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Overview
An ambulatory aid can give a person the proper support for safe and independent walking. Most ambulatory aids are made from lightweight materials to reduce user fatigue.

Operating Instructions
Safety tips when using any ambulatory aids:

- Wear non-skid, flat sole shoes that can support your weight.
- Check to ensure your shoes are buckled or tied securely.
- Use good posture when walking.
- Look ahead when walking, not at your feet.
- Do not take steps that are too big.
- When turning, take small steps and pivot.
- Ensure the area you will be walking is clear, dry and well lit.

Cane
1. When standing, the cane should extend from the floor to your hip joint (adjust height if needed).
2. Keep your elbow at a 30-degree angle and hold the cane in the hand opposite of the injury with the tip 4 inches from the outside of the stronger (uninjured) leg/foot.
3. Move the cane and step with your injured leg at the same time, keeping the cane close to your body for support and balance.
4. Support your weight on the cane and step up to (or through) with the uninjured leg.
**Crutches**

1. Stand in the middle of your crutches, grasping hand grips, while supporting your weight with your hands, not your underarm.

2. The top of the crutches should be about 1 to 1.5 inches below your underarm and your arm should be slightly flexed, but not straight.

3. Place crutches in front of you at a comfortable arm’s length.

4. Push down on the hand grips and step forward to the crutches with your weaker leg.

5. Continue forward and step past crutches with your stronger leg.

6. Continue steps 3-5.

**Walker**

1. Stand up straight with your feet close together and place the walker in front of you (arms length) with all four of the legs on the floor.

2. Grasp the top handle on each side of the walker and keep your elbows nearly straight. If necessary, adjust the walker height.

3. Move the weaker leg toward the walker first (if both legs are injured, use either one to begin walking).

4. Then bring your good leg ahead of the weaker leg.

5. To carry items, attach a basket or bag to the side or front of the walker using Velcro or straps.
Overview

An aspirator (also known as a suction machine) removes secretions from the airways and allows the patient to breathe easier. Suctioning may be performed orally, nasally or through a tracheotomy opening.

Operating Instructions

1. Place Suction Machine on a flat surface near the patient.

2. Connect short tubing from suction machine fitting to the port on the collection bottle labeled “SUCTION” or “VACU-UM”.

3. Connect larger tubing port on the collection bottle labeled “PATIENT”.

4. Plug suction machine power cord into appropriate electrical outlet.

5. Turn on power switch.

6. Occlude the end of the tubing while reading pressure gauge. Adjust pressure based on patient type:
   - Adult = 100 to 120 cmH2O
   - Children = 80 to 100 cmH2O
   - Infants = 60 to 80 cmH2O

7. Attach suction instrument to connecting tubing.

8. Introduce suction instrument into the patient’s mouth above the tongue and advance into the back of the throat. Use caution as this may cause the patient to gag.

9. Aspirate secretions into the collection bottle.

10. After each use, aspirate a small amount of water to prevent secretions from drying in the instrument or tubing and causing an obstruction.

11. Store suction instrument in its sleeve or a paper towel to keep it free from dust and other contamination.
Cleaning Instructions

1. Discard contents of cannister into toilet daily.
2. Wash cannister and tubing with warm, soapy water.
3. Rinse under cold running water.
4. Allow to air dry.
5. Once every 3 days after washing, soak cannister for 30 minutes in a solution of 1 part white vinegar and 3 parts water. Do not soak tubing in solution.
6. Rinse under cold running water.
7. Allow to air dry.
8. Dispose of white vinegar and water.

Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirator will not work.</td>
<td>Aspirator not plugged into outlet.</td>
<td>Ensure aspirator plugged in outlet.</td>
</tr>
<tr>
<td></td>
<td>Household fuse blown.</td>
<td>Check fuse/breaker box.</td>
</tr>
<tr>
<td></td>
<td>Power switch is in “off” position.</td>
<td>Check power switch on device.</td>
</tr>
<tr>
<td>No suction from tubing/no pressure reading on gauge.</td>
<td>Suction cannister lid is not tight.</td>
<td>Ensure cannister lid is secure.</td>
</tr>
<tr>
<td></td>
<td>Tubing not connected to cannister.</td>
<td>Check tubing connections.</td>
</tr>
<tr>
<td></td>
<td>Pressure gauge set too low.</td>
<td>Increase pressure setting.</td>
</tr>
<tr>
<td></td>
<td>Cannister full.</td>
<td>Empty cannister contents.</td>
</tr>
<tr>
<td>Unable to adjust vacuum</td>
<td>Defective regulator.</td>
<td>Contact equipment provider to replace unit.</td>
</tr>
</tbody>
</table>

*Contact your local medical equipment supplier if you are unable to correct problem.*
Overview

For some people, eating drinking and swallowing become impossible. Because they cannot eat enough, or at all, they get nutrition through a feeding tube. Unlike regular eating, the mouth and esophagus are bypassed. Tube feeding through the stomach is accomplished by using a gastrostomy tube (also called a G-tube) or through the jejunum (a section of the small intestine) using a jejunostomy tube (J-tube).

Operating Instructions

1. Attach pump to stand using pole clamp.
2. Plug pump into grounded outlet.
3. Attach pump set securely onto a filled enteral nutrition container.
4. Suspend container 20 inches above pump.
5. Place sight chamber into drop detector and seat in place before priming.
6. Remove cover from the orange feeding-set adapter.
7. With one hand on the blue connector of the pump set, gently pull until fluid flows.
8. Completely prime the set by allowing fluid to expel air from the tubing.
9. Let fluid slowly enter sight chamber to fill line (1/4 full).
10. Grasp the blue connector on the pump insert. Loop the pump insert under the rotor (counter-clockwise).
11. Gently pull up and then seat the blue connector in the slot above the rotor.
12. Confirm proper placement and function of enteral feeding tube.
13. Attach feeding set adapter to enteral feeding tube.
14. With one hand on the sight chamber and the other hand on the blue connector, gently pull until fluid drains from tubing.
15. Suspend container and re-prime.
16. Turn pump dial to SET RATE. Pump will initiate system self-check procedure.
17. Select flow rate, from 1 to 300 mL/hr,
18. Select dose by turning dial to SET DOSE and pressing the arrows to the desired amount.
19. Start feeding by turning dial to RUN.
20. To see feeding delivered, turn dial to VOL FED.
21. To clear the volume delivered, turn dial to CLEAR VOL (occurs after four beeps).
22. When feeding is complete turn pump dial to OFF.

**Cleaning Instructions**

Clean outside pump surface as needed using a soft cloth and warm soapy water (use non-chlorine based dish detergent) or isopropyl alcohol. Do not spray water or cleaning solution into pump.

**Troubleshooting**

<table>
<thead>
<tr>
<th>VISUAL DISPLAY</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>no FLO</td>
<td>Flow has stopped due to occlusion or empty container.</td>
<td>1. Turn dial to HOLD.  2. Clear obstruction/check for kinked tubing or empty container.  3. Refill container, if necessary.  4. Ensure sight chamber is not overfilled or covered with a film of product.</td>
</tr>
<tr>
<td>doSE FEd</td>
<td>Dose complete - VOL FED is equal to SET DOSE.</td>
<td>1. Turn dial to HOLD.  2. Turn dial to SET DOSE and depress up arrow to increase dose or down arrow to zero the dose setting or turn dial to CLEAR VOL (after four beeps, volume fed will be cleared).  3. Turn dial to RUN to start pump.</td>
</tr>
<tr>
<td>FrEE FLO</td>
<td>Free-flow alarm.</td>
<td>1. Remove from service immediately.  2. Verify pump set is properly installed, replace set if necessary.  3. Confirm no drops fall when in HOLD.</td>
</tr>
<tr>
<td>SEL rAtE</td>
<td>Dial turned to RUN without selecting a rate.</td>
<td>1. Turn dial to SET RATE.  2. Enter a rate using the up and down arrow.</td>
</tr>
<tr>
<td>Lo bAt</td>
<td>Approximately 30 minutes of battery operation remain.</td>
<td>1. Turn dial to HOLD, then RUN.  2. Plug power cord into AC outlet for 12 hours, then continue feeding.</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*
Overview

A hospital bed is a specially designed for patients in need of some form of health care. These beds have special features both for the comfort and well-being of the patient and for the convenience of health care workers. Common features include adjustable height for the entire bed, the head, and the feet, adjustable side rails and electronic buttons to operate both the bed and other nearby electronic devices.

Operating Instructions

1. Place the bed away from walls to prevent movement of the bed when raising or lowering the bed rails.
2. Bed height can be adjusted by either putting the crank in bed ends and adjusting to height or using center crank at foot end of bed (fully electric beds are adjusted from bed controller).
3. Support side rails with hand while pulling out release pin located by bottom of side rail at either end and lower carefully.
4. To raise side rails pull up until side rail locks. Make sure side rail is securely in UP position before leaving patient unattended.
5. Do not pull on rails to position patient.
6. Raise head and knees with bed controller.
7. Lower head and knees by using the DOWN arrow.
8. Move controller from area when bathing patient.)
9. In case of power outage, use manual crank found under the mattress in the bedsprings.
10. Place crank into base of motor and turn to raise or lower head and knees.
Trapeze Bar

1. Adjust trapeze by loosening clamp that holds triangle, move forward and back, then tighten securely.
2. Adjust length of chain on hook to raise or lower to desired height.
3. Periodically check trapeze brackets for tightness.

Alternating Pressure Pump & Pad

1. Place the pad onto the mattress and ensure the flaps are tucked under the mattress.
2. Attach the pump to the foot board of the bed.
3. Connect the air lines to the pump and pad.
4. Plug the pump into electrical outlet.
5. Turn on power to the pump and allow the pad to fill with air.
6. Check for leaks when the pad is almost full.

Troubleshooting

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<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
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</thead>
<tbody>
<tr>
<td>Bed spring does not move.</td>
<td>End of direction stroke reached.</td>
<td>Operate opposite button.</td>
</tr>
<tr>
<td>Hi/Lo bed function (full electric bed only) does not work.</td>
<td>Bed not plugged in.</td>
<td>Ensure power cord is plugged into power source.</td>
</tr>
<tr>
<td></td>
<td>Household fuse or breaker blown.</td>
<td>Check household fuse/breaker box.</td>
</tr>
<tr>
<td></td>
<td>Power outage</td>
<td>Use manual crank for bed adjustments until power returns.</td>
</tr>
<tr>
<td>Bed spring does not stop moving.</td>
<td>Pendant controller button stuck.</td>
<td>Check controller buttons.</td>
</tr>
<tr>
<td>Bed does not stay in place.</td>
<td>Casters unlocked.</td>
<td>Lock casters.</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*
Overview

A nebulizer compressor is a device to convert liquid medication into a mist for inhalation. The nebulizer compressor is very portable and lightweight. Some units can be powered with an optional battery pack for greater convenience. Nebulizer therapy uses a prescribed drug. Never increase your frequency of treatments or volume of medication without the specific approval of your physician.

Operating Instructions

1. Place compressor on a flat level surface.
2. Assemble nebulizer kit.
3. Fill medication cup with prescribed solution.
4. Attach tubing to the flow output valve on the compressor and to the port on the medication cup.
5. Plug the power cord into a appropriate electrical outlet.
6. Turn compressor power switch on.
7. Nebulizer kit will begin to create white medication mist.
8. Place lips over mouthpiece and breathe normal.
9. Take deep breath every 30-60 sec. and hold for a count of 5.
10. If unable to hold nebulizer in mouth, use a face mask with treatment.
11. For infants, direct the mist at the nose and mouth.
12. Continue treatment until medication cup is empty (approximately 10–15 minutes). Listen for sputtering sound.
13. Turn compressor power switch off.
Cleaning Instructions

After Each Treatment
1. Disassemble nebulizer kit.
2. Wash with warm, soapy water.
3. Rinse thoroughly under cold running water.
4. Place nebulizer parts on a paper towel to air dry and cover with another paper towel to keep off dust.

Every Other Day
1. After rinsing, soak all nebulizer parts (except tubing) in a solution of 1 part white vinegar and 3 parts water for 30 minutes.
2. Rinse parts thoroughly under cold running water.
3. Place nebulizer parts on a paper towel to air dry and cover with another paper towel to keep off dust.

Tubing
Tubing (replace every 2 weeks with disposable neb; every 6 months with non-disposable neb). Wipe with damp cloth if soiled. Do not attempt to soak/clean tubing.

Alternative Disinfection for Reusable Kits
Disassemble kit and place in dishwasher in or boiling water for 10 minutes (allow adequate time for water to cool before attempting to reassemble).

Replacement Schedule for Supplies
- Disposable Nebulizer Kit: Every 2 weeks
- Reusable Nebulizer Kit: Every 6 months

Troubleshooting

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<th>CORRECTIVE ACTION</th>
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</thead>
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<tr>
<td>Medication is not making a mist.</td>
<td>Nebulizer cup is not clean.</td>
<td>Clean nebulizer cup and reassemble. Use a new nebulizer kit if needed.</td>
</tr>
<tr>
<td></td>
<td>Nebulizer cup is not properly assembled.</td>
<td>Reassemble nebulizer cup. Use a new nebulizer kit if needed.</td>
</tr>
<tr>
<td>Medication leaks out of the nebulizer cup.</td>
<td>Nebulizer cup is cross-threaded.</td>
<td>Unscrew cap from nebulizer cup and reassemble.</td>
</tr>
<tr>
<td>Compressor does not turn-on</td>
<td>Unit is not plugged in.</td>
<td>Plug in unit. If unit is plugged in, check fuse box for tripped breaker.</td>
</tr>
<tr>
<td>Compressor does not have enough flow.</td>
<td>Filter is dirty.</td>
<td>Replace filter.</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*
Overview
It is estimated between 700,000 and 1,000,000 people in America use oxygen therapy in the home. When used properly, oxygen is very safe. It has many benefits including extending life expectancy, improving activity levels, reducing symptoms such as shortness of breath and reducing damage to the heart and other body organs. However, when used inappropriately, it can present a hazard. Here are some guidelines to follow for safe and effective use.

Physician’s Order
Oxygen is a drug that requires a prescription from your physician. A physician’s prescription is also required to discontinue oxygen. If you choose to stop using your oxygen, notify your physician.

Fire Risk
Three things are necessary for a fire. First, a combustible material (i.e. something that will burn); secondly, an ignition source (i.e. a spark, flame, or high temperature to get the fire going); and thirdly, oxygen. While oxygen itself is not flammable, oxygen must be present for a fire to occur. When higher concentrations of oxygen are present (such as when using oxygen therapy), the result is:

- Easier ignition of combustible material
- Much higher flame temperatures
- Extremely fast flame spread

Thus, when a patient is using oxygen, combustibles that are in close contact with oxygen (e.g. clothing, oxygen tubing, hair, pillow, blanket, a cigarette) are more prone to catch on fire, and if they ignite, will burn hotter and the flame will spread faster.

To use oxygen safely, maintain a safe distance (at least 15 feet) between all oxygen equipment (including tubing) and any flame or other potential source of ignition. Other potential ignition sources include cooking stoves, heating stoves, fireplaces, gas hot water heaters and candles.

Avoid using products on your face containing petroleum-based ingredients, as they are flammable. Examples include petroleum jelly, mentholated rubs, some lip balms and oily lotions. If you need to use these types of products, check the label and use only water-based products instead of petroleum-based (e.g. K-Y Jelly instead of Vaseline).
Oxygen Concentrators
1. Only plug device into a properly grounded outlet.
2. Do not use extension cords or multi-outlet adapters.
3. Avoid using power sources that create heat or sparks.
4. Keep concentrator away from walls, drapes, curtains, bedspreads, etc.

Portable Oxygen Concentrators
1. Keep extra charged batteries with you during travel.
2. While using in a vehicle, keep at least one window partially open for ventilation.
3. Do not use portable oxygen concentrator in pulse mode during sleep.

Oxygen Cylinders
1. Always keep tanks secured so they cannot fall or roll.
2. Do not store tanks under extreme temperatures.
3. Do not transport tanks in the trunk of a car.

Liquid Oxygen Systems
1. Never touch frosted components on the system.
2. If the unit falls over, cautiously set it back upright.
3. If liquid oxygen ever leaks from the unit, do not touch it.

All Oxygen Systems
1. Remember to post “No Smoking” signs on your entry doors and wherever oxygen is being used or stored.
2. A smoke detector and fire extinguisher are recommended when using oxygen in the home.
3. Never adjust your oxygen flow without your doctor’s permission. If you feel the prescribed flow is not appropriate for you, tell your doctor.

Changing & Cleaning Oxygen Disposable Supplies
1. Change nasal cannula every two (2) weeks (more frequently when you have a cold).
2. Change humidifier bottle monthly (if attached).
3. Change oxygen extension tubing every 90 days.

Travel Tips
1. Must notify our office at least 21 days prior to travel.
2. Contact your travel reservation office for specific information about the use of oxygen and special accommodations.
3. Most travel companies require at least two weeks notice if you are going to be using oxygen on your trip.
4. Most airlines require at least four weeks notice if you need oxygen during your flight.
5. If traveling by plane, request a direct flight, if possible.
6. Most airlines allow you to bring a portable oxygen concentrator on board.
Best of Breathe Easy:
It’s Never Too Late To Kick The Habit

Smoking is the number one cause of preventable lung disease. Smoking is the major cause of COPD (eg, chronic bronchitis, and emphysema) and aggravates other breathing problems such as asthma. For those with chronic lung disease who continue to smoke, the number one thing that you can do to improve your future outlook is to stop smoking. Quitting will help to stabilize your lung function and may actually result in an improvement for a period. Follow these tips for an improved chance of success.

Set a Quit Date
Write the date down and tell a few close friends. Although it is best to pick a time that is relatively calm, don’t postpone quitting. Waiting for a “stress-free” time will likely never occur. Prepare-Write down your reasons for quitting. Include pictures of family who will be influenced by your decision. Keep these with you and look at it during weak moments. Make a list of alternate activities that you can use when an urge to smoke returns. List health reasons why you should quit.

Get Help
Using nicotine replacement therapy (eg, gum, patch) or buproprion (an antidepressant pill) has been shown to greatly increase success rates. Some are available over the counter and others require a physician prescription. Talk with your doctor about which is best for you.

Support Groups
Participation in a smoking cessation program or even the support of close friends can increase your chances of quitting. Have a close friend (ex-smoker) or support group member that you can call when things get tough. Quit rates may be up to 8 times higher when using a support program and cessation aids (eg, patches, medication) as when trying to quit on your own.

Go Cold Turkey
Experts agree that stopping all at once is the way to go. Make the decision to quit and throw away your cigarettes and ashtrays. Expect that cravings will be greatest within the first 3-4 days and be prepared.

Change Your Lifestyle
See quitting as a whole new lifestyle. Become more active, avoid the smoke break room at work, get up and walk after eating, avoid activities associated with smoking (e.g., drinking alcohol, coffee, etc.) and request non-smoking seating in restaurants.
Never, Never, Never Give Up
If you’ve tried before and failed, try again. Most people who quit have tried several times previous. If you have tried several times before and failed, you may want to consider counseling. Depression, which is very common in those with chronic lung disease, may contribute to your inability to stop. If you have already quit, encourage your relatives and friends to stop. Point out the negative effects that smoking has had in your life.

Talk to your doctor if you have questions and remember stopping smoking is the best thing to help you *Breathe Easy*.

**15 Activities to Try When You Have a Craving**
Find the ones that work for you. Pick activities that are not associated with smoking.

1. Take a walk.
2. Brush your teeth.
3. Chew sugar-free gum.
4. Take a bath or shower.
5. Call a family member or friend that will encourage you.
6. Go to a movie.
7. Go to a nonsmoking restaurant.
8. Prepare low-cal snacks (eg, carrot sticks) for munching.
9. Suck on a toothpick or straw.
10. Go see your children/grandchildren.
11. Have a cup of tea rather than coffee (if you normally smoke with coffee).
12. Avoid alcohol.
13. Treat yourself to something special with the money you are saving.
15. Review your list of why you quit.

**Do anything, but don’t smoke!**
Fire Hazard Warning:
Don’t Let This Happen To You!

Fire destroyed a patient’s car after lighting a match while using oxygen.

Fire destroyed a patient’s bed after leaving a cigarette burning while using oxygen.

Fire burned the interior of a patient’s home after turned on the gas while using oxygen.

Using oxygen near any open flame or sparks can result in serious bodily harm or even death.
NO SMOKING OR OPEN FLAME WITHIN 15 FEET OF OXYGEN EQUIPMENT
Oxygen Concentrator

Overview

An oxygen concentrator is an electrically operated device that draws in room air, separates the oxygen from the other gases in the air and delivers the concentrated oxygen to you. The concentrator acts like a strainer. It traps oxygen and releases the other gases (mostly nitrogen) back into the room air. This process goes on continuously until the oxygen inside the unit is highly concentrated.

Oxygen concentrators are available in different sizes and models. However, all models have the same basic parts: a power switch to turn the unit on and off, a flow selector that regulates the amount of oxygen you receive and an alarm system that alerts you if the power is interrupted.

Operating Instructions

1. Place concentrator in a well ventilated area, at least 12-18 inches away from walls, drapes or curtains.
2. Keep equipment at least 15 feet away from open flame, heat source, stoves, smoking, etc.
3. Keep equipment away from combustible materials (grease, oil, lotions, petroleum based products).
4. Use power switch to start concentrator (alarm sounds briefly).
5. Turn flow control knob until the middle of the ball is at the prescribed rate (for rotary dial, turn knob until prescribed rate appears).
6. Connect nasal cannula (or oxygen tubing) directly to the oxygen flow outlet (or humidifier if prescribed).
7. If using humidifier, add distilled water up to maximum fill line on jar.
8. Fit the nasal cannula to face by inserting the 2 prongs into the nose (prongs curve down).
9. Slide nasal cannula tubing over and behind each ear.
10. Slide tubing adjuster upward under the chin (not too tight).
11. Use oxygen at the prescribed rate for prescribed hours or activities.
12. Do not increase or decrease oxygen flow rate unless directed by your physician.
Cleaning Instructions

Cabinet: (weekly)
1. Wipe outside cabinet with a clean damp (water only) cloth.
2. Do not use cleaning solution on equipment.

Filter: (weekly)
1. Remove filter element.
2. Wash filter in warm, soapy water.
3. Rinse completely in cold running water.
4. Squeeze filter in paper towel to dry.
5. Replace filter element.

Humidifier Bottle: (every 3 days; replace monthly)
1. Remove the humidifier bottle and wash in warm, soapy water.
2. Rinse thoroughly under cold running water.
3. Soak for 30 minutes in a mixture of 1 part white vinegar and 3 parts water.
4. Rinse under cold running water.
5. Allow the bottle to air dry.
7. Refill humidifier bottle with distilled water.
8. Reconnect the humidifier to the concentrator.

Nasal Cannula:
Wipe with damp cloth if soiled and replace every 2 weeks (more often if you have a cold).

Tubing:
Wipe with damp cloth if soiled and replace every 90 days. Do not attempt to soak tubing.

Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No oxygen flowing from system.</td>
<td>Cannula or nipple adapter not connected tightly.</td>
<td>Check connection at cannula and nipple adapter.</td>
</tr>
<tr>
<td>Water blocking oxygen tubing.</td>
<td>Overfilling the humidifier bottle or tubing lying on a cold floor.</td>
<td>Add water trap to catch water or use a dehumidifier.</td>
</tr>
<tr>
<td>Unit not operating (power failure alarm sounds).</td>
<td>Plug not firmly in wall.</td>
<td>Check plug at outlet.</td>
</tr>
<tr>
<td></td>
<td>Concentrator circuit breaker tripped.</td>
<td>Press reset button on back of concentrator.</td>
</tr>
<tr>
<td></td>
<td>Electrical power outage.</td>
<td>Use back-up oxygen system until power is restored.</td>
</tr>
<tr>
<td>Unable to dial prescribed flow rate.</td>
<td>Obstructed humidifier bottle.</td>
<td>Disconnect humidifier bottle. If pressure is restored, replace humidifier bottle.</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*
Overview

A portable oxygen concentrator (or POC) is a portable device used to provide oxygen therapy to patients at substantially higher oxygen concentrations than the levels of ambient air. It is very similar to a home oxygen concentrator, but is smaller in size and more mobile. The portable oxygen concentrator makes it easy for patients to travel freely; they are small enough to fit in a car and most of the major concentrators are now FAA-approved.

Most of the current portable oxygen concentrator systems provide oxygen on a pulse (on-demand) delivery in order to maximize the purity of the oxygen. The latest models can be powered from main electrical supply, 12v DC (car, boat, etc.) or battery packs.

Operating Instructions

1. Use power switch to start portable oxygen concentrator.
2. Press up/down arrows until prescribed liter flow appears in the LED window (button placement may differ from image shown, please review the product manual).
3. Connect nasal cannula to portable oxygen concentrator.
4. Fit the nasal cannula to face by inserting the 2 prongs into the nose (prongs curve down).
5. Slide nasal cannula tubing over and behind each ear.
6. Slide tubing adjuster upward under the chin (not too tight).
7. Use oxygen at the prescribed rate for prescribed hours or activities.
8. Do not increase or decrease oxygen flow rate unless directed by your physician.

Battery Placement:
Using its handle, position the battery over the battery compartment. Lower into place and press until it snaps into place.

Estimated Duration:
Flow Rate (Hours): 1 (3 hours); 2 (3 hours); 3 (2.5 hours); 4 (2 hours); 5 (2 hours)

Recharge Time:
Approximately 2-3 hours
Cleaning Instructions

Cabinet: (weekly)
1. Wipe equipment cabinet with a clean damp cloth using water only.
2. Do not use cleaning solution on equipment.

Filter: (weekly)
1. Remove filter element.
2. Wash in warm, soapy water.
3. Rinse completely under cold running water.
4. Squeeze filter in paper towel to dry.
5. Return filter element to concentrator.

Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No oxygen flowing from system.</td>
<td>Cannula or nipple adapter not connected tightly.</td>
<td>Place end of cannula in a small glass of water and look for a steady flow of bubbles. If bubbles present, concentrator is working. If not, check to ensure cannula connection to the system is tight. Also ensure the nipple adapter is also connected tight.</td>
</tr>
<tr>
<td>Water blocking oxygen tubing.</td>
<td>Overfilling the humidifier bottle or tubing lying on a cold floor.</td>
<td>Use back-up oxygen system while correcting water in tubing. Add water trap to catch water. Use a dehumidifier.</td>
</tr>
<tr>
<td>Unit not operating (power failure alarm sounds).</td>
<td>Plug not firmly in wall.</td>
<td>Check plug at outlet.</td>
</tr>
<tr>
<td></td>
<td>Concentrator circuit breaker tripped.</td>
<td>Press reset button on back of concentrator.</td>
</tr>
<tr>
<td></td>
<td>No power at wall outlet.</td>
<td>Check power source (fuse or circuit) or wall switch if controls plug. Try another outlet.</td>
</tr>
<tr>
<td></td>
<td>Electrical power outage.</td>
<td>Use back-up oxygen system until power is restored.</td>
</tr>
<tr>
<td>Unable to dial prescribed flow rate.</td>
<td>Obstructed humidifier bottle.</td>
<td>Disconnect humidifier bottle. If pressure is restored, replace humidifier bottle.</td>
</tr>
<tr>
<td></td>
<td>Obstruction in oxygen tubing.</td>
<td>Disconnect oxygen tubing. If pressure is restored, replace oxygen tubing.</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*
Oxygen Cylinders

Overview

High pressure oxygen cylinders provide short-term supplemental oxygen for necessary travel while away from your stationary unit and for use during emergency situations. Oxygen cylinders are not to be used while at home in place of your stationary unit.

Oxygen cylinders are available in a variety of sizes to provide portability while traveling away from the home. The cylinders are made portable through the use of a wheeled cart or small shoulder bag. Often, an oxygen conserving device is applied to a cylinder to extend the duration of the tank.

Rotech delivers oxygen cylinders typically one time every 90 days. Number of cylinders delivered is calculated based on a patient’s prescribed liter flow and need. If a patient has an unexpected need for additional oxygen cylinders before the next schedule delivery, they can be exchanged one for one at our local office. Patients are encouraged to call the local office to make an appointment to exchange tanks.

Operating Instructions

⚠ Keep oxygen cylinders at least 15 feet from heat sources (smoking, matches, stoves, heaters, toasters, hair dryers, etc.).

⚠ Keep oxygen cylinders away from combustible materials (grease, lotions, solvents, etc.).

⚠ Keep oxygen cylinders in a well-ventilated area.

⚠ Do not store oxygen cylinders in a closet or cabinet.

⚠ Do not store oxygen cylinders standing upright unless in a rack or cart.

⚠ Do not transport oxygen cylinders in the trunk of a car.

⚠ Do not change oxygen liter flow unless directed by your physician.

Stationary Back-up System (H or M Cylinder)

1. If necessary, remove the white tape on the cylinder.

2. Open the cylinder valve slightly by turning counterclockwise.
This will blow off any dust in the orifice of the cylinder outlet. Close the valve tightly.

3. Attach the regulator to the cylinder by threading the regulator connector nut clockwise on the cylinder outlet. Tighten firmly with a cylinder wrench.

4. Attach a nipple adapter to the regulator outlet and attach the oxygen tubing to the nipple adapter.

5. Slowly open the cylinder valve by turning counterclockwise.

6. Adjust flow to prescribed rate.

7. Place nasal cannula in nose and secure tubing over and behind ears.

8. When finished using oxygen, turn flow control counterclockwise (to the right) to turn off oxygen.

**Continuous Flow Portable System (E or D Cylinder)**

1. Remove tape from cylinder valve.

2. Using cylinder wrench, slightly open then close cylinder valve to blow away any dust or debris from the outlet.

3. Check pins on regulator to ensure washer is present and is not damaged.

4. Place the regulator over the top of the cylinder post and align the pins with the opening on the cylinder.

5. Turn the T-handle clockwise (to the right) to create a tight seal between the cylinder and regulator.

6. Use cylinder wrench to open valve.

7. Attach the end tubing from nasal cannula to the nipple adapter.

8. Set flow control to prescribed rate.

9. Place nasal cannula in nose and secure tubing over and behind each ear.

10. When finished using oxygen, turn flow control counterclockwise (to the right) to turn off oxygen.
Oxygen Conserving Device

An oxygen conserving device extends the lifespan of your oxygen cylinders by delivering oxygen only on inspiration, therefore conserving the amount of oxygen you use.

Pneumatic Powered Device

1. Remove protective tape from cylinder valve.
2. Use cylinder wrench to slightly open, then close cylinder valve to blow away any dust or debris in the cylinder outlet.
3. Place the regulator over the top of the cylinder post. Align the pins with the opening on the cylinder.
4. Turn the t-handle clockwise (to the right) to create a hand-tight seal between the cylinder and regulator.
5. Use cylinder wrench to open valve.
6. Attach the connecting tubing from a dual-lumen nasal cannula (required) to the conserving device.
7. Set Flow control to prescribed rate.

Electronic Battery Powered Conserver

1. Remove protective tape from cylinder valve.
2. Use cylinder wrench to slightly open, then close cylinder valve to blow away any dust or debris in the cylinder outlet.
3. Place regulator over the top of the cylinder post and align pins with the opening on the cylinder.
4. Turn the t-handle clockwise (to the right) to create seal between the cylinder and regulator.
5. Use cylinder wrench to open valve.
6. Attach the end tubing from nasal cannula to the conserving device.
7. Place nasal cannula in nose and secure tubing over and behind each ear.
8. Set flow control to prescribed rate. Conserving device will deliver a puff of oxygen at the prescribed setting, usually on inspiration and may not happen with each breath.

Check/Change Battery

1. Press battery check button on top for current status or look for low battery light.
2. To replace battery, open battery door, remove old battery and replace with same type/size.
## Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No oxygen flowing from cannula</td>
<td>Cylinder is empty.</td>
<td>Check pressure gauge. If cylinder is empty, replace with new full cylinder.</td>
</tr>
<tr>
<td></td>
<td>Cannula connection to regulator is loose.</td>
<td>Check tubing connection to regulator.</td>
</tr>
<tr>
<td></td>
<td>Cylinder valve is off.</td>
<td>Check cylinder valve to ensure it is open.</td>
</tr>
<tr>
<td></td>
<td>Flow control is off.</td>
<td>Check flow control to ensure it is on.</td>
</tr>
<tr>
<td></td>
<td>Battery is dead (if using battery operated conserving device).</td>
<td>Change battery in device.</td>
</tr>
<tr>
<td></td>
<td>Not using special double lumen cannula (if using pneumatic conserving device).</td>
<td>Connect double lumen nasal cannula to device.</td>
</tr>
<tr>
<td>Oxygen cylinder hisses and leaking oxygen.</td>
<td>Regulator is not tightly connected to cylinder.</td>
<td>Turn cylinder off. Tighten regulator connection to cylinder.</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*

## Usage Hours by Cylinder Size

<table>
<thead>
<tr>
<th>FLOW RATE</th>
<th>USE TIME (HOURS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>M4</strong></td>
<td></td>
</tr>
<tr>
<td>Pulse Dose</td>
<td>5.7</td>
</tr>
<tr>
<td>Continuous Flow</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>M6</strong></td>
<td></td>
</tr>
<tr>
<td>Pulse Dose</td>
<td>8.3</td>
</tr>
<tr>
<td>Continuous Flow</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>ML6</strong></td>
<td></td>
</tr>
<tr>
<td>Pulse Dose</td>
<td>8.6</td>
</tr>
<tr>
<td>Continuous Flow</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td></td>
</tr>
<tr>
<td>Pulse Dose</td>
<td>12.1</td>
</tr>
<tr>
<td>Continuous Flow</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td></td>
</tr>
<tr>
<td>Pulse Dose</td>
<td>21.0</td>
</tr>
<tr>
<td>Continuous Flow</td>
<td>6.9</td>
</tr>
<tr>
<td><strong>E</strong></td>
<td></td>
</tr>
<tr>
<td>Pulse Dose</td>
<td>34.4</td>
</tr>
<tr>
<td>Continuous Flow</td>
<td>11.4</td>
</tr>
</tbody>
</table>
Overview

When oxygen is cooled to a very low temperature (around 300 degrees below zero Fahrenheit), it becomes a liquid. In liquid form, large amounts of oxygen can be stored in a container at a low pressure. To remain in the liquid form, the oxygen must continue to be kept very cold. Therefore, the units in which the liquid oxygen is stored are insulated canisters. As the liquid oxygen leaves the container, it warms up to room temperature and becomes a gas again. A liquid oxygen system usually includes a stationary reservoir and a portable unit.

Operating Instructions

1. Keep equipment in a well-ventilated area (not in a closet).
2. Keep unit on a flat surface, do not allow the unit to tip over.
3. Keep equipment away from combustible materials (grease, lotions, solvents, etc.)
4. Keep equipment at least 15 feet from heat sources (smoking, matches, open flame stoves, heaters, Toasters, hair dryers, burning candles, etc.)
5. Do not place anything on top of the equipment (drinks, plants, covers, etc).
6. Adjust liter flow by turning the rotary flow control to the prescribed rate.
7. Keep equipment in upright position at all times.
8. Fit the nasal cannula to face by inserting the prongs into the nostrils (prongs point downward).
9. Slide tubing over and behind each ear.
10. Move slider upward under the chin but not too tight.
11. Use oxygen at the prescribed liter flow, number of hours and/or activities each day.
Filling the Portable Unit:

1. Wipe both of the filling connectors with a clean, dry, lint-free cloth to remove dust and moisture.
2. Turn off flow selector on portable unit.
3. Attach portable unit to stationary unit.
4. Open the valve (could be a lever, button, or key) to start fill process:
5. During the fill process it is normal to hear a loud “hissing” sound.
6. It will take approximately two (2) minutes to fill the portable unit. Stay with equipment while portable is filling.
7. Portable unit is full when “hissing” noise changes and a vapor cloud begins to spew from stationary unit.
8. Disengage the portable unit from the stationary unit.
   • If portable unit does not separate easily, the valves may be frozen together.
   • Wait until valves warm up to disengage (usually 5–10 minutes).
   • To prevent skin damage, do not touch any of the frosted areas.
9. Connect nasal cannula to oxygen outlet on portable unit.
10. Adjust flow to prescribed rate.
Other Precautions

In the even of accidental tip over:
1. Cautiously place unit back in upright position.
2. Never touch any of the frosted parts.
3. Avoid contact with the liquid stream while filling the portable unit.

In the event of a liquid oxygen leak:
1. Attempt to reattach portable unit.
2. Open windows and doors and leave the area.
3. Contact your home oxygen provider.

In the event of a liquid oxygen spill:
1. Ventilate the area by opening doors and windows.
2. Do not touch the liquid oxygen.
3. Do not smoke or expose yourself to any heat source or fire.
4. If the spill is on asphalt, the area cordon off the area for at least 30 minutes.
5. Avoid sources of ignition and do not walk or roll equipment on affected area.
6. Contact your home oxygen provider.
7. Any clothing or porous material that is splashed with liquid oxygen should be removed and aired for at least one hour away from any source of ignition.
8. Direct exposure to liquid oxygen or exposure to its vented gas or components cooled by liquid oxygen can result in frostbite.
9. If frostbite occurs, seek medical attention immediately.

If the vent fails to close and hissing continues
1. Remove portable unit by pressing the release button on the stationary unit.
2. Keep the portable oxygen unit upright and do not tip unit during this time.
3. The portable oxygen unit will stop venting in a few minutes.
4. Allow the portable oxygen unit to warm until you can close the vent valve.
5. The portable oxygen unit may require up to 60 minutes to restore adequate pressure for usage.

Cleaning Instructions
Wipe equipment as needed with damp cloth (water only). Do not use any type of cleaning products on the equipment.
**Nasal Cannula**
Replace every 2 weeks, more frequently if you have a cold.
Wipe with damp cloth if soiled. Do not attempt to soak/clean tubing.

**Mask**
Discard mask if worn out or damaged
Clean with a mild soap and warm water twice a week.

**Oxygen Tubing**
Replace every 3 months
Wipe with damp cloth if soiled. Do not attempt to soak/clean tubing.

**Humidifier**
Replace monthly
1. Fill with distilled water as necessary.
2. Dispose of any remaining water before refilling. Tap water can be distilled by boiling for 30 minutes; cool and add to humidifier as needed.
3. Once every 3 days, soak for 30 minutes in a 1:3 parts mixture of white vinegar and water, rinse under cold running water, and allow to air dry. Dispose of white vinegar and water.

**Troubleshooting.**

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<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No oxygen flow from cannula or mask.</td>
<td>Loose connections.</td>
<td>Check each connection from the unit to the cannula.</td>
</tr>
<tr>
<td></td>
<td>Flow control knob is not pointing directly to setting.</td>
<td>Adjust flow knob pointing directly to prescribed setting.</td>
</tr>
<tr>
<td></td>
<td>Unit is empty</td>
<td>Call your home care supplier.</td>
</tr>
<tr>
<td></td>
<td>Stationary unit obstructed flow.</td>
<td>Fill portable unit and call your home care supplier.</td>
</tr>
<tr>
<td></td>
<td>Dirty or faulty cannula or mask.</td>
<td>Remove cannula or mask and check tubing for kinks or obstructions. Replace item if needed.</td>
</tr>
<tr>
<td></td>
<td>Decreased awareness of oxygen flow.</td>
<td>Place cannula in clean glass of water, if bubbles observed, unit is functioning properly.</td>
</tr>
<tr>
<td>Portable unit cannot be removed from stationary system.</td>
<td>Units are frozen together.</td>
<td>Wait 15-30 minutes for connection to thaw.</td>
</tr>
<tr>
<td>Portable unit does not last as long as usual.</td>
<td>Not fully filled.</td>
<td>Review filling procedure. If problem persists, call your home care supplier.</td>
</tr>
<tr>
<td>White vapor spewing out of connector after uncoupling.</td>
<td>Fill valve stuck open.</td>
<td>Immediately reconnect portable to stationary while being careful not to come in contact with the vapor. Wait 15-30 minutes for ice to thaw. Remove portable.</td>
</tr>
</tbody>
</table>

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Positive Airway Pressure (PAP) Device

Overview
Most people using Positive Airway Pressure (PAP) devices have a condition known as Obstructive Sleep Apnea (OSA). During sleep, the muscles in the back of the throat relax causing the upper airway to become smaller. This is especially true during the deepest stages of sleep (called Rapid Eye Movement or REM sleep). In some individuals, the upper airway can actually collapse, causing a blockage of air movement into the lungs. When airflow is stopped for at least 10 seconds, it is referred to as apnea, and can occur many times each hour and hundreds of times each night.

Operating Instructions
1. Place PAP device on a flat level surface or on the floor next to the bed.
2. Fill the humidifier (if equipped) with distilled water.
3. Attach tubing to flow generator and to the face mask or nasal pillows.
4. Plug PAP power cord into an appropriate electrical outlet (ungrounded outlets may require grounding adapter).
5. Turn on power to PAP device to inflate mask or nasal pillows cushion.
6. Fit mask or nasal pillows to face and adjust headgear.
7. Position yourself in a comfortable sleeping position and readjust headgear, if necessary.
8. Breathe through nose. Try not to exhale through mouth.
9. If unable to exhale with full pressure, press ramp button (if equipped). This feature allows you to start with low air pressure, followed by an automatic, gradual increase in the pressure to your prescribed setting as you fall asleep.
10. If it is necessary to get up during the night, do not remove the mask or nasal pillows from the face. Turn power off on the PAP device and disconnect tubing from device before getting up. Upon returning to bed, reconnect the tubing to the PAP device and turn power on.
11. Upon rising in the morning, turn off power switch and remove mask or nasal pillows and headgear.
12. Empty water chamber and refill with distilled water.
Cleaning Instructions

Nasal Mask, Full Face Mask and Tubing (daily)
1. Wash in warm water with mild detergent.
2. Rinse thoroughly under cold running water.
3. Shake off excessive water.
4. Allow to air dry on a paper towel and cover parts with another paper towel to keep dust off.

Headgear or Chinstrap (weekly)
1. Machine or hand wash in mild fabric detergent if soiled
2. Allow to air dry.

Humidifier (every 3 days)
1. Wash in warm water with mild detergent.
2. Rinse thoroughly under cold running water.
3. Shake off excessive water.
4. Soak humidifier for 30 minutes in a solution of 1 part white vinegar and 3 parts water.
5. Rinse thoroughly under cold running water.
6. Shake off excessive water.
7. Allow to air dry on a paper towel and cover with another paper towel to keep dust off.
8. Dispose of white vinegar and water.

Reusable Filter (weekly)
1. Wash in warm soapy water
2. Rinse using cold running water
3. Squeeze water from filter.
4. Allow to dry before reinstalling.

Disposable Filter
Replace white disposable filter at least every 2 weeks, more frequently if necessary.
Changing Your PAP Supplies

Change is Good
Timely replacement of your supplies is essential for optimal comfort and proper operation. In addition to cleaning, your mask, cushions, headgear, tubing, filters and other components, you should replace these items on a regular basis. Ignoring the replacement schedule may lead to mask air leaks, discomfort, skin irritation, illness and dissatisfaction.

Mask
Your mask should be replaced every 3 months. With constant use and routine cleaning your mask becomes less effective over time leading to decreased comfort and non-compliance with your therapy. Routine replacement helps protect your health by eliminating the potential health risks associated with a contaminated and worn out mask.

Mask Cushion & Pillows
Your mask's cushion or pillows should be replaced 2 times a month, or once a month for a full face mask cushion. While today's masks are made for better comfort and seal, the fragile material used is highly susceptible to tears and deterioration. Constant wearing of a mask compresses the cushion or pillow, which along with normal oils from your face leads to a weaker seal and adversely affects the effectiveness of the mask. If the mask does not form a strong seal, the mask will not do its job properly and leads to ineffective therapy. When cushions or pillows deteriorate you should replace them and not just tighten the mask further, as this creates many other issues including strap marks, headaches and teeth or jaw pain.

Headgear & Chinstrap
Your headgear and chinstrap should be replaced every 6 months. Most headgear and chinstraps are made out of neoprene, which stretches to accommodate your facial and head structure. As it stretches out over time it hampers the mask's ability to form a strong seal. Cinching the headgear or chinstrap tighter because of an improper fit results in a poor mask seal, possible sores on the face, strap marks and headaches.

Tubing
Your tubing should be replaced every 3 months. Unseen to the naked eye, tiny holes may develop and can compromise the accurate delivery of air pressure. Even with routine cleaning a buildup of germs can still occur. Remember anything in the tubing is being breathed directly into your lungs, which can lead to respiratory issues.

Disposable & Non-disposable Filters
Your disposable filter (white fine filters) should be replaced 2 times a month and the non-disposable filter changed every 6 months. Replacing filters can add life to your machine. Just as you should routinely change your furnace or air conditioning filters at home, or the filters in your automobile, you should regularly change the filters in your machine for optimum care.

Humidifier Water Chamber
Your humidifier’s water chamber should be replaced every 6 months. Your water chamber can become discolored with a white powdery substance, or develop a pink fungus. Even with vigilant cleaning you must replace the chamber on a regular basis.

Sleep Central
A division of Rotech Healthcare Inc., providing the highest quality supplies for your PAP device and ongoing customer support necessary for your success and improved health. Respiratory Therapists are available to answer technical questions or clinical issues and Patient Care Coordinators are available to address your questions and monitor your replacement schedule based on your insurance coverage.

Sleep Central: (800) 288-1853 or email help@sleepcentral.com
<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mask Interface</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Full Face Mask</em></td>
<td>1 every 3 months</td>
<td>1</td>
</tr>
<tr>
<td><em>Nasal Mask</em></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><em>Nasal Pillows</em></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Mask Interface Cushions/Pillows</strong></td>
<td>1 per month</td>
<td></td>
</tr>
<tr>
<td><em>Full Face Mask Cushion</em></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><em>Nasal Mask Cushion</em></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><em>Nasal Pillow Cushions</em></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td><strong>Headgear</strong></td>
<td>1 every 6 months</td>
<td>7</td>
</tr>
<tr>
<td><strong>Chinstrap</strong></td>
<td>1 every 6 months</td>
<td>8</td>
</tr>
<tr>
<td><strong>Tubing</strong></td>
<td>1 every 3 months</td>
<td>9</td>
</tr>
<tr>
<td><strong>Disposable Filters</strong></td>
<td>2 per month</td>
<td>10</td>
</tr>
<tr>
<td><strong>Non-disposable Filters</strong></td>
<td>1 every 6 months</td>
<td>11</td>
</tr>
<tr>
<td><strong>Humidifier Water Chamber</strong></td>
<td>1 every 6 months</td>
<td>12</td>
</tr>
</tbody>
</table>

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### Troubleshooting

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<th>PROBLEM</th>
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<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device does not power-on.</td>
<td>Power cord not firmly connected to the device or the electrical outlet.</td>
<td>Verify proper electrical connections.</td>
</tr>
<tr>
<td>Device is not connected to a live outlet.</td>
<td></td>
<td>Check to verify live outlet (plug in a lamp or other electrical device into the outlet).</td>
</tr>
<tr>
<td>Device has blown a fuse.</td>
<td></td>
<td>Replace fuse with same type.</td>
</tr>
<tr>
<td>DC battery voltage fell below 10.5 volts.</td>
<td></td>
<td>Recharge or replace battery.</td>
</tr>
<tr>
<td>Device stops and starts.</td>
<td>Power cord not firmly connected to the device or the electrical outlet.</td>
<td>Verify proper electrical connections.</td>
</tr>
<tr>
<td>No air flow from device when power is connected.</td>
<td>Voltage selector switch is set incorrect.</td>
<td>Verify the voltage selector is set correct.</td>
</tr>
<tr>
<td>Soreness around nose and/or mask leak.</td>
<td>Wrong size mask</td>
<td>Contact supplier to refit mask.</td>
</tr>
<tr>
<td>Soreness around nose and/or mask leak.</td>
<td>Wrong type mask</td>
<td>Contact supplier to fit for new type mask.</td>
</tr>
<tr>
<td>Soreness around nose and/or mask leak.</td>
<td>Headgear straps too tight.</td>
<td>Adjust straps.</td>
</tr>
<tr>
<td>Nasal congestion/runny nose</td>
<td>Nasal reaction to air flow.</td>
<td>Increase room humidity. Contact your physician or supplier to ask about using a humidifier with your device.</td>
</tr>
<tr>
<td>Dryness or burning sensation nose or throat.</td>
<td>Air is too dry. Relative humidity is less than 40%.</td>
<td>Increase room humidity. Contact your physician or supplier to ask about using a humidifier with your device.</td>
</tr>
<tr>
<td>Cold nose.</td>
<td>Room air temperature is too cold. Air cools while traveling through the tubing.</td>
<td>Reposition the tubing so it runs under your bed covers to reduce heat loss.</td>
</tr>
<tr>
<td>Redness on the face where the mask contacts the skin.</td>
<td>Irritation or allergy to mask material.</td>
<td>Use barrier between your skin and the mask (3M Micropore tape or Squibb’s Duoderm).</td>
</tr>
</tbody>
</table>

*Contact your medical equipment supplier if you are unable to resolve the problem.*
Volume Ventilator

Overview
A volume ventilator also known as a respirator, is used to mechanically assist breathing by delivering air to the lungs. A volume ventilator may be ordered for use only at night, during limited daytime hours or around the clock, depending on your condition.

Volume ventilators used in the home are small, lightweight and portable; operate on household electrical current with an internal backup battery in case of power outage. It is advisable to have an external backup battery or generator readily available in case of power outage or an emergency.

A manual resuscitator or “self-inflating bag” should be kept readily available to provide positive pressure ventilation to the patient following suctioning and in case of equipment malfunction.

Operating Instructions
1. Ventilator must be placed on flat level surface at or below patient’s head at all times.
2. Humidifier must be placed on a stand or attached to the ventilator (positioned lower than the patient’s head).
3. Fill humidifier with distilled water only.
4. Plug ventilator and humidifier directly into grounded electrical outlet. Do not use extension cords or multi-outlet adapters.
5. Attach small section of corrugated tubing between ventilator and inlet on humidifier.
6. Connect patient circuit to outlet on humidifier.
7. Add water trap to lowest point on patient circuit.
8. Power on ventilator and humidifier.
9. Connect oxygen source (if required) and set to prescribed rate.
10. Ensure ventilator controls are set at prescribed settings. Do not change settings unless instructed by the physician.
11. Before connecting patient, perform leak test by occluding the end of circuit and observe high pressure alarm indicating circuit passes leak test. If high pressure alarm does not sound, check all connections on circuit and humidifier and test again.
12. When alarm sounds, observe patient breathing effort and re-check ventilator control settings. All alarms indicate a potential safety risk to the patient.
13. *IF IN DOUBT, DISCONNECT PATIENT FROM CIRCUIT AND USE MANUAL RESUSCITATOR (WITH OXYGEN IF PRESCRIBED) UNTIL PROBLEM CAN BE CORRECTED!

14. Refill humidifier bottle with distilled water as necessary.

15. Empty water trap as necessary.

**Changing Ventilator Circuit & Humidifier (Weekly)**

It is recommended to have two (2) people available when changing the circuit. You should have the following items assembled (patient ready) before you disconnect the patient:

1. Clean ventilator circuit
2. Clean humidifier chamber
3. Manual resuscitator
4. Oxygen source (if prescribed)

**Changing Ventilator Circuit**

1. Wash your hands.
2. Place manual resuscitator at patient’s side.
3. Have clean circuit assembled and ready.
4. Disconnect dirty tubing from ventilator and patient.
5. Ventilate patient with manual resuscitator (and oxygen if ordered).
6. Connect clean circuit to ventilator.
7. Check circuit for leaks before reconnecting patient.
8. After patient is reconnected, check for a rise in chest and pressure manometer during next inspiration.
9. Wash your hands.

**Changing Humidifier Chamber**

1. Wash your hands.
2. Fill clean humidifier with distilled water.
3. Disconnect patient circuit from trach tube and attach resuscitation bag.
4. Have 1 caregiver gently squeeze bag to meet patient normal respiratory breathing rate while the other caregiver changes humidifier.
5. Disconnect patient circuit and small corrugated tubing from humidifier.
6. Replace dirty humidifier chamber with clean chamber.
7. Reconnect small corrugated tubing from ventilator to inlet on clean humidifier chamber.
8. Reconnect patient circuit to outlet on clean humidifier chamber.

9. Check circuit for leaks before reconnecting patient.

10. Remove resuscitation bag from trach tube and reconnect circuit.

11. After patient is reconnected, check for a rise in chest and pressure manometer during next inspiration.

12. Wash your hands.

**Power Failure**

In case of power failure, the portable ventilators switch to an internal battery. The internal battery will last approximately 1 hour when fully charged. It is also recommended to have an external battery to last from 4 to 24 hours.

**Cleaning Instructions**

**Disposable Circuit:**

**Weekly:**

1. Replace entire patient circuit.

**Reusable Circuit/Parts:**

**Weekly:**

1. Disassemble and wash reusable circuit (or reusable parts) in warm, soapy water using a mild liquid detergent.
2. Rinse thoroughly under cold running water.
3. Soak entire circuit (or reusable parts) in a solution of 1 part white vinegar and 3 parts water for 30 minutes.
4. Rinse thoroughly under cold running water.
5. Shake off excessive water.
6. Allow to air dry on a paper towel and cover with another paper towel to keep off dust.
7. Reassemble circuit and store in sealed plastic bag.

**Humidifier:**

**Daily**

1. Refill humidifier chamber up to the maximum level with distilled water.

**Weekly**

1. Wash humidifier chamber in warm, soapy water using a mild liquid detergent.
2. Rinse thoroughly with cold running water.
3. Soak humidifier in a solution of 1 part white vinegar and 3 parts water for 30 minutes.
4. Rinse thoroughly under cold running water.
5. Shake off excess water and allow to air dry on a paper towel, covering with another clean paper towel to keep off dust.
6. When dry, store in a sealed plastic bag.

Filters:
1. Check foam filters weekly, clean with warm water as needed.
2. Squeeze thoroughly to remove excess water and allow time to completely dry before reinstallation.
3. Replace cloth filters (if equipped) as necessary.

Surface:
1. Clean surface as needed with a damp (water only) cloth.
2. Do not spray or use any cleaning products on the equipment.

Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent low pressure</td>
<td>Patient disconnected or circuit</td>
<td>Verify circuit firmly connected to trach. Confirm all</td>
</tr>
<tr>
<td>alarms</td>
<td>connection is not tight</td>
<td>other connections are tight.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensure low pressure alarm is at correct setting.</td>
</tr>
<tr>
<td>Frequent high pressure</td>
<td>Buildup of secretions in patient’s</td>
<td>Suction patient.</td>
</tr>
<tr>
<td>alarms</td>
<td>airway.</td>
<td></td>
</tr>
<tr>
<td>Water accumulated in</td>
<td>Water accumulated in patient circuit.</td>
<td>Empty water traps on circuit.</td>
</tr>
<tr>
<td>patient circuit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low power alarms</td>
<td>Internal battery is running down.</td>
<td>Connect ventilator to a wall circuit or external battery source.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If no power source available, remove patient from ventilator and ventilate with a manual resuscitation bag.</td>
</tr>
</tbody>
</table>

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Wheelchair

Overview

A wheelchair is mobility assistance equipment for use by individuals with difficulty walking or impossible due to illness, injury or disability. Often people who have difficulty sitting and walking also need to use a wheelchair. The chair is propelled by the seated occupant turning the rear wheels by hand or by someone else pushing using the handles located behind the seat.

Safety Instructions

☐ Do not operate wheelchair on streets or roadways.
☐ Do not use on wet or icy surfaces.
☐ Do not turn wheelchair while going down hill.
☐ Do not attempt inclines without anti-tippers installed in the downward position.
☐ Do not attempt any incline or decline greater than six degrees (10% grade, or one foot of rise or fall per ten feet of ramp length).
☐ Do not use wheel locks to slow or stop chair.
☐ Do not stand on foot or leg rests.

Operating Instructions

1. To fold chair, grab front and back of seat and pull up.
2. To open chair, place hands on seat, push down and outward with both hands.
3. Always lock both brakes before rising or sitting. Put chair against the wall or have someone steady from behind.
4. Lift up the footplate before rising or sitting to prevent tripping.
5. Keep the wheelchair clean. Dust, dirt or grease may impair the chair’s function.
6. Periodically shift your body weight while seated in the wheelchair to prevent skin irritation or muscle soreness.
**Swing-Away Foot and Leg Rest**

Remove from Wheelchair:

1. To release foot and leg rests, pull swing-away lever forward, toward front of wheelchair. Foot/leg rest will swing outward.
2. To remove, lift foot/leg rest straight up off wheelchair hinge pins.

Attach to Wheelchair:

1. Set foot/leg rest on wheelchair (foot/leg rest hinge plates engage wheelchair hinge pins).
2. Swing foot/leg rest inward.
3. Ensure that swing-away release lever is locked in a rearward position, toward back of wheelchair.

**Safety Accessories**

Heel Loops: Provide support behind the heel of your foot, keeps foot from sliding backwards off wheelchair footplate.

Anti Tippers: Device to prevent the wheelchair from tipping over

Brake Extensions: Device extends handle higher and closer for the user to engage wheelchair brakes.
Notes: