Oxygen Therapy

Overview

- Breathing process
  - Hypoxic Drive
- Oxygen safety
- Oxygen equipment
- Oxygen delivery devices
- Portable suction devices
- OPA's—(Orapharyngeal Airway)

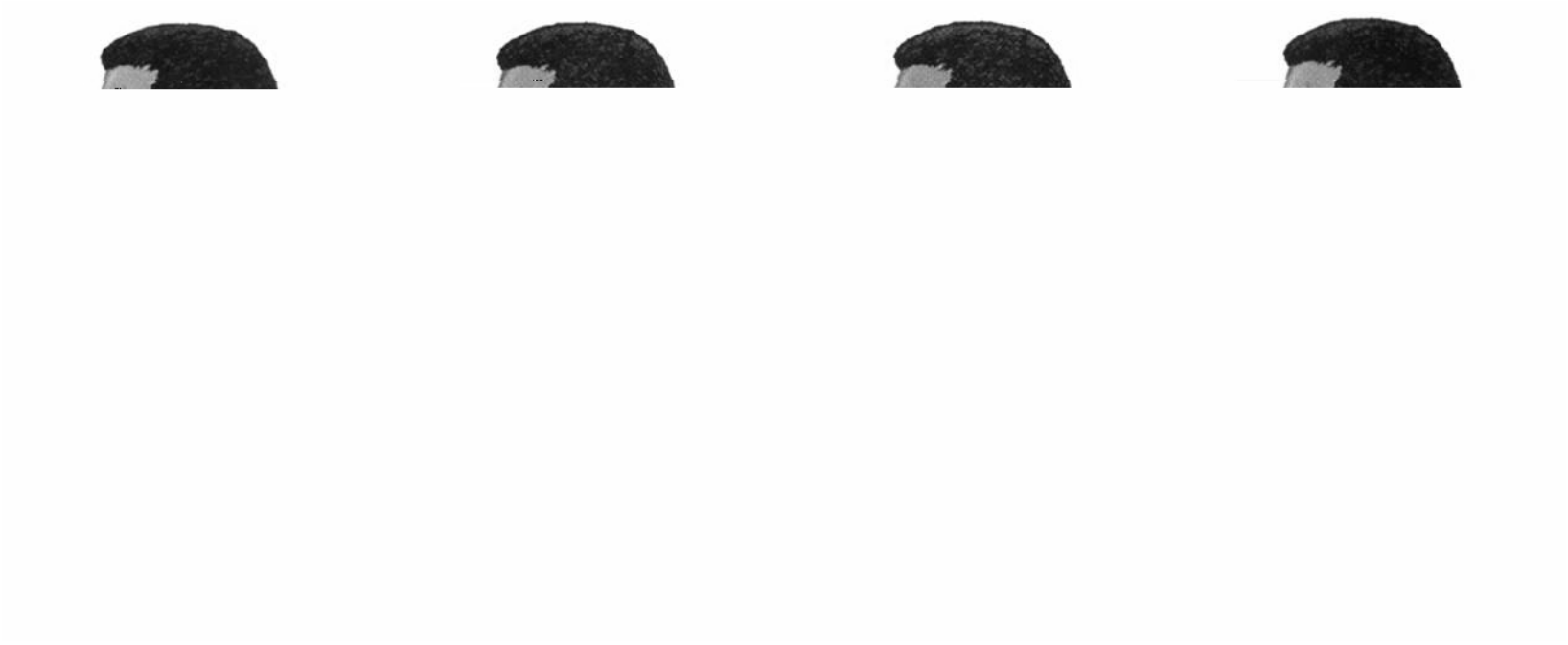
Indications for O_2 Therapy

- Respiratory arrest or difficulty breathing
- Cardiac arrest
- Heart attack
- Lung disease
- Chest injuries
- Airway obstruction
- Stroke
- Shock
- Seizures
- Diabetes
- Trauma
- Major blood loss

Hypoxic Drive

- Breathing Process
  - The exchange of O_2 upon inspiration and CO_2 on expiration
- Normal breathing is initiated by the increase of CO_2 in the lungs
- COPD patients—(elderly) may sometimes resort to the *Hypoxic Drive* for breathing
  - Breathing initiated by the amount of O_2 in the lungs, not CO_2, like normal

Inspirations and Expirations



Oxygen Safety

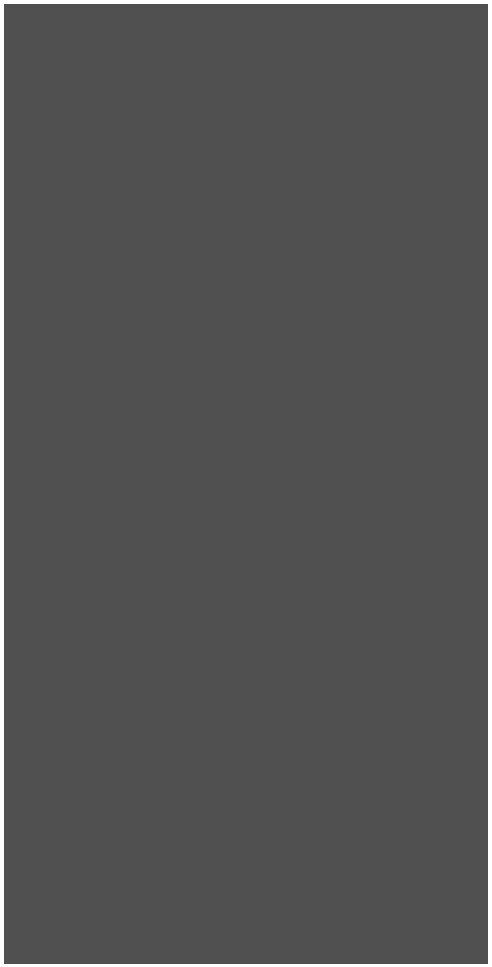
- If O_2 tank gets punctured, or valves break off, tank becomes a missile
- O_2 supports combustion, causing fire to burn rapidly
- When under pressure, O_2 and oil DON'T MIX
    - Can cause a reaction which may cause an explosion

Oxygen Safety

- Don't lubricate the O_2 tank or gauges with petroleum products
- Never roll a tank
- Never store in heat or in a closed vehicle in the sun
- No smoking or exposure to open flame around O_2
- No tape on tank/gauges
  - O_2 reacts with some adhesives
- Store tanks upright and secured

Oxygen Equipment

- O_2 is stored under 2000 psi (pounds per square inch)
- "Safe Residual Pressure" is 200 psi



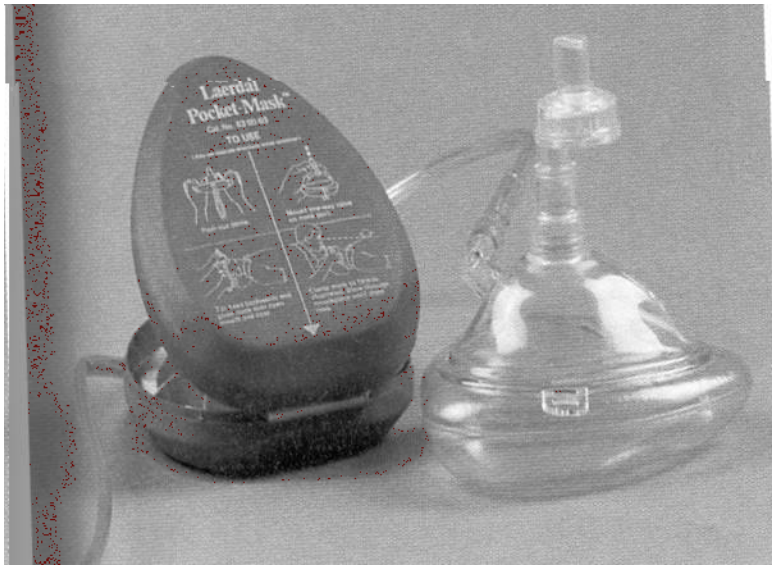
Oxygen Delivery Devices

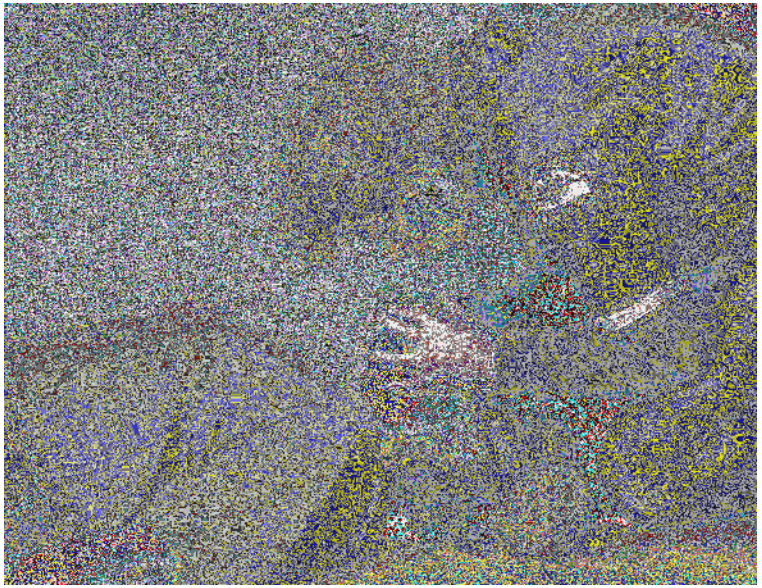
- Nasal Cannula
  - Delivers O_2 into the patient's nostrils by way of two small plastic prongs
  - Small concentration of O_2
- Simple Face Mask
  - Delivers moderate concentrations of O_2
- Non-Rebreather Mask
  - Delivers high concentrations of O_2

Pocket Mask

- Mouth-to-mask ventilation is the preferred method to use when performing artificial ventilation
- Advantages:
    - Mask eliminates direct contact with the patient's nose, mouth, and secretions
    - Use of one-way valve at the ventilation port prevents exposure to the patient's exhaled air
    - This method can provide adequate and sometimes greater tidal volumes than a BVM
    - Supplemental oxygen can be administered through the

Pocket Mask



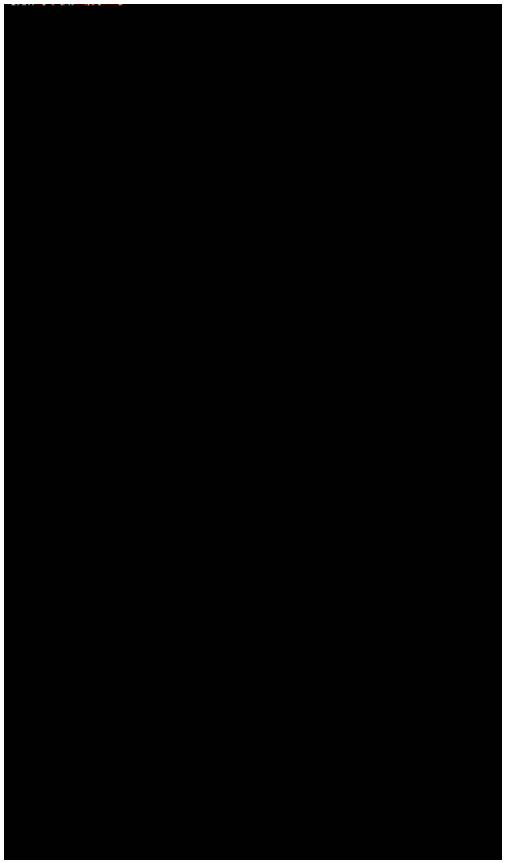


Oxygen Delivery Devices

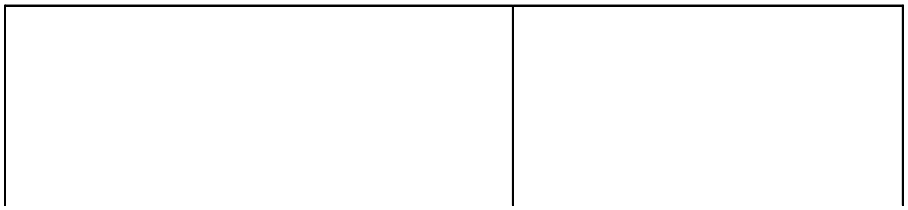
- Nasal Cannula

Oxygen Delivery Devices

- Non Rebreather Mask



Oxygen Delivery Devices

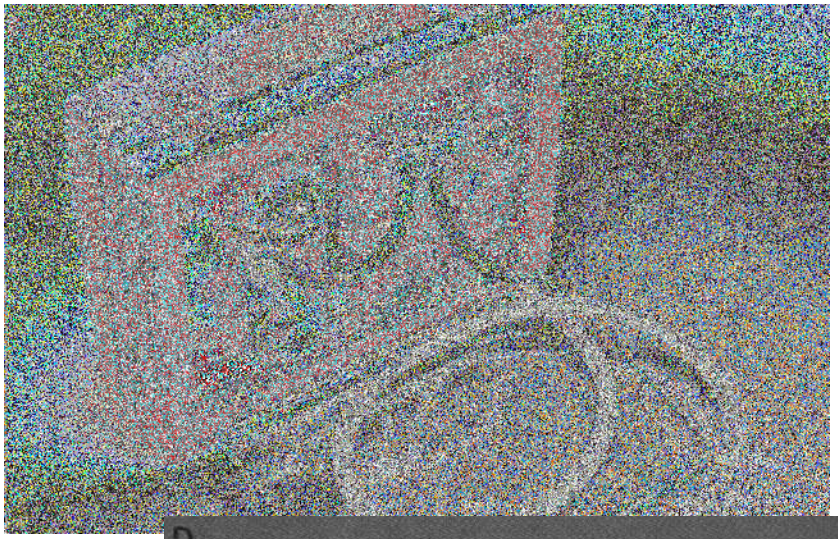


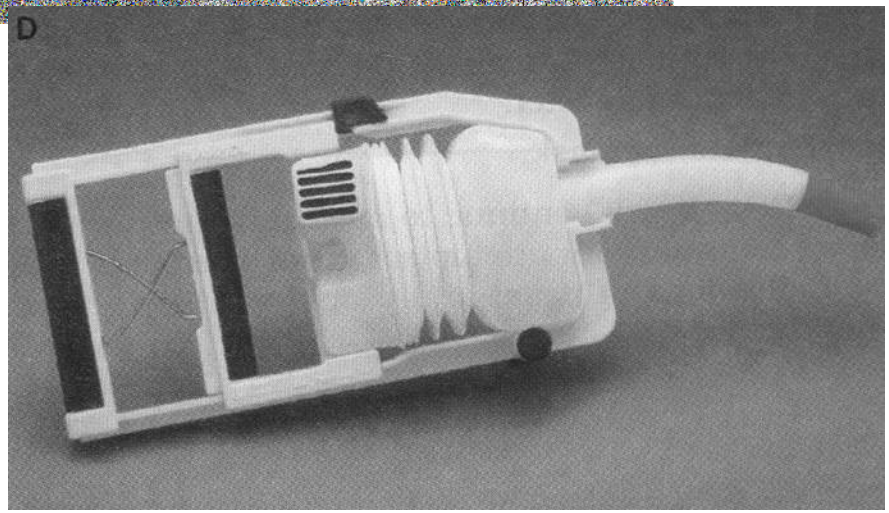
Oxygen Delivery Devices

Portable Suction Devices

- Several types of portable suctions on the market
- Hand operated to the mechanically powered ones

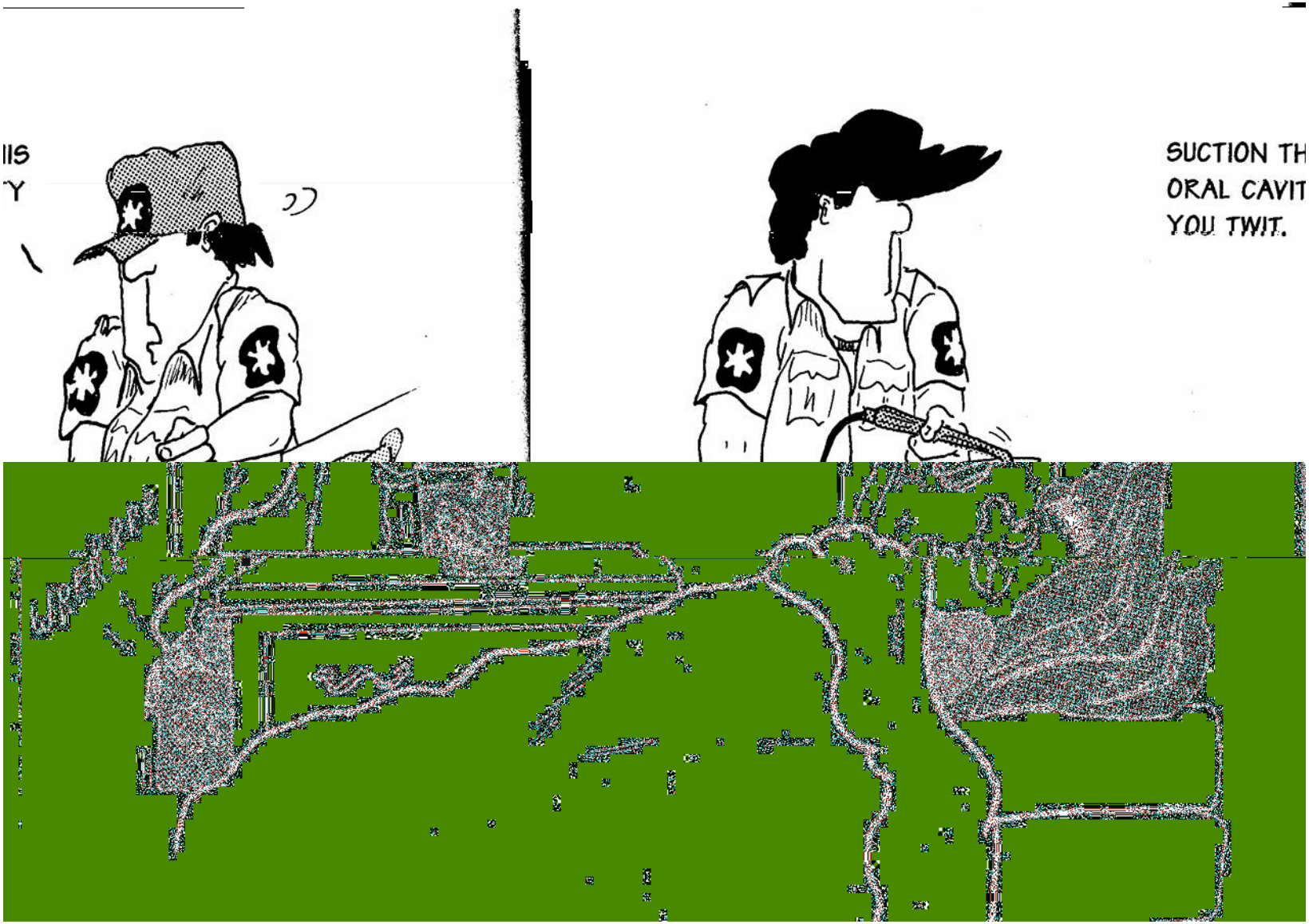
Portable Suction Devices





Portable Suction Devices

- All portable suction units must have:
  - Thick walled, non-kinking wide bore tube
  - Non-breakable collection container
  - Sterile, disposable, rigid suction tubes/tips
- The longer suction tips are usually called catheters
- The rigid suction tips are usually called tonsil tips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Suctioning Rules

- NEVER suction for longer than 15 seconds at a time
- NEVER suction as you are inserting the catheter, place the suction tip in the patients mouth before starting suction

Oropharyngeal Airway (OPA)

- An OPA is a device usually made of plastic
- It is inserted into the patients mouth and into the back of the throat
- Helps to maintain an open airway for breathing or resuscitation
- Use OPA's only on unconscious patients who DON'T have a gag reflex

Oropharyngeal Airway (OPA)

Oropharyngeal Airway (OPA)

- Advantages of OPA's
  - Helps the rescuer maintain an open airway
  - Allows the rescuer to deliver more effective ventilations

- Disadvantages of OPA's
  - Can delay the beginning of resuscitation if it is not readily available

Oropharyngeal Airway (OPA)

- Measuring the OPA
  - Numerous standardized sizes of OPA's designed to fit infants, children, and adults
  - Measure from the corner of the mouth to the tip of the earlobe
  - When positioned properly, the flange rests against the patients lips

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ANY QUESTIONS?