TRANSCEND MEDICAL

Going Beyond The Limits

Home Oxygen Manual

800-403-3740

TABLE OF CONTENTS

Introduction to Home Oxygen Therapy

Your Physician has determined that supplemental Oxygen is a benefit to you and has prescribed an oxygen system to used at a specific flow to meet your particular needs.

CHANGES TO YOUR FLOW SETTINGS SHOULD ONLY BE MADE UNDER THE ADVICE OF YOUR PHYSICIAN.

Home Oxygen Therapy

More people are using Oxygen outside the hospital, permitting them to lead active, productive lives. People with COPD (Chronic Obstructive Pulmonary Disease), occupational lung diseases, lung cancer, congestive heart failure, or other chronic or acute lung disorders my benefit from using Oxygen.

The air you breathe every day contains around 21% Oxygen. The Oxygen you will receive at home is between 92% up to 100%. The home Oxygen is considered to be a drug and must be prescribed by your doctor. Oxygen is no addictive and causes no side affects when used as prescribed. ***(It can be dangerous if you use at higher rates than your Doctor has approved for your condition)*** Some people may need supplemental Oxygen continuously, while others may only need while they sleep or during exercise.

Oxygen Concentrator

The Oxygen concentrator is an electric or battery-operated Oxygen delivery system. The concentrator extracts air from the room and separates the other gases in able to deliver a higher percentage of Oxygen to the recipient through a tube attached to the machine called a nasal cannula. The cannula prongs would be placed inside the nasal passage.

Using Your Concentrator

Position your unit near an electrical outlet in the room where you spend most of your time. The unit should be at least 6 inches from the wall, draperies, or any object that might prevent the flow of air in and out of the concentrator. ***Avoid plugging into a wall outlet run by a switch or extension cords.***

1) Turn on your concentrator with on/off switch on front of machine. Expect to hear alarm for a few seconds. If it continues to alarm contact Transcend Medical.
2) Adjust the flow meter to your prescribed flow rate. (Turn dial until the black ball is in the middle of the line next to your liter flow – it usually is 2 lpm)
3) Attach the tubing (cannula) to the barbed connector.

Accessories

Some machines do not have a barbed connector, on these machines we will use nut & nipple (usually referred to as a Christmas tree to connect the cannula to the concentrator

Some may benefit from having an extension tubing added in-line so they will not have to move their concentrator as often. To do this you will need the extension tubing and an O2 connector to add the tubing to the cannula. (One end of the tubing connects to the barbed connector or Christmas tree the other end connects to the O2 connector. The other side of the O2 connector connects to the nasal cannula.

Nasal Cannula

A nasal cannula is the most frequently used oxygen accessory. It consists of two prongs that rest in your nose (be sure the prongs are curved downward). These prongs are attached to the tubing that is placed behind the ears and secured under the neck.

Humidifier Use

If you develop dryness or nose bleeds from oxygen therapy, we recommend using nasal ease lotion but if the problem persist then you may try humidification. To do this we will need a prescription from your physician. Once received you will be given a Humidifier bottle to attach to your Oxygen Concentrator.

1) Connect the attachment tube from the barbed connector on the concentrator to the top of the bottle. (Be careful to not cross thread)
2) Fill the humidifier bottle with **distilled water only.** Do not fill past the maximum indicator line on the bottle. Overflow can cause

3) water to get into the lines. **Make sure the lid is on tight and not cross-threaded.**
4) Attach the oxygen tubing directly to the humidifier bottle outlet fitting.
5) If using water traps, KEEP EMPTY or the water will get into lines.

Oxygen Tanks

A cylinder is a tank that contains Oxygen under pressure. Due to the high pressure involved, cylinders are made of aluminum or steel and must be handled carefully. They come in many sizes. The sizes we use mostly are B, D, E and M tanks.

E cylinders: They are about 2.5 ft. tall and weigh about 9.9 pounds when full. They can be moved easily with a rolling cart. They can be used for daily activities but we mostly use these for a backup system for when there are power outages.

D cylinders: They are about 1.5 ft. and weigh about 5.2 lbs. when full. They are lighter than E tank and can last longer than a B tank.

B cylinders: They are the smallest of the cylinders. They are about 1 ft. tall, but weigh only around 3.5 lbs. when full. They are much easier to travel with but due to the size do not last as long as the E tank.

M Cylinders: They are about 3 ft. and weigh around 45lbs. and are used for back up system for high liter flow patients at high risk.

Regulators and Conserving Devices

A regulator (or conserving device) is needed for operation of your oxygen cylinder. A regulator reduces the pressure coming out of the cylinder to obtain a specific flow rate. A regulator consists of a flow dial and a pressure gauge. The pressure gauge indicates the pressure of oxygen in the cylinder. A full cylinder should read approximately 1800 psi (the needle should be in the green area). As you use the oxygen in your cylinder, the pressure will drop; how quickly the pressure drops depend on the flow rate. When the pressure gauge reads low, around approximately 500 psi (the needle is in the red area), it is time to change your tank for a full one. The regulator provides continuous flow.

1. Flow Dial for setting lpm of flow rate
2. Barb to connect Cannula
3. Pressure Gauge to tell amount of pressure in tank
4. Barbs and Washer to seal to tank
5. Lever to tighten to tank

The conserving device are similar to the regulators except instead of running continuously the provide a pulse (dose) of oxygen which is triggered by an inspiratory breath. These will make a tank last longer which makes using a smaller tank more convenient.

1. Barb to connect to Cannula
2. Flow Dial for setting lpm of flow rate
3. Barbs and Washer to seal to tank
4. Lever to tighten to tank
5. Pressure Gauge to tell amount of pressure in tank

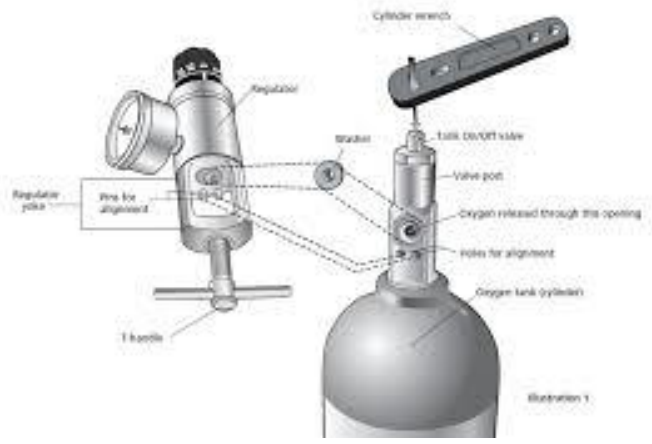
Preparing and Using Your Oxygen Cylinder (Tank)

You will need the following equipment to prepare your cylinder for use"

- Cylinder
- Regulator or Conserving Device
- Cylinder Wrench (key)
- Nasal Cannula

Note: If your cylinder has a regulator or conserving device already attached; disregard steps 1 – 4.

1) Carefully remove the seal from the cylinder neck
2) Notice the 3 holes on the neck of the cylinder. These holes are only located on one side.
3) Place the regulator (or conserver) over the cylinder. (Ensure that a washer preferably a brass washer is over the lower prong) Align the three prongs on the regulator/conserver with the three holes on the cylinder neck.
4) Tighten the handle on the regulator/conserver until it is firmly attached.



5) To turn on – turn the flow dial to zero then use the cylinder wrench (key), place on valve (see above). Turn the valve counter clock wise (left) you should see the hand on the pressure gauge go up. If you hear a sound, it could mean either the washer is missing or the regulator/conserver needs to be tightened.
6) If you hear no sound then connect your cannula to the barb and then turn the flow dial to your prescribed liter flow.
7) **When not in use always turn the flow dial to zero and the top valve counter clock wise (right) – This will prevent tank from slowly leaking out**

Oxygen Safety

Oxygen is a safe gas as long as it is used properly. Oxygen supports combustion so any material that is already burning will burn much faster and hotter in an oxygen-enriched atmosphere. It is very important to follow these precautions so that you and your family are safe when you are using your oxygen.

1. **DO NOT SMOKE or ALLOW others to smoke in the same room as your Oxygen Concentrator or cylinders.**
2. Post "No-Smoking" signs in your home (ex. Front Door, Back Door, or Side Doors)
3. Keep the following at least 5 feet away from an Oxygen source:
   - Burning candles
   - Open Flames
   - Gas Stoves
   - Electrical Appliances
   - Any item or equipment that may spark
4. Do not use aerosols near Oxygen equipment.
5. Do not use oil or lubricants on Oxygen equipment.
6. Smoke detectors, fire extinguishers and flashlights in the home and working properly are highly recommended.
7. If you use an Oxygen concentrator
   - Notify your fire department
   - Notify your electric company (so you will be given priority for power failure)
8. Turn Off Oxygen when not in use.
9. Do not store your Oxygen cylinders in heat or direct sunlight.
10. Secure Oxygen Cylinders properly in appropriate stands to prevent tipping or place them on their side on the floor
11. Always store your Oxygen Concentrator and tanks in well-ventilated area. **Placement in a closed closet or car trunk would not provide adequate ventilation.**
12. Oxygen tanks should not be left in vehicles or garages during extreme heat.
13. When driving, secure the Oxygen unit so it will not tip over. Leave a window open slightly for ventilation so the Oxygen will not accumulate in the car.
14. Be careful to not to trip on Oxygen tubing while using your Oxygen.
15. **Do not ever change the flow of the Oxygen unless directed by your Physician.**
16. Do not use petroleum products (ex. Vaseline). Use water-based lubricants (ex. – Cann-Ease Nasal Moisturizer)

Cleaning and Maintenance Instructions

Once a Week:

- Unplug the unit and wipe down the concentrator with a damp cloth
- Remove the filter out of back of the concentrator. Rinse with warm, soapy water and remove excess water with a soft absorbent towel. A clean filter will prevent the concentrator from over-heating.
- Wash out humidifier bottle with warm, soapy water and refill it with clean distilled water. NOTE: Humidifier bottles can be disinfected by soaking in a vinegar solution with ½ vinegar ½ water. Let Soak for 30 minutes, rinse thoroughly, and let air dry.

Change Out

- Replace nasal cannula (nose piece), Oxygen mask once the prongs start getting hard – they should last a minimum of two weeks most get up to 6 weeks. If you are getting over a acute situation you may need to change your cannula every 3 days.
- Replace Oxygen tubing, humidifier bottle, water traps once they get soiled – should last at least 3 months

Trouble Shooting

Just like any other piece of electrical equipment, an oxygen concentrator can stop working due to technical issues or after it's gotten over a certain age. You might also have instances where it can malfunction due to an outside influence, with no problems in the concentrator itself.

If an oxygen concentrator is not providing oxygen, it could be due to several different reasons. The system in an oxygen concentrator is made up of a few intricate parts that all work together to purify and deliver medical-grade oxygen, so you can breathe it in.

However, before you call a maintenance technician, you can do some troubleshooting on your own to see if you can fix the problem yourself. Sometimes, the cause of a big problem can be a small and easy fix.

Safety Tips

First things first, let's start with understanding and keeping the below-mentioned safety tips in mind before we troubleshoot.

- Switch to a backup source of oxygen while troubleshooting the oxygen concentrator. The availability of a secondary source of oxygen is highly recommended by oxygen concentrator manufacturers for situations like these and power outages.
- Do not disassemble the unit yourself. It could cause safety risks and invalidate the product warranty.
- Keep the device away from sources of heat, smoke, and pollution.
- Keep the device away from water or any liquid so that it's not spilled over accidentally.
- If you are in a car, unplug the DC power supply when the automobile is turned off. Not doing this will deplete your car's battery.
- Always use genuine manufacturer accessories and service parts. A counterfeit power supply may damage the circuit board, a carry bag not provided by the manufacturer may hinder the ventilation of concentrator and sieve beds bought from an unreliable source may adversely affect the oxygen purity levels.

Quick Solutions

Here are some do-it-yourself solutions to troubleshoot the oxygen concentrator issue:

If the oxygen concentrator is not turning on:

- Turn the device on by pressing the power button twice. Some oxygen concentrators turn on by pressing the on/off button two times or holding down the button for a few seconds.
- Make sure to try in a new outlet (sometimes outlets go bad or controlled by switch)

- Make sure all the cords are connected properly. Moving around or accidentally stepping on the wire may detach it and block the power supply. Check whether the power cord is plugged all the way into the wall outlet and power adapter, and check that the power adapter is connected to the oxygen concentrator.
- Check for any wire damage. Regular wear-and-tear may damage the power cord or compromise the insulation. If there is any damage, replace the cable with a new one.
- The power supply adapter should be well-ventilated. An overheated adapter will shut down the concentrator.
- Do not use an extension cord to power your unit as it may not provide ample power to operate the device.
- When using a portable oxygen concentrator, see that the battery is properly installed.
- If the battery is correctly latched and the device is still not turning on then disconnect the power supply, pull the battery out, connect back the power supply without the battery, and hold the power button to turn it on. Note: some devices won't turn on without battery installed, even when the unit is connected to the power supply.
- When traveling internationally, make sure that the input voltage of the power adapter is compatible with the power source.
- Check whether the wall outlet is working and there is no power outage (a breaker may be tripped). If it's not working, try another wall outlet.

If the oxygen concentrator isn't working, even though it is turned on and the power light or control screen is lit up:

- Make sure the nasal cannula is connected to the nozzle on the oxygen concentrator.
- If using a humidifier bottle, make sure that the cannula tubing is connected properly.
- Position the nasal cannula correctly on your face, or else the pulse dose will not work.
- Ensure that the tubing is not twisted or bent.
- Check whether the flow-meter knob is closed.
- The device should be in a well-ventilated space.
- When using a carrying bag, make sure that the unit is placed correctly and vents are not blocked.

Oxygen Concentrator Errors and Alerts

After you've checked these possible causes and it's still not delivering oxygen, it could be due to an internal part failure. You can check the alert displayed on the control screen. Let's see how we can troubleshoot some common oxygen concentrator errors and alerts.

- Low oxygen alert – Check to see whether the airflow is being blocked.
- Oxygen purity is lower than 80% – Make sure the intake vent isn't clogged or blocked. Turn the unit off and clean it, if necessary. The intake filter needs to be replaced or cleaned.

- No breath detection – Check that the cannula is properly positioned your face and you are breathing through your nose. Check for any twists and obstructions with tubing. If the breath is not detected for approximately 30 minutes device shuts down to conserve power.
- Low or empty battery – Attach the external power supply to recharge the battery or exchange the battery.
- Battery temperature – If the battery exceeds the temperature limit, it won't work. If you are in a hot place, it makes the battery warm quickly. Move to a cooler location.
- System Temperature – Oxygen Concentrator will not produce oxygen when the temperature crosses the tolerance range. If the device is hot, move to a cooler area. Check that the air inlet and outlet vent are clean and clear. If the vents are blocked, then the unit works harder to maintain the airflow thus making it warmer. On the other hand, if you are in a very cold place, move to a warmer place. Wait for at least two minutes for the device to warm up before turning it on.
- Other system errors – Check the user manual provided with the unit to troubleshoot or contact the equipment provider.

Performing a Hard Restart

Just like, sometimes, our smartphones require a hard restart to turn on, the oxygen concentrators may require it too. Though the situation is rare, here are the steps to perform a hard restart on a portable oxygen concentrator:

1. The machine must be completely shut down
2. Disconnect the power adapter
3. Remove the batteries
4. Let the unit stand for 20 minutes without power
5. Plug the AC power into the machine – do not attach the batteries yet
6. Turn the unit on and use it for 10 minutes on AC power
7. Then, disconnect the power supply to put the batteries back in

Calling Customer Care

- You can generally find the customer care number of your equipment provider on a sticker placed on the unit
- If you are not sure where you got the unit from, then call the manufacturer customer care with the following information at your disposal:
    - Make and Model of the oxygen concentrator
    - Serial number
    - The problem you are facing
    - Whether you are currently traveling
- Since when you are facing the problem