Oxygen Therapy

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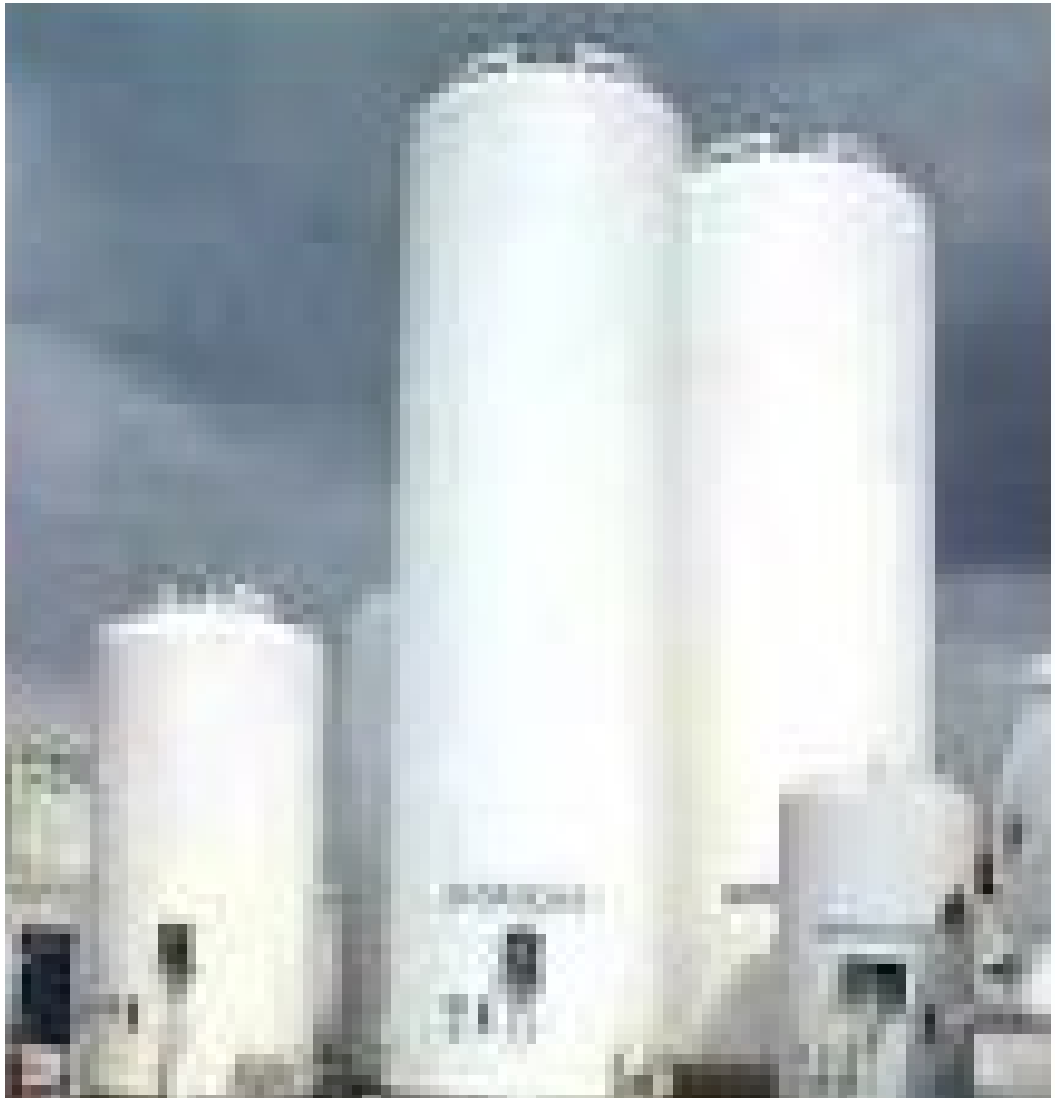
- Is the administration of oxygen at a concentration of pressure greater than that found in the environmental atmosphere

- Supplemental oxygen delivery systems are capable of increasing the FiO2 to anywhere from 24% to nearly 100%.

- Oxygen administration, like the administration of any drug, is not without hazards.

Oxygen Sources

1. Wall unit.
2. Cylinder.
3. Liquid tank, or concentrator.



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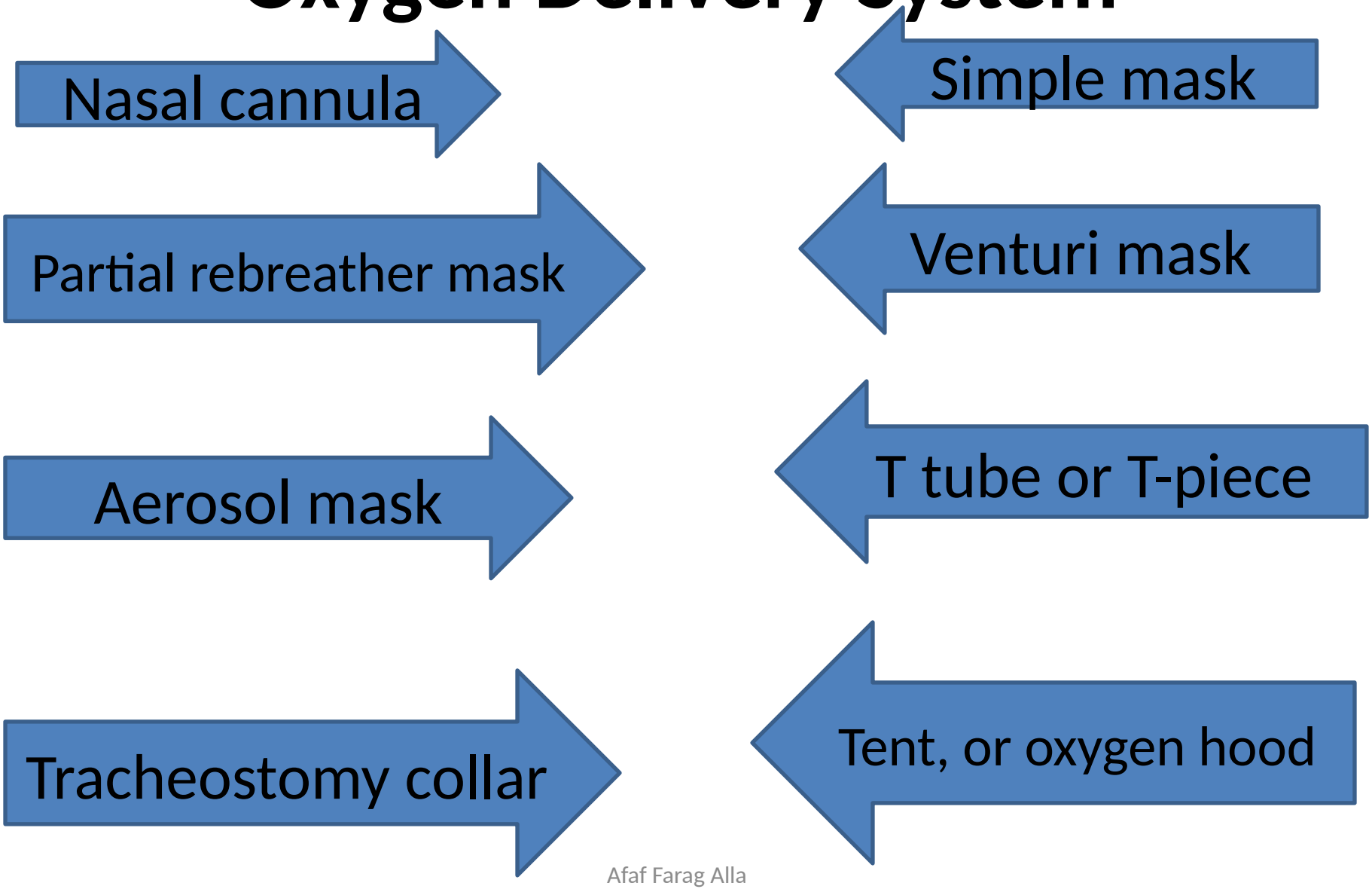




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Oxygen Delivery System



1. Nasal Cannula

- Delivers 24 to 44% oxygen at 1 to 6 L/min

1 = 24	2 = 28
3 = 32	4 = 36
5 = 40	6 = 44





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2. Simple Mask

- Simple mask is made of clear, flexible , plastic or rubber.
- It is held to the head with elastic bands.
- Some have a metal clip that can be bent over the bridge of the nose for a comfortable fit.
- It delivers 35% to 60% oxygen .



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3. Partial Rebreather Mask

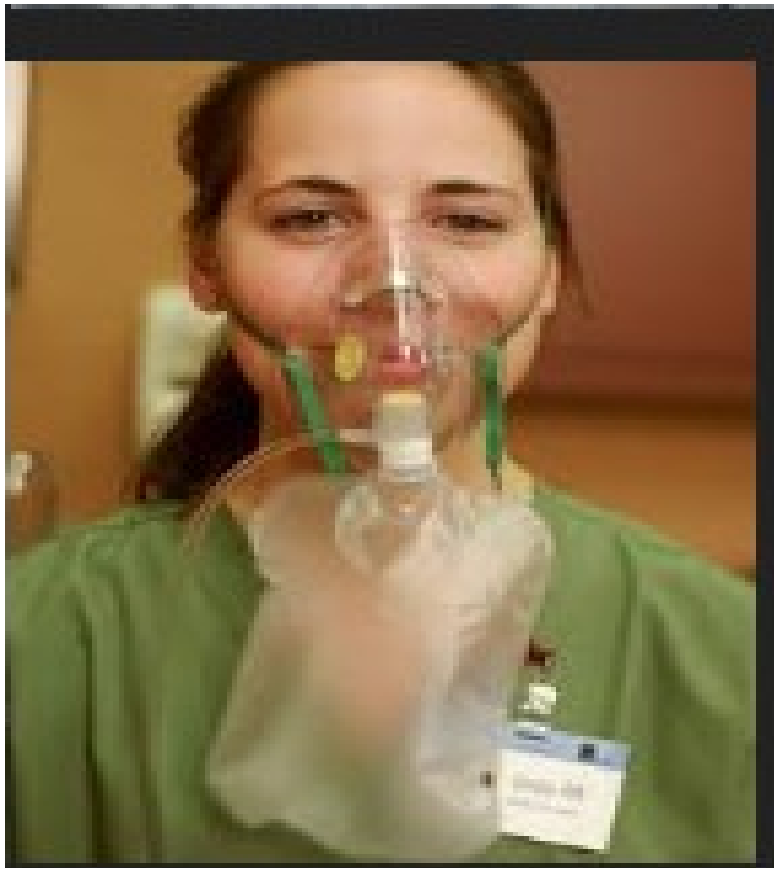
- The mask with a reservoir bag must romaine inflated during both inspiration & expiration.

- It is used to deliver oxygen concentrations up to 80%.



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4. Venturi Mask

- It is high flow concentration of oxygen.
- Oxygen from 40 - 50%
- Is designed with wide- bore tubing and various color - coded jet adapters.
- Each color code corresponds to a precise oxygen concentration and a specific liter flow.
- It is used primarily for patients with chronic obstructive pulmonary disease


Venticaire







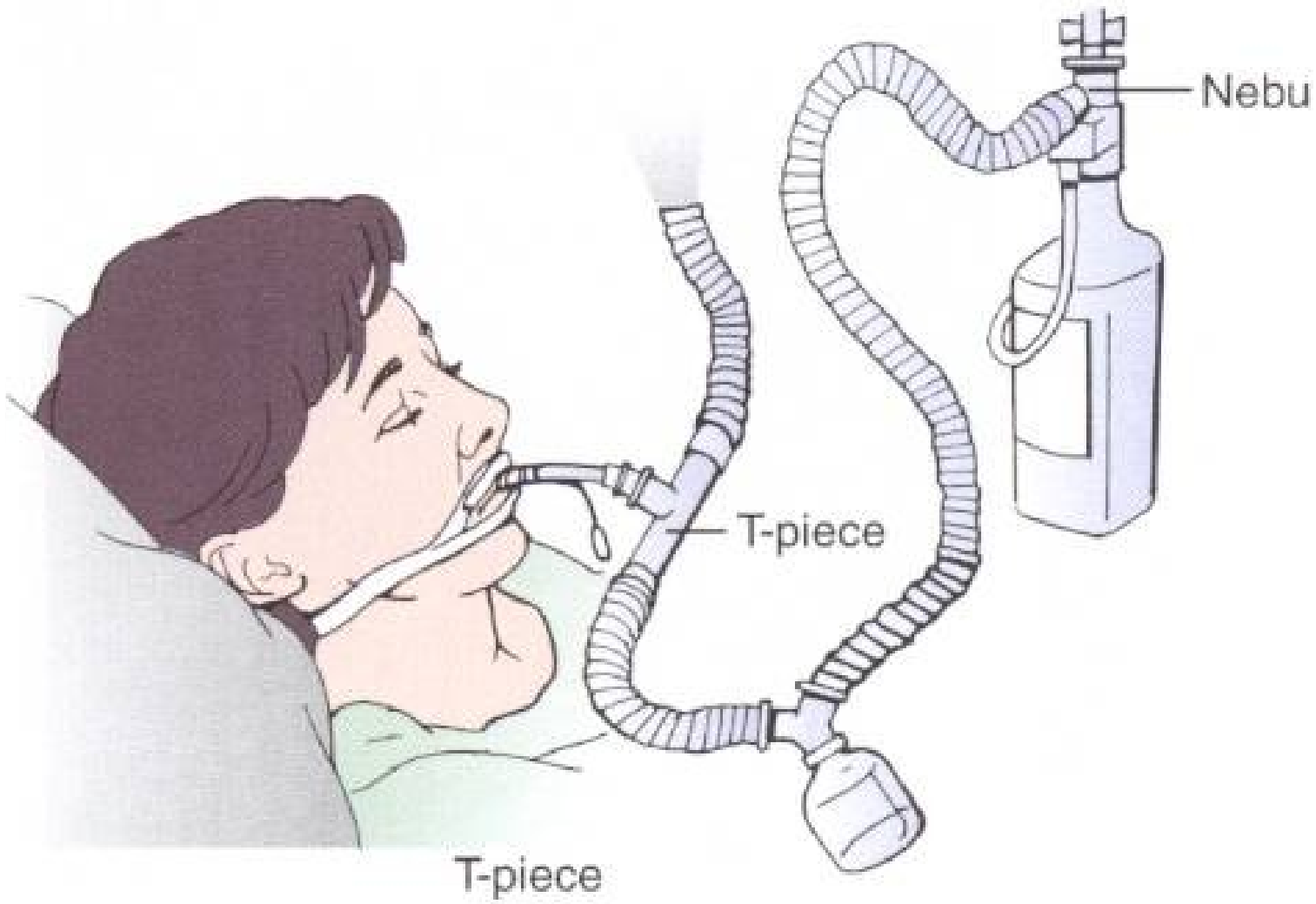
5. Tracheostomy Collar

- Is indicated for chronic O2 therapy need.
- Provides good humidity.
- Comfortable ,more efficient.



6. T tube

- Used on end of endotracheal tube when weaning from ventilator.
- Provides accurate FIO2
- Provides good humidity


Nebu
T-piece
T-piece

7. Tent, or Oxygen Hood

Hoods:

- Oxygen hoods are clear, plastic cylinders that encompass the infant's head. Oxygen concentrations of 80 to 90 percent can be achieved with oxygen flow rates of 10 to 15 L/min

Tent:

- Oxygen tents are clear, plastic shells that surround the child's head and upper body.

Hood



Tent



8. Aerosol mask

- Also known as a nebulizer.
- Provides high humidity.
- Used mostly to administer drugs directly to the lung.





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Oxygen delivery method selected depends on:

1. Age of the patient
2. Oxygen requirements/therapeutic goals
3. Patient tolerance to selected interface
4. Humidification needs



Methods of Assessment

1. Clinical examinations.
2. Pulse oximetry monitoring: uses light waves to measure oxygen saturation(SaO_2) noninvasively
3. Arterial blood gas (ABG) analysis: measure a number of indicators that can affect oxygenation status.



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Oxygen Administration

- Administration of oxygen must be ordered by the physician or qualified practitioner.

- The dosage of oxygen may be ordered as a Fio_2 which is expressed as a percentage or as liters per minute (L\m).

- Oxygen is a drug, so medication administration criteria are followed, in addition to the steps special to oxygen therapy.



Assessment

1. Determine client history and acute chronic health problems.
2. Assess the client's respiratory signs, including airway, respiratory pattern, rate, depth, & rhythm.
3. Check the extremities and mucous membranes closely for color.

4. Review arterial blood gas (ABG) and pulse oximetry results.
5. Note lung sounds for rales/crackles.
6. Assess the nares, behind the earlobes, cheek, or other places where oxygen tubing or equipment is in constant contact with the skin.

Nursing diagnosis

1. Impaired Gas Exchange
2. Ineffective Breathing Pattern
3. Risk for Injury
4. Ineffective Airway Clearance
5. Risk for Impaired Skin Integrity
6. Activity Intolerance

Equipment Needed

1. Stethoscope.
2. Oxygen source.
3. Oxygen flow meter
4. Oxygen delivery device.(The patient's disease, physical condition, and age will help determine the most appropriate method of administration).

5. Oxygen tubing
6. Pulse oximetry (optional).
7. Humidifier and distilled or sterile water (not needed with nasal cannula)

Complication of the Oxygen Therapy

1. Oxygen toxicity
2. Retrolental fibroplasia
3. Absorption atelectasis

Signs and symptoms of oxygen toxicity

1. Non-productive cough.
2. Nausea and vomiting.
3. Substernal chest pain.
4. Fatigue.
5. Nasal stuffiness.

6. Headache.
7. Sore throat.
8. Hypoventilation.
9. Nasal congestion.
10. Inspiration pain.



Thanks