



OXYGEN THERAPY

Oxygen is a colorless, odorless and tasteless gas. Air is made up of approximately 21% oxygen, so you have been breathing oxygen all your life. It is simply now going to be supplied to you in concentrations higher than the 21% found in the air. It can be supplied in this more concentrated form from Oxygen Tanks of various sizes, by an Oxygen Concentrator or from a Liquid Oxygen System. Each of these three sources of oxygen has different unique advantages. Your doctor has chosen the best one for you.

We all need oxygen. Our body cells require energy to function. These cells get their energy from a combination of the food we eat and the oxygen we breathe. It is much like the process of burning fuel. Food is the fuel, but it will only burn and produce heat or energy in the presence of oxygen.



The energy produced from this process enables our bodies to function, allowing us to move, to walk, to think, to breathe, and to carry out all other bodily functions.

THE MECHANICS OF BREATHING

The visible aspects of breathing appear to be very simple: we just inhale and exhale. Inside, however, a much more complex process is taking place. When air is inhaled into our lungs, the oxygen in the air is transferred to our blood stream. The blood transports the oxygen to all of our body cells. The cells combine the oxygen with nutrients from the food we have eaten to produce energy. A by-product of this process is carbon dioxide. The carbon dioxide is absorbed by the blood and returned to the lungs where it is exhaled. When everything is normal, the 21% oxygen in the air we breathe is adequate to meet the needs of our bodies.

WHY SOME PEOPLE NEED EXTRA OXYGEN

When the body cells don't get enough oxygen, a condition called hypoxia results. This can cause shortness of breath and cause the heart to beat faster. It can also cause you to feel restless and even confused.

This shortage of oxygen can result from three causes.

1. The lungs may not be functioning efficiently and providing enough oxygen to the blood.
2. The heart may not be functioning efficiently and pumping an adequate amount of blood.

3. The blood itself may not be carrying enough oxygen to the cells.
Your doctor has determined that you need to breathe a higher concentration of oxygen to offset one or more of these deficiencies.

YOUR DOCTOR'S PRESCRIPTION

Oxygen is a drug and must be prescribed by your doctor. Like other drugs, it is important that you use oxygen **exactly** as your doctor prescribes it. An exact flow rate, in liters per minute, has been prescribed to increase the supply of oxygen to your body cells. **This flow rate must never vary from the amount your doctor prescribes.** Too much oxygen can be just as harmful as too little.

In addition to an exact flow rate, your doctor has specified the length of time that you should use oxygen each day. You should never vary from these instructions without first consulting with your doctor.

The amount of oxygen your doctor has ordered for you is:

At Rest _____ liters per minute

During Exercise _____ liters per minute

While Sleeping _____ liters per minute

Use For _____ hours per day

Other Special Instructions _____

SAFETY PRECAUTIONS

Oxygen does not explode, and it does not burn. But an atmosphere enriched with oxygen will make a fire burn faster and hotter. To avoid the chance of fire and other possible hazards associated with oxygen, follow these rules:

1. DO **NOT** permit open flames or smoking in the room where oxygen is being used or stored.
2. DO **NOT** permit the use of friction toys or other devices that may create a spark where oxygen is being used or stored.
3. DO **NOT** use electrical equipment in an oxygen enriched atmosphere. (Examples: electric shavers, electric blankets, electric heating pads, etc.)
Keep these appliances at least five feet from any oxygen source.

4. DO **NOT** use any petroleum products such as oily back rubs, lotions, creams, or vaseline while receiving oxygen. DO **NOT** handle or allow others to handle oxygen equipment with these substances on their hands.
5. DO **NOT** use aerosol sprays in the vicinity of oxygen.
6. DO **NOT** use alcohol or alcohol-based products, or products containing ether or other flammable products.
7. DO **NOT** oil or grease oxygen equipment.
8. DO **NOT** allow oxygen tubing to be covered by bedding or any other objects.
9. DO **NOT** route longer oxygen supply tubing under carpet or furniture.
10. DO **NOT** leave oxygen turned on when not in use.
11. DO **NOT** abuse or handle oxygen containers roughly.
12. DO **NOT** store oxygen in a confined area.
13. DO **NOT** allow untrained persons to use or adjust equipment.
14. DO **NOT** attempt to repair oxygen equipment.
15. DO **NOT** place oxygen containers near radiators, heat ducts, stoves, or any other sources of heat.
16. DO **NOT** touch frosted fittings or piping on liquid oxygen systems with bare hands.
17. DO **NOT** open cylinder valves quickly.
18. DO **NOT** transport oxygen in an enclosed area such as the trunk of your car.
19. **DO** use a stand for all oxygen cylinders in use. Extra cylinders may be secured upright with a belt, chain or rope. Smaller, portable cylinders may be stored lying on the floor.
20. **DO** use a stand for all oxygen cylinders or secure them with a belt, chain or rope.
21. **DO** use all cotton clothing and all cotton bedding to avoid sparks from static electricity. Avoid the use of nylon and other synthetic fabrics as well as wool.
22. **DO** keep liquid oxygen containers upright.
23. **DO** keep oxygen equipment out of reach of children.

24. **DO** keep oxygen equipment free of dust by wiping it off periodically with warm water. A mild household detergent may be used if necessary.

Never change the oxygen flow rate from what your doctor prescribed.

FACTS ABOUT YOUR HUMIDIFIER

A humidifier is often included as part of your oxygen equipment. A humidifier is a container that is filled with water and attached to the oxygen system to moisten the oxygen before you inhale it. Medical oxygen is completely dry, and breathing this completely dry gas may cause discomfort.

If you use a humidifier it **MUST** be kept clean at all times. Bacteria can grow in the water and on the wet surfaces in the moist environment of the humidifier. This bacteria growth can lead to infection.

HUMIDIFIER CARE

1. Empty, rinse and refill your humidifier **everyday**. Do not overfill. **Wash hands** before refilling humidifier. Be sure that the cap is screwed on to the bottle tightly enough to prevent leaks and that the humidifier fitting is properly attached to the oxygen equipment.
2. Your humidifier should be thoroughly cleaned and sanitized at least once a week, more often if ordered by your doctor or therapist.
3. Disconnect the tubing to the cannula or mask and unscrew the humidifier fitting.
4. Disassemble the humidifier; there are two parts (the bottle and the cap with the stem attached).
5. Avoid touching any of the internal parts of your humidifier with your hands or allowing them to touch the surfaces of counter tops, sinks, etc. when you are adding water or when you are cleaning and sanitizing.

CLEANING INSTRUCTIONS

To clean your humidifier, you will need:

- Dishwashing detergent
- White vinegar
- A small brush (a bottle brush or tooth brush)
- Two basins or buckets (Plastic containers of the appropriate size are ideal)

Basin #1 contains warm water and detergent. This detergent solution should be discarded after each cleaning.

Basin #2 contains one cup of white vinegar to three cups of water. Double this amount if necessary to have enough solution to cover the disassembled humidifier completely when soaking. This solution is good for two weeks if stored in a covered container in the refrigerator between use.

CLEANING STEPS

1. Wash the disassembled humidifier in warm sudsy water (Basin #1). Use a brush to remove any residue.
2. Rinse all parts thoroughly under clear, warm running water.
3. Soak all parts in vinegar solution for 30 to 40 minutes (Basin #2). Make sure all parts are completely submerged in the solution. No rinse is required after this soaking unless otherwise instructed by your doctor or health care professional.
4. **Wash hands** before removing the humidifier components from the solution. Avoid touching internal surfaces with the hands.
5. Shake off excess solution. Place on clean paper towels and cover with paper towels. Allow to air dry.
6. Extra humidifiers should be stored in clean ziplock or twist tied plastic bags after they have been allowed to thoroughly air dry.
7. It is best to have two humidifiers, one to use while the other is being cleaned and sanitized. **Remember, never touch the inside of the humidifier bottle or the stem.** You should discard the humidifier if you notice discoloration of the bottom of the stem inside the humidifier.

FACTS ABOUT YOUR NASAL CANNULA

A nasal cannula is the flexible plastic device with two short tips or prongs that fit into your nostrils. It is used to administer low to moderate oxygen concentrations through your nose.

With the humidifier, tubing and cannula connected, set the oxygen flow at a **low** rate. Insert the tips of the cannula in the nostrils. Slip the two smaller plastic tubes over the ears and down under the chin. Adjust the plastic slide until the cannula fits snugly but comfortably. Clip the tubing to the clothes to allow enough slack for comfort and to allow turning the head. Adjust flow up to the rate prescribed by the doctor.

1. A nasal cannula should always be worn with the prongs curved toward you.
2. You do not have to always breathe through your nose when using a nasal cannula. The continuous flow of oxygen will collect in the space in your nose and throat. Then each time you inhale, you breathe this collected oxygen into the lungs.
3. The flowrate prescribed by your doctor is set on the flow meter of your oxygen system. **DO NOT** increase the flow rate to compensate for longer tubing. If an adjustment is needed, it will be made by your respiratory therapist.

4. If your nose becomes irritated from wearing the nasal cannula for long periods of time, you may want to use a **water-based** lubricant inside your nostrils. It may be helpful to consult your doctor or pharmacist, who can suggest a good water-based preparation. **DO NOT** use an oil-based product such as Vaseline.
5. It is recommended that you change cannulas every two weeks to avoid possible contamination.
6. Tubing to the cannula should be replaced monthly. If no humidifier is used, the tubing should be changed every three months.

TRAVEL TIPS

1. Transport oxygen in the back seat of your car, **never** in the trunk. Secure the oxygen container in a stable, upright position.
2. Open your window one inch or more when transporting oxygen, to prevent an accumulation of oxygen in your car.
3. Always keep liquid oxygen systems, reservoir or portable pack in an upright position when handling as well as when transporting. Try using a seat belt and/or hanging the portable unit from a headrest.
4. Contact our company representative well in advance if you plan to travel outside our service area.

OTHER SUGGESTIONS

1. Continue to practice the breathing training and physical conditioning recommended by your doctor or therapist.
2. Take all medicines your doctor prescribed at the proper times and in the correct amounts.
3. **DO NOT** stop exercising. Within the limits set by your doctor, continually try to increase your level of activity while taking oxygen.
4. Make note of and keep all appointments with your doctor and other healthcare providers.
5. If you sense a change in your general health condition, contact your doctor.
6. Please notify our office if you will not be at home for a scheduled delivery or if your prescription, your doctor, or your insurance changes.

REMEMBER: CAREFULLY FOLLOW YOUR DOCTOR'S RECOMMENDATIONS FOR THE FLOW RATE AND DURATION OF DAILY OXYGEN.