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Healthy Living

Home Oxygen Therapy

More and more people are using oxygen therapy outside the hospital, permitting them to lead active, productive lives. People with asthma, emphysema, chronic bronchitis, occupational lung disease, lung cancer, cystic fibrosis, or congestive heart failure may use oxygen therapy at home.

The Prescription

A physician must write a prescription for oxygen therapy. The prescription will spell out the flow rate, how much oxygen you need per minute -- referred to as liters per minute (LPM or L/M) -- 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 physician will order a blood test that will indicate what your oxygen level is and help determine what your needs are.

The Equipment

There are three common ways of providing oxygen therapy. Oxygen can be delivered to your home in the form of a gas in various-sized cylinders or as a liquid in a vessel. The third way to provide oxygen therapy is by using an oxygen concentrator. Each method is examined in more detail below.

Compressed Gas – Oxygen is stored under pressure in a cylinder equipped with a regulator that controls the flow rate. Because the flow of oxygen out of the cylinder is constant, an oxygen-conserving device may be attached to the system to avoid waste. This device releases the gas only when you inhale and cuts it off when you exhale. Oxygen can be provided in a small cylinder that can be carried with you, but the large tanks are heavy and are only suitable for stationary use.

Liquid Oxygen – Oxygen is stored as a very cold liquid in a vessel very similar to a thermos. When released, the liquid converts to a gas and you breathe it in just like the compressed gas. This storage method takes up less space than the compressed gas cylinder, and you can transfer the liquid to a small, portable vessel at home. Liquid oxygen is more expensive than the compressed gas, and the vessel vents when not in use. An oxygen conserving device may be built into the vessel to conserve the oxygen.

Oxygen Concentrator – This is an electrically powered device that separates the oxygen out of the air, concentrates it, and stores it. This system has a number of advantages because it doesn't have to be

resupplied and it is not as costly as liquid oxygen. Extra tubing permits the user to move around with minimal difficulty. Small, portable systems have been developed that afford even greater mobility. You must have a cylinder of oxygen as a backup in the event of a power failure. You should advise your electric power company in order to get priority service when there is a power failure.

Oxygen Delivery Devices

There are three common means of oxygen delivery. A nasal cannula is 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.

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.

Transtracheal oxygen therapy requires the insertion of a small flexible catheter in the trachea or windpipe. The transtracheal catheter is held in place by a necklace. Since transtracheal oxygen bypasses the mouth, nose, and throat, a humidifier is absolutely required at flow rates of 1 LPM or greater.

Safety

You should never smoke while using oxygen. Warn visitors not to smoke near you when you are using oxygen. Put up no-smoking signs in your home where you most often use the oxygen. When you go to a restaurant with your portable oxygen source, ask to be seated in the nonsmoking section. Stay at least five feet away from gas stoves, candles, lighted fireplaces, or other heat sources. Don't use any flammable products like cleaning fluid, paint thinner, or aerosol sprays while using your oxygen.

If you use an oxygen cylinder, make sure it is secured to some fixed object or in a stand. 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. Keep a fire extinguisher close by, and let your fire department know that you have oxygen in your home. If you use an oxygen concentrator, notify your electric company so you will be given priority if there is a power failure. Also, avoid using extension cords if possible.

Care of Equipment

The home medical equipment and services company that provides the oxygen therapy equipment you use should provide you with instructions on user care and maintenance of your particular equipment. Here are some general guidelines for your cleaning procedures. You should wash your nasal prongs with a liquid soap and thoroughly rinse them once or twice a week. Replace them every two to four weeks. If you have a cold, change them when your cold symptoms have passed.

Check with your health care provider to learn how to clean your transtracheal catheter. The humidifier bottle should be washed with soap and warm water and rinsed thoroughly between each refill. Air dry the bottle before filling with sterile or distilled water. The bottle and its top should be disinfected after they are cleaned.

If you use an oxygen concentrator, unplug the unit, then wipe down the cabinet with a damp cloth and dry it daily. The air filter should be cleaned at least twice a week. Follow your home medical equipment and services company's directions for cleaning the compressor filter.

Do's and Don'ts

Don't ever change the flow of oxygen unless directed by your physician.

Don't use alcohol or take any other sedating drugs because they will slow your breathing rate. Make sure you order more oxygen from your dealer in a timely manner.

Use water-based lubricants on your lips or nostrils. Don't use an oil-based product like petroleum jelly.

To prevent your cheeks or the skin behind your ears from becoming irritated, tuck some gauze under the tubing. If you have persistent redness under your nose, call your physician.

Trouble

Call your physician if you experience frequent headaches, anxiety, blue lips or fingernails, drowsiness, confusion, restlessness, anxiety, or slow, shallow, difficult, or irregular breathing. Also, call your physician if you feel any symptoms of illness.

Medicare, Medicaid, and Commercial Insurance

Certain insurance policies may pay for all your oxygen, but payment is based on laboratory results, diagnosis, and other information. Your physician or medical equipment and services provider may be able to answer your questions about coverage.

Reviewed: May 26, 2005

Revised: