

## OXYGEN CONCENTRATORS

An oxygen concentrator is a machine that separates room air into oxygen and nitrogen. The nitrogen is discarded, while the oxygen is stored, concentrated and delivered at 90% to 95% purity.

**Please Note:** *The use of this device does **not** reduce the oxygen in the room air because of the small amount of oxygen required.*

### TURNING THE CONCENTRATOR ON

1. Plug the concentrator in to a properly grounded electrical wall outlet. Do not use an extension cord. Do not plug into an outlet controlled by a wall switch or dimmer.
2. Attach the tubing from your cannula to the oxygen outlet.
3. Set switch to the "ON" position.
4. Turn the flow adjustment knob until the flow meter registers the flow rate prescribed by your doctor. Your doctor prescribed the flow of \_\_\_\_\_ liters per minute.
5. Put on the cannula and adjust for comfort. See "**Facts about Your Nasal Cannula**" in the general information section on oxygen therapy that was provided with these instructions.

### TURNING THE CONCENTRATOR OFF

1. Remove the nasal cannula.
2. Set the Concentrator power switch to the "OFF" position.
3. It is not necessary to turn the flow control off after it has been set properly. It should be checked, however, each time the concentrator is turned on and periodically during use. The flow control may require minor adjustments from time to time.

### IF THE ALARM GOES OFF

Your oxygen concentrator is equipped with an alarm to alert you in case of a power failure or an equipment malfunction. If the alarm goes off, first check to see that the power cord is still connected to the electrical wall outlet. Then check other electrical appliances in the home to determine if there is a power a failure or if a fuse or circuit breaker has blown.

In case of a power outage/failure, turn the concentrator "off" to stop the alarm. Then, turn on your backup cylinder system and connect the oxygen tubing. If your electrical service does not return within a reasonable length of time, notify your hospice provider. They will decide on next steps to assure proper oxygen backup

If you determine that there is no power failure and that the alarm indicates an equipment malfunction, turn the concentrator off. Then, turn on your backup cylinder system and connect your oxygen tubing to it. **Notify our office of the malfunction immediately.**

If you find it necessary to use your backup cylinder system during several intermittent short-term power failures, it is important to check the pressure gauge to ensure that you have an adequate supply of backup oxygen. Please follow the instructions provided for you backup system to determine the amount of oxygen you have left.

## **CLEANING AND MAINTENANCE**

Twice each week you will need to clean the inlet air filter. This sponge-like filter should be removed and washed under running tap water. Be sure to shake out the excess water, then press or squeeze dry with a clean towel before replacing the filter. ***The concentrator should NOT be used without this filter in place.***

You should also wipe down the outside of the concentrator with a damp cloth periodically. Make sure that the concentrator is off and unplugged prior to cleaning the cabinet.

## **OTHER IMPORTANT INFORMATION**

Never place your concentrator directly against a wall, drapes or other objects. There must be 12 – 18 inches around concentrator to allow free circulation of air around all sides of the unit. You may notice some heat from the unit, but this is normal.

“No Smoking” signs should be prominently displayed in all areas where oxygen is being used or stored. Follow all of the other safety precautions outlined in the general instructions.

**\*Carefully follow your doctor’s orders for the flow rate and duration of daily oxygen.**

## **FACTS ABOUT YOUR HUMIDIFIER**

A humidifier is often included as part of your oxygen equipment. A humidifier is a container that is filled with distilled 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 countertops, sinks, etc., when you are adding water or when you are cleaning and sanitizing.

## **HUMIDIFIER 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

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 the amount if necessary to have enough solution to cover the disassembled humidifier completely when soaking).

## **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 20 minutes (basin #2). Make sure all parts are completely submerged in the solution.
4. Wash hands before removing humidifier components from the solution. Avoid touching internal surfaces with your hands.
5. After soaking, rinse all parts in warm running tap water.
6. Shake off excess solution. Place on clean paper towels and cover with paper towels. Allow part to thoroughly air dry.
7. Once completely dry, store cleaned humidifier in clean Ziploc or twist tied plastic bags.
8. 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 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 AND TUBING**

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 the prescribed flow 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.

## **FACTS ABOUT YOUR NASAL CANNULA AND TUBING**

1. A nasal cannula should always be worn with the prongs curved toward you.
2. You do not always have to 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 your lungs.
3. The flow rate 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.
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 lubricant such as Vaseline.
5. It is recommended that you change cannulas at least every two weeks to avoid possible contamination. You may change more frequently if cannulas are crusted from nasal drainage or damaged.
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 concentrator 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 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 your service area.

## **REMEMBER: CAREFULLY FOLLOW YOUR DOCTORS RECOMMENDATIONS FOR THE FLOW RATE AND DURATION OF DAILY OXYGEN**

## **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 oxygen.

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: \_\_\_\_\_

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### **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 the oxygen is being used and / or stored.
2. Do not permit the use of friction toys or other devices that may create a spark where oxygen is being used and / or stored.
3. Do not use electrical equipment in an oxygen-enriched atmosphere. (Examples: electrical 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 anyone 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 flammable products.
7. Do not use oil or grease on the 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 the equipment.
14. Do not attempt to repair oxygen equipment.
15. Do not place containers near radiators, heat ducts, stoves or any others sources of heat.
16. Do not open cylinder valves quickly.
17. Do not transport oxygen in an enclosed area such as the trunk of a car.
18. Do use a stand for all oxygen cylinders in use. Extra cylinders may be secured upright in a rack. Smaller portable cylinders may be stored lying on the floor.
19. Do use all cotton clothing and all cotton bedding to avoid sparks from static electricity. Avoid use of nylon and other synthetic fibers as well as wool.
20. Do keep oxygen equipment out of reach of children.
21. Do keep oxygen equipment free of dust by wiping it off periodically with warm soapy water. A mild household detergent may be used if necessary.

## Assembling The Oxygen Regulator To The Cylinder

1. Prior to each use, inspect product for visible damage. Do not use if damage is found.
2. Check cylinder valve to be sure it is not bent or damaged. A damaged valve could leak or fail, or it may not make a tight connection when cylinder is placed into use.
3. Make sure product and cylinder valve are free of oil, grease, or other contaminants.
  - a. Do not use products if oil, grease or dirt is found. Particles propelled in a high-velocity oxygen stream could create a spark, causing a fire. Oil and grease can react with oxygen and other oxidizers, causing an explosion.
4. Before installing regulator, “crack” the cylinder valve by opening the valve slightly and closing to remove any foreign particles.
5. Be sure the regulator is in the “OFF” position.
6. Ensure the high pressure inlet port has a washer to make a proper seal.
7. Align the regulator pins to the cylinder holes.
8. Hand tighten the T-Handle.
9. Using cylinder key or wrench, SLOWLY open the cylinder valve counterclockwise until open.
10. Set the dial to your prescribed liter flow.
11. To remove the regulator from the cylinder:
  - a. Completely close oxygen cylinder valve with cylinder key or wrench
  - b. Set Regulator in the “OFF” position
  - c. SLOWLY loosen T-Handle and remove regulator from Cylinder

## OXYGEN CYLINDER DURATION CHART

| CYLINDER<br>SIZE       | LITERS PER MINUTE |       |      |      |      |      |      |      |
|------------------------|-------------------|-------|------|------|------|------|------|------|
|                        | 1                 | 2     | 3    | 4    | 6    | 8    | 10   | 15   |
| B/M6                   | 2:44              | 1:22  | 0:54 | 0:41 | 0:27 | 0:21 | 0:16 | 0:11 |
| D                      | 6:54              | 3:27  | 2:18 | 1:43 | 1:09 | 0:52 | 0:42 | 0:28 |
| E                      | 11:22             | 5:41  | 3:47 | 2:50 | 1:53 | 1:25 | 1:08 | 0:45 |
| M60                    | 28:43             | 14:21 | 9:34 | 7:10 | 4:47 | 3:36 | 2:52 | 1:55 |
| <b>HOURS : MINUTES</b> |                   |       |      |      |      |      |      |      |

# Power Outage Tips

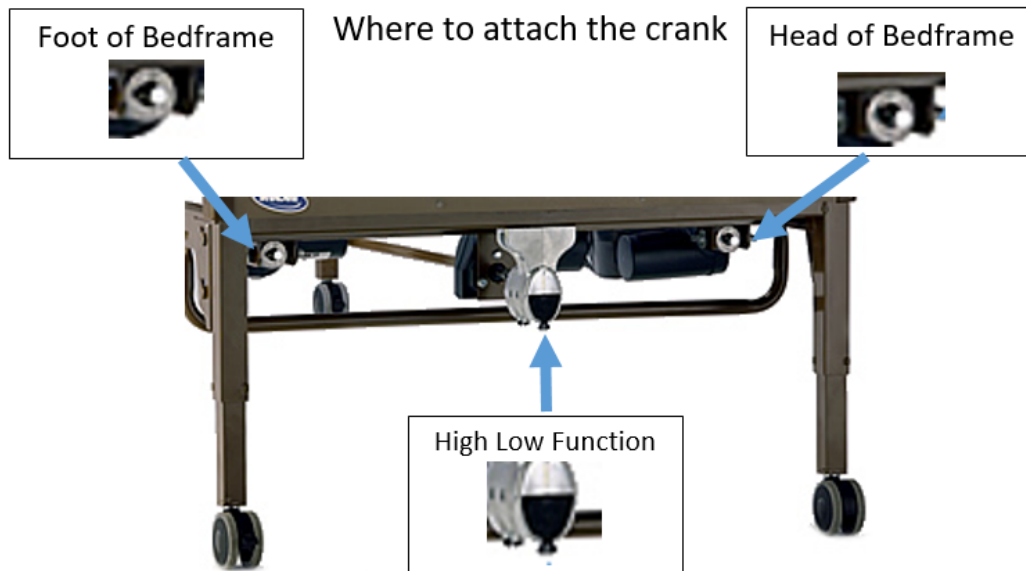
## OXYGEN USE

Patients receiving oxygen concentrators are accommodated with back-up tanks that will provide at least 4 hours of oxygen during a power outage. Notify your Hospice provider immediately in the event of a power outage.

## HOME CARE BEDS

In the event of a power outage, patients with homecare beds may still operate their bed with an emergency manual crank that was provided upon delivery.

Clockwise motions with the crank will raise sections of the bed while counter clockwise motions will lower sections of the bed.



## BATTERY POWERED EQUIPMENT

Equipment that is powered by chargeable batteries should be charging when not in use so that the equipment is fully charged during a power outage. Those items include:

- Electric Patient Lifts
- Portable Concentrators
- Portable Suction Machines
- Wound Pump

