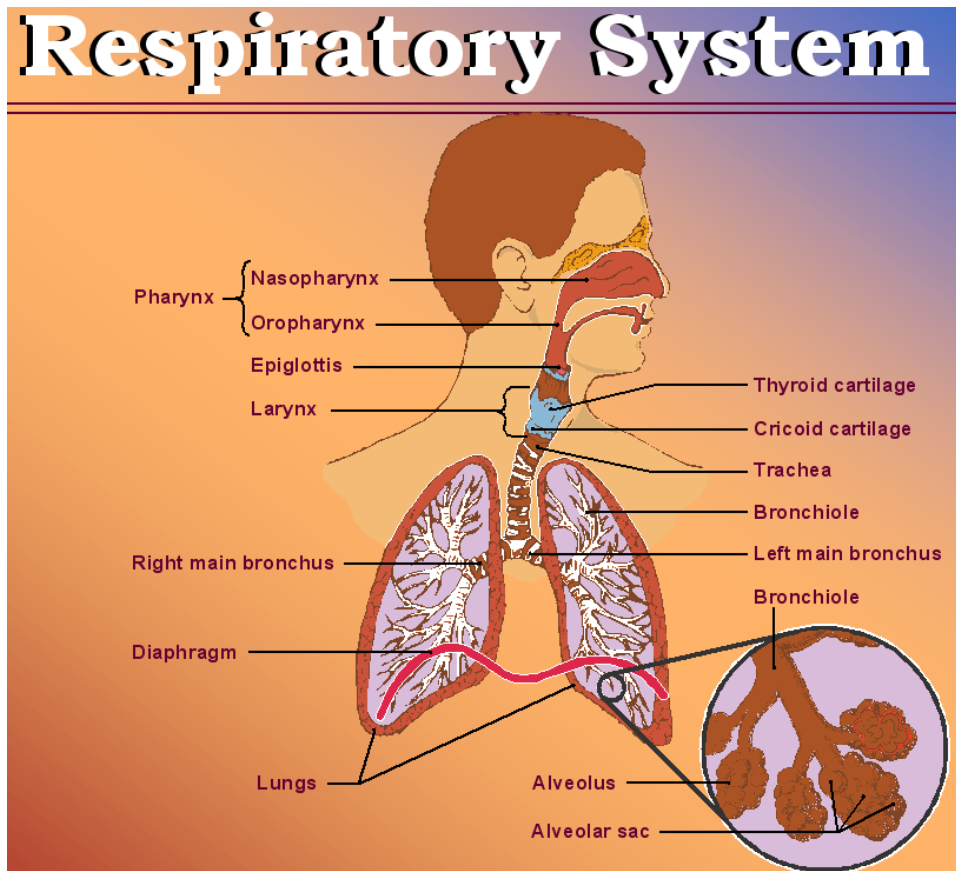


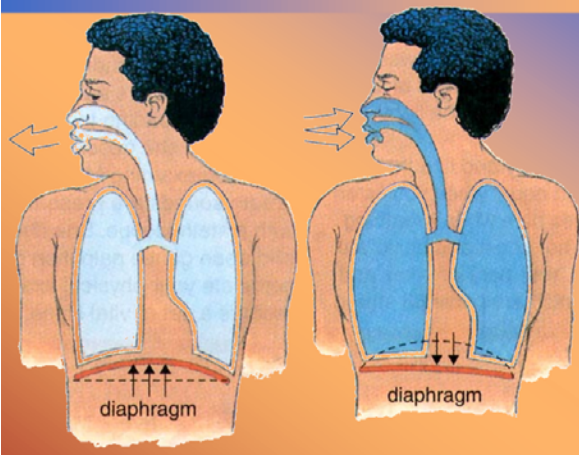
Airway Management

Respiratory System

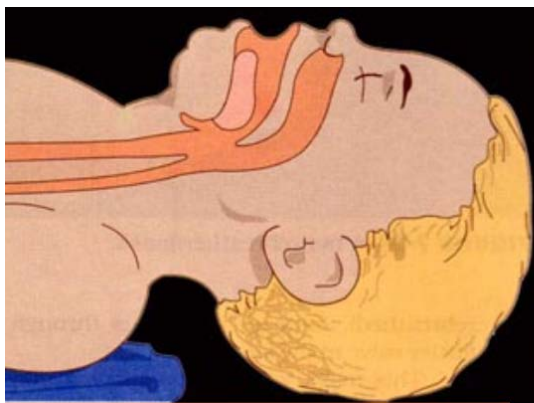
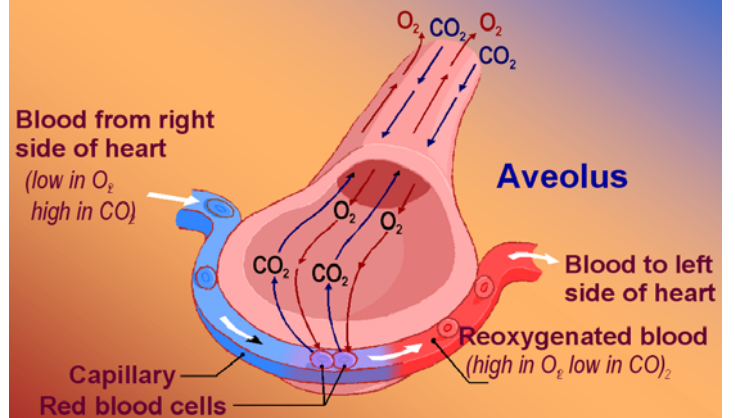
- Pharynx
 - Nasopharynx
 - Oropharynx
- Epiglottis
- Larynx
 - Thyroid cartilage
 - Cricoid cartilage
- Trachea
- Left main bronchus
- Right main bronchus
- Lungs
- Bronchiole
 - Alveolus
 - Alveolar sac



Inhalation / Exhalation



Respiratory Physiology



Infant/Child Anatomy Considerations

**Mouth & Nose
Pharynx
Trachea
Cricoid Cartilage
Diaphragm**



Suctioning

The purpose of suctioning is to remove blood, vomitus, other liquids, and food particles from the airway,

(A patient needs to be suctioned immediately when a gurgling sound is heard or a substance is found upon opening the airway!)

Types of suction units

On board suction

Portable suction units

Hard or rigid suction catheter
“tonsil sucker or tonsil tip”



Soft or French Suction catheter

Suction units should be inspected on a daily basis

Techniques of Suctioning

- Position yourself at patients head
- Attach a catheter
- Turn on suction unit
- Insert catheter into the oral or nasal cavity without suction
(Insert only to the base of the tongue)
- Apply suction, moving catheter from side to side
- Suction for no more than 15 seconds at a time in adults and no more than 5 seconds in infants and children
- If the patient produces frothy secretions as rapidly as suctioning can remove, suction for 15 seconds, then artificially ventilate for two minutes, then suction for 15 seconds. Repeat this process until the airway is clear.
- Heavy vomitus may require that the patient is log-rolled onto his side and the oral cavity cleared by finger sweep.
- Be aware of hypoxia during suctioning.
- Increase in heart rate in adults
- Decrease in heart rate in infants and children
- Heart rate decrease may be due to stimulation of posterior pharynx.



Airway Adjuncts

- Oropharyngeal
- Nasopharyngeal



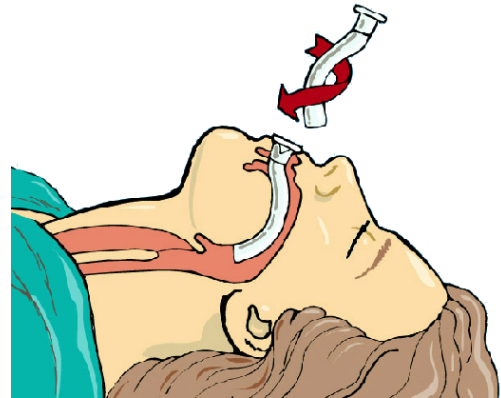
Airway adjuncts are used in conjunction with manual airway maneuvers to establish and maintain the airway.

Oropharyngeal Airways

Oropharyngeal airways may be used to assist in maintaining an open airway on unresponsive patients without a gag reflex.

Measure Correct size

Insert gently until resistance, rotate 180 degrees



Other methods:

Insert right side up, and use a tongue depressor

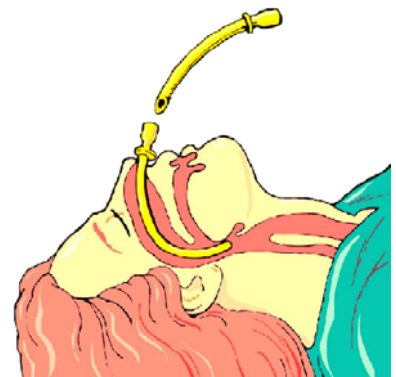
Insert at corner of mouth sideways and rotate 90 degrees while advancing.



Nasopharyngeal airways

Nasopharyngeal airways are less likely to stimulate the gag reflex and may be used on patients who are not fully responsive but need assistance maintaining an open airway.

- Measure from tip of the nose to the top of the patient's ear lobe
- The diameter of the airway must fit in the nostril
- Lubricate the airway with a water soluble lubricant
- Insert posteriorly with the bevel towards the base of the nostril toward the septum.



Airway Management

Adequate Breathing

- Rate
- Rhythm
- Quality

Norman Respiratory rates

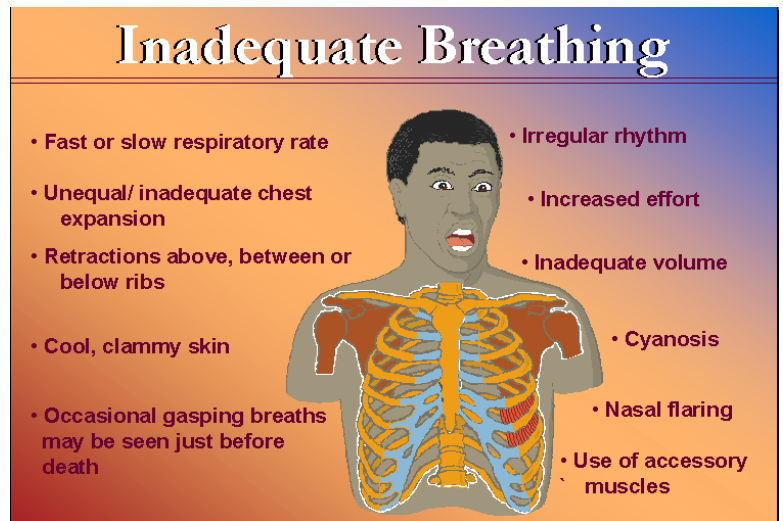
- Adult 12 – 20 / minute
- Child 15 – 30 / minute
- Infant 25 – 50 / minute

Rhythm

- Regular
- Irregular

Quality

- Breath Sounds
 - Present and Equal
- Chest Expansion
 - Adequate and Equal
- Effort of Breathing
 - Unlabored
- Depth
 - Adequate



Inadequate Breathing

- Rate - Outside normal ranges
- Rhythm - Irregular
- Quality – Inadequate / shallow
- Skin – May be pale or cyanotic and cool and clammy
- Breath sounds – Diminished or absent
- Chest Expansion – Unequal or inadequate
- Efforts of Breathing – Labored

Signs

- Muscle retractions, especially in children
- Nasal flaring, especially in children
- In infants – seesaw breathing
- Agonal respirations may be seen just before cardiac arrest.