



**Does Your Patient Need
Oxygen Therapy?**

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More than 1.5 million Americans depend on oxygen therapy to maintain their quality of life and prolong survival [1]. When you have diagnosed a patient with pulmonary and or cardiac condition that is causing hypoxemia, your next step is to determine whether oxygen therapy is an appropriate treatment option.

This guide provides the information you need to:

- Determine whether your patient needs oxygen therapy;
- Order the oxygen therapy systems and liter flows that best meet your patient's needs;
- Fulfill Medicare requirements for oxygen therapy reimbursement; and
- Educate your patient on the use of oxygen therapy.

Determine whether your patient needs oxygen therapy

To qualify for oxygen therapy under Medicare guidelines, your patient must meet the following criteria [2]:

- Has been diagnosed with a severe lung disease (eg, COPD, cystic fibrosis, bronchiectasis, lung cancer) or cause of hypoxia (eg, congestive heart failure [CHF], pulmonary hypertension, erythrocytosis, cluster headaches)
- Had a resting, awake pulse oximetry assessment or blood gas evaluation
- Completed laboratory testing by a physician or when required, an allowed Independent Diagnostic Testing Facility

- Tried alternative treatments that were considered clinically ineffective
- Be in stable condition
- Had a face-to-face (F2F) encounter within 30 days before initial certification or 90 days before recertification for which medical documentation exists of the patient's diagnosis and need for home oxygen therapy

For more information, see [Home oxygen therapy F2F encounter template guidance](#) on the [CMS.gov](#) website.

F2F testing and qualification under Medicare

Timing is important in qualifying your patient for home oxygen therapy [2]. When you meet with a patient to determine whether he or she should begin oxygen therapy or send a patient for testing at another facility, that initial testing must take place:

- Within 2 days of the patient's discharge from hospital if the patient is transitioning from hospital to another level of medical care, such as assisted living; or
- Within 30 days before oxygen therapy starts in the patient's home.

If your patient is in stable condition and testing is done in an outpatient setting, the results of F2F testing are good for 30 days.

When you meet with a patient or send a patient to an external facility to recertify them for oxygen therapy, the patient must be

in 1 of 2 recertification groups based on the time since beginning oxygen therapy:

- **Group I.** By the end of the first 12 months since beginning oxygen therapy
- **Group II.** Between 61 and 90 days since beginning oxygen therapy

Qualification for receiving oxygen at rest

If your patient has an arterial oxygen saturation SaO_2 (2 is subscript) $\leq 88\%$ or partial pressure of oxygen Po_2 (2 is subscript) ≤ 55 mm Hg at rest, no further testing is required.

Qualification for receiving oxygen during exertion

If your patient does not meet the requirements for receiving oxygen at rest, repeat the test with exertion in the following stages (tests must be performed in the same setting [same time]):

1. On room air at rest
2. On room air with exertion
3. On oxygen with exertion optional; document the liters-per-minute [LPM] flow of oxygen)

If the patient's tests show the following values, he or she qualifies for oxygen therapy:

- SaO_2 (2 is subscript) $\leq 88\%$ or Po_2 (2 is subscript) ≤ 55 mm Hg
- Po_2 (2 is subscript) = 56–59 mm Hg or SaO_2 (2 is subscript) 89% with 1 of the following:
 - Edema suggesting CHF
 - Pulmonary hypertension or cor pulmonale with P wave

- > 3 mm on lead II or III or augmented voltage foot
 - Erythrocythemia with hematocrit $> 56\%$

These results are good for 90 days. Your patient will need to be requalified within 60 to 90 days.

Qualification for receiving oxygen at night

If your patient has trouble breathing at night, perform nocturnal oximetry. The patient must be recorded for a minimum of 2 hours and desaturate to $\leq 88\%$ for at least 5 minutes to qualify for oxygen therapy (does not need to be continuous). For patients who qualify in this way, Medicare will pay for a stationary oxygen therapy system only.

Patients who are in an acute or exacerbated state during testing will not qualify for oxygen therapy.

Documenting the patient's condition

If you are considering ordering home oxygen therapy for your patient, make sure his or her medical record includes at least the following information:

- Diagnosis (of a disease, not just symptoms)
- How long the patient has had the qualifying condition
- Clinical course of the condition
- Patient's prognosis
- Any functional (eg, physical, cognitive) limitations the
- All treatment modalities prescribed or surgical interventions

performed for the patient's condition and their outcomes

- Arterial blood gas or SaO_2 results

It is also helpful to include in this documentation the completed order for oxygen therapy. In addition, if your patient needs portable oxygen, document that need, including the reason why—for example, frequent travel or extended time at another residence. Similarly, some patients may not be able to carry or change tanks or cylinders because of cognitive or physical impairment.

Important Notice

All guidance provided in this document is for informational purposes only. This document does not provide medical advice.

Ordering oxygen therapy systems

To make sure you're ordering the oxygen therapy equipment that best meets your patient's needs, talk to the patient about his or her lifestyle and level of activity. The information in Table 1 will help you determine the best oxygen therapy systems for your patient.

How long portable compressed or liquid oxygen cylinders last depends on the LPM flow rate and the cylinder capacity. Cylinder duration calculators are available online (eg, the [O₂ to Go! Cylinder Duration Web Calculator and App](#), the [Cornell University Oxygen Tank Duration calculator](#)).

Typically, a stationary oxygen concentrator is an ideal choice for home. These systems are relatively small and produce unlimited oxygen from room air. For portable systems, patient preference often drives choice, but if your patient requires a high flow rate (eg, ≥ 6 LPM), compressed oxygen cylinders or liquid oxygen (if you can find it) might be the best choice. If your patient insists on a POC, advise him or her to carry spare batteries.

- For information about stationary and portable oxygen therapy systems, please see the Complete Oxygen Therapy Guide in the Oxygen Therapy Toolkit for Patients.
- Liquid oxygen systems deliver high flow for longer periods but are becoming increasingly difficult to find because many durable medical equipment (DME) suppliers have stopped carrying them. If liquid oxygen is the system of choice, your patient may have to purchase it him- or herself.
- Patients tend to prefer POCs, but wait times for POCs are long, and these systems may not be the best option for all patients because of flow rate and battery life limitations.
- If your patient's preferences change, you can change the type of oxygen therapy system you order.

Table 1. Oxygen Therapy System Metrics for Ordering

	Stationary oxygen concentrator	Stationary liquid oxygen	POC	Portable compressed oxygen	Portable liquid oxygen
LPM	1-10	6 ^a	NA	1-15	6 ^a
Delivery method	Continuous ^b	Continuous ^b Pulse	Pulse (fixed or with minute-volume delivery) Continuous ^b ≤3 LPM	Continuous ^b Pulse	Continuous ^b Pulse
Oxygen purity, %	87-96	99.5	95	99.5	99.5
Weight, lb	18-55	22-114 (empty)	2-30 ^c	0.7-7.9 (empty)	6-10
Dimensions, in ^d	W = 13-17 H = 13-28 D = 7-15	Diameter = 7.3-9.0 H = 23-52	W = 6.5-11 H = 8-22 D = 3-10.5	Diameter = 2.5-4.3 ^e H = 5.3-25.5 ^e	W = 5-7 H = 13-16 D = 5.5-7.0
Dose per breath	NA	NA	15-115 BPM 11-96 mL	Pulse = 15-30	
Longevity at 2 LPM	NA	4-8 d	NA (battery life)	4-6 h	4-6 h
Charge time, h	NA	NA	2-6	NA	NA

	Stationary oxygen concentrator	Stationary liquid oxygen	POC	Portable compressed oxygen	Portable liquid oxygen
Capacity at 2200 psi, L	NA	1738-7080	NA	A (M-2, M-4, M-6) = 42-165 ^f B (M-6, M-7) = 164-198 C (M-9) = 256 D (M-15) = 425 JD (M-22) = 640 E (M-24, M-60, MMM/M122) = 680-3455 H (M-250) = 7080	42-680
Daytime or nighttime use	Both	Both	Both	Day	Day
Power source	AC wall outlet	NA	Battery ^g	NA	NA
Transport method	NA	NA	Carrier Bag	A-JD = carrier bag E = wheelchair bag or cart	Carrier bag or cart

Abbreviations: AC, alternating current; BPM, breaths per minute; LPM, liters per minute; NA, not applicable; POC, portable oxygen concentrator; psi, pounds/square inch; W, width.

a Tanks can be daisy-chained together by using a Y-connector to deliver up to 18 LPM.

b Continuous flow is the preferred option for patients who require flow rates >4 LPM. A high-flow nasal cannula is required for flow rates >6 LPM. Make sure your patient understands not to use a disposable humidifier when the prescribed flow rate is >6 LPM.

c With battery and accessories.

d In the Dimensions row, D indicates depth; H, height.

e With regulator.

f Cylinder designations are A, B, C, D, JD, E, and H, with new designations in parentheses. A cylinders are the smallest. E cylinders are the most commonly ordered size.

g Battery longevity is device specific. For accurate information, refer to the manufacturer's website.

Important Notice

Ordering oxygen therapy requires 2 forms:

1. Order form
2. Certificate of Medical Necessity (CMN)

Completing the order form

The Centers for Medicare & Medicaid Services (CMS) maintain guidance for ordering oxygen therapy systems [3]. When ordering oxygen therapy for your patient, include the following information on the order form:

- Patient's name
- A detailed description of the oxygen therapy systems and components you're ordering (both stationary and portable systems)
- Whether the oxygen therapy equipment is for continuous or only nighttime use
- For portable oxygen therapy systems, whether continuous or pulsed-dose oxygen is required
- Your name or the name and signature of the nonphysician practitioner (NPP)—that is, a nurse practitioner, clinical nurse specialist, or physician assistant—completing the form
- Order date and the date on which oxygen therapy will start
- Your or the NPP's National Provider Identifier (NPI)
- The oxygen flow rate you're prescribing

Tips:

- The person completing the form is required to have examined the patient within 30 days of the start of home oxygen therapy.
- Not all DME suppliers have the full range of oxygen therapy equipment. For example, POCs and liquid oxygen have become expensive in some areas [1]. Talk to your local DME suppliers to see which equipment is available so that you can make the best equipment decisions for your patients.
- The flow rate is the amount of oxygen required to keep the patient's SaO_2 at $\geq 90\%$ during exertion.
- If the patient's oxygen requirements differ between waking and sleeping, they should order what is needed for each activity.
- Estimated frequency and duration of oxygen therapy use (eg, 2 LPM, 24 hours/day)
- How long the patient will require oxygen therapy (eg, 6 months, lifetime)

Your patient's oxygen flow rate requirements determine which oxygen therapy system you order:

- If the patient does well on a single flow rate both in the daytime and at night, the peak flow rate and the average flow rate are considered the same.
- If the patient requires different flow rates in the daytime at rest and at night, use the following formula to calculate the

average flow rate:

$$\text{(Daytime resting flow rate + night flow rate)} / 2$$

Completing the CMN

The DME supplier you are working with will send a Medicare [Form DME 484.3](#), Certificate of Medical Necessity, for you or an NPP to complete. The CMN consists of 4 sections:

- **Section A.** This section can be completed by the ordering physician or NPP or by the DME supplier. It records contact information and service particulars:
 - Type of certification: initial date (when the patient was initially set up with oxygen therapy), a revised date (if there was a change in equipment), or a recertification date (3 or 12 months after oxygen therapy began)
 - Patient name, contact information, and Medicare ID
 - DME supplier name, contact information, and National Supplier Clearinghouse or NPI number
 - Place of service
 - Supply item or service procedure codes
 - Patient’s date of birth, sex, height, and weight
 - Ordering physician information, including address and NPI number
- **Section B.** This section must be completed by the ordering physician or an NPP. It is a record of the testing results that qualify the patient for oxygen therapy.
- **Section C.** The DME supplier typically completes this section, which contains a description of all oxygen therapy–related equipment and accessories ordered, the DME supplier’s

cost, and the Medicare Fee Schedule Allowance for each item ordered.

- **Section D.** This section is the ordering physician’s attestation and signature.

Medicare will not accept a stamped physician signature or date.

Medicare will require another CMN exactly 12 months after the initial CMN date to recertify the patient for oxygen therapy. You must see your patient within 90 days before the recertification date to meet Medicare guidelines. If you see the patient after the recertification date, the supplier will need a recertification CMN that matches the date of the late reevaluation. This could be at 3 or 12 months depending on which group patient is in.

The DME supplier provides a cover letter with the CMN. This letter should contain all the information necessary to complete Section B based on your conversation with the DME supplier. Ensure that this information, your records, and what’s on the CMN match.

When you’ve completed the CMN, return it to the DME supplier. The supplier will then submit it to CMS with the patient’s claim.

Overcoming claim denials and equipment unavailability

If your patient doesn’t meet the criteria for a particular type of equipment or device you’ve ordered, his or her insurance provider may deny the claim. In this case, you may need to help your

patient appeal the insurance provider's decision to make sure the patient receives the equipment you've ordered.

In other cases, the patient's DME supplier may not carry the equipment you've ordered. If another DME supplier is available that does carry the desired equipment, help the patient switch suppliers.

Educate your patient on oxygen therapy

According to the 2017 American Thoracic Society Workshop on

Keep a copy of the completed and signed CMN in your patient's medical record.

Optimizing Home Oxygen Therapy [1], patients who require oxygen therapy face several barriers, including:

- Cognitive, functional, financial, and education-related limitations on accessing and using oxygen therapy;
- No or limited access to oxygen therapy systems appropriate to their needs;
- DME suppliers imposing restrictions on the types of oxygen therapy systems available; and
- Financial constraints resulting from the CMS' competitive bidding policy.

So, it is important that you educate your patient on what to expect not only from the disease with which he or she has been diagnosed but also with oxygen therapy. Encourage your patients on oxygen therapy to:

- **Educate and advocate for themselves.** It is important that patients understand their disease and the ins and outs of oxygen therapy. Patients should feel empowered to advocate for themselves with physicians and their DME supplier. If they cannot advocate for themselves, encourage them to ask a friend or family member to advocate for them.
- **Ask for help.** Patients should feel empowered to contact you or other health care providers if they have questions or need help.
- **Join a support group.** Meeting with and talking to people who are going through what you are going through are incredibly important, both for support and for education. Be sure to give your patients information about local, state, and national disease-specific support groups.
- **Comply with oxygen therapy.** Encourage patients to view oxygen therapy as they would any medication and to use it accordingly.
- **Work with their DME supplier.** Patients should go to their DME supplier with any oxygen therapy system questions or concerns. The DME supplier must educate them on how to use the oxygen therapy equipment provided, but you should go over the actual prescription, including when and how often to use oxygen therapy and the flow rate, with them. You may need to communicate with the DME supplier and your patient's insurance provider about why you've prescribed a particular oxygen therapy system or equipment.

References

- [1] Jacobs SS, Lederer DJ, Garvey CM, et al. Optimizing home oxygen therapy. An official American Thoracic Society Workshop Report. *Ann Am Thorac Soc*. 2018;15(12):1369-1381. doi:10.1513/AnnalsATS.201809-627WS
- [2] Home oxygen therapy F2F encounter template guidance. Centers for Medicare & Medicaid Services. Published September 5, 2017. Accessed April 27, 2020. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Electronic-Clinical-Templates/Downloads/Home-Oxygen-Therapy-F2F-Encounter-Template-Draft-20170905-R40.pdf>
- [3] Home oxygen therapy order template guidance. Centers for Medicare & Medicaid Services. Published June 19, 2018. Accessed April 27, 2020. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Electronic-Clinical-Templates/Downloads/Home-Oxygen-Therapy-Order-Template-Draft-20180619-V42.pdf>

The Oxygen Therapy Toolkit for Patients provides patients with information about oxygen therapy, the types of oxygen therapy systems available, and more. The toolkit consists of the following components: Complete Oxygen Therapy Guide, Frequently Asked Questions, Paying for Oxygen Therapy, and Trip Planning Guide.

