

“HOME OXYGEN THERAPY”

More and more people are using oxygen therapy outside the hospital, permitting them to lead more active, productive lives. For people with lung disease or a condition which may affect breathing, supplemental oxygen may be an essential part of their lives. Oxygen is safe and non-flammable; however, it supports combustion – materials burn more readily in an oxygen enriched environment – so use caution when on oxygen therapy.

Before we can understand how oxygen therapy works, we need to have a basic understanding of how we breathe and how our lungs operate. A slice of normal lung looks like a pink sponge. As you breathe, the air travels down your windpipe through large and small tubes in your lungs. At the ends of the small tubes, there are groups of tiny bubbles or air sacs. The bubbles have very thin walls and small blood vessels are next to them. Oxygen passes from the air sacs into the blood in these small blood vessels. At the same time, carbon dioxide passes from the blood into the air sacs.

The cells in the body need oxygen to function properly. At all times, the body is taking in oxygen and releasing carbon dioxide, a process called respiration. If this process does not happen adequately, the oxygen in the blood will decrease and you may need supplemental oxygen. Lung diseases such as emphysema and chronic obstructive pulmonary disease (COPD) may affect your ability to breathe and necessitate oxygen therapy. Additionally, when you exhale, if you do not completely empty your lungs, you will not be able to inhale all of the new air you need to get your oxygen. This may also necessitate oxygen therapy. This condition is very common for older adults who have suffered an injury, such as a broken hip, or are confined to a bed or chair.

Home oxygen therapy may come in several forms but the two most common are compressed oxygen gas and liquid oxygen. Oxygen gas can be compressed and stored in tanks or cylinders of steel or aluminum. Liquid oxygen is made by cooling the oxygen gas, which changes it to a liquid form. It is often used by people who are more active because larger amounts of oxygen can be stored in smaller, more convenient containers than compressed oxygen.

A health professional must write a prescription for oxygen therapy. Oxygen at very high levels over a long period of time can be toxic and very harmful to your health; therefore, a prescription is required. The prescription will spell out the flow rate, how much oxygen you need per minute and when you need to use oxygen. Some people use oxygen therapy only while exercising, others only while sleeping and still others need oxygen continuously. Your health provider will order a blood test that will indicate what your oxygen level is and help determine what your needs are.

Two of the most common delivery methods for oxygen therapy are:

- 1) Nasal Cannula – a two-pronged device inserted in the nostrils that is connected to tubing carrying the oxygen. The tubing can rest on the ears or be attached to the frame of eyeglasses.
- 2) Mask – people who need a high flow of oxygen generally use a mask. Some people who use a nasal cannula during the day prefer a mask at night or when their noses are irritated or clogged by a cold.

Traveling by air may be a problem for persons using supplemental oxygen. Commercial air carriers' policies regarding in-flight oxygen vary considerably, potentially leading to a great deal of confusion for travelers. Most airlines require a letter on your health provider's letterhead with his or her name and contact information, your specific underlying lung condition, approval for air travel and verification of need for in-flight oxygen. It is important to be aware that airlines do not provide oxygen for ground use, so plan enough for layovers, weather delays, and the like. Check with the particular airline you intend to fly regarding their specific policy.

There are fewer restrictions when traveling by land; however, you should still talk with your health provider. Let him or her know about the altitudes that you'll be traveling to – he or she may need to alter your flow rate prescription if you are going to a very different altitude. Do not store oxygen in the trunk where it can get very hot. Also, because oxygen containers release small amounts of gas periodically, keep a window partially open, regardless of the weather.

Keep these safety tips from the American Lung Association in mind when using supplemental oxygen:

- 1) You should never smoke while using oxygen and warn visitors not to smoke near you when you are using oxygen.
- 2) Stay at least five feet away from gas stoves, candles, lighted fireplaces or other heat sources.
- 3) If you use an oxygen cylinder, make sure it is secured to some fixed object or in a stand.
- 4) If you use liquid oxygen, make sure the vessel is kept upright to keep the oxygen from pouring out; the liquid oxygen is so cold it can hurt your skin.
- 5) Keep a fire extinguisher close by and let your fire department know that you have oxygen in your home.

Extension programs serve people of all ages regardless of socioeconomic level, race, color, sex, religion, disability, or national origin