PATIENT/CAREGIVER INSTRUCTIONS

Oxygen Conserving Devices
Table of Contents

How Does an Oxygen Conserving Device Work? ................................ 1

Important Parts of Your Oxygen Conserving Device ................... 1

Using Your Oxygen Conserving Device ............................... 4

Hours of Usage ........................................... 5

Filling Your Liquid Portable and Checking the Contents of Your Liquid or Cylinder Portable ......................... 7

Care and Maintenance ..................................... 8

Handwashing Technique ..................................... 8

Physical Problems ......................................... 8

Safety Precautions ......................................... 9

Understanding an Oxygen Conserving Device ......................... 10

Important Warnings Regarding Use of an Oxygen Conserving Device .............. 10

Frequently Asked Questions ................................. 11

Troubleshooting ........................................ 12

Feedback on Our Services .................................. 15

How Does an Oxygen Conserving Device Work?

An oxygen conserving device provides a “bolus” or burst of oxygen during the inspiratory phase of a typical breathing cycle. Oxygen conserving devices are often called “pulse dose” devices. Your physician will prescribe a specific “pulse dose setting” to meet your oxygenation needs.

Oxygen is a prescribed drug. Please follow the instructions for the pulse dose setting provided by your physician. Never increase or decrease your oxygen without the specific approval of your physician. If your physician changes your oxygen flow setting or hours of use, notify Apria Healthcare immediately.

Important Parts of Your Oxygen Conserving Device

There are three types of oxygen conserving devices (shown on the next page):

1) Pneumatic (oxygen or gas powered) — used on oxygen cylinders
2) Electronic (battery powered) — used on oxygen cylinders
3) Liquid oxygen conserving devices (can be either pneumatic or electronic)

Pneumatic Conserving Devices

1. T-Handle — This handle is used to attach the conserving device to the cylinder.
2. **Contents Gauge** — Indicates the remaining pressure in the oxygen cylinder. When this gauge falls to the red section, you should switch to a new cylinder.

3. **Flow Rate Selector** — By turning the dial and aligning it with the indicator pointer, the pulse dose setting is chosen on the regulator. When this flow rate selector is set to “OFF,” there will be no flow of oxygen. When the flow rate selector is set to one of the numbers, the unit is on and awaiting inspiration through the nasal cannula at which time it will pulse dose on every breath. When the flow rate selector is set to “2 LPM” the oxygen will flow continuously at 2 LPM. Speak to your physician or Apria Respiratory Therapist about when to use the continuous flow setting.

   **NOTE:** The oxygen cylinder will not last as long when set to “2 LPM” continuous flow as when it is set to the pulse mode.

4. **Cannula Connection** — Use this fitting to attach the cannula to your conserving device.

5. **Cylinder Washer** — This creates the connection between the oxygen cylinder post and the conserving device.

6. **Index pins** — When attaching the conserving device to the oxygen cylinder, these parallel pins must be inserted into the holes in the oxygen cylinder post.

### Electronic Conserving Devices

The electronic conserving device is a little more complex, with more moving components than a pneumatic conserving device. The terms in the following glossary pertain primarily to electronic conserving devices.

1. **Knob** — This knob is used to attach the conserving device to the cylinder.

2. **Pulse Dose Indicator** — Either green or red light illuminates each time the unit pulses oxygen.
   - **Normal Battery Indicator** — A flashing green light indicates that there is sufficient battery power.
   - **Low Battery Indicator** — A flashing red light indicates that there are 4 – 8 hours of battery life remaining. The low battery
indication time may be reduced with using NiMH batteries.

- **Change Battery Indicator** — A constant red light indicates that the battery should be changed immediately. Unit can be used only in continuous flow mode until the new batteries are installed.

4. **Cannula Fitting** — Use this fitting to attach the cannula to your conserving device.

5. **Flow Rate Selector** — By turning the flow rate selector and aligning it to the setting, the pulse dose setting is chosen on the regulator. When this flow rate selector is set to “OFF,” the unit is not using battery power and will not pulse. When this flow rate selector is set to one of the numbers, the unit is on and awaiting inspiration through the nasal cannula at which time it will pulse dose on every breath. The volume of the oxygen delivered varies according to which prescription pulse dose setting is chosen. If your OCD has a continuous flow setting, the final setting on the flow rate selector is “CF”; this is the continuous flow position. In this position oxygen will flow from the cannula fitting at the default continuous flow rate. Speak to your physician or Apria Respiratory Therapist about when to use the continuous flow setting.

6. **Oxygen Contents Gauge** — Indicates the remaining pressure in the oxygen cylinder. When this gauge falls into the red section, you should switch to a new cylinder.

7. **Battery Door** — Use only a standard “AA” Alkaline or NiMH batteries.

**Note:** If you are instructed to use the device in pulse dose mode, continue to do so unless you are unable to replace batteries when needed. If the batteries die or the unit does not pulse as expected, the user must manually switch the unit to continuous flow for delivery of oxygen, as the continuous flow setting is not powered by the batteries. However, the device will not automatically switch to continuous flow. Also remember that the oxygen cylinder will not last as long in continuous flow mode as it will in pulse dose mode.

**Liquid Oxygen Conserving Devices**

Liquid portable units (shown on the next page) may have an integrated oxygen conserving device. The oxygen within these devices can be refilled directly from your stationary liquid oxygen source.

1. **Flow Rate Selector** — Use to select desired pulse dose setting of oxygen. When set to “OFF” oxygen will not flow from device.

   - For the *Spirit® Oxygen Conserving Device* — When set to CF, this is the continuous flow position. In this position oxygen will flow from the cannula fitting at the default continuous flow rate. Speak to your physician or Apria Respiratory Therapist about when to use the continuous flow setting.

   - The *Helios™ Oxygen Conserving Device* — Turn the flow rate selector clockwise for pulse dose oxygen. If your OCD has a continuous flow setting, turn the flow rate selector counterclockwise for continuous flow of oxygen.

2. **Cannula Connection** — Use this fitting to attach the cannula to your conserving device.
3. **Stationary Fill Connector** — Used to fill your portable unit with liquid oxygen by connecting to your stationary liquid reservoir.

4. **Oxygen Inlet Connector (Helios only)** — Used to attach oxygen supply line to supply portable oxygen unit with oxygen from the reservoir. (Only used when patient is stationary.)

5. **Contents Indicator** — Used to display the amount of liquid oxygen remaining in portable unit.

6. **Contents Indicator Strap (Spirit only)** — Used to lift the portable oxygen unit to measure the amount of oxygen it contains.

7. **Vent Valve** — Used to start and stop the filling process.

8. **Batteries (Spirit only)** — Two (2) C-cell (inside case). There are no batteries in Helios unit.

### Using Your Oxygen Conserving Device

#### Attaching Your Oxygen Conserving Device to the Gaseous Oxygen Cylinder

**Step 1:** Loosen the knob or T-handle.
**Step 2:** Lower the conserving device over and connect it to the post of the cylinder.

**Step 3:** Align the 2 pins and the cylinder washer in the conserving device to the holes in the cylinder post as you would a standard regulator.

**Step 4:** Hand-tighten the knob or T-handle until the conserving device is secure.

**Inserting a Battery into the Conserving Device (If Necessary)**

**Step 1:** Open the battery door.

**Step 2:** Insert 2 “AA” alkaline or NiMH batteries (for electronic conserving devices) or 2 “C” batteries (for liquid oxygen conserving devices).

**Step 3:** Close the battery door.

**Note:** When changing batteries, first turn the flow rate selector to the “OFF” position.

**Using Your Conserving Device**

**Step 1:** Open the cylinder slowly.

**Step 2:** Attach the standard nasal cannula (7 feet or less in length) to the conserving device and to your nose and face.

**Step 3:** Turn the flow rate selector to the correct prescription pulse dose setting.

**Step 4:** Breathe normally. The conserving device will deliver a bolus of oxygen at the leading edge of inspiration on every breath.

**Step 5:** When you are finished using the oxygen conserving device, turn your cylinder to the closed position, and rotate the flow rate selector to the “OFF” position.

**Warning:** To prevent injury from cylinders tipping over, do not use cannula tubing lengths over 7 feet with small compressed oxygen cylinders. Unattended cylinders should be secured in a cylinder stand.

**Hours of Usage**

Because an oxygen conserving device in pulse dose mode responds to each individual’s breathing patterns, the use time will vary for each individual depending on the prescription rate and the breath rate. Also, cylinders vary in capacity by manufacturer, which may result in varying use times.

**Finding Estimated Oxygen Use Time**

To find your estimated use time (in the charts on the next 2 pages), find your Pulse Dose Setting in the far left column and move your finger to the right until it is underneath the cylinder size and conserving device type that matches yours. This is your estimated oxygen use time.
# Hours of Usage at Prescribed Setting — Oxygen Conservers Used on Cylinders

<table>
<thead>
<tr>
<th>Pulse Dose Setting</th>
<th>Mini M-6 Cylinder</th>
<th>ML-6 Cylinder</th>
<th>“C” Cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pneumatic</td>
<td>Electronic</td>
<td>Pneumatic</td>
</tr>
<tr>
<td>1.0</td>
<td>10.0 hours</td>
<td>8.3 hours</td>
<td>10.1 hours</td>
</tr>
<tr>
<td>1.5</td>
<td>NA</td>
<td>5.5 hours</td>
<td>NA</td>
</tr>
<tr>
<td>2.0</td>
<td>6.2 hours</td>
<td>4.1 hours</td>
<td>6.5 hours</td>
</tr>
<tr>
<td>2.5</td>
<td>NA</td>
<td>3.3 hours</td>
<td>NA</td>
</tr>
<tr>
<td>3.0</td>
<td>4.3 hours</td>
<td>2.8 hours</td>
<td>4.5 hours</td>
</tr>
<tr>
<td>4.0</td>
<td>3.5 hours</td>
<td>2.1 hours</td>
<td>3.7 hours</td>
</tr>
<tr>
<td>5.0</td>
<td>3.0 hours</td>
<td>1.7 hours</td>
<td>3.1 hours</td>
</tr>
<tr>
<td>6.0</td>
<td>2.6 hours</td>
<td>1.4 hours</td>
<td>2.7 hours</td>
</tr>
<tr>
<td>7.0</td>
<td>2.4 hours</td>
<td>NA</td>
<td>2.5 hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pulse Dose Setting</th>
<th>“D” Cylinder</th>
<th>“E” Cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pneumatic</td>
<td>Electronic</td>
</tr>
<tr>
<td>1.0</td>
<td>25.1 hours</td>
<td>21.0 hours</td>
</tr>
<tr>
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<td>NA</td>
<td>14.0 hours</td>
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<tr>
<td>2.0</td>
<td>16.0 hours</td>
<td>10.5 hours</td>
</tr>
<tr>
<td>2.5</td>
<td>NA</td>
<td>8.4 hours</td>
</tr>
<tr>
<td>3.0</td>
<td>11.1 hours</td>
<td>7.0 hours</td>
</tr>
<tr>
<td>4.0</td>
<td>9.1 hours</td>
<td>5.2 hours</td>
</tr>
<tr>
<td>5.0</td>
<td>7.7 hours</td>
<td>4.2 hours</td>
</tr>
<tr>
<td>6.0</td>
<td>6.8 hours</td>
<td>3.5 hours</td>
</tr>
<tr>
<td>7.0</td>
<td>6.1 hours</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Note:** Usage times for conserving devices vary depending on cylinder size, device type, and the patient. These charts are meant to be a general guide only; your actual usage times may vary.

*NA = Not applicable*
### Hours of Usage at Prescribed Setting — Liquid Oxygen Conservers

<table>
<thead>
<tr>
<th>Pulse Dose Setting (Conserver)</th>
<th>Helios Plus</th>
<th>Helios Marathon</th>
<th>Spirit 300</th>
<th>Spirit 600</th>
<th>Spirit 1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-1.0</td>
<td>9.0 hours</td>
<td>NA</td>
<td>14.5 hours</td>
<td>29.0 hours</td>
<td>58.0 hours</td>
</tr>
<tr>
<td>D-1.5</td>
<td>8.0 hours</td>
<td>22.5 hours</td>
<td>10.0 hours</td>
<td>20.0 hours</td>
<td>40.0 hours</td>
</tr>
<tr>
<td>D-2.0</td>
<td>7.0 hours</td>
<td>18.5 hours</td>
<td>7.0 hours</td>
<td>14.0 hours</td>
<td>28.0 hours</td>
</tr>
<tr>
<td>D-2.5</td>
<td>6.0 hours</td>
<td>16.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>D-3.0</td>
<td>5.0 hours</td>
<td>11.5 hours</td>
<td>4.7 hours</td>
<td>9.4 hours</td>
<td>18.8 hours</td>
</tr>
<tr>
<td>D-3.5</td>
<td>4.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>D-4.0</td>
<td>3.0 hours</td>
<td>9.5 hours</td>
<td>3.5 hours</td>
<td>7.0 hours</td>
<td>14.0 hours</td>
</tr>
<tr>
<td>D-5.0</td>
<td>NA</td>
<td>NA</td>
<td>3.0 hours</td>
<td>6.0 hours</td>
<td>12.0 hours</td>
</tr>
<tr>
<td><strong>Continuous Flow (lpm)</strong></td>
<td><strong>Helios Plus</strong></td>
<td><strong>Helios Marathon</strong></td>
<td><strong>Spirit 300</strong></td>
<td><strong>Spirit 600</strong></td>
<td><strong>Spirit 1200</strong></td>
</tr>
<tr>
<td>C-0.12</td>
<td>19.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-0.25</td>
<td>16.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-0.5</td>
<td>11.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-0.75</td>
<td>6.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-1.0</td>
<td>NA</td>
<td>10.5 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-2.0</td>
<td>NA</td>
<td>5.5 hours</td>
<td>2.0 hours</td>
<td>4.0 hours</td>
<td>8.0 hours</td>
</tr>
<tr>
<td>C-3.0</td>
<td>NA</td>
<td>3.5 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-4.0</td>
<td>NA</td>
<td>2.5 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-5.0</td>
<td>NA</td>
<td>2.0 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>C-6.0</td>
<td>NA</td>
<td>1.5 hours</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Filling Your Liquid Portable and Checking the Contents of Your Liquid or Cylinder Portable

Refer to the Apria education booklets provided to you (“Patient Instructions: Liquid Oxygen” or “Patient Instructions: Oxygen Cylinder and Concentrator Systems”) as well as the manufacturer’s manual for the make and model of the device provided to you (available at [apria.com](http://apria.com)).
**Care and Maintenance**

The oxygen conserving device should be kept clean and free from moisture and dust. Avoid getting debris such as sand or dirt inside the device. Do not expose the conserving device to water.

The device should be protected from extreme temperatures. (See page 9, “To reduce the risk of injury” section.)

Avoid dropping the conserving device or placing it in a position where it could topple or fall. This can damage the device. Whenever possible, use a padded carrying bag to carry the conserving device and gaseous cylinder. This will help to protect the conserving device in case of a fall.

Clean the device periodically by wiping it with a dry, lint-free cloth.

**Handwashing Technique**

Thorough handwashing must be done prior to all procedures. Contaminated, dirty hands are one of the most common sources of infection.

1. Wet your hands thoroughly with warm water.
2. Use soap.
3. Scrub hands for 20 seconds using a rotary motion and friction. Wash:
   - Back and palm of each hand
   - Between all fingers
   - Fingernails

   Need a timer? Hum the “Happy Birthday” song from beginning to end twice.

4. Rinse your hands under the running water.
5. Dry on clean towel or with a paper towel.

For additional good health habits, visit our patient education section on [apria.com](http://apria.com).

**Physical Problems**

If you experience any of the following problems, call your physician.

- Fever or chills
- Increased wheezing
- Increase mucus production
- Mucus becomes thicker
- Change in mucus color
- Headaches
- Loss of appetite
- Increased shortness of breath
- Chest pain
- Increased cough
- Swelling in your ankles or around your eyes
- Weight gain overnight
- Feeling dizzy or sleepy
• Any change in physical sensation after taking a new medication

If you are having trouble with your equipment call Apria Healthcare.

If you experience any physical change, call your physician.

If you experience severe physical problems, call the rescue squad or 911.

Safety Precautions

Read all instructions before using. Save these instructions.

The information contained in this guide is intended to assist in the safe operation of the equipment and to ensure maximum benefit is achieved.

This product is to be used only to deliver medical grade (U.S.P.) oxygen and only with a physician’s prescription. Oxygen supplied by this equipment is not to be considered life-supporting and must not supply anything other than medical grade (U.S.P.) oxygen.

To reduce the risk of fire, burns, or injury to persons:

Oxygen, though non-flammable, vigorously supports and accelerates burning of any flammable material. If you know or suspect oxygen has escaped other than through normal operation, open doors and windows to ventilate the area.

• DO NOT SMOKE WHILE USING YOUR OXYGEN EQUIPMENT. Keep matches, cigarettes, burning tobacco, or candles away from the area where the system is being stored or operated.

• Avoid creation of any spark near oxygen equipment. This includes sparks from static electricity created by any type of friction.

• Keep the equipment at least 7 feet away from radios, television sets, window air conditioners, fans, electric razors, hair dryers, and all other electrical appliances.

• Keep the equipment away from heat sources, electric or gas heaters of any kind, fireplaces or stoves.

• Keep all flammable materials or petroleum-based products away from the equipment.

• Never attempt to lubricate the equipment.

• Never use aerosol sprays near the equipment.

To prevent high concentrations of oxygen:

• Keep the equipment in a well-ventilated area.

• Do not carry equipment under a coat or any form of clothing.

• Turn off oxygen supply by closing the cylinder valve when not in use.

To reduce the risk of injury:

• Keep all units away from children. Do not allow unauthorized or untrained individuals to operate the equipment. Never tamper with or try to repair the equipment yourself. If you have any questions or suspect your equipment is not operating properly, contact your Apria Healthcare representative.

• Do not immerse in liquids or subject device to harsh conditions.
• Do not use in temperatures greater than 104°F (40°C) or below 41°F (5°C).
• Do not use other equipment (i.e., humidifier, nebulizer, etc.) when using your oxygen conserving device.

Understanding an Oxygen Conserving Device

Indications for Use
An oxygen conserving device is frequently prescribed, along with oxygen therapy, for active patients who may be away from home frequently. The conserving device provides a “bolus” or burst of oxygen during the inspiratory phase of a typical breathing cycle. This bolus is provided to a patient with a respiratory disorder as a supplemental source of breathing oxygen.

How the Device Works
A normal breathing pattern can be divided into thirds, with only the first third requiring oxygen for inhalation. During the remaining two-thirds of the breathing pattern, exhalation occurs and oxygen is not required. As a result, an oxygen conserving device extends the use time of an oxygen system by an average of 3:1. The device senses the start of inhalation and instantly releases a short “pulsed” dose at the very beginning of the breathing cycle. Since all of the “pulsed” oxygen is inhaled deep into the lungs, less oxygen is required to accomplish the same effect than with continuous flow oxygen systems. This means that an oxygen conserving device in pulse dose mode will last two to four times longer than a continuous flow oxygen system, yet still provide the same therapeutic benefit.

Because oxygen is released only during inhalation, the constant flow of oxygen into the nostrils is eliminated. Many users find an oxygen conserving device more comfortable than continuous flow delivery systems. The short “pulse” of oxygen delivered during inhalation is almost undetectable, and the humidity in the room air helps maintain a normal level of moisture in the nasal cavity. This greatly reduces the discomfort of dehydration associated with a continuous flow oxygen system.

An oxygen conserving device dramatically extends the use time from a supply of oxygen, offering increased mobility with improved comfort and increased efficiency. The reliability and safety of pulse dose oxygen delivery has been proven effective in clinical testing as well as through independent tests performed by physicians and respiratory therapists.

Important Warnings Regarding Use of an Oxygen Conserving Device

• Oxygen conserving devices must be used as directed by your physician prescription.
• Oxygen conserving devices must be used within the manufacturer’s recommended low and high breath rates. Refer to the manufacturer’s manual for the make and model of your device (available on apria.com) for the high and low breath rate limit of the specific oxygen conserving device you are using.
• Manufacturers specify the type of
cannula and maximum length of tubing to be used with each device. Refer to
the manufacturer’s manual for the make
and model of your device (available on
apria.com).
• Do not use your oxygen conserving
device while sleeping.
• Do not use your oxygen conserving
device in the pulse mode if you are a
mouth breather. If you regularly breathe
through your mouth, at rest or with
activity, contact a Respiratory Therapist
at your local Apria location to discuss
whether you are an appropriate candidate
for an oxygen conserving device.
• Do not use a humidifier or a mask
with an oxygen conserving device. A
humidifier and/or mask will interfere
with the conserving device’s ability to
sense inhalation efforts. Masks also
cause the oxygen to be diluted prior
to inhalation, reducing the therapeutic
benefit of the oxygen conserving device.
• The oxygen conserving device delivers
oxygen in a very short “puff.” It does
not deliver oxygen during the entire
inhalation. The length of time that the
conserving device delivers oxygen will
not vary from breath to breath. The time
is set in correlation to the oxygen dosage
set on the conserving device (patient’s
prescription setting).
• The oxygen conserving device is
designed to prevent the delivery of
pulses more than every 1½ seconds.
If the breath rate is greater than 35
or 40 breaths per minute (depending
on device manufacturer), this feature
prevents delivery of excessive oxygen
by not dosing on every breath.
• A pediatric or low-flow cannula should not
be used in the pulse dose delivery mode.
The reduced diameter of the cannula
causes too much back pressure and will
affect the oxygen volume delivered.

Frequently Asked Questions

Q. How does the oxygen conserving device
work? How does it know when I’m inhaling?
A. When inhaling, your diaphragm moves
down and causes a drop in pressure in
the lungs. Air flows in through the nose
and mouth to equalize the pressure.
This negative pressure is also present at
the nose and mouth during inhalation.
This pressure signal travels through the
nasal cannula to a pressure sensor in the
conserving device. A valve opens to deliver
a precisely metered dose of oxygen. When
the valve is closed, the sensor is ready to
detect the next inhalation.

Q. The pulse seems so short. Am I really
getting enough oxygen?
A. Yes. The conserving device delivers a
precise burst of oxygen at a relatively
high flow rate at the leading edge of each
inhalation. This assures that the oxygen
delivered flows deep into the lungs
for maximum benefit. Pulse dose delivery
mode requires less oxygen to deliver the
same therapeutic benefit as continuous
flow oxygen delivery.

Q. I can’t hear the pulse. Is the conserving
device working?
A. If the pulse can’t be heard, hold the end of the cannula in front of your lips while inhaling through your mouth and feel the pulse. If you have an electronic conserving device, simply look at the green indicator that will flash each time the device delivers a dose during inhalation. The conserving device does not monitor the supply of oxygen. Remember to check the oxygen contents gauge periodically to verify that there is an adequate oxygen supply.

Q. Why can’t I use a cannula which is longer than 7 feet?

A. The delivery of the oxygen pulse may be delayed if the cannula is longer than 7 feet. Remember the therapeutic moment during the inhalation cycle. If the oxygen is not delivered during this time, the benefits will not be realized.

Q. I’ve always used humidifiers with oxygen. Should I use a humidifier with my conserving device?

A. No. The conserving device is not able to sense inhalation through the water in the humidifier. Also, many patients find that humidification is not necessary. They find that the conserving device improves comfort because it delivers a very small amount of oxygen during the early part of inhalation, while the rest of the inhalation is composed of normal room air.

Q. I’ve stopped using my conserving device, and it is beeping every 30 seconds.

A. The electronic oxygen conserving device needs to be turned off when you are finished using it. It is beeping to remind you to turn it off so that the batteries will last longer.

**Troubleshooting**

**Warning:** Do not attempt to open the device for maintenance or repair. The conserving device contains no user-serviceable parts. Contact your local Apria Healthcare branch if service is required.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Possible Causes</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen is not being delivered even though the Pulse Dose/Normal Battery Indicator is flashing every time I breathe.</td>
<td>Oxygen supply is empty.</td>
<td>Check contents indicator on the device. If empty, switch cylinders.</td>
</tr>
<tr>
<td></td>
<td>Oxygen supply is not turned on.</td>
<td>Open the compressed oxygen cylinder valve by following the directions given by your Apria representative.</td>
</tr>
<tr>
<td></td>
<td>The conserver responds to your breath rate. Your breath rate may vary, which causes the operation time to vary.</td>
<td>Conserving device is probably operating correctly.</td>
</tr>
<tr>
<td>Use times are different from those listed in the charts on pages 6 – 7.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>Possible Causes</td>
<td>Remedies</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Conserving device triggers whenever the cannula moves the slightest bit.</td>
<td>Triggering sensitivity is temporarily interrupted due to pinched cannula, tubing, continuous flow use, etc.</td>
<td>Conserving device will adjust automatically within 1–2 minutes.</td>
</tr>
<tr>
<td>Conserving device will not pulse.</td>
<td>Cannula is not adjusted properly.</td>
<td>Check all cannula connections to make sure they are tight and adjust the cannula to fit comfortably in your nose. Ensure tubing is not kinked.</td>
</tr>
<tr>
<td></td>
<td>Triggering sensitivity is temporarily interrupted due to pinched cannula, tubing, continuous flow use, etc.</td>
<td>Conserving device will adjust automatically within 1–2 minutes.</td>
</tr>
<tr>
<td></td>
<td>Unit is not turned on.</td>
<td>Turn the flow rate selector to the appropriate setting.</td>
</tr>
<tr>
<td></td>
<td>Flow rate selector is set to the “OFF” position.</td>
<td>Make sure the flow rate selector is set to the appropriate delivery setting.</td>
</tr>
<tr>
<td></td>
<td>Oxygen cannula is blocked or kinked.</td>
<td>Remove kinks. Clean or replace if necessary.</td>
</tr>
<tr>
<td></td>
<td>Oxygen cannula is not connected properly to portable.</td>
<td>Ensure the cannula is securely attached to the cannula connection on the device.</td>
</tr>
<tr>
<td></td>
<td>Conserving device does not detect breath due to mouth breathing.</td>
<td>Contact a Respiratory Therapist at your local Apria location to discuss whether you are an appropriate candidate for an oxygen conserving device.</td>
</tr>
<tr>
<td>Conserving device works fine for a couple of minutes, then sensitivity seems to drift and may stop working altogether.</td>
<td>Using pediatric cannula or any cannula that restricts continuous flow capacity of 10 lpm.</td>
<td>Replace with standard nasal cannula.</td>
</tr>
</tbody>
</table>
## Troubleshooting for Liquid Oxygen Conservers

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Possible Causes</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>The portable does not pulse after filling.</td>
<td>During the filling process, the portable unit disengaged with the vent valve lever open, and pressure was reduced in the portable.</td>
<td>Wait 60 minutes for adequate pressure to restore, then try using again.</td>
</tr>
<tr>
<td></td>
<td>The portable was not filled properly.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>The portable unit makes a hissing sound.</td>
<td>The portable unit is most likely to hiss after filling or with a change in the position of the portable oxygen unit or when the flow rate selector is at a low setting. Hissing can last for approximately 10 minutes after filling.</td>
<td>Wait 10 minutes for internal pressure of unit to correct.</td>
</tr>
<tr>
<td></td>
<td>Some hissing and frosting on the portable is normal. Hissing continues after a fill or anytime during usage and there is excessive frosting.</td>
<td>Call Apria if the hissing continues. Stop using your device and contact Apria.</td>
</tr>
<tr>
<td>Frost formation on portable unit 30 minutes after a fill while the flow rate selector is in the “OFF” position.</td>
<td>Possible malfunction.</td>
<td>Call Apria.</td>
</tr>
<tr>
<td>The portable unit does not fill.</td>
<td>Stationary oxygen reservoir is empty.</td>
<td>Check to be sure there is oxygen in the stationary reservoir.</td>
</tr>
<tr>
<td></td>
<td>Portable and stationary fill connectors are not fully engaged.</td>
<td>Remove the portable from the reservoir and re-connect following the instructions your Apria representative provided.</td>
</tr>
</tbody>
</table>
Feedback on Our Services

Apria Healthcare is among America's most experienced and respected home respiratory care providers, and our patient satisfaction scores are consistently high. It is possible, however, that you may have a concern and we welcome feedback. To voice a concern, you should take these steps:

1. Call the Apria branch at the number listed on your Sales, Service and Rental Agreement,
   OR

2. Contact us by e-mail at: Patient_Satisfaction@apria.com
   OR

3. Visit our web site at apria.com

Satisfaction Survey Process

Our goal is to ensure your satisfaction. You will likely receive an Apria patient satisfaction questionnaire and we hope that you will take a few minutes to fill it out and return it to us. The postage is prepaid by Apria Healthcare.

<table>
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<tr>
<th>Symptoms</th>
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<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>The portable unit does not disengage</td>
<td>The portable unit and reservoir may have become</td>
<td><strong>Warning:</strong> DO NOT TOUCH LIQUID OXYGEN PARTS THAT HAVE BEEN IN CONTACT</td>
</tr>
<tr>
<td>easily from the reservoir after filling.</td>
<td>frozen.</td>
<td>WITH LIQUID OXYGEN. LIQUID OXYGEN IS EXTREMELY COLD (-297° F, -183° C).</td>
</tr>
<tr>
<td>All other problems or questions about</td>
<td></td>
<td>WHEN TOUCHED, LIQUID OXYGEN OR PARTS OF THE EQUIPMENT THAT HAVE BEEN</td>
</tr>
<tr>
<td>equipment.</td>
<td></td>
<td>CARRYING LIQUID OXYGEN CAN FREEZE SKIN AND BODY TISSUE.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do not force the portable and the reservoir to become disengaged. Allow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a few minutes for the frozen parts to warm. After ice melts, disengage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the portable oxygen unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Call Apria Healthcare.</td>
</tr>
</tbody>
</table>