

Oxygen



HANDI
MEDICAL SUPPLY

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**Thank you for choosing Handi Medical Supply
for your home care needs.**

You can reach us by calling **651-644-9770** or **800-514-9979**

Oxygen

Oxygen is a drug. It must be ordered by a doctor or a nurse practitioner. Your order will tell us how many liters per minute (lpm) you need and how many hours per day you should use the oxygen.

Oxygen is a gas; this gas does not have a taste or a smell. In the air we all breathe (room air) there is 21 percent oxygen. When your heart and lungs are working well, this is enough oxygen to keep your body healthy. If you have a problem with your heart or lungs you may need added oxygen; this is called supplemental oxygen. Today we are here to set up and teach you about your supplemental oxygen system(s) and supplies.

Your order:

_____ **Liters per minute (lpm)**

_____ **Hours per day**

Oxygen Safety

Oxygen is safe to use in the proper conditions. Oxygen will not catch fire but it will make anything that is already burning, burn hotter and faster. The containers that the oxygen is in must be stored correctly.

Please follow these safety rules when using your oxygen:

- **Post your “Oxygen In Use” sign on your front door or window**
- **Keep oxygen equipment away from heat, such as:**
 - Open flames
 - Space heater
 - Stove

- **Do not use grease or flammables near oxygen equipment**
 - Use water-based products (KY jelly, Aquaphor)
 - Do not use petroleum based lotions
 - Do not use any oil-based toiletries (lotions, hair products)
- **No smoking!**
 - Do not smoke or allow anyone to smoke in the room that you are in
- **Oxygen cylinder storage**
 - Oxygen cylinders are under very high pressure
 - They must be secured if standing up-right in a base or cylinder holder – if one of these is not available lay the cylinder flat
 - Never store cylinders in a closed area such as a closet or trunk of a car
- **Electrical outlet**
 - Do not plug an oxygen concentrator into an outlet that is powering appliances
- **Home address**
 - Make sure you can see your address from the street both day and night
- **Emergency or natural disaster**
 - **IF YOU HAVE A MEDICAL EMERGENCY DIAL 911**
 - If you have trouble with your equipment call Handi Medical at (651) 644-9770
 - If there is a natural disaster please listen and follow the emergency directions from local authorities.
- **Smoke Detector**
 - Make sure your smoke detector is working
- **Cooking**
 - Keep your oxygen cannula away from heat source
 - Instead of the cannula being secured under your chin; secure it behind your head while cooking

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Oxygen Safety *continued*

→ Area Rugs

- Please remove area rugs to reduce the chance of tripping

→ Hand Washing:

- *The number one way to control the spread of germs is to wash your hands – always wash your hands before you handle your oxygen equipment*
- Wet both hands with warm water
- Using soap and running water, rub hands together
- Make sure to get the backs and palms and between the fingers
- Wash hands for at least 1 minute

→ Oxygen Tubing

- Longer oxygen tubing can be a hazard for tripping
- If you would like colored tubing it will be provided for you

Oxygen Cylinder

An oxygen cylinder contains almost 100% pure oxygen. The oxygen in these cylinders is under very high pressure. The pressure is measured in pounds per square inch (psi). A full cylinder will have 2000-2200 psi; as the oxygen in the cylinder is being used the pressure will decrease until the cylinder is empty. A cylinder of oxygen is always green in color.

The cylinder system has the following parts:

- **Cylinder:** stores the oxygen
- **Regulator:** controls the pressure and the flow of oxygen coming out of the cylinder
- **Stand, cart or carrying case:** keeps the cylinder from falling over
- **Tank wrench:** needed to open the cylinder so the oxygen can go into the regulator

The delivery of oxygen is either by:

- **Nasal cannula:** small prongs fit into your nostrils
- **Face mask:** fits over your mouth and nose
- **Oxygen tubing:** connects the cannula to the oxygen system

Cylinders come in different sizes. The oxygen will last longer or shorter periods of time depending on the size of cylinder you have. The size of the cylinder and your flow rate determines how long the oxygen tank will last (*please see chart on page 7*).

To connect the oxygen regulator to the cylinder

- Remove the tape that is around the stem of the regulator
- Make sure brass and rubber washer is in place
- Position the regulator around the stem of the cylinder
- Make sure the pins in the regulator fit into the stem of the cylinder
- Hand tighten the regulator in place

Turning the cylinder on

- Using a tank wrench turn the stem of the cylinder counter clock-wise

Reading the regulator

- The regulator controls two things:
 - The pressure coming out of the cylinder
 - The flow of oxygen coming out of the cylinder
- The regulator shows how much pressure is in the cylinder; as the oxygen is used the pressure (psi) will fall – until it is empty and time to switch to a new tank
- Adjust the liter per minute to match your order

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Oxygen Cylinder *continued*

Attaching the oxygen tube

- Secure the oxygen tubing to the regulator's port
- Secure your cannula to the oxygen connecting tube
- Place the prongs into your nostrils (prongs should curve into your nose)
- Keep the nasal cannula in place by putting it in back of your ears and securing it under your chin

Turn off your oxygen

- When not in use turn off your oxygen
- Take off your nasal cannula
- Turn the stem on the cylinder clock-wise to close the cylinder
- The needle on the pressure gauge will drop to zero

Humidifier bottle

Humidifier bottles ("bubblers") are usually not needed unless your liter flow is greater than 4 liters per minute. Humidifiers are not used with portable oxygen systems. *Please see humidifier information under concentrator section.*

E Cylinder of Oxygen Duration

Pressure Gauge Reading	1 liters per minute	2 liters per minute	3 liters per minute	4 liters per minute	5 liters per minute
2000 psi	8 hr	4 hr	2.5 hr	2 hr	1.5 hr
1500 psi	6.5 hr	3 hr	2 hr	1.5 hr	1 hr
1000 psi	4 hr	2 hr	1.25 hr	1 hr	30 min
500 psi	2 hr	1 hr	25 min	15 min	5 min

M9 Cylinder of Oxygen Duration

Pressure Gauge Reading	1 liters per minute	2 liters per minute	3 liters per minute	4 liters per minute	5 liters per minute
2000 psi	4 hr	2 hr	1.25 hr	1 hr	*
1500 psi	3 hr	1.5 hr	50 min	45 min	*
1000 psi	2 hr	1 hr	30 min	20 min	*
500 psi	1 hr	15 min	5 min	0	*

**Not recommended*

Oxygen Conserver

An oxygen conserver is a regulator that only delivers oxygen when you inhale. This is why it is called a conserver – it conserves the oxygen in the cylinder. The flow that you get from a conserver is not measured in liters per minute because it is not a continuous flow system; gas is delivered in a pulse.

There must be a specific order from your doctor or nurse practitioner for an oxygen conserver. Not everyone will do well with an oxygen conserver. A Handi Medical clinician will do an oximetry test to make sure that your oxygen saturation level does not drop with this system. Each maker of conservers conserves oxygen differently. We cannot make one chart that will fit every type of conserver. You will get specific information on your type of conserver.

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Oxygen Cylinder *continued*

Troubleshooting Your Oxygen Cylinder

Trouble	Cause	Solution
Oxygen not flowing from the nasal cannula or mask	Cylinder is empty	Look at the pressure gauge and replace with new cylinder
	Oxygen flow seems low	Place cannula in glass of water and look for bubbles from the flow Check for kinks in tubing
	Connections are loose	Tighten
	Cannula kinked	Change to new cannula
	Cylinder valve is closed or liter control knob is turned off	Turn the valve open. Check flow setting on regulator
	Regulator is not working	Call Handi Medical (651) 644-9770
Oxygen cylinder makes a hissing noise	Regulator is not tight	Tighten
	Leaking at the washer	Replace the washer between cylinder and regulator Make sure there is only one washer in place
	Leaking at the regulator	If not resolved with the two steps above call Handi Medical
Any other concern that you can't resolve?		Call Handi Medical (651) 644-9770

Oxygen Concentrator

An oxygen concentrator is an electrically powered machine that takes room air, separates the oxygen from the other gases, and delivers the concentrated oxygen to you.

An oxygen concentrator has the following parts:

- **Power switch:** to turn on/off the concentrator
- **Flow regulator:** to adjust the flow (in liters per minute)
- **Electrical plug:** to plug into an electrical outlet
- **Alarm system:** to alert you if the power is interrupted

Where to place your concentrator

- Place in an open area (never place in a closet)
- Place away from any heat source
- Place at least 6 inches from walls, curtains, bedding (anything that could block the air inlet)

Turn on your concentrator

- Plug the concentrator into a grounded outlet
- Turn the concentrator ON (alarm will sound until pressure is reached)
- Adjust the flow to your ordered setting in liters per minute (lpm)

Attaching the oxygen tube

- Secure the oxygen tubing to the flow port
- Secure your cannula to the oxygen connecting tube
- Place the prongs into your nostrils (prongs should curve into your nose)
- Keep the nasal cannula in place by putting it in back of your ears and securing it under your chin

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Oxygen Concentrator *continued*

Troubleshooting Your Oxygen Concentrator

Trouble	Cause	Solution
Oxygen is not flowing from your cannula	Loose connections, kinks or obstruction in tubing	Check to see if flow is coming out of the concentrator – if it is, check your system for leaks
		Place cannula in glass of water and look for bubbles from the flow
		Tighten the connections in the tubing system
		In case of an obstruction or kink that is blocking the flow, replace tubing
Concentrator not operating	No power at the outlet	Check the power source – make sure that a light switch is not operating the outlet
		Plug not pushed into the electrical outlet
		Electrical power outage
		Concentrator circuit breaker set off
		Switch to your portable or back up oxygen system
		Reset circuit breaker

Trouble	Cause	Solution
Water is blocking the oxygen tubing	Humidifier jar is over-filled – humidity has condensed in tubing	Change tubing or shake excess out of tubing (if needed, switch to portable while you change or clear the tubing)
Not able to dial in the flow rate	Obstruction in cannula	Disconnect cannula from tubing, if flow is fine replace with new cannula
	Obstruction in tubing	Disconnect tubing from concentrator – if flow is fine, replace with new tubing
	Obstruction in humidifier bottle	Disconnect humidifier bottle – if flow is fine replace humidifier bottle or connect tubing to the nipple adapter

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Oxygen Concentrator *continued*

Troubleshooting Your Oxygen Concentrator *continued*

Trouble	Cause	Solution
Temperature light and/or alarm is on	Concentrator is overheated	Make sure that the air inlet is not blocked
		Make sure filters are clean
		Switch to your portable system. Turn the concentrator off. Let concentrator cool off for 30 minutes. Restart the concentrator.
Any other concern that you can't resolve?		Call Handi Medical (651) 644-9770

Humidifier Bottle

Humidifier bottles are often called “bubblers”, because the water inside bubbles during use. Usually a humidifier is not needed unless your liter flow is greater than 4 lpm.



Humidifier Bottle “Bubbler”

To set up your humidifier:

- Pour distilled water into the jar between the minimum and maximum fill lines
- Screw the lid onto the jar, making sure it is threaded correctly
- Attach the lid to the concentrator
 - With some brands of concentrators the lid screws onto the flow meter
 - Some brands require a tube and a connector – the tube connects to the flow port and the connector screws into the humidifier lid
- Attach the oxygen tubing to the port on the humidifier lid
- The water in the bottle should bubble

Refilling the humidifier bottle

- Wash your hands
- Turn the concentrator off and go onto your portable or back up system
- Unscrew the top of the bottle
- Discard any unused water
- Rinse out the bottle
- Refill with distilled water
- Reattach to the concentrator

Cleaning the humidifier bottle

- One time per week wash all parts in warm soapy water
- Rinse completely
- Mix together three parts water and one part white vinegar
- Soak bottle for 30 minutes to disinfect
- Rinse well
- Allow to air dry

Cleaning Schedule

Clean all equipment and supplies in a clean area.

Wipe off your nasal cannula

Once per week

→ Concentrator:

- Remove filter
- Wash in warm water and mild detergent
- Rinse completely under warm water
- Gently squeeze out the water and pat dry with a clean towel
- Put the filter back on the concentrator
- With a damp cloth wipe off the exterior of your oxygen equipment

→ Clean humidifier bottle (see under “humidifier”)

Every other week

→ Cannula:

- Replace with a new cannula

Traveling with Oxygen

If you are going to travel with your oxygen please call Handi Medical so we can help you make arrangements for your oxygen needs.

Reordering Your Oxygen

- If you have a portable system always make sure you have enough cylinders
- Reorder several days ahead to prevent running low
- If you have a battery powered oxygen equipment make sure you have extra batteries on hand
- Make sure you always have an extra set of supplies on hand

Oxygen Instruction Checklist

We want to be certain that the instruction you received was covered completely.

- All oxygen safety measures
- To post the “No Smoking” signs
- Where to place the equipment in the room
- How to turn the oxygen equipment on and off
- How to set the flow rate
- How to clean the equipment and supplies
- What to do in a power failure
- How to reorder supplies
- How to contact Handi Medical

Handi Medical Representative

Date



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