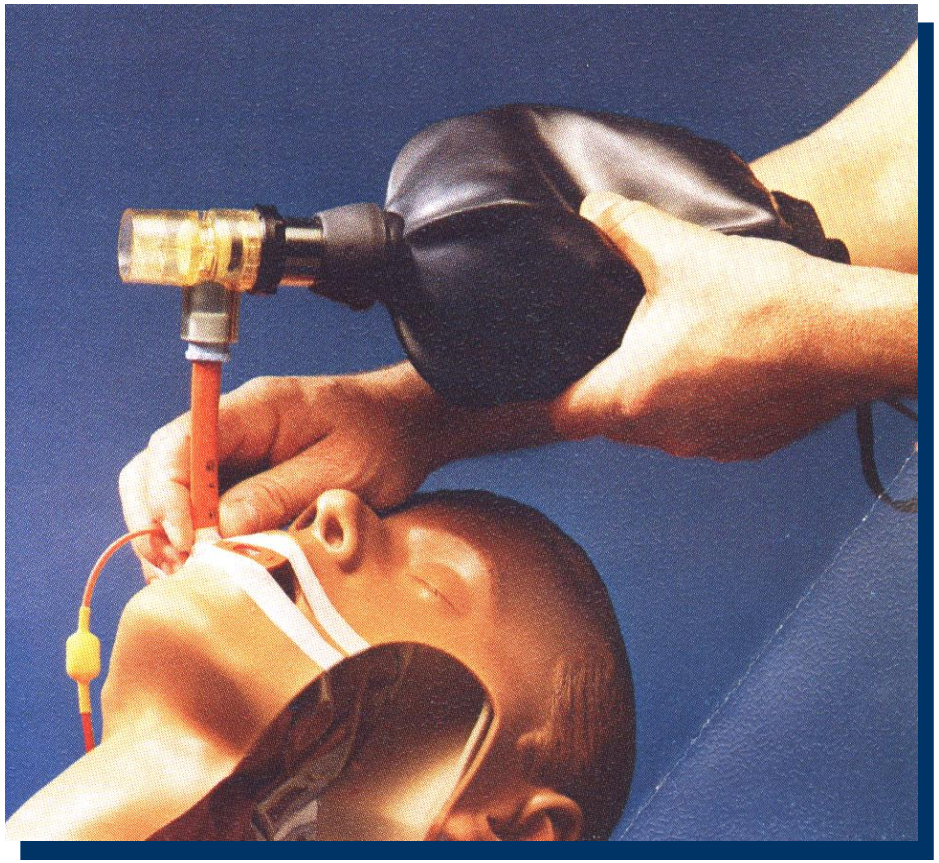

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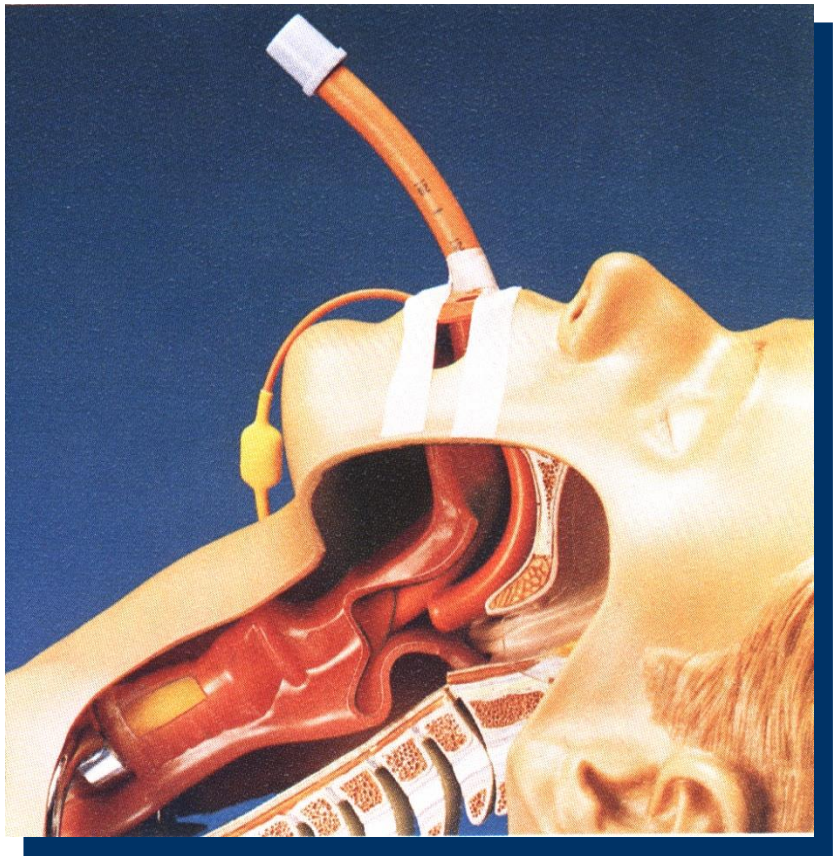

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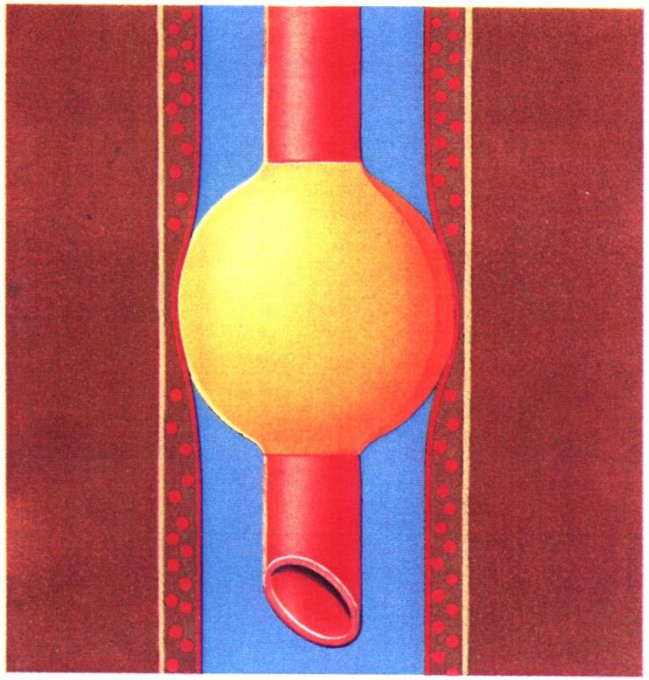
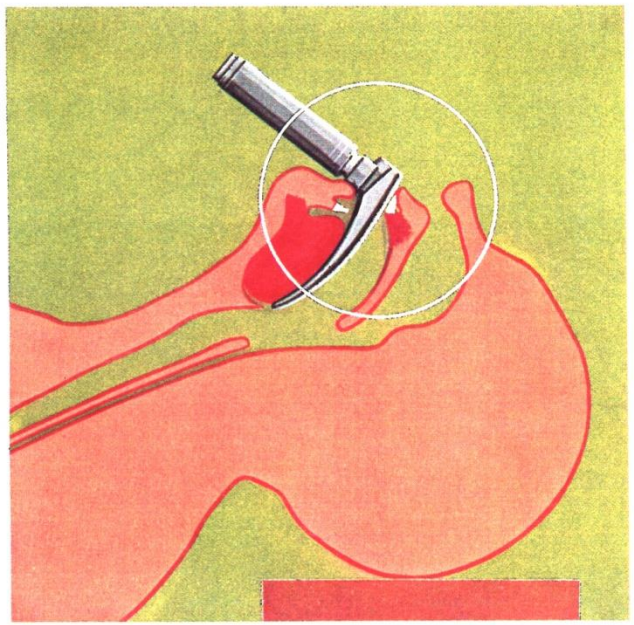
Complications of Laryngoscopy and Intubation

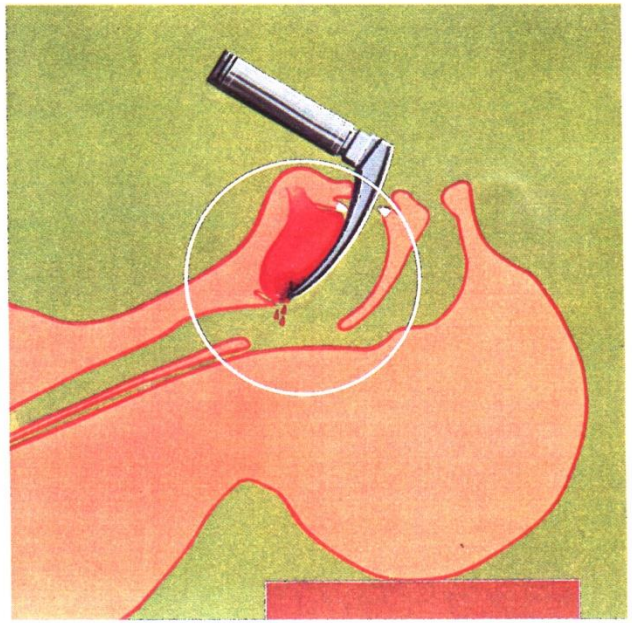


Overinflation of the cuff

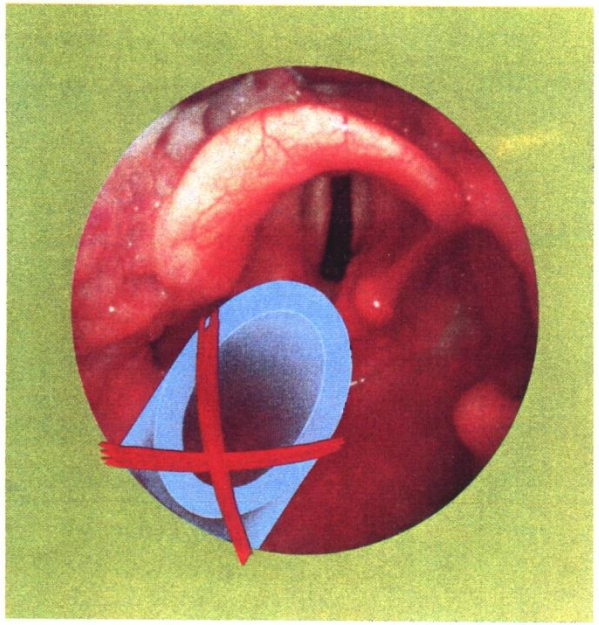
Pressure necrosis of the tracheal wall



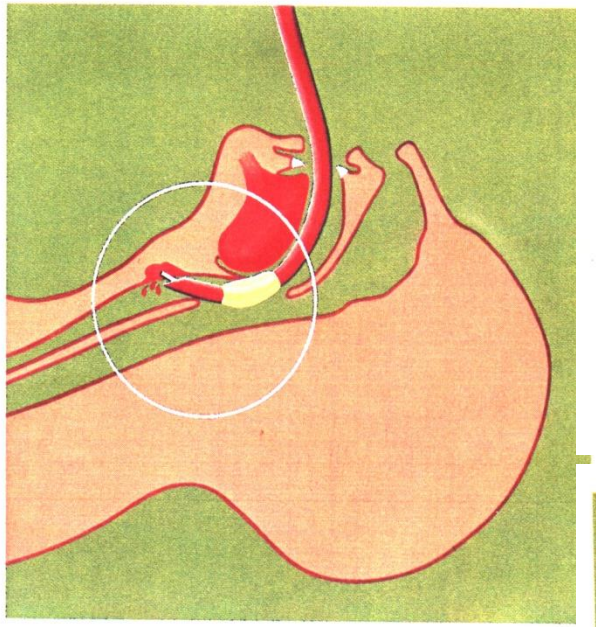
Breaking the incisor teeth



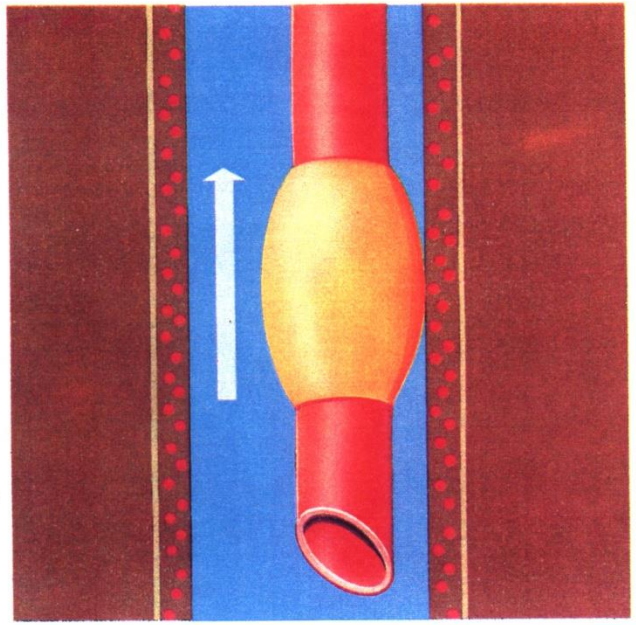
Damage to the root of the tongue



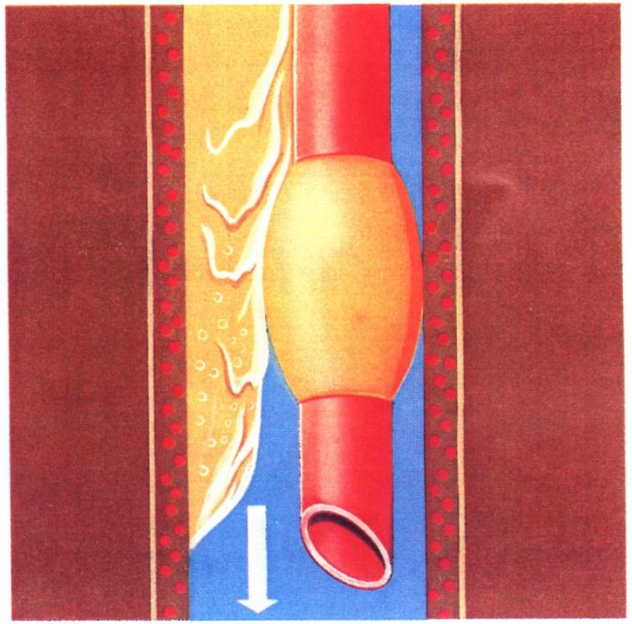
Tube size too large



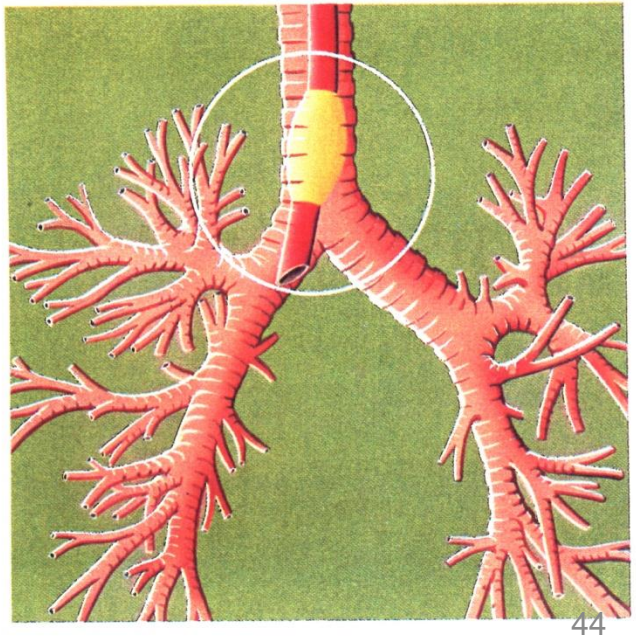
Perforation with the stylet



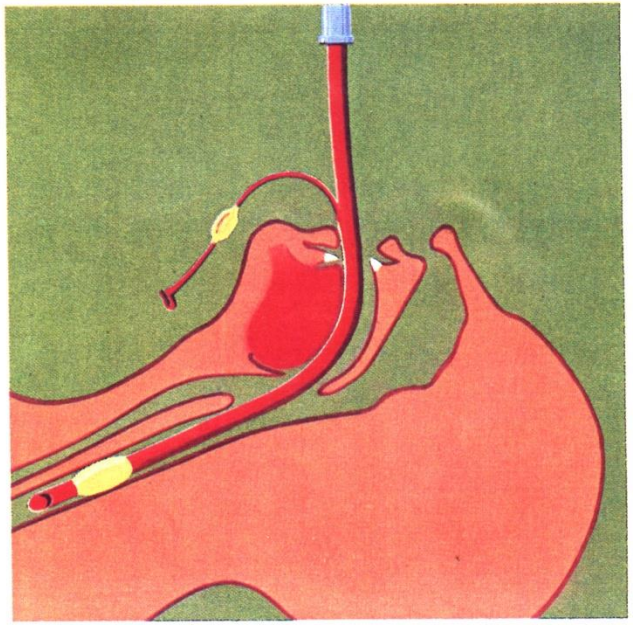
Air leak



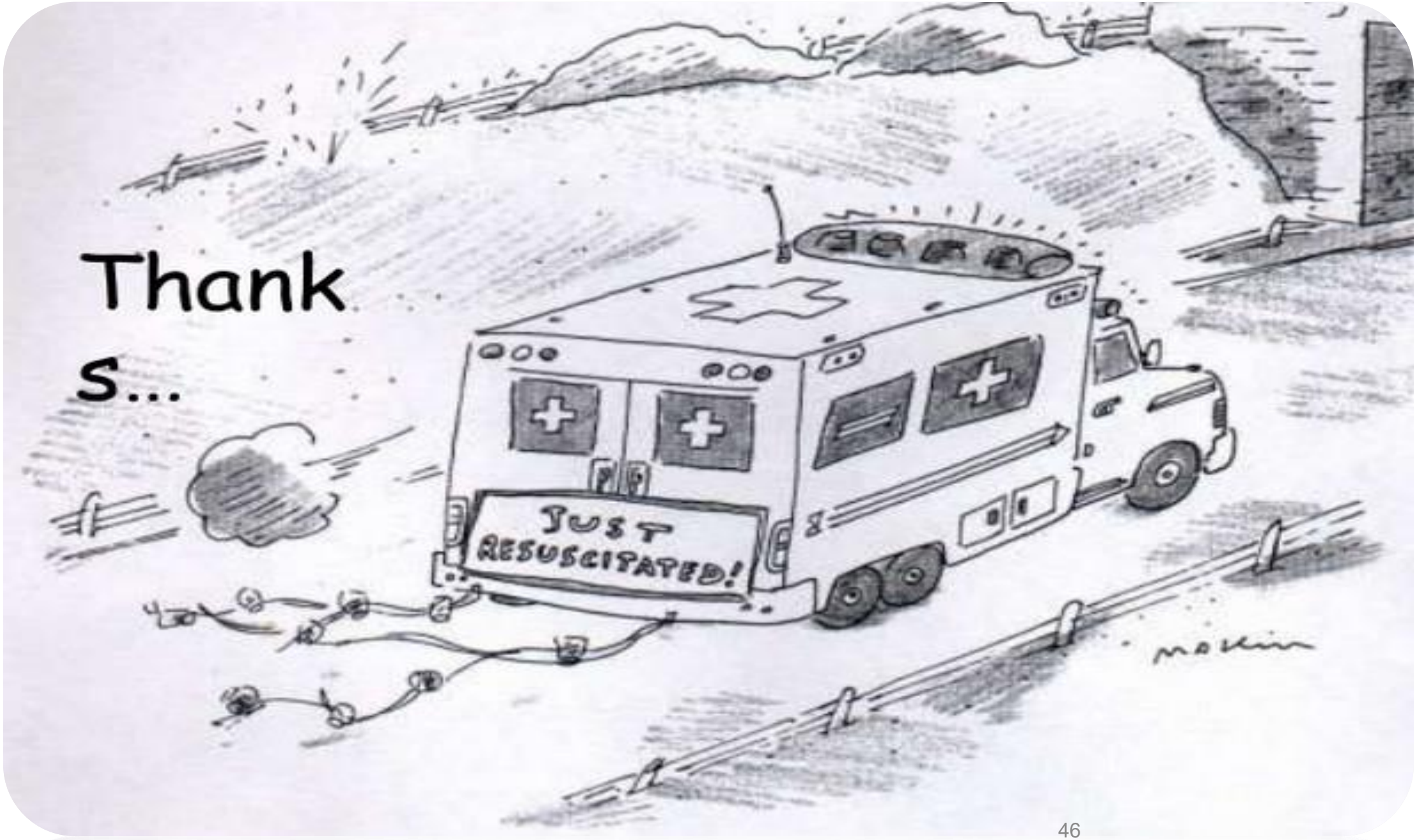
Aspiration because of inadequately blocked cuff



Unilateral intubation



Esophageal intubation


Thank
s...
JUST
RESUSCITATED!