



مدیریت راه هوایی

Airway Management



تهیه و تنظیم:

هادی منصوری (سوپروایزر آموزشی)

بیمارستان سردار شهید ارجمند ماخلیفه

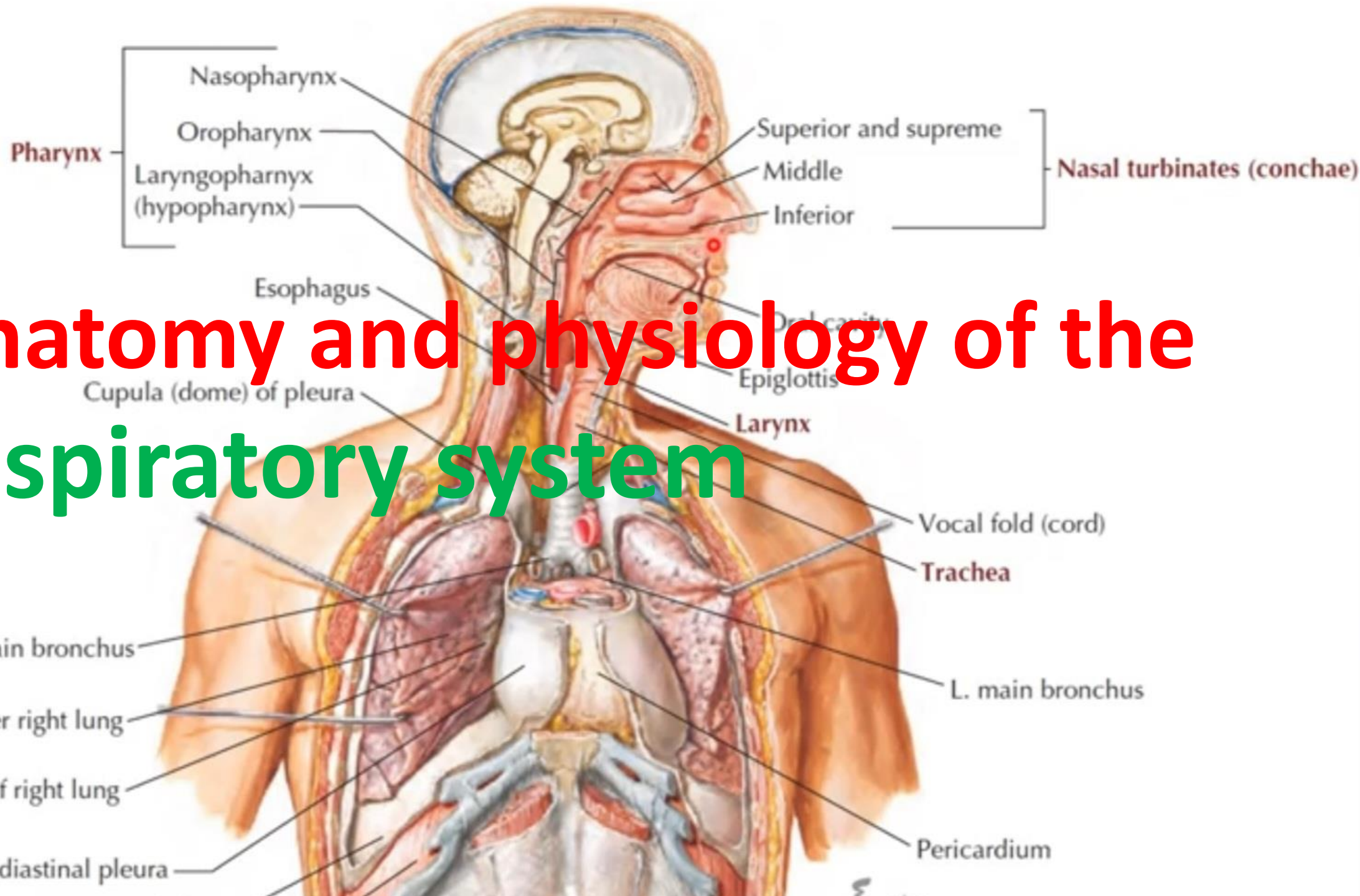
اهداف آموزشی:

آناتومی و فیزیولوژی سیستم تنفسی

مدیریت پایه راه هوایی

مدیریت پیشرفته راه هوایی

Anatomy and physiology of the respiratory system



Respiratory System

Lower Respiratory System

Main Bronchi

Trachea

Upper Respiratory System

Mouth/Nasal

Pharynx

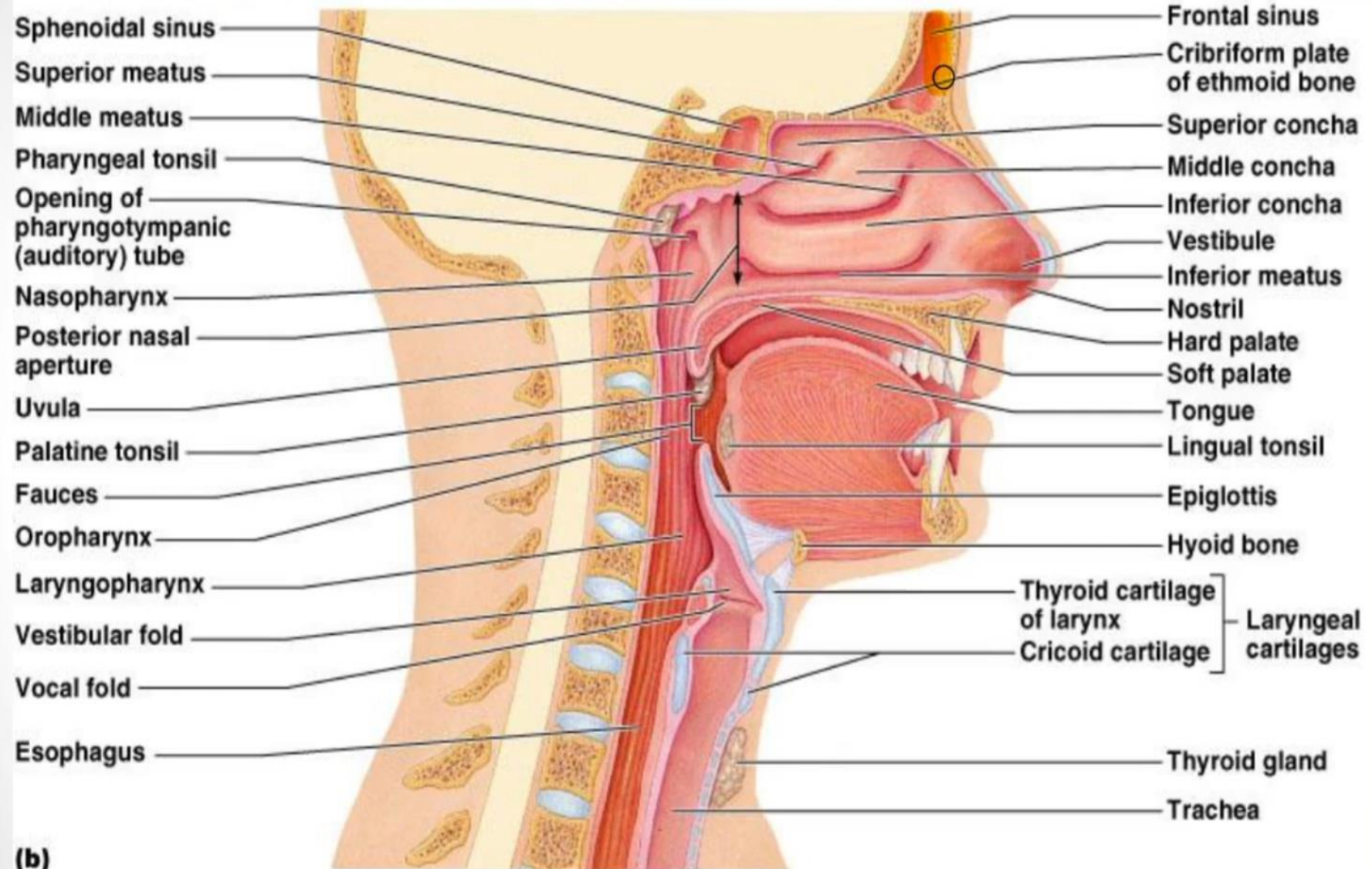
Larynx

حلق و بینی
Naso Pharynx

حلق دهانی
Oro Pharynx

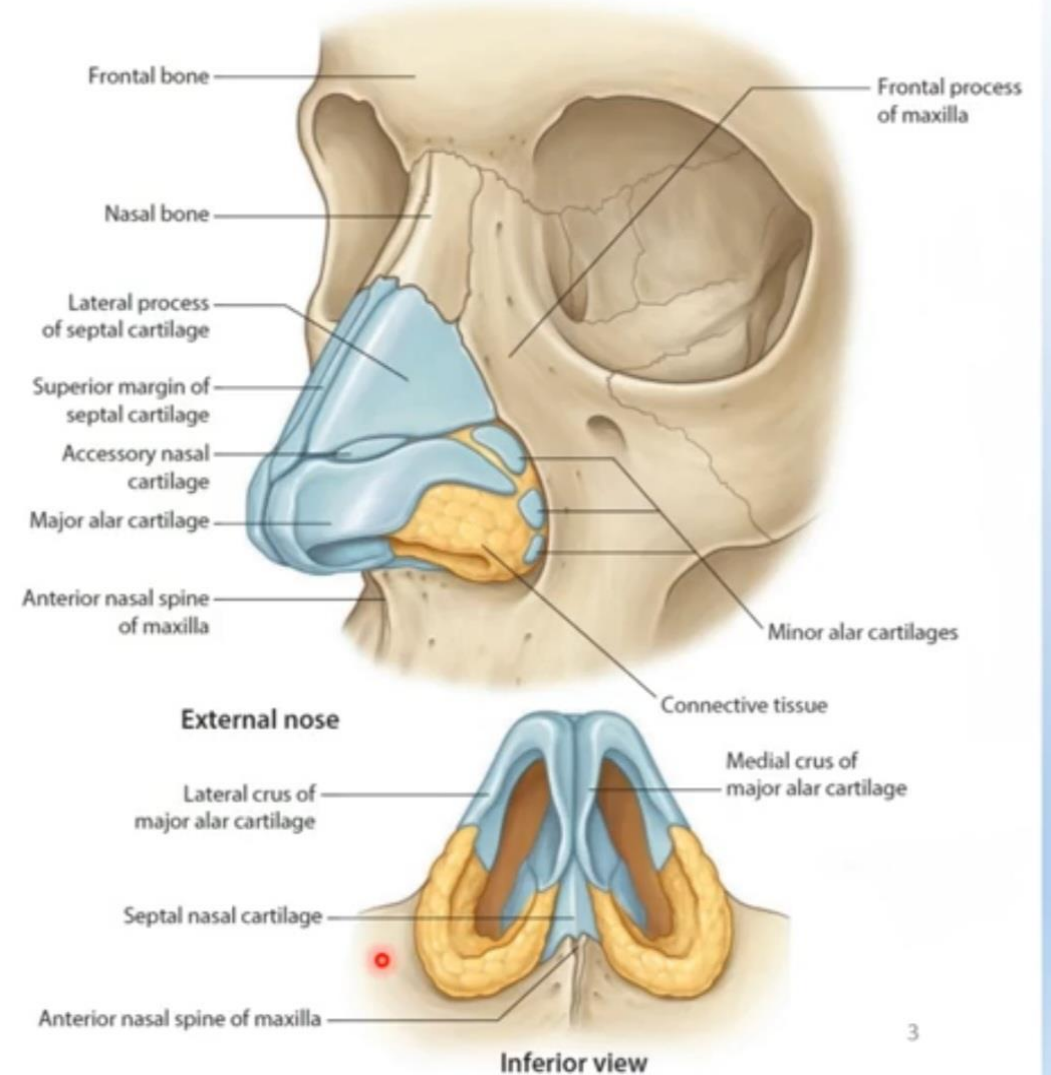
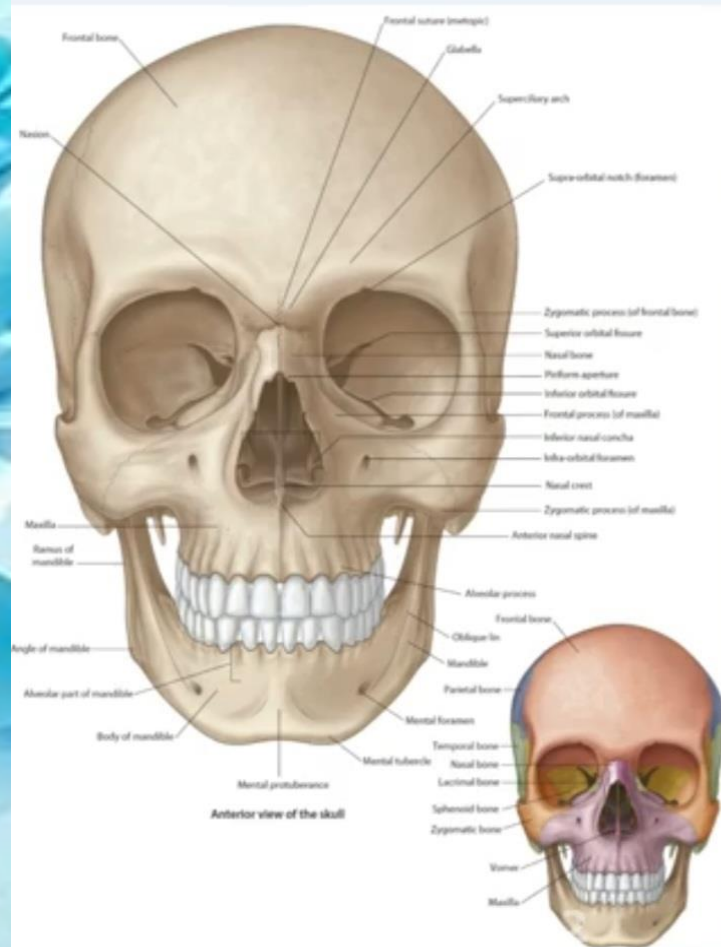
حلق حنجره ایی
Laryngo
Pharynx

Mouse/NASAL



Mouse/NASAL

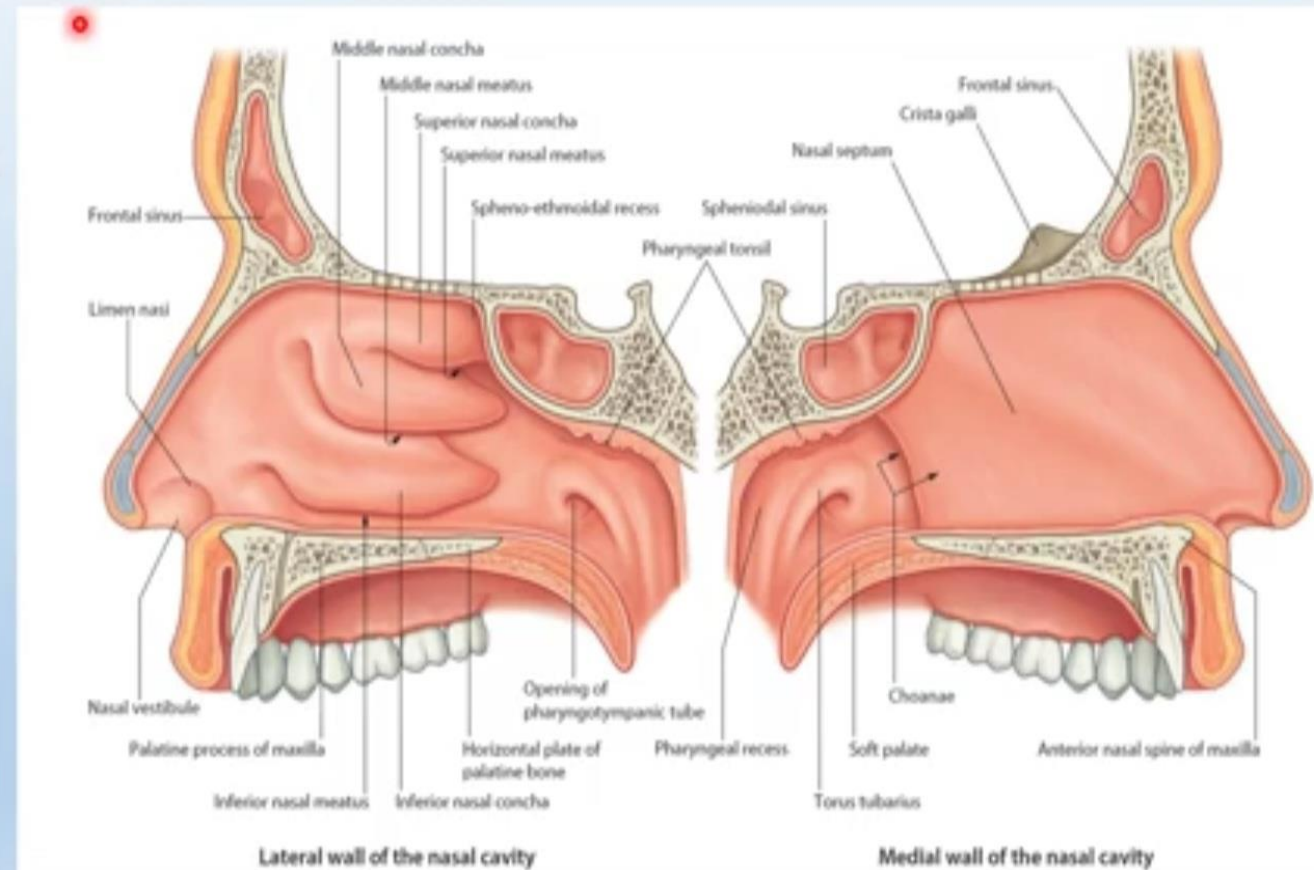
External nose



Mouse/NASAL

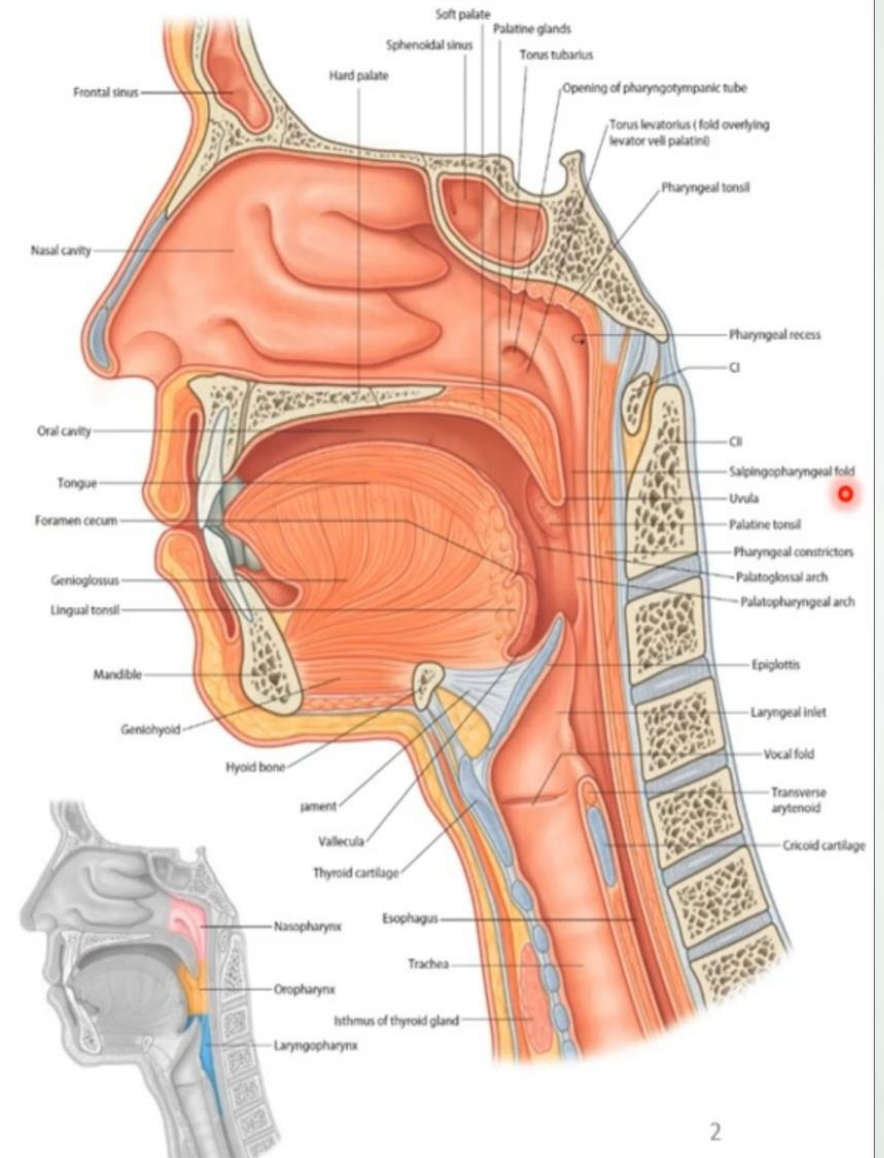
Nasal cavity

- Anterior nares (Nostril) with Vibrissae
- Posterior nares (Choanae)
- Nasal vestibule, Respiratory region and Olfactory regions

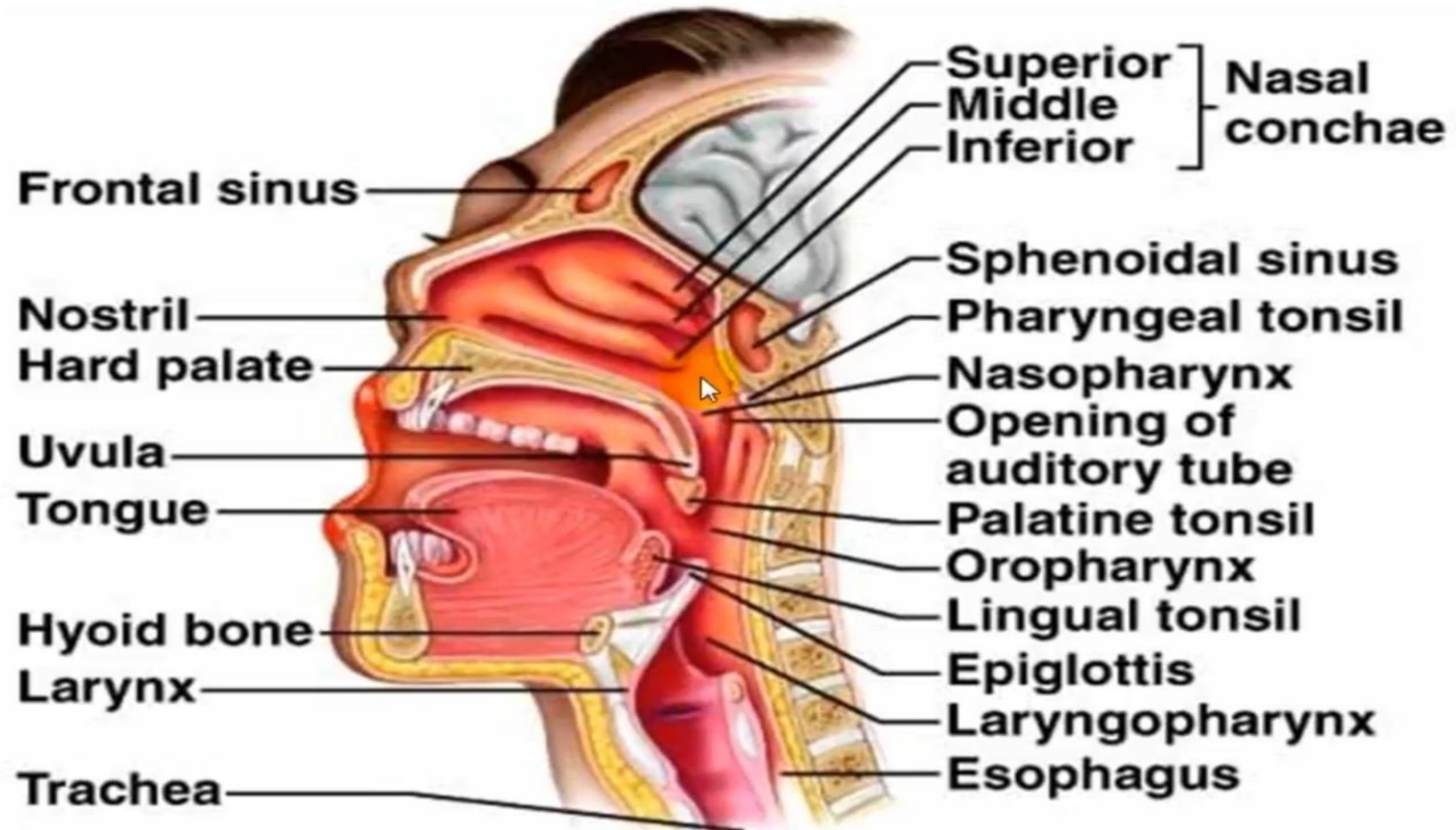


Pharynx

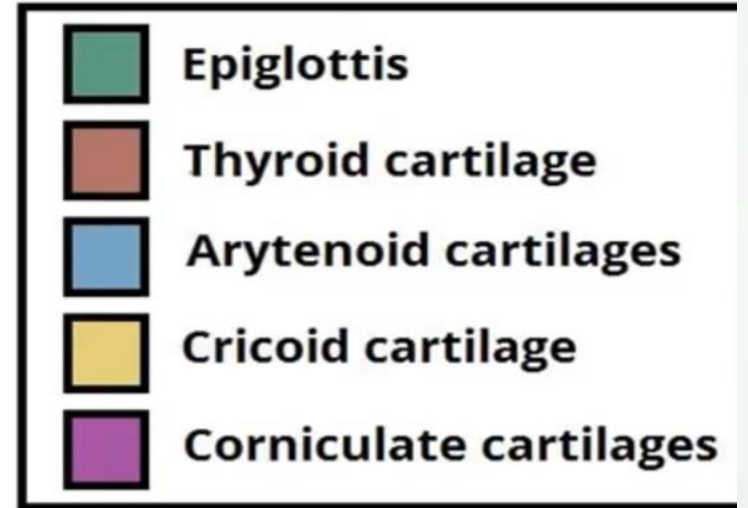
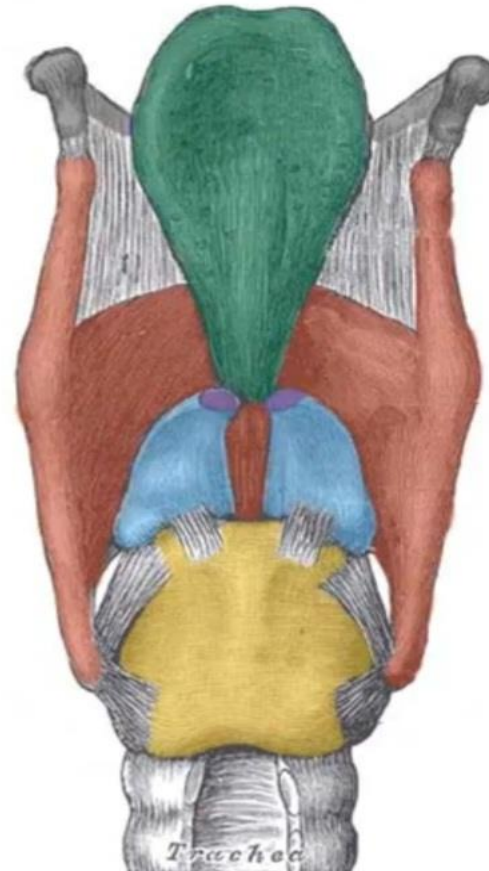
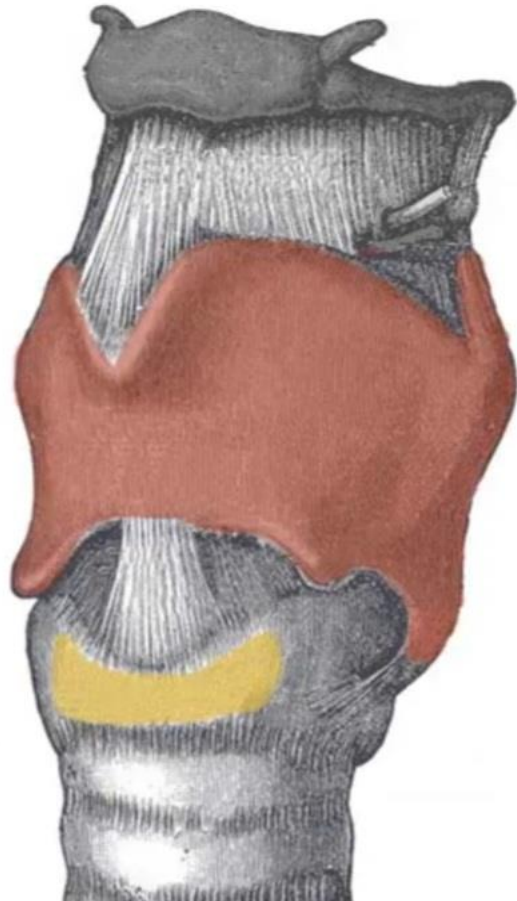
- Cranial base to C6
- Nasopharynx: Choanae
- Oropharynx: Oropharyngeal isthmus
- Laryngopharynx (Hypopharynx): Laryngeal inlet



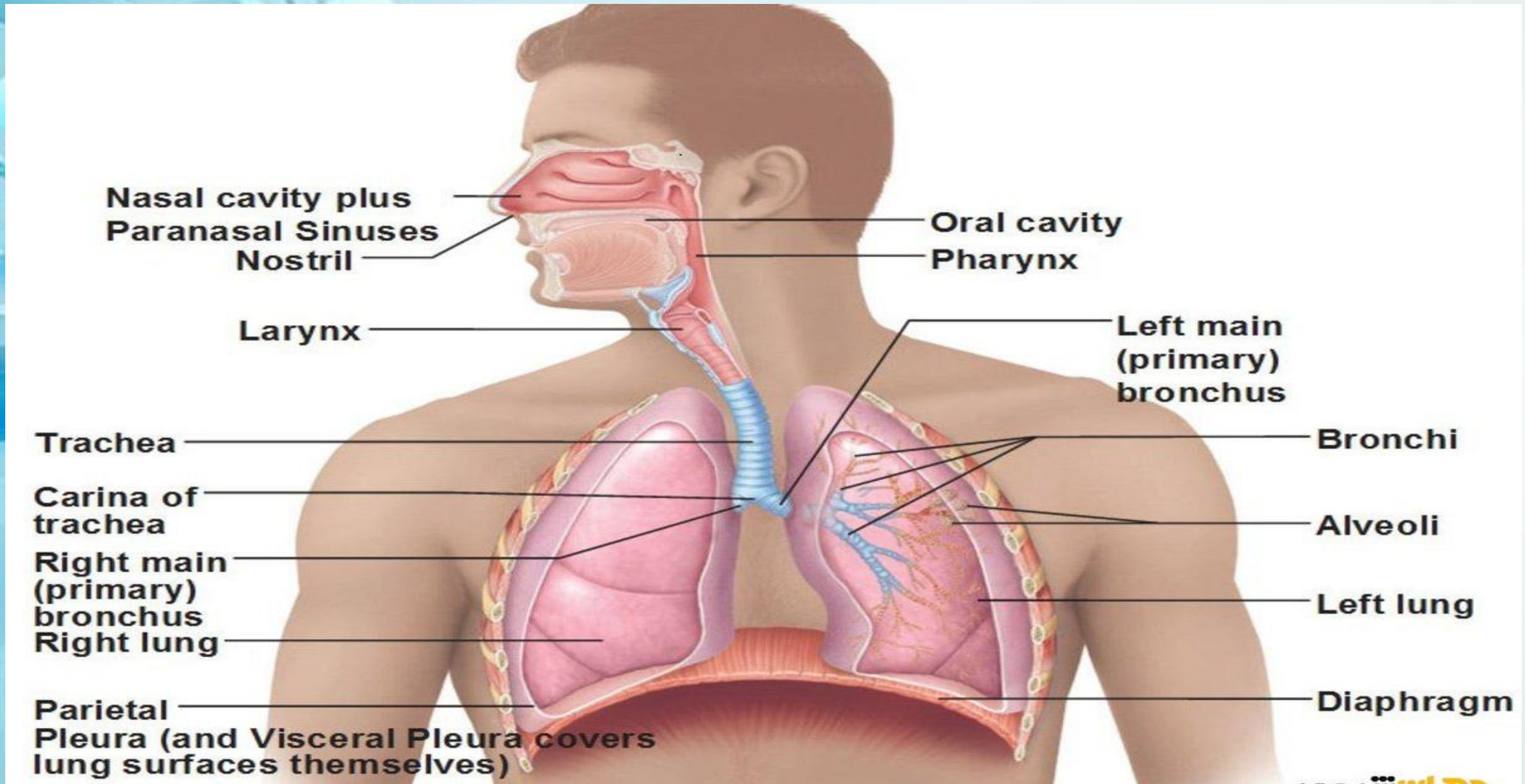
Larynx



Larynx



Trachea/Lunges





Air Way Management

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graph TD; A[Air Way Management] --> B[Basic Air Way Management]; A --> C[Advance Air Way Management];
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Basic Air Way Management

Advance Air Way Management

Basic Air Way Management

:Maneuvers To Open The Air Way

(Finger sweep) ❖

(Heimlich) ❖

(Head Tilt - Chin – Lift) ❖

(Jaw–thrust) ❖

What is the cause of the blockage?

**If the cause of obstruction
Is a foreign object.**

(Finger sweep)

(Heimlich)

**If the cause is tongue
obstruction**

(Head Tilt - Chin Lift)

(Jaw-thrust)

**Airway Obstruction by a
foreign object (suffocation)**



If the cause of obstruction Is a foreign object.

**Assessment of severity
of obstruction**

**Mild
obstruction:**
**Ability to
cough and
sound**

**Encourage
effective
coughing**

**Check frequently for
exacerbations towards
ineffective/Unblocking
coughs**

**Severe
obstruction:**
**Inability to cough
and sound**

Alert

**Heimlich
Maneuvers**

**Check frequently for
going
unconscious/Unblock**

Unconscious

CPR

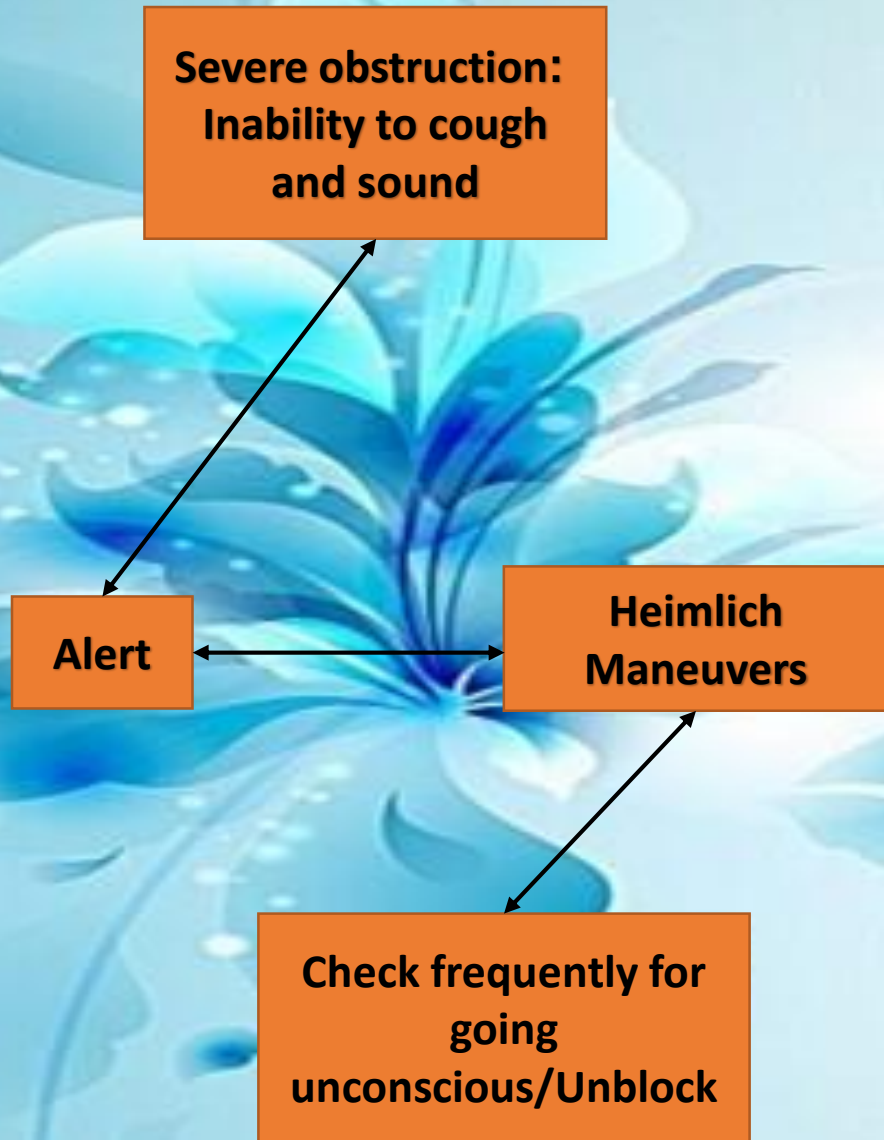
**Mild obstruction:
Ability to cough
and sound**

**Encourage
effective
coughing**

**Check frequently for
exacerbations towards
ineffective/Unblocking
coughs**

Ability to cough(Alert)

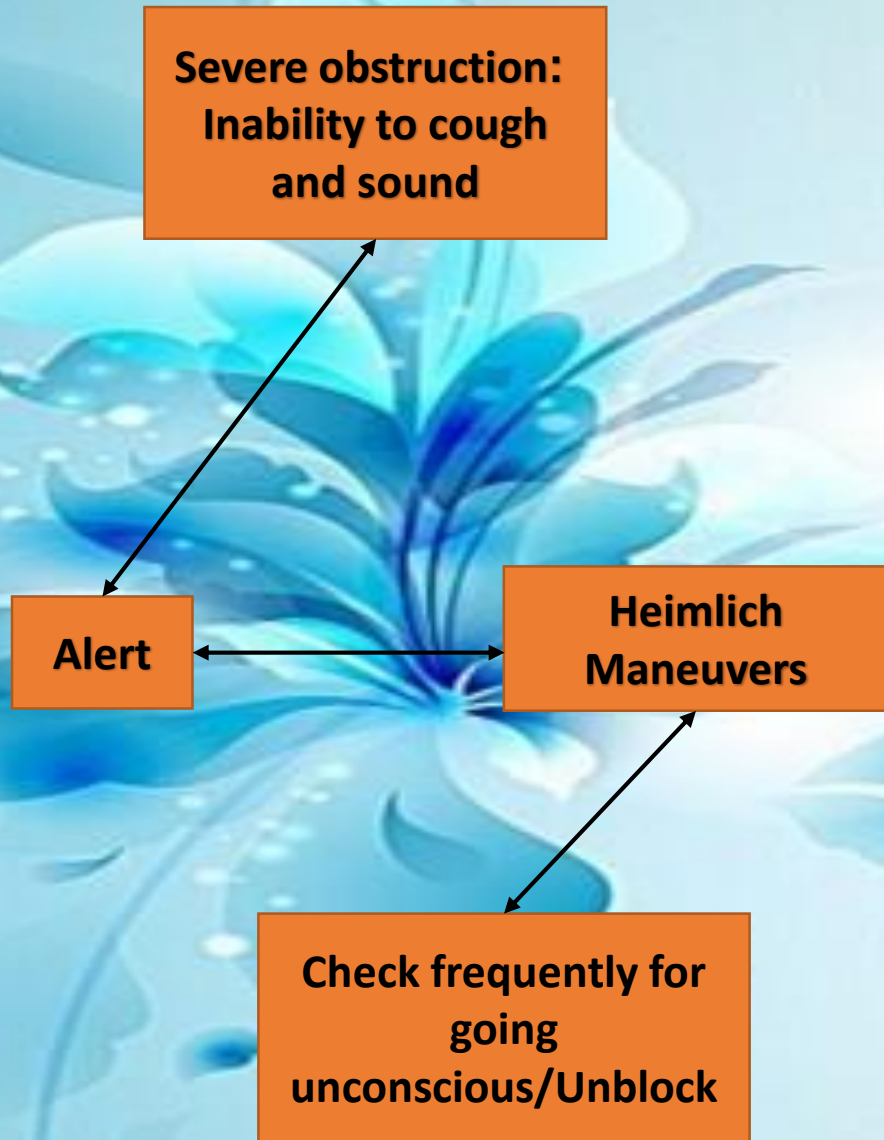




Heimlich Maneuvers



Heimlich Maneuvers



**Severe obstruction:
Inability to cough
and sound**

Alert

**Heimlich
Maneuvers**

**Check frequently for
going
unconscious/Unblock**

Heimlich Maneuvers



Heimlich Maneuvers

**Severe obstruction:
Inability to cough
and sound**

Alert

**Heimlich
Maneuvers**

**Check frequently for
going
unconscious/Unblock**

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



Place two fingers in the middle of the infant's breastbone and give five quick downward thrusts



**Severe obstruction:
Inability to cough
and sound**

Unconscious

**Ask For Help
Call to 115**

CPR

Heimlich Maneuvers

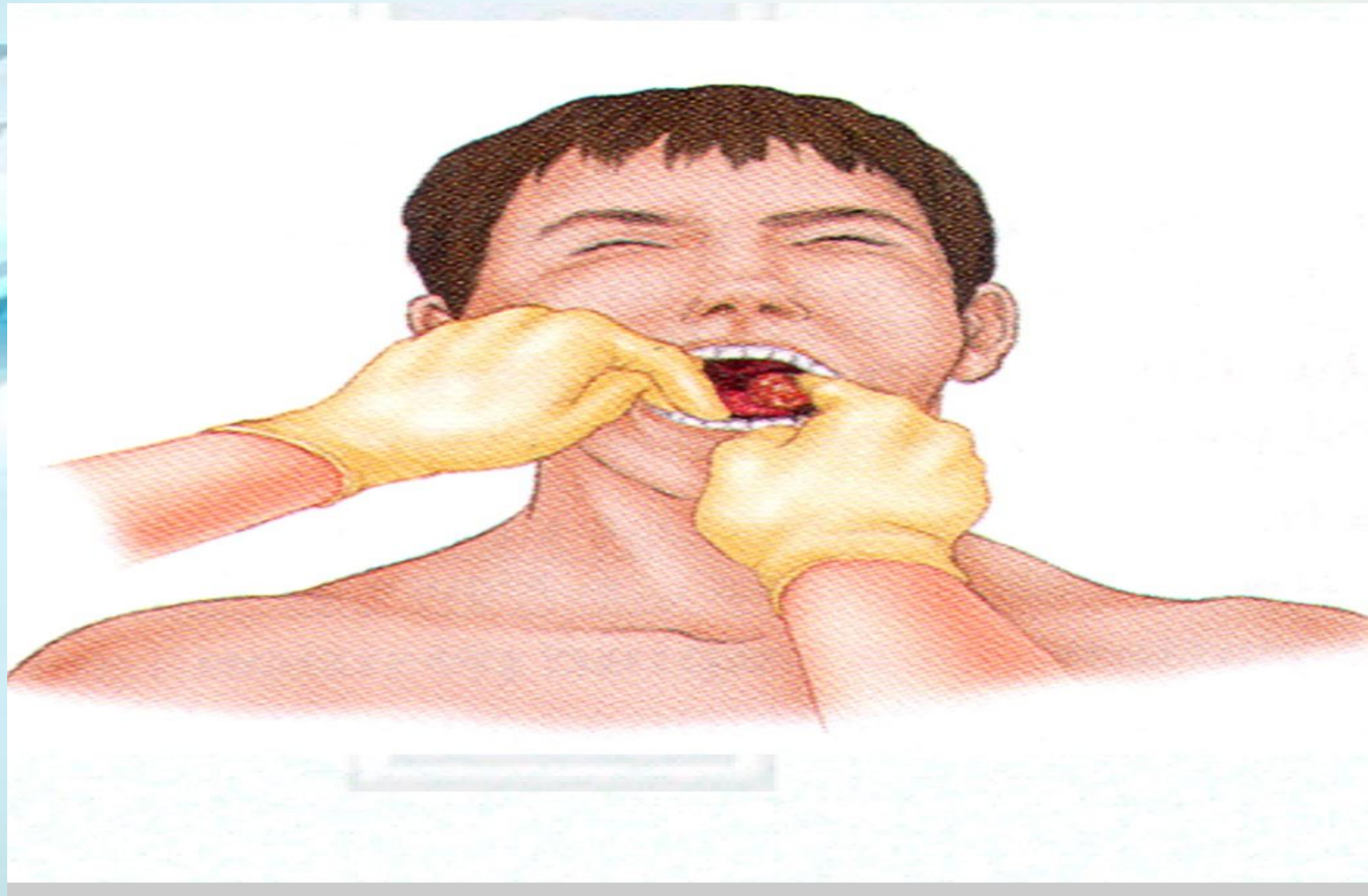


Heimlich Maneuvers

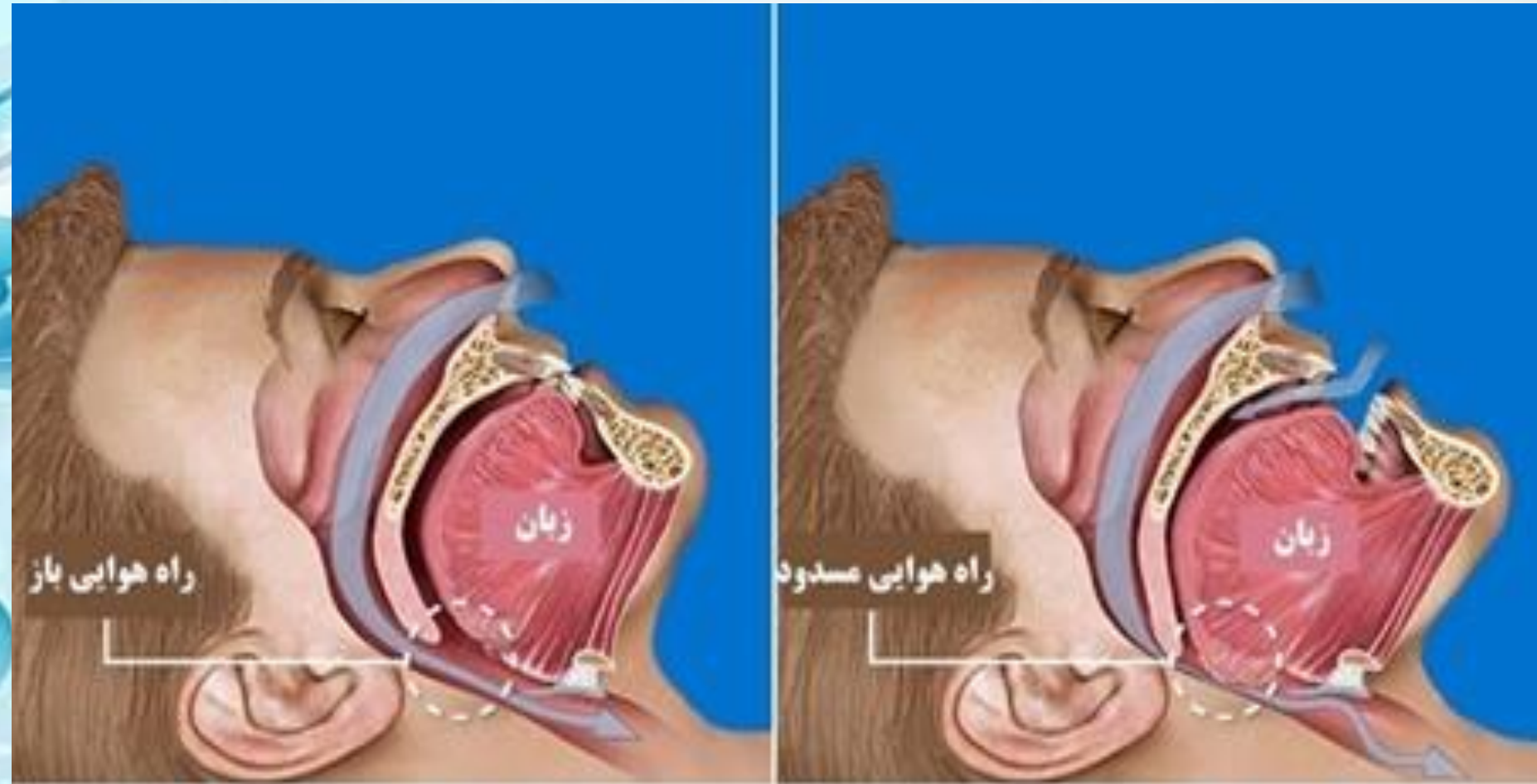


Performing The
Heimlich Maneuver
When We Are
Alone

(Finger Sweep Maneuvers)



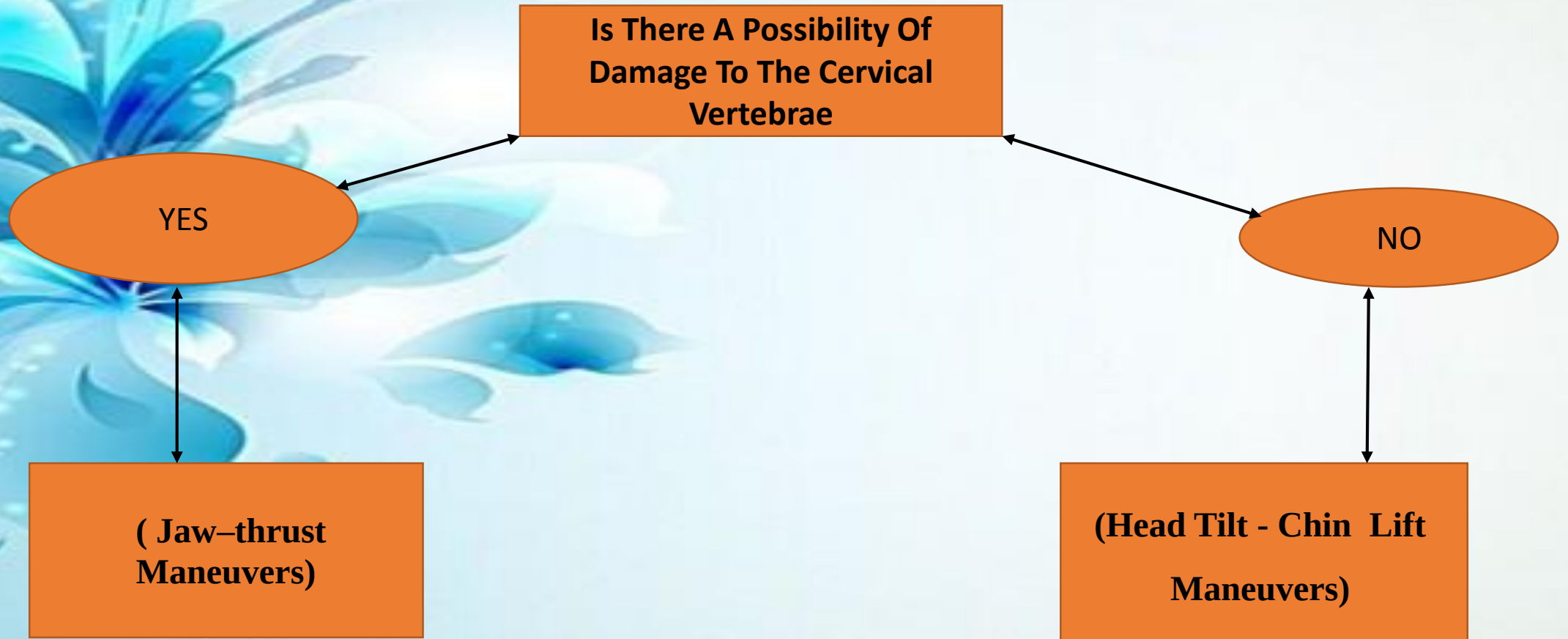
Airway Obstruction by the tongue



راه هوایی بدون انسداد

راه هوایی مسدود

Airway Obstruction by the tongue



Airway Obstruction by the tongue

Is There A Possibility Of
Damage To The Cervical
Vertebrae

NO

(Head Tilt - Chin Lift
Maneuvers)



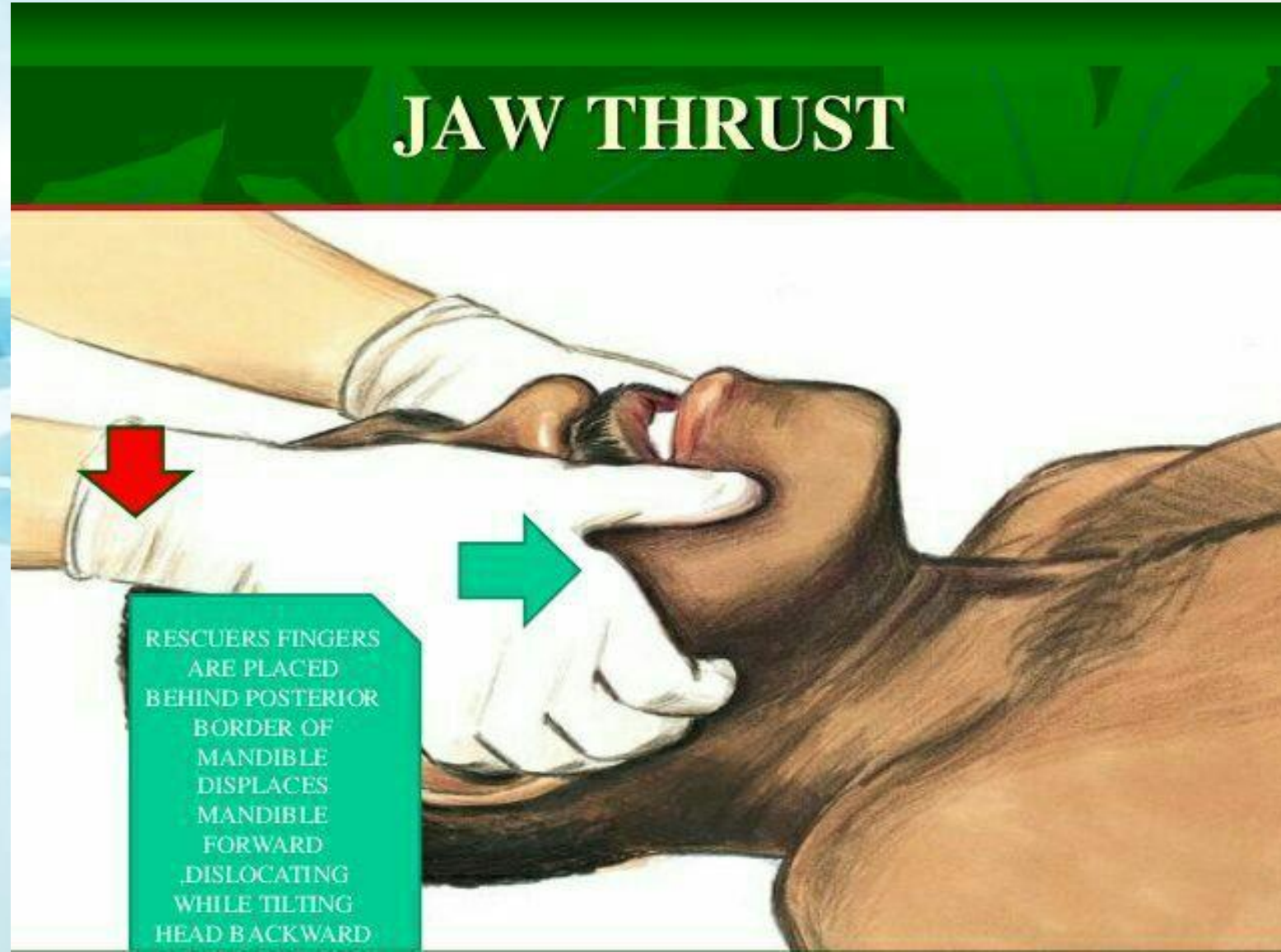
Airway Obstruction by the tongue

Is There A Possibility Of
Damage To The Cervical
Vertebrae

YES

(Jaw-thrust
Maneuvers)

JAW THRUST



RESCUERS FINGERS
ARE PLACED
BEHIND POSTERIOR
BORDER OF
MANDIBLE
DISPLACES
MANDIBLE
FORWARD
DISLOCATING
WHILE TILTING
HEAD BACKWARD

Advance Air Way Management

Advance Air Way Management

Intra Larynx Technique

**Upper Laryngeal
Technique**

**Oral
endotracheal
intubation**

**Nasal
endotracheal
intubation**

**Alternative
methods of
intubation**

**Oropha
ryngeal
Air Way**

**Nasoph
aryngeal
Air way**

**Laryngea
l Mask
Air Way
(LMA)**

CombeTube

**Tracheos
tomy**

Advance Air Way Management

Upper Laryngeal Technique

- ❖ Oropharyngeal Air Way
- ❖ Nasopharyngeal Air Way

Advance Air Way Management

Upper Laryngeal Technique

Oropharyngeal Air Way



Advance Air Way Management

Upper Laryngeal Technique

Nasopharyngeal Air Way





Advance Air Way Management

Intra Larynx Technique

- ❖ Oral endotracheal intubation
- ❖ Nasal endotracheal intubation
- ❖ Alternative methods of intubation

Advance Air Way Management

Oro tracheal Intubation



Oro tracheal Intubation

Advance Air Way Management

Endo Tracheal Tube Size

Male

7.5-8

Female

7-7.5

Pediatrics Under 12 Years Old

Endo Tracheal Tube
Size Without cuff

Age + 4 / 4

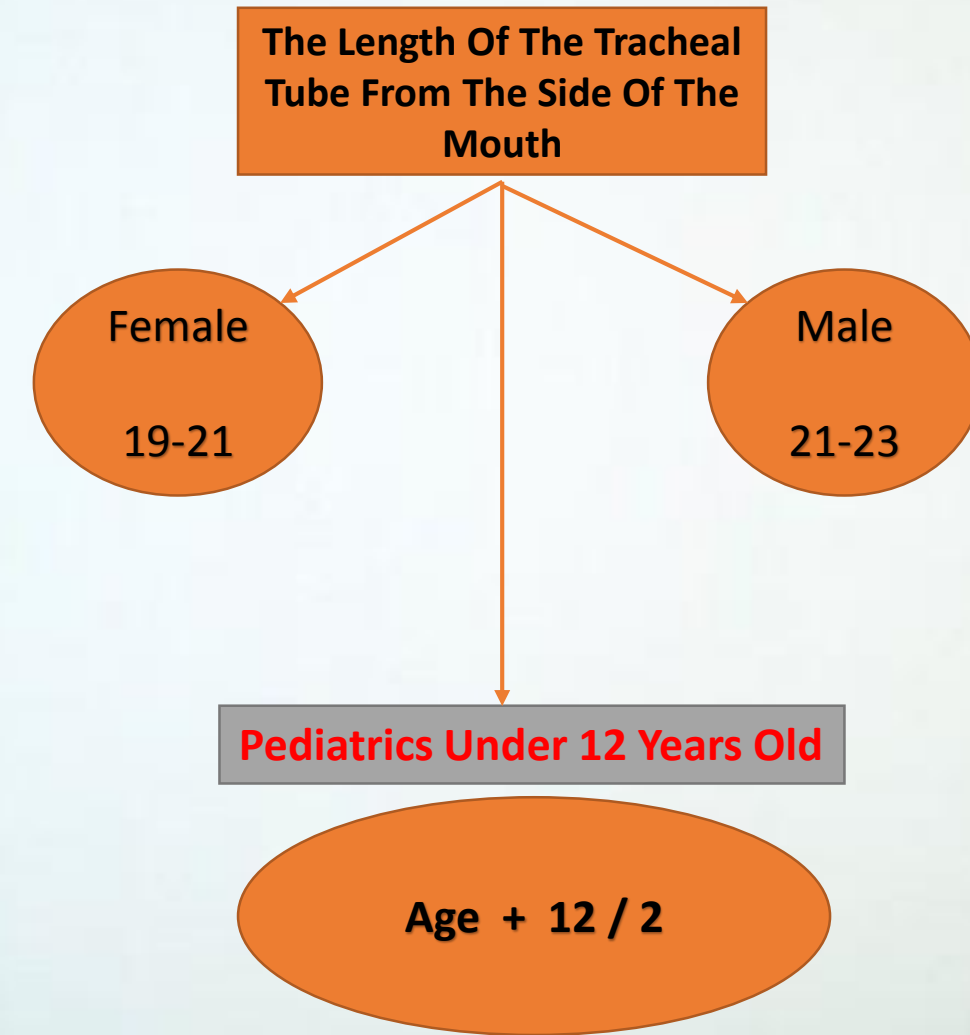
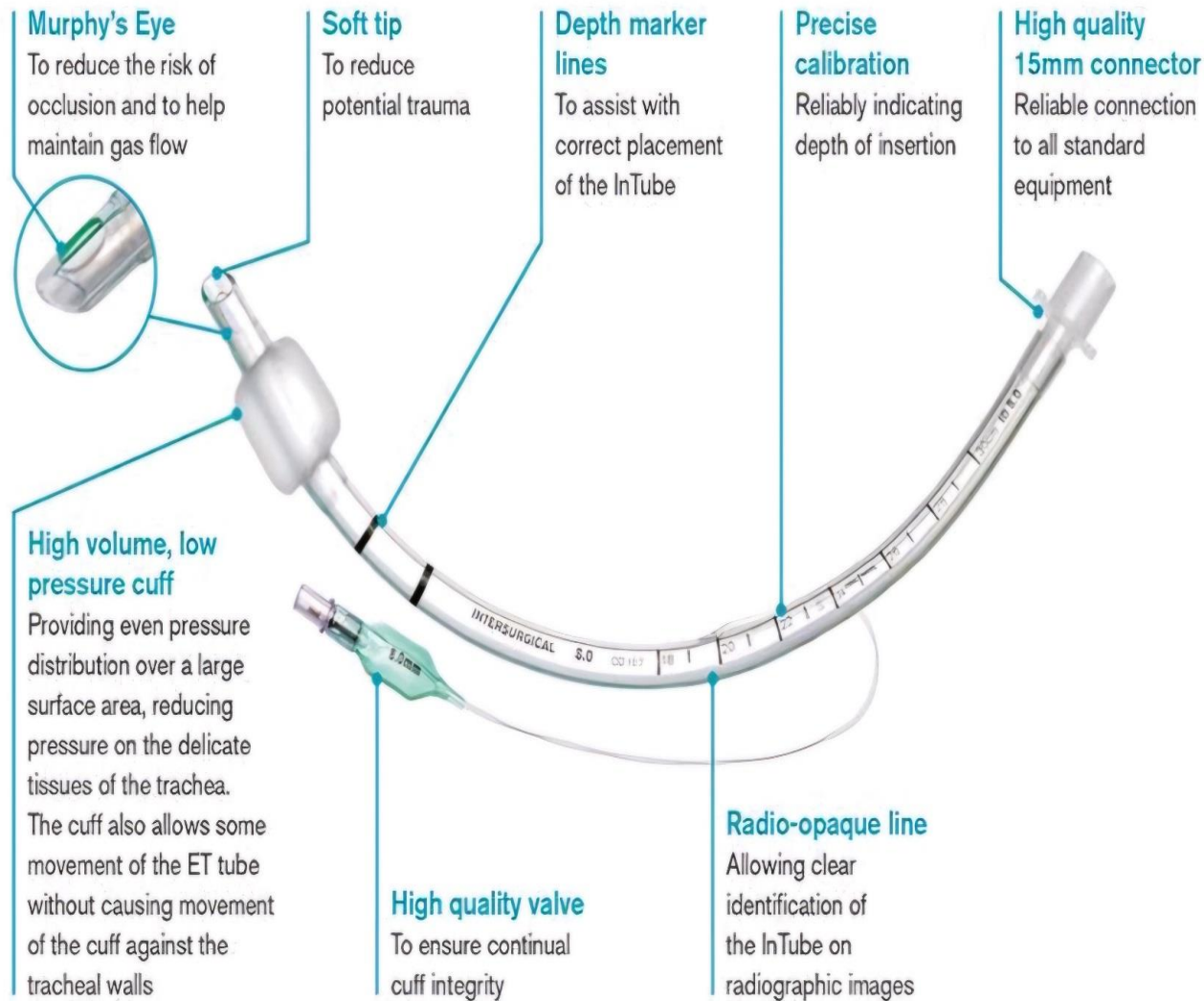
Endo Tracheal Tube
Size With cuff

Age + 3.5 / 4

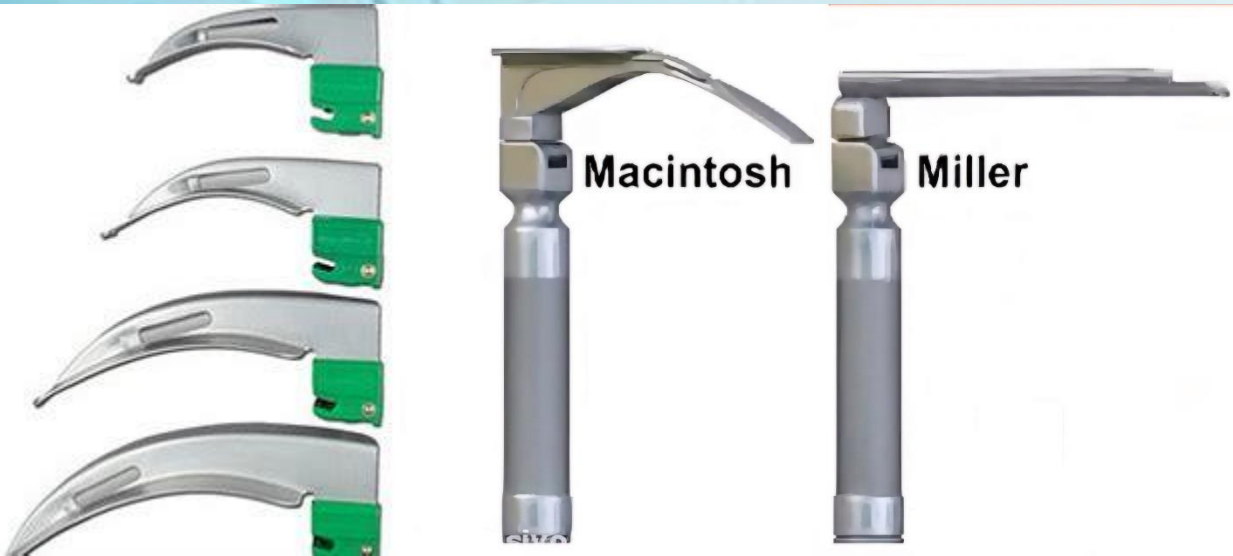


Advance Air Way Management

Oro tracheal Intubation



Advance Air Way Management



Oro tracheal Intubation



BAG MASK VENTILATION



BMV BAG MASK VENTILATION



Size LMA

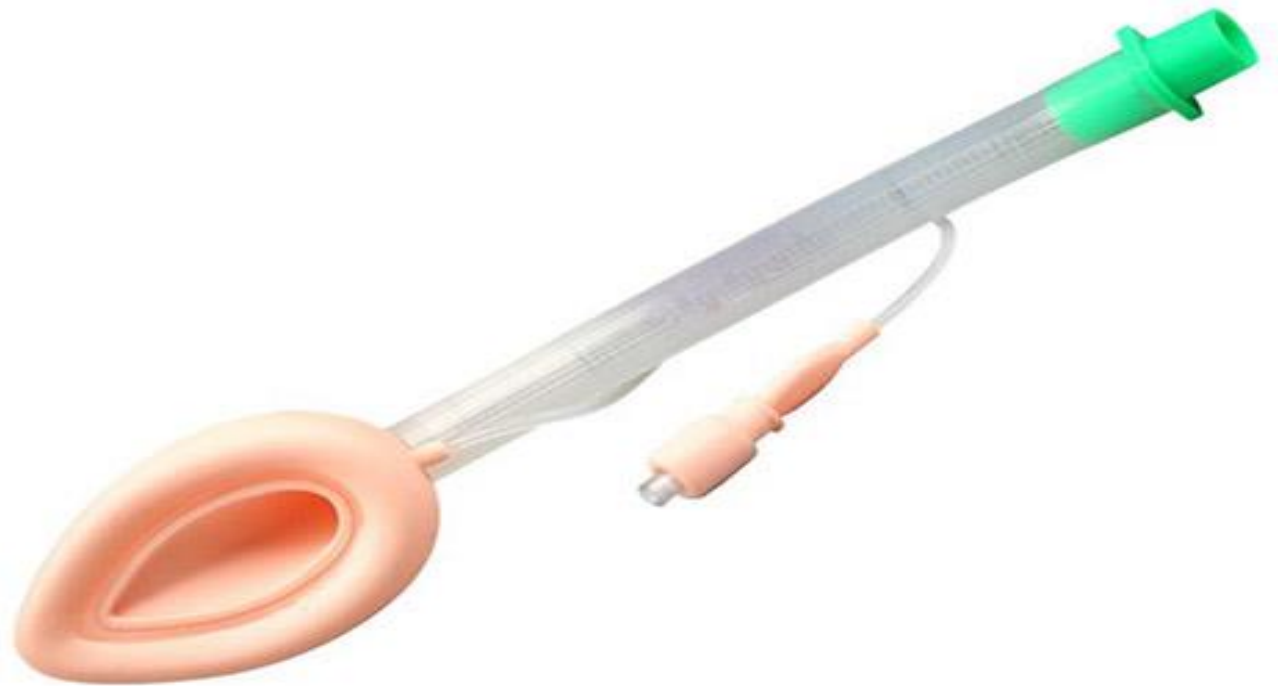
Size 3 (30-50 kg)

Size 4 (50-70 kg)

Size 5 (70-100 kg)

Size 6 (UP to 100 kg)

LMA
Laryngeal
Mask Air Way



**Cuff
volume**

SIZE LMA - 1 × 10

LMA
Laryngeal
Mask Air Way



**Combe
Tube
SGA/EGA**



ٲراكنوسٲٲومى

Trachea
Tube

