Chapter 6 Airway Management

The A of ABC.

Respiration

- Another word for breathing is respiration. O2/CO2 gas exchange that occurs in the lungs. (specifically the alveolar sacs of the lungs).

  Structures of the Respiratory System Fig. 6-1 p137

  - Nose
  - Mouth
  - Pharynx
  - Oropharynx
  - Nasopharynx
  - Uvula
  - Epiglottis
  - Larynx
  - Cricoid Cartilage
  - Trachea
  - Carina
  - Bronchi
  - Bronchioles
  - Lungs
  - Alveoli
  - Diaphram

Adequate and Inadequate Breathing

- The function of the respiratory system is to enable inhalation and exhalation. Disruption of this will cause respiratory distress, an increased work of breathing sensation of Shortness Of Breath (SOB).
- Respiratory failure, a reduction of breathing to a life threatening level.
- Respiratory arrest complete failure of the respiratory system.

Inadequate Breathing

- Rate of breaths and Depth of breaths.
- Good assessment and prompt action are critical.
- -*Minute Volume* the amount of air breathed in during each respiration multiplied by the number of breaths per minute. An average adult breaths 12 to 20 times a minute.

  For Conditions and treatments see table 6-1 pg 139.
- Gas exchange only occurs in the alveoli.
- 30 % of inhaled air is rests in the anatomical dead space.
- A normal effective respiration has a tidal volume of 500 ml.

Look for early signs of cyanosis in highly vascular mucus membranes.

Adequate Breathing 6-2 Pg 142

Adults	12 - 29 ‘
Children	15- 30
Infants	25-50

Opening the Airway

- The air way is the passage through which air enters the body.
- Assessment and treatment of the airway is best preformed with a supine patient.

- Scan 6-1 on pg 144 to observe an effective log roll.
- Air way and breathing have priority over protection of the spine, and must be assured as quickly as possible.
- Always consider your MOI especially in unresponsive patients.
- You must maintain the airway for all patients whom are not able to maintain it for themselves. "Maintain a patent airway"
- Insertion of an airway adjunct and or the use of mechanical suction may be necessary to ensure a patent airway.
- The most common airway compromise in the unconscious patient is their own tongue, especially in children.

Head Tilt Chin Lift

- Figure 6-5 page 145
- Provides the maximum opening of the airway, it is one of the best methods for correcting airway obstruction caused by the tongue. Not recommended for patients with spinal precautions.

Jaw Thrust Maneuver

- Figure 6-6 on page 146.
- Most common method for opening the air way of unconscious patients with spinal precautions or unknown method of injury.
- In addition to these maneuvers you should ensure a patent airway with suctioning and or the appropriate airway adjunct.

Techniques of Artificial Ventilation

- If ventilation is found to be inadequate you should assist ventilations artificially.
- -PPV " Positive Pressure Ventilation" is forcing air into a patients lungs, when a person is not breathing adequately.
- PPV Priority (You should add supplemental 02 whenever possible)
  -Mouth to mask
  -Two rescuer Bag Valve Mask
  -Flow restricted
  -One rescuer Bag Valve Mask
- For signs and symptoms of inadequate breathing see page 147.
- Mouth to mouth is not recommended because of **your middle name.**
- For patients with stoma use a child size mask.

Adjuncts

- After establishing a patent air way your need to stabilize the airway with an adjunct.
- The two most common airway adjuncts are Oropharyngeal airways and Nasopharyngeal airway.
- You may use an OPA on unconscious patients whom do not exhibit a gag reflex.
- Its important to manually stabilize the airway before and after establishing an artificial airway.
- Scan page 6-2 page 160 and 6-3 on page 162.

Suctioning

- Read page 163.
- Tonsil tip Yankauer are names for the rigid catheter.
- The soft or French tip catheter is used for suctioning the naso-pharynx
- When suctioning the orophayrnx you should either measure the rigid catheter or suction no further than you can see. Do not suction for longer than 15 seconds in an adult patient.
- Always check for mechanical suction before inserting a catheter.
- When suctioning the nasopharynx make sure to measure the appropriate length.

Oxygen Therapy

- EMT's are not allowed to self administer medication except **oxygen** by standing orders so you should probably **give it to everyone**.
- CPR is only 25-30 % of normal perfusion so supplemental oxygen is crucial.
- Heat attacks , strokes, shock, blood loss, lung disease, trauma especially need oxygen.

Hypoxia

- -An insufficient supply of oxygen to the body's tissues.

02 Equipment

- Read page 169.
- Safety is always a priority when working with compressed oxygen, its under hella pressure and it supports combustion.
- -Oxygen toxicity is a rare condition found in patients whom run on a hypoxic drive.
- -Infant eye damage is also a rare condition that you may encounter but you should not withheld.

Administering Oxygen

- The two main devices used are the nasal cannula which delivers 1 to 6 liters per minute or less, and the Non-rebreather which delivers 12 to 15 liters per minute.

Special Considerations

- Take extra care with the airway in patients with facial injuries, you may need frequent suctioning.
- Many suction units are not capable of removing solid objects like teeth and manual techniques may be required. But EMTs are not allowed to do these invasive procedures.