

CONSIDERATIONS:

1. Oxygen safety involves two types of safety:
 - a. Oxygen is classified as a drug, and patients need to know how to use this drug safely, just like other medications
 - b. Oxygen increases the risk of a home fire
2. Oxygen therapy requires accurate dosing. When oxygen exceeds the therapeutic dose, especially in patients with COPD, it can cause hypercapnia and acidosis.
3. Approximately 200 fires which kill about 100 people involve home oxygen therapy use. About 75% involved smoking materials. Others were related to cooking, candles, grilling, electrical appliances and others.
4. Fires burn hotter and faster in oxygen-enriched environments. Items will also ignite at lower temperatures. Oxygen can linger in a room in the curtains, bedding, and clothing, even when the oxygen is turned off.
5. Home oxygen therapy can be supplied by:
 - a. Compressed oxygen
 - b. Liquid oxygen
 - c. Oxygen concentrator

EQUIPMENT:

No Smoking sign

Oxygen in Use sign

Patient handout about home oxygen safety

PROCEDURE:

1. Instruct the patient about safe use of oxygen:
 - a. Correct oxygen setting; not to increase unless instructed by healthcare provider
 - b. Read the instructions that come with the oxygen equipment. If patient/caregiver have any questions in how to use/maintain equipment to call oxygen supply company
 - c. If using an oxygen concentrator:
 - i. Only plug it into a grounded electrical outlet (three pronged)
 - ii. Keep a full oxygen tank in the home in case of power outage
 - iii. Alert power company that a home oxygen concentrator is being used in the home
 - d. Keep portable oxygen tanks:
 - i. In an upright position
 - ii. Away from heat and sunlight, in a stand or secured so they will not fall
 - iii. Tightly sealed
2. Instruct patient/caregiver in fire safety with oxygen:
 - a. Place signs in all entrances to residences visible to outside visitors. (Oxygen in Use, No Smoking)
 - b. Do not smoke. Do not let anyone smoke inside the house. Remove all smoking materials

- c. Keep oxygen 6 feet from any source of fire including: Gas stoves, fireplace, candles, kerosene heaters, incense, matches or things that spark
 - d. Avoid static electricity. Clothes and bedding made with wool or silk are prone to static electricity
 - e. Do not use oil, petroleum or alcohol products on your skin or hair, as these increase your risk should a fire occur
 - f. If a lubricant is needed for nares, use a water-based lubricant
 3. Educate patient/caregiver in case a fire should occur:
 - a. Have working fire extinguishers in the home
 - b. Know how to use fire extinguishers
 - i. Pull the pin
 - ii. Aim the nozzle at base of flame
 - iii. Squeeze the handle
 - iv. Sweep nozzle at the base of the fire
 - c. Obtain smoke alarms for every floor of the home. Test them once a month.
 - d. Develop a home fire escape plan; know two ways out of every room.
 - e. If the patient would have difficulty escaping from a fire, always keep a phone “at hand.”
 - f. Alert the fire department that there is oxygen in the home.
 - g. Turn off the oxygen if it is “at hand.”

AFTER CARE:

1. Document teaching done with patient/family.
2. Document patient/family understanding of teaching.
3. Document compliance with safety instructions.

REFERENCE:

- Aherns, M. (2008). Fires and Burns Involving Home Medical Oxygen. Quincy, MA: National Fire Protection Association.
- Brinkerhoff, S. (2009). Oxygen Therapy in the Home: Safety Precautions and Implications for Home Healthcare Clinicians. *Home Healthcare Nurse*, 27(7), 417-420.
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