

CITY AND COUNTY OF DENVER		POLICY	DENVER FIRE DEPARTMENT
Subject:	SAFE USE OF LONG-TERM OXYGEN THERAPY		
Reference:	IFC 4003-1		
Approved:			Manuel Almagure Division Chief, Fire Prevention Division
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This policy is meant to provide basic information for the most common conditions and situations. Questions can be addressed by contacting the Fire Prevention Division between 7:00 a.m. and 4:00 p.m. Monday thru Friday at 720-913-3474. Walk-in hours are 7:00 a.m. to 9:30 a.m. ONLY, Monday - Friday, at 745 W. Colfax Ave.

I. General Information

Although most individuals who are currently using long-term oxygen therapy (LTOT) do so in a safe manner. LTOT-related accidents resulting in serious injury and death are a significant safety concern. All too frequent responses to accidents involving home oxygen – such as an individual’s hair or clothing catching on fire from a lethal combination of LTOT static electricity, hair spray use or fires triggered by individuals using LTOT while smoking cigarettes – has prompted the Denver Fire Department to issue an alert. It is critical that individuals who use LTOT and home care workers such as nurses, respiratory therapists, and technicians who are involved in providing LTOT and maintain its equipment understand how to follow all safety precautions for this type of therapy and equipment.

One critical component of safe LTOT use is ensuring that patients receive proper education and training in using the oxygen equipment. This can be accomplished only if home care workers effectively explain how to operate LTOT. They also need to educate patients and their families properly about possible hazards. Home care workers and others who are involved in providing, supplying and maintaining its equipment—including replacing portable oxygen bottles—need to educate patients and their families about the issues listed below.

- A. No smoking guidelines must be complied with.** Patients must never smoke while using oxygen.

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- B. If a patient must smoke, he/she must remove the delivery device and turn off the oxygen flow.
- C. In designated smoking areas, the patient should be at least 20 feet away from the oxygen equipment.
- D. **In any residential building, the patient shall not smoke within his/her living unit, and only in designated smoking areas.** (This includes patients using oxygen concentrators)
- E. The patient must never smoke in bed, while resting on a couch, even when not using the oxygen therapy.
- F. “No Smoking” signs shall be posted and clearly visible.
- G. The residence shall have a functional smoke detector and fire extinguisher.

The City and County of Denver Fire Department enforces the following ordinance to ensure the safe use of Long-term Oxygen Therapy.

NFPA Pamphlet #55, Standard for the Storage, Use and Handling of Compresses Gasses,” Section 6.3.1.3.1: “Flammable and oxidizing gases shall not be stored or used other than industrial and storage occupancies.”

Denver Fire Code Section 4003.1.1.3 and Table allow for a maximum quantity of 504 cubic feet of oxidizing compressed gas (including oxygen) in residential occupancies “when approved by the Fire Code Official. **Cylinders shall not exceed an individual capacity of 250 cubic feet (a typical portable tank holds 250 cubic feet) with one in use and one in storage.** The Denver Fire Department has agreed to consider any residential storage of oxygen up to 504 cubic feet to be “approved by the Fire Code Official.” This guideline appears in the 2008 Denver Fire Code that took effect on April 1, 2008.

Therefore, within the City and County of Denver, each residence is allowed to have a maximum of 504 cubic feet of compressed oxygen. Any quantity exceeding that amount requires a Denver Fire Department permit. Obtaining approval for such a permit would require very special conditions to be present.

- A. Aerosol sprays such as hairspray should never be used near a patient using oxygen therapy because static electricity, heat, or a flame could cause an explosive fire.

- B.** Because petroleum-based products under pressure are explosive, it is important to ensure that oil or grease do not come into contact with oxygen. Patients using LTOT should be instructed never to use petroleum-based products such as lotions or creams that can be applied to the body. Instead, patients should use only water-soluble lotions and creams. Patients should never apply oil or grease to oxygen equipment.
- C.** Patients should be instructed to keep oxygen equipment away from heat sources. Oxygen equipment should not be stored near a radiator, hot-air register, space heater, or fireplace. Oxygen cylinders should not be exposed to direct sunlight while stored in a parked vehicle.
- D.** It is also critical that oxygen equipment is stored in a well-ventilated area. Oxygen should never be stored inside closets or closed vehicles. This includes oxygen concentrators when in use, cylinders, or liquid oxygen canisters. Oxygen must never be stored in the trunk of a vehicle; In fact, cylinders should be transported in a vehicle only if they can be secured. Window(s) should be left open for ventilation when the vehicle is parked.
- 1.** Electrical extension cords shall not be used to operate the oxygen concentrator. If extension cords become necessary, they should be limited to cords having a diameter at least equal to that of the cord that was provided with the machine.
 - 2.** The patient should be instructed and assisted in planning an escape route in case of fire.
 - 3.** The oxygen equipment should be positioned in a convenient, safe place. The patient should have enough tubing length to reach areas of his/her residence. If an oxygen concentrator is in use, it is important that someone be able to hear the power failure alarm throughout the home and be capable of correcting the problem and/or applying the backup oxygen system if needed.
 - 4.** The external filter(s) on an oxygen concentrator should be cleaned weekly or more often if needed. The concentrator should be kept at least 8 to 12 inches away from walls or curtains that would obstruct air flow.
 - 5.** The patient must understand the risks of falls while walking throughout the house, as entanglement in the long oxygen extension tubing becomes problematic.

END OF DOCUMENT