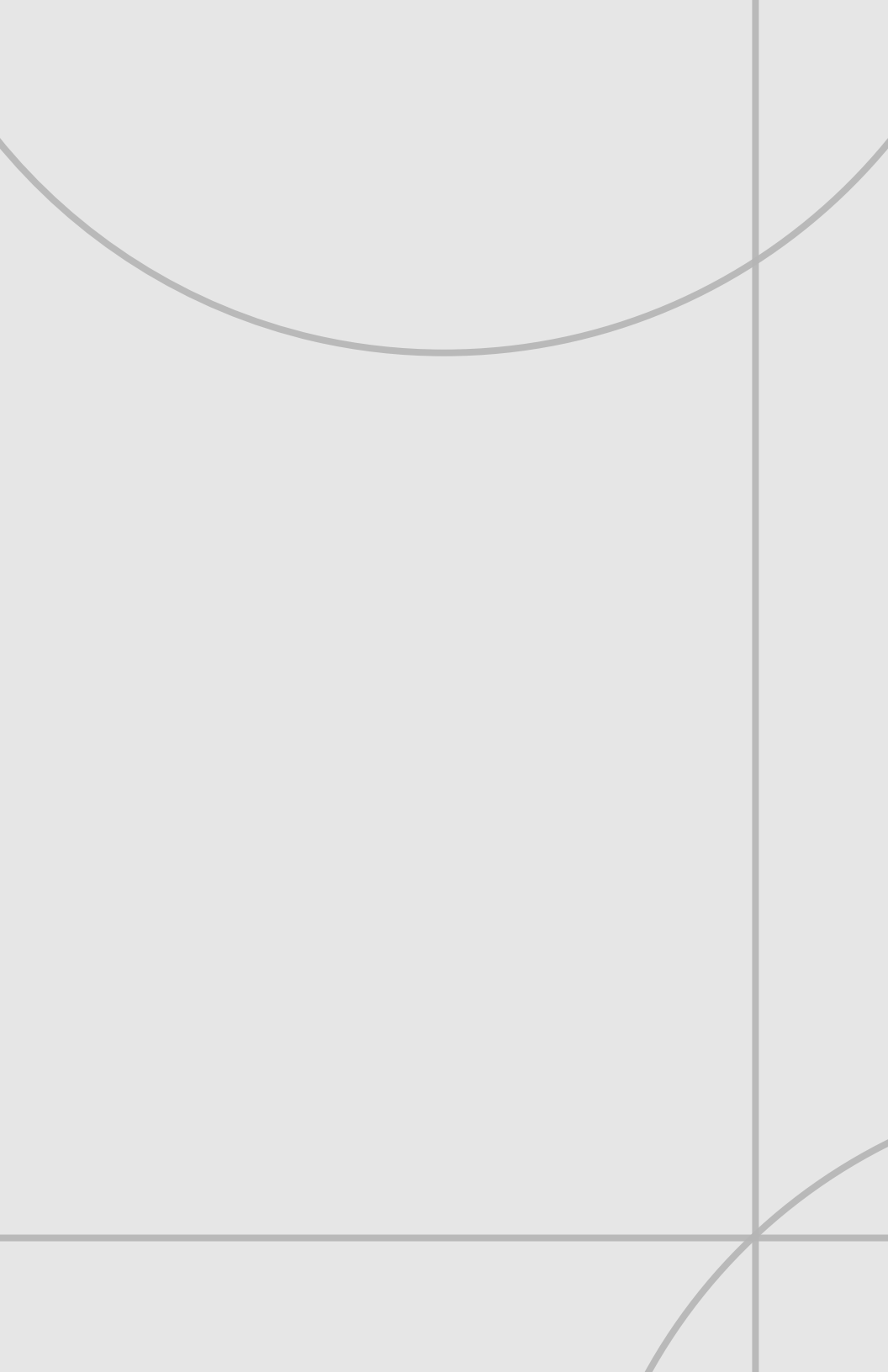




# **Complete Guide To Oxygen Therapy**



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# 01

## Complete Guide to Oxygen Therapy

## What is oxygen therapy?

If you have been diagnosed with a disease that makes it hard to breathe, such as chronic obstructive pulmonary disease (COPD) or pulmonary fibrosis, you may have symptoms such as:

- Shortness of breath, especially when you walk or exercise;
- Cough;
- Tiredness;
- Headaches;
- Swollen ankles when you get up in the morning; or
- Blue fingertips or lips.

Symptoms such as these may indicate low oxygen levels in your blood. This condition, called hypoxemia, affects your body in several ways. Lung disease may significantly change the tubes in your lungs (called alveoli) or the space that surrounds the alveoli (called the interstitial space) in your lungs, which may cause your heart to pump harder to circulate blood—and therefore oxygen—through your body.

Low oxygen levels make it difficult to perform basic activities or even walk. All organs in your body depend on a good oxygen supply to function properly. Most importantly, low oxygen may affect your brain. For example, you might notice that you have trouble paying attention or remembering things. You or your friends and family may even notice that you're slurring your words.

Your health care provider will perform specific tests to determine your need for oxygen therapy. For example, your provider may

order a blood test to check the oxygen content of your blood. You qualify for oxygen therapy under the following conditions:

- If your oxygen saturation (SaO<sub>2</sub>) level on room air (ie, without oxygen) at rest while you're awake is 88% or less as measured by a pulse oximeter (a small, noninvasive device that clips onto your finger and measures the amount of oxygen in your blood) or is 55 mm Hg or less as measured by a blood test, you may qualify for continuous oxygen therapy. (See Paying for Oxygen Therapy for additional requirements.)

If your SaO<sub>2</sub> level on room air at rest while you're awake is above 88%, your health care provider may check your SaO<sub>2</sub>:

- At rest on room air;
- With exertion on room air;
- With exertion on oxygen; and

If your SaO<sub>2</sub> is 88% or less during these tests, you qualify for oxygen therapy.

- If, after these tests in the provider's office or hospital, your SaO<sub>2</sub> does not drop below 88%, your provider may want to monitor your SaO<sub>2</sub> levels while you're sleeping, called nocturnal or overnight oximetry.

Your provider will send an order to a durable medical equipment (DME) supplier. The DME supplier, working with a testing company, will send you a pulse oximeter. You sleep with the device clipped to your finger. While you're sleeping, the oximeter records your oxygen levels. The next day, you return the oximeter to the DME supplier, and the testing company will send the results to your health care provider.

If your SaO<sub>2</sub> is 88% or less for 5 minutes on a nighttime test that collected at least 2 hours of data, you qualify for nocturnal oxygen

only. In this case, your physician may order you a stationary oxygen concentrator (see “Stationary oxygen therapy systems” for more information) and backup oxygen cylinders in case of a power outage.

- If your SaO<sub>2</sub> at rest is above 88% as measured by a pulse oximeter both while you’re awake and while you’re asleep but you still have trouble breathing, you will need to meet additional criteria, such as having evidence of:
  - Edema, which may suggest heart failure
  - Pulmonary hypertension or right heart failure
  - Elevated blood counts, with hematocrit greater than 56%

Depending on the results of these tests, your health care provider may prescribe oxygen therapy.

## Note

Please see *Paying for Oxygen Therapy* for information about Medicare and private insurance reimbursement for oxygen therapy.

### *Your oxygen therapy prescription*

When your health care provider prescribes oxygen, the prescription should include the following information:

- How often you should use your oxygen therapy system
- How many liters per minute of oxygen you should use
- The type of flow rate (continuous or pulsed flow)



- When you should use oxygen (eg, all day, only when you're walking around, only when you're sleeping)
- A certificate of medical necessity (required by Medicare and some other insurance payers)
- It is important to use your oxygen exactly as prescribed. Do not increase, decrease or stop using oxygen without first speaking with a physician

## Stationary oxygen therapy systems

Stationary oxygen therapy systems come in 2 types: oxygen concentrators and liquid oxygen systems.

### *Oxygen concentrators*

This is the most commonly used home stationary device. This system works by drawing in room air, separating out nitrogen and other room air components to leave medical grade oxygen, and passing the oxygen through the concentrator's tubing. The oxygen streams through the tubing to your nasal cannula so you can breathe it in.

Stationary oxygen concentrators are about the size of a bedside table and weigh between 20 and 70 pounds. These systems typically come with about 50 feet of tubing, so that is how far you can move about your home while using the system. (If you need longer tubing, talk to your DME supplier.) Low-flow concentrators (up to 5 liters per minute) and high-flow concentrators (up to 10 liters per minute) are available. These systems must be kept in a well-ventilated area of your home. They require routine filter cleaning to work well and periodic maintenance by your DME supplier. Newer stationary oxygen concentrators produce enough oxygen that you can store it in a refillable tank to take with you in a backpack when you leave your home. Filling tanks yourself means that you do not have to rely on your DME supplier to provide portable oxygen tanks.

- **Advantages.** Newer oxygen concentrator models enable you to fill portable tanks from your stationary concentrator for easier mobility.



▪ **Disadvantages.** Oxygen concentrators are large and require electricity, regular maintenance, and filter cleaning to work. If your power goes out, you will have to rely on your backup system for oxygen.

### Note

Neither Medicare nor insurance companies will reimburse you for the cost of the electricity needed to run your oxygen concentrator. You may be able to deduct the cost of electricity from your income tax, however. Check with your tax preparer for more information. Also, financial assistance may be available to help you with the cost of electricity. Check with your health care provider for more information.

### *Liquid oxygen systems*

When oxygen is cooled to very low temperatures, it becomes a liquid. This liquid oxygen is then stored in metal tanks. When the liquid oxygen warms up, it passes through the tubing to your nasal cannula as gas, which you then breathe in.

Stationary liquid oxygen systems are large—up to 120 pounds. In fact, the main tank is too heavy to move, so if you have a summer home or will be away from home for a while, you'll have to arrange for another home liquid oxygen system. How often your DME supplier must fill the main tanks depends on how much oxygen you use. Talk to your DME supplier about the length of tubing you'll need to move around your home easily and comfortably.

- **Advantages.** Liquid oxygen systems are quiet (they have no moving parts) and don't require electricity to work. Also, you can fill smaller, portable tanks from your main home tank.
- **Disadvantages.** Liquid oxygen is not used often. The home tank is large and must be secured so it doesn't tip over. Misuse or mishandling can cause personal injury by frostbit/burn. Also, the main home tank has to be refilled regularly, which makes these systems more expensive to maintain and less convenient because you must be home to accept the delivery. Some of the liquid oxygen in the system (approximately 1 pound daily) will evaporate naturally. As a result, home liquid oxygen is not available everywhere, so you'll need to check with your DME supplier to make sure it's available where you live or where you'll be traveling.

## Note

Both oxygen concentrators and liquid oxygen systems are available as pulse-flow (also called demand-flow) systems and continuous-flow systems. Pulse-flow systems have a sensor that can tell when you inhale and deliver oxygen only when you breathe in. Continuous-flow systems provide oxygen constantly, even when you're not breathing in. Your health care provider will prescribe the system that best meets your needs.

## Portable oxygen therapy systems

Portable oxygen therapy systems come in three types: portable oxygen concentrators (POCs), portable compressed gas cylinders, and portable liquid oxygen.

### Note

For information about Medicare reimbursement for portable oxygen therapy systems, please see [Paying for Oxygen Therapy](#).

### *Portable oxygen concentrators*

POCs work the same way stationary concentrators do except that they run on batteries as well as electricity. POCs come in a variety of sizes, but note that the smaller the POC, the less oxygen it might produce and the shorter the battery life it might have. Some POCs can be as small as a purse, and some are big enough to be on



rollers. Many POCs have a rechargeable battery that will last up to a few hours. If yours does not, be sure to keep extra batteries on hand for your system.

Most POCs work by a pulsed-flow rate, which means that they deliver oxygen only when you inhale. If you need a POC with continuous- or high-flow-rate settings, be aware that not all POCs can provide this. If you need continuous-flow oxygen therapy, your health care provider must specify that on the prescription.

There are many POCs on the market today. The way a POC provides oxygen (pulsed flow, continuous flow, or both) and the oxygen flow rate it offers depend on the device and manufacturer. Work with your DME supplier to find the POC that best meets your needs.

Most airlines allow POCs, but be sure to check with your airline

### Note

POCs can be very expensive. As a result, not all DME suppliers offer them.

before you travel with your POC. (See Trip Planning Guide: Traveling With Oxygen Therapy for more information about traveling with your oxygen therapy system.)

## Portable compressed gas cylinders

Portable compressed gas cylinders are available in many sizes, from some that weigh a few ounces and that you can carry in a backpack to those that weigh 8 pounds or more that you pull on a small cart. Some of these portable

cylinders can provide oxygen continuously, but they will last just a few hours depending on your liter flow.



## Caution

Use caution when handling these cylinders. They are under high pressure and can be extremely dangerous if they were to fall and crack a valve.

If you have an oxygen conserver with your cylinder, the tank provides oxygen only when you breathe in. In this case, the oxygen in the cylinder may last up to several hours, depending on the size of the cylinder. Some of these cylinders can be filled from your stationary oxygen concentrator—talk to your DME supplier to find out more information.

## Note

The higher the flow rate of oxygen, the faster you'll use the oxygen stored in the cylinder.

### *Portable liquid oxygen devices*

Portable liquid oxygen is a less commonly prescribed oxygen therapy system, and many DME suppliers may not provide this option. However, the benefits of portable liquid oxygen are that it can provide higher flow rates of continuous-flow oxygen, it is lightweight, and in some cases may last longer than POCs or compressed gas cylinders. Patients with very high oxygen needs may require this device. In addition, you can fill your portable liquid oxygen tanks from your larger stationary liquid therapy system. These systems require no electricity to operate.



## Other components for your oxygen therapy system

Besides the tanks or concentrators that store and supply your oxygen, you need some or all of the following accessories to use your oxygen therapy system:

### *Tubing*

This thin hose connects from your stationary oxygen therapy system to your nasal cannula or mask. Most stationary systems come with up to 50 feet of tubing. Discard and replace your tubing once every 6 months.

If your health care provider has prescribed high-flow oxygen therapy (ie, you require more than 6 liters per minute of oxygen), your system will

come with special high-flow tubing, which is slightly larger in diameter.

### *Nasal cannula*

This 2-prong piece attaches to the tubing and delivers oxygen into your nose. You should remove the cannula and wipe it clean with a damp cloth once or twice a day. You should discard and replace your nasal cannula once a month.



## *Reservoir or Oxymizer*

This device helps conserve oxygen and allows patients to have more oxygen available when inhaling. It sits below the nose (left) or is attached to a nasal cannula like a pendant (right) to provide additional oxygen.

## *Face mask*

If your health care provider has prescribed high-flow oxygen therapy, you may need to use a face mask instead of a nasal cannula. This mask covers both your nose and your mouth and attaches to the tubing. You should remove the mask and wipe it clean with a damp cloth once or twice a day. You should discard and replace your oxygen mask once a month.

## *Humidifier*

A humidifier is a container filled with distilled water that attaches to the oxygen therapy system. The water mixes with your oxygen to help prevent it from drying out your nasal membranes.



Humidifiers should not be used with POCs or other portable device.

## *Filters*

Filters are small components that help keep the oxygen you breathe in clean and free from dust, bacteria, and other things that

can make it hard for you to breathe. Which filters you need depends on your oxygen therapy system.

## Safety tips for using your oxygen therapy system

To help you breathe and avoid lung and sinus infections, do not use more than has been prescribed, and be sure to keep up with the following basics:

- If you use an oxygen concentrator, clean the filters regularly. Your DME supplier can help with this task and will supply the right filter for your oxygen therapy system.
- Change your nasal cannula, tubing, and face mask regularly.
- If you use a humidifier with your oxygen therapy system, wash it at least once a week. Fill the humidifier with distilled water only.
- Schedule a yearly maintenance appointment with your DME supplier for your stationary and portable oxygen therapy systems.

## How do I clean my oxygen supplies?

1. Wash in warm, soapy water.
2. Rinse in a solution of 10 parts water to 1 part vinegar to kill bacteria.
3. Rinse again with hot water
4. Set aside to dry.

In addition, for as long as you have your oxygen therapy systems, follow these safety precautions:

- Do not smoke or allow others to smoke around you (for example, in your home or car).
- Avoid open flames, such as from candles, bonfires, fireplaces, cigarette lighters, pilot lights, and gas stoves.
- If you use oxygen tanks, store them at least 10 feet away from any source of fire in a well-ventilated area out of direct sunlight. Do not store them in a closet. Make sure they are not able to fall.
- Do not use electric razors, hair dryers, and similar appliances that can cause sparks while you're using oxygen.
- Contact your DME supplier immediately if you notice a crack in an oxygen tank. Don't try to fix problems with your oxygen therapy system yourself.
- Place a sign on the front door of your home to let visitors know that you use oxygen in your home.
- Change the batteries in your smoke detectors every 6 months, and keep fire extinguishers in your home.
- Let your power company and local fire department know that you have an oxygen therapy system in your home. Ask for your home to be a priority service listing.
- Do not use petroleum-based moisturizers on your face or chest or petroleum- or wax-based lip balm.

## Benefits of oxygen therapy

Oxygen therapy will help you breathe better so you can maintain your lifestyle as much as possible. Once you start oxygen therapy, you may notice benefits such as:

- Better quality of life
- Less breathlessness and fatigue
- Less stress on your internal organs, such as your heart
- More energy
- Better memory and sharper thinking

Remember, oxygen therapy can make you feel better than you did before it!

## How will oxygen therapy affect my lifestyle?

There's no question that you need to make some changes in your day-to-day routine when you have an oxygen therapy system. That said, remember that oxygen therapy is there to help you breathe better, be more active, and live your life to the fullest.

Here are a few tips for making the most of life with your oxygen therapy system:

- Be patient with yourself. Give yourself time to learn what you can do with your oxygen therapy system.
- Make sure your stationary oxygen therapy system comes with enough tubing so you can move around your home easily.
- If you're planning to travel, be sure to read our Trip Planning Guide for information about traveling with an oxygen therapy system, including airline restrictions.

# 02

## Paying for Oxygen Therapy

## Medicare

If you're 65 years of age or older or on federal disability, Medicare Part B is most likely your primary insurance provider unless you have opted for a Medicare managed care plan.

Medicare covers oxygen therapy over a 5-year rental period. For the first 36 months of each cycle, Medicare Part B pays the rental fee for the system your health care provider has prescribed. The supplies are included in the rental fee. Medicare covers the:

- Oxygen therapy system;
- Containers (such as tanks) that store oxygen; and
- Tubing and other accessories you use with your oxygen therapy system.

Medicare also pays for:

- The oxygen in your storage containers;
- Regular maintenance to your oxygen therapy system; and
- Oxygen system repairs when something goes wrong.

You must pay 20% of the Medicare-approved amount and your Medicare Part B deductible, unless you have supplemental insurance that may cover the 20% and/or the deductible.

For the last 24 months of the 5-year cycle:

- The durable medical equipment (DME) supplier that delivers your supplies is required to maintain and repair your oxygen therapy throughout the 5-year rental period at no charge to you. Medicare will pay a separate fee for the maintenance of your oxygen therapy when a supplier comes to your home to provide service, unless certain exceptions apply.

## Note

If your oxygen saturation (SaO<sub>2</sub>) levels—that is, the amount of oxygen your hemoglobin (the protein in red blood cells) holds—are above 88% while you're awake or fall by less than 5% while you're asleep. Medicare may not pay for oxygen therapy or may limit your coverage to 3 months, depending on your diagnosis. (After, you would need to requalify.) Talk to your health care provider to make sure you meet the criteria to qualify for oxygen therapy.

- Your DME supplier is required to furnish oxygen therapy supplies and accessories throughout the 5-year rental period at no charge to you (unless certain exceptions apply).
- If the oxygen you use is stored in tanks delivered to your home, Medicare will continue to pay 80% of the cost of the contents of these tanks. You must pay the remaining 20%, or supplemental insurance may be used to cover the remaining 20%, if you have coverage.

For more information, visit the Medicare.gov **Oxygen equipment & accessories** page at <https://www.medicare.gov/coverage/oxygen-equipment-accessories>.



## Other ways to pay

If you're under 65 years of age or have private (non-Medicare) insurance, check with your insurance company about what it covers. If your insurance company won't pay for your oxygen therapy, you still have options.

### *CareCredit*

In 2017, the medical finance company CareCredit and portable oxygen contractor manufacturer OxyGo created a partnership to help people without insurance purchase an oxygen therapy system. CareCredit works like a credit card for health care–related expenses. If you qualify, you can use CareCredit to purchase an oxygen therapy system. Several monthly repayment options are available to meet your budget.

For more information, visit CareCredit's website at <https://www.carecredit.com>.

### *Borrow from your retirement savings account*

If you're under 59.5 years of age and withdraw money from your individual retirement account (IRA), you will have to pay an early withdrawal penalty. But, under some circumstances, you may be able to withdraw money from your IRA without paying the penalty if:

- You are unemployed and need the money to pay for health insurance.
- You are disabled, as verified by your health care provider.
- You have medical expenses that exceed 7.5% of your adjusted gross income.

# 03

## Frequently Asked Questions

## Is oxygen addictive?

We all need oxygen to survive, so you can't become addicted to it. You can, however, use too much oxygen. Like any medication, follow your health care provider's instructions when using your oxygen equipment. Call your provider if you feel lightheaded, confused, or sleepier than usual or if you develop a headache after using your oxygen equipment.

## What does my oxygen therapy prescription include?

When your health care provider prescribes oxygen therapy, that prescription should tell you:

- How often you should use oxygen therapy;
- How you use your therapy (nasal cannula or mask for example);
- How much oxygen you need based on your activity level; and
- The type of oxygen therapy system that best fits your needs.

## How do I measure my oxygen levels?

At the clinic or hospital, your health care provider has several sophisticated tools and tests for measuring your oxygen levels. For example, your provider can run blood tests to see how much carbon dioxide (a waste product of breathing) and oxygen are in your blood.

At home, you can use a tool called a pulse oximeter to measure your oxygen levels. This tool typically consists of a little monitor you place on your finger that measures 2 things: your heart rate

(which should be between 60 and 100 beats per minute) and the amount of oxygen in your blood (a good level is anything over 92%). Pulse oximeters give you an idea of your oxygen levels, but the readings can vary based on the quality of the device you use, which finger you put the monitor on, whether your hands are cold or hot, and other factors. Remove all nail polish before placing the probe on the finger.



## Are there activities I won't be able to do while using my oxygen therapy system?

You may find that some activities, such as swimming, are more difficult with your oxygen therapy system. Talk to your health care provider if you have questions or concerns about your oxygen therapy system.

## What does Medicare pay for?

For complete information about what Medicare pays for oxygen therapy, refer to the **Paying for Oxygen Therapy** section.

Also, visit the Medicare.gov **Oxygen equipment & accessories** page at <https://www.medicare.gov/coverage/oxygen-equipment-accessories>.

## Do I need a humidifier?

Oxygen therapy—especially high-flow oxygen—can cause your nasal membranes to dry out, leading to headaches and even nosebleeds. If you experience such side effects, call your health care provider to ask whether you need a humidifier with your oxygen therapy system. A disposable humidifier is not recommended when the prescribed flow rate is >6 liters per minute.

Medicare will pay 80% of the cost of a humidifier that is part of your oxygen therapy. You must pay 20% of the Medicare-approved amount.

For more information, visit the Medicare.gov **Humidifiers** page at <https://www.medicare.gov/coverage/humidifiers>.

## Who owns the oxygen therapy equipment at the end of my 5-year Medicare contract?

The DME supplier that delivers your oxygen therapy equipment owns that equipment. The DME supplier always owns the equipment, title never transfers.

## What's the difference between pulse- or demand-flow oxygen and continuous-flow oxygen?

Pulse- or demand-flow oxygen therapy systems have a sensor that can tell when you inhale. They deliver oxygen only when you breathe in.

Continuous-flow oxygen therapy systems provide oxygen constantly, even when you're not breathing in.

Your health care provider will prescribe the system that best meets your needs.

## Can I choose the DME supplier that delivers my oxygen therapy equipment?

Yes, but you must make sure that the DME supplier is an approved supplier for Medicare or your insurance company. To find a Medicare-approved DME supplier, visit the Medicare.gov **Find a supplier** page at <https://www.medicare.gov/supplierdirectory/search.html>.

## Can my DME supplier give me used equipment?

Medicare considers the parts of an oxygen therapy system that aren't disposable to be durable medical equipment—that is, equipment that can be used over and over again. To help prevent the spread of disease, however, oxygen system supplies such as the tubing, nose pieces (called nasal cannulas), filters, and other disposable items for use with your oxygen therapy system must be new with your set-up. They should be continuously changed and/or cleaned, as outlined by your DME supplier. For example, nasal cannulas should be changed, and the permanent filters should be cleaned on the schedule outlined by your DME supplier.

## What if my DME supplier stops carrying a supply I need?

The DME supplier that delivers your oxygen therapy equipment is required to provide everything ordered on your oxygen therapy prescription for the entire 5-year rental period. If your DME supplier stops carrying equipment you need, ask the supplier if there is an alternative that meets your medical needs. If necessary, and if you're on Medicare, you can file a complaint on the Medicare.gov

**How to file a complaint (grievance)** page at <https://www.medicare.gov/claims-appeals/how-to-file-a-complaint-grievance>.

## What if my DME supplier goes out of business or leaves the Medicare program?

If your DME supplier goes out of business or leaves the program, the company must give you 90 days notice in writing. The notice must include the date the DME supplier will stop service. When you receive this notice, call the DME supplier. The company should help you find a new supplier in your area. Also, Medicare maintains a **Find a supplier** page at <https://www.medicare.gov/supplierdirectory/search.html>. When you have a new supplier, ask the old supplier to transfer your records to the new provider in writing.

## What happens at the end of my 5-year Medicare contract?

Your DME provider will notify you when your 5-year contract is about to run out. Before the contract ends, contact your health care provider so that he or she can write a new certificate of medical necessity. Contract end is also an opportunity to talk to your health care provider about changes to your oxygen therapy or to change DME providers.

## Can I get emergency supplies? How are those supplies paid for?

The disposable items you use with your oxygen therapy system, such as nose pieces (called nasal cannulas) and tubing, are included in the monthly reimbursement to your DME supplier. Monthly visits are not required. Your oxygen supplier will provide supplies to you on a regular basis. If additional supplies are needed, contact your oxygen supplier. It's rare that you would need emergency supplies, but if you do, your available options depend on your DME supplier.

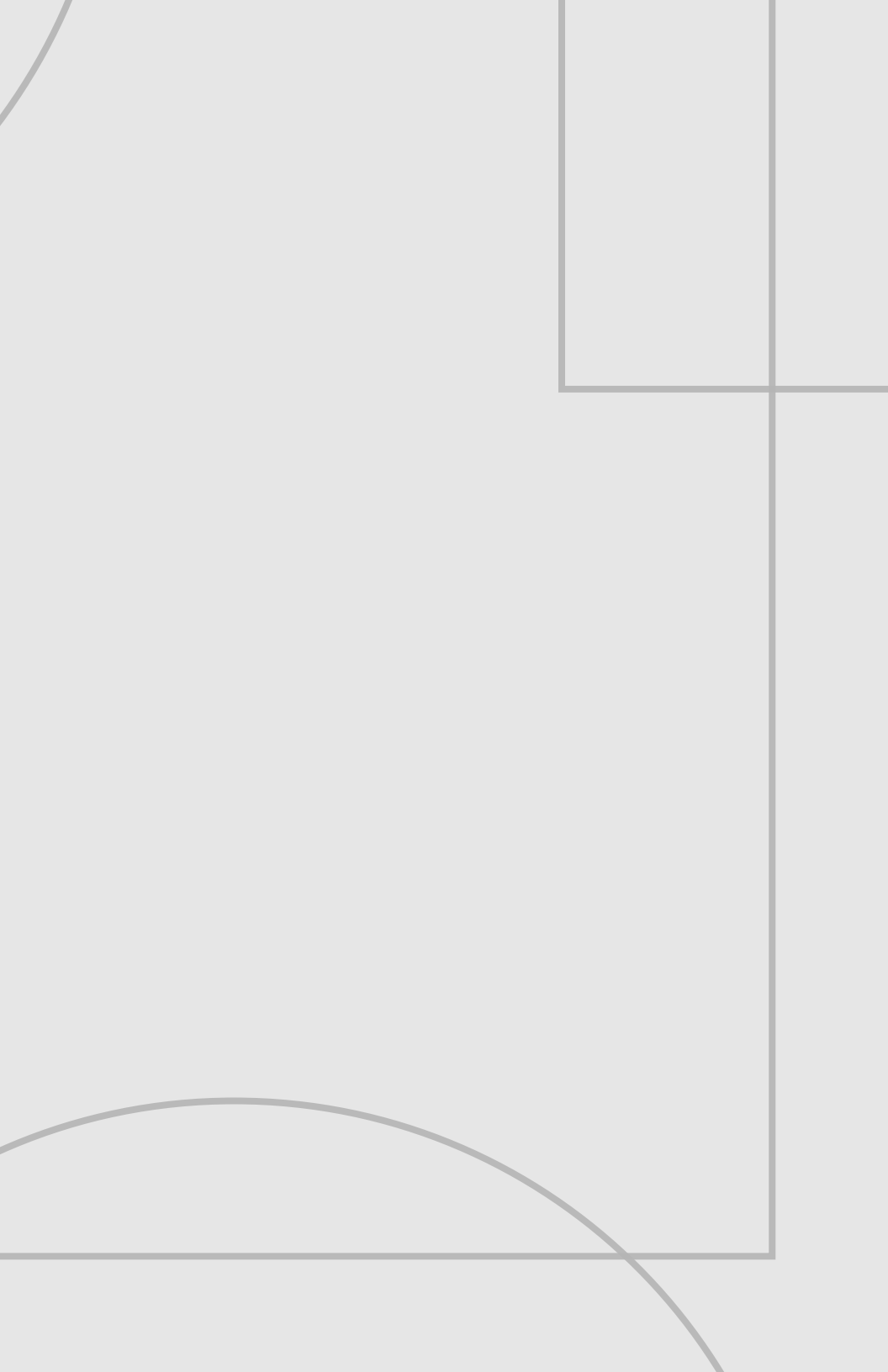
Some DME suppliers may provide such disposable items at no cost. Some suppliers may charge a minimal fee. Still other suppliers don't allow cash sales at all and work only with Medicare and insurance companies.

It's always a good idea to have extra supplies. However, if you ever do need emergency supplies, you can purchase some components at medical supply stores. Be aware, however, that you probably won't be reimbursed for such purchases by Medicare or your insurance company.



## Should I contact my health care provider or my DME supplier?

Situation	Call Healthcare Provider	Call DME Supplier
My oxygen therapy system isn't working right.		✓
I need to return broken oxygen therapy equipment.		✓
I think I need to change the amount of oxygen therapy I'm on.	✓	
I get nosebleeds after I use my oxygen therapy system.	✓	
The delivery driver is late delivering my oxygen therapy equipment.		✓
Some supplies were left out of my monthly DME delivery.		✓
My 5-year Medicare contract is about to run out.	✓	
I lost the wrench from my backup/rescue oxygen tank.		✓



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