

Chapter 26

Assisting With Oxygen Needs

Oxygen

- Oxygen (O₂) is a gas.
 - It has no taste, odor, or color.
 - It is a basic need required for life.
- Death occurs within minutes if breathing stops.
- Brain damage and serious illness can occur without enough oxygen.

Altered Respiratory Function

- Hypoxia means that cells do not have enough oxygen.
 - Early signs include restlessness, dizziness, and disorientation.
- Adults normally have 12 to 20 respirations per minute.
- Normal respirations are quiet, effortless, and regular.
 - Both sides of the chest rise and fall equally.

Abnormal Breathing Patterns

- The following breathing patterns are abnormal:
 - Tachypnea is rapid breathing.
 - Bradypnea is slow breathing.
 - Apnea means lack or absence of breathing.
 - Hypoventilation means respirations are slow, shallow, and sometimes irregular.
 - Hyperventilation means respirations are rapid and deeper than normal.
 - Dyspnea is difficult, labored, or painful breathing.
 - Cheyne-Stokes respirations gradually increase in rate and depth. Then they become shallow and slow.
 - Orthopnea means breathing deeply and comfortably only when sitting.
 - Kussmaul respirations are very deep and rapid.

Promoting Oxygenation

- To help meet oxygen needs, certain measures are common in care plans.
- Positioning
 - Breathing is usually easier in semi-Fowler's and Fowler's positions.
 - Persons with difficulty breathing often prefer the orthopneic position.
 - Position changes are needed at least every 2 hours.
- Deep breathing and coughing
 - Deep breathing moves air into most parts of the lungs.
 - Coughing removes mucus.

Assisting With Oxygen Therapy

- Disease, injury, and surgery often interfere with breathing.
 - When the amount of O₂ in the blood is less than normal (hypoxemia), the doctor orders oxygen therapy.
 - Oxygen is treated as a drug.
 - The doctor orders:
 - The amount of oxygen to give
 - The device to use
 - When to give it
 - Some people need oxygen constantly.
 - Others need it for symptom relief.

Pulse Oximetry

- Pulse oximetry measures the oxygen concentration in arterial blood.
 - Oxygen concentration is the amount (percent) of hemoglobin containing oxygen.
 - The normal range is 95% to 100%.
 - A sensor attaches to a finger, toe, earlobe, nose, or forehead.
 - Oximeter alarms are set for continuous monitoring.
 - A good sensor site is needed.
- Oxygen sources include:
 - Wall outlet
 - Oxygen tank
 - Oxygen concentrator
 - Liquid oxygen system

Devices that Deliver Oxygen

- The doctor orders the device to give oxygen.
 - Nasal cannula
 - Simple face mask
- The flow rate is the amount of oxygen given.
 - It is measured in liters per minute (L/min).
 - The nurse or respiratory therapist sets the flow rate.
 - The nurse and care plan tell you the person's flow rate.
 - When giving care and checking the person:
 - Always check the flow rate.
 - Tell the nurse at once if it is too high or too low.

Oxygen Safety

- You assist the nurse with oxygen therapy.
- You do not give oxygen.
- You do not adjust the flow rate unless allowed by your state and agency.
- You must give safe care.