

## **Fire Safety with Home Oxygen Therapy**

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Oxygen; it is all around us. It is easy for us to take this common element for granted.

But for many, it is a drug, supplemented for certain lung problems. More and more people are using oxygen therapy outside the hospital, permitting them to lead productive lives. The body takes in oxygen and releases carbon dioxide. If this process does not happen properly due to illness or disease, the person might need supplemental oxygen.

There are three ways to receive oxygen in the home.

**Compressed oxygen gas-** Oxygen is stored under pressure in a cylinder equipped with a regulator that controls the flow rate.

**Liquid Oxygen-** Oxygen is stored as a very cold liquid in a vessel where the liquid converts to a gas and you breathe it in just like the compressed gas.

**Oxygen Concentrator-** This is an electrically powered device that separates the oxygen from air, concentrates it, and stores it.

### **Oxygen is Not Flammable**

Unlike many other gases and chemicals, oxygen is not flammable. It is classified as an accelerator, meaning that if there is a fire and the oxygen is higher than normal, the fire will burn vigorously. The more oxygen, the larger the fire and the faster it will spread.

We are use to seeing fires burn in an atmosphere containing about 21 percent oxygen.

This is the atmosphere in which most materials are tested for safety, such as the covering

of the chair or a bed. But when oxygen is flowing near such material, it becomes more susceptible to burning.

## **Inherent Dangers**

Liquid oxygen reservoirs and portables, and some compressed oxygen portables continuously vent oxygen, enhancing the oxygen content around its container. For this reason, keep oxygen containers in a well-ventilated place and not closed up in a closet or the trunk of a car.

Liquid and compressed oxygen each have some unique dangers.

- Liquid oxygen containers can spill when the containers are not upright. Spilled liquid can burn skin because of its extremely low temperature. For this reason, all liquid oxygen containers should be kept in an upright position. If the container is in a vehicle, it should be secured so that it will not tip.
- Compressed oxygen is stored at a pressure of 2000 pounds per square inch. Break off its tip or heat it until it explodes, and the cylinder becomes a missile that will easily penetrate a concrete block wall. Compressed oxygen cylinders should be secured and stored in an upright position. Cylinders in a vehicle should be secured and stored so the cylinder necks are protected

**Burns-** There is an increasing number of burns each year caused by the use of home oxygen therapy. Most common cause of burns with oxygen therapy in homes:

- Cigarette smoking while using oxygen (70%)
- Cooking while using oxygen (30%)
- Oxygen usually involved nasal cannula use
- Burns occurred most often to the nose and face (90%)
- Inhalation burns (30%)

*Simple guidelines should be stressed when oxygen therapy is being used in the home:*

- There must be no smoking where oxygen is being used by anyone, especially the one receiving therapy. Warn visitors to not smoke when you are using oxygen. Put up “No Smoking” signs in your home. In a restaurant, ask to be put in the no smoking area.
- The oxygen source must be kept at least 10 feet from an open flame, gas stove pilot lights, or wood burning stoves.
- Use water-based lubricants on your lips or nostrils. Don’t use an oil-based product.
- Avoid using extension cords if possible.
- Have working smoke alarms.