Traveling With Portable Oxygen

PATIENT EDUCATION GUIDE

AMERICAN COLLEGE OF CHEST PHYSICIANS

Introduction

Each year, millions of travelers fly on commercial airlines in the United States and around the globe. As air travel has become more affordable, it has also become more accessible for people with serious medical conditions—including lung disease. The Air Carrier Access Act (14 CFR § 382.11), originally passed in 1986 and revised in 2009, prohibits airlines from discriminating against passengers based on disabilities. While this legislation enhances the freedom of travelers, the varying policies of different airlines concerning the use of portable oxygen can cause confusion among travelers. Adding to the challenge, some health-care providers are not always aware that certain patients may require portable oxygen while traveling. Moreover, they may not be familiar with the resources available for travelers who require oxygen therapy, and, therefore, are unable to advise their patients adequately.

Effects of Altitude and Air Travel: The Basics

At sea level, the air we breathe is rich in oxygen. At higher altitudes, the atmosphere becomes increasingly thin as a result of decreasing air pressure. The thinner the air, the less oxygen it contains. Most commercial airline flights maintain an average cruising altitude between 30,000 and 40,000 feet. At these levels, the air outside the cabin is extremely thin. Airplanes must, therefore, be pressurized at these altitudes to protect passengers from dangerously low levels of oxygen. Regulations established by the US Federal Aviation Administration (FAA) require that air pressure in commercial aircraft be maintained at a level equal to or lower than 8,000 feet above sea level. For most passengers, this provides enough oxygen to breathe comfortably. For passengers with lung disease, however, this level may not be sufficient to meet their needs.

Will I Need Oxygen on My Trip?

If you use oxygen on a regular basis, you will most likely need portable oxygen whenever you travel. Also, patients with certain types of lung disease may need oxygen therapy when traveling, even if they do not normally use portable oxygen. When planning air travel, be sure to ask your doctor whether you will need portable oxygen for your trip if you have any of the following problems:

- Emphysema or "COPD"
- Pulmonary fibrosis or interstitial lung disease
- Pulmonary hypertension
- Have difficulty breathing with normal daily activity

HIGH ALTITUDE DESTINATIONS

Whenever you travel to a high-altitude destination, such as a mountainous area, you may need to plan for portable oxygen therapy, whether or not you are flying to that destination. Factors that will determine whether you will need portable oxygen with you on your trip include the altitude of your destination and your overall health. To be safe, always discuss your travel plans with your doctor well in advance of your departure.

In some cases, your doctor may order an altitude simulation test to determine if you need portable oxygen for your trip. This test measures oxygen levels in your blood while you breathe a mixture of gases similar to the atmosphere inside a pressurized airplane cabin at cruising altitude.

Types of Portable Oxygen

Several types of portable oxygen equipment are available for use when traveling; however, not all types are allowed for use during flight. The system that is right for you depends on your travel plans, your health requirements, and your personal preferences.

Compressed Oxygen

Compressed oxygen is stored in pressurized aluminum tanks or cylinders. A regulator, or valve, is used to adjust the oxygen flow rate. Compressed oxygen units are simple to operate but they are often heavy. Some users may need assistance to move and position the units properly. Compressed oxygen systems can be used on commercial aircraft only if they are supplied by the airline. (See "Use of Oxygen on Commercial Airline")

Portable Oxygen Concentrators (POCs)

These lightweight electronic devices extract oxygen from the air and provide it to users at a much richer concentration than the ambient atmosphere provides. POC units were first approved by the FAA for use on commercial aircraft in 2005 and are now allowed on most flights. (See "Use of Oxygen on Commercial Airlines") These devices are usually powered by batteries that must be regularly replaced or recharged.

Liquid Oxygen

Liquid oxygen systems consist of lightweight units with a small reservoir that contains liquid oxygen. One example is the HELIOS Personal Oxygen System (CAIRE, divison of Chart Industries; Cleveland, OH). Portable liquid oxygen units are refilled from larger stationary reservoirs provided by the equipment supplier. Because liquid oxygen units do not require batteries or any other external power source, they are often preferred for patients in areas without access to electricity. Liquid oxygen is classified by the FAA as hazardous material. For this reason, the use of liquid oxygen systems by travelers on commercial aircraft is prohibited. A portable liquid oxygen system can, however, be checked-in along with a passenger's luggage if the oxygen reservoir has been emptied.

Use of Oxygen on Commercial Airlines

Policies concerning the use of in-flight oxygen vary substantially among airlines. Contact your airline or check your airline's Web site to obtain its specific guidelines on oxygen use during flight.

Airlines require a minimum of 72 hours advance notice before your flight if you plan to travel with oxygen. For this reason, planning ahead is essential. Be sure to review procedures and complete all necessary paperwork required by the airline as early as possible.

Airlines generally require a "Physician's Statement"—a written authorization signed by your doctor—that verifies your need for oxygen therapy. This document also outlines any specific oxygen delivery instructions that you and the airline need to know. Many carriers have their own airline-specific medical forms that must be signed and dated within a certain period, (eg, 10 days or less) before travel. Be sure to check with your airline about its specific policies.

Air carriers typically offer two basic options for oxygen therapy during flight: 1) carrier-supplied compressed oxygen or 2) use of a personal portable oxygen concentrators (POCs).

Carrier-Supplied (Compressed) Oxygen

Various airlines provide compressed oxygen during flight as a service to passengers who need oxygen therapy. Fees for this service vary based on the duration of the flight or the number of flight segments in the trip. Your insurance policy may cover some of the costs associated with your in-flight oxygen needs. Check with your insurance carrier to determine the specifics of your coverage. Maximum flow rates and available equipment, such as masks, vary among airlines. Be sure to clarify your specific oxygen requirements with your doctor and communicate your needs to the airline before your flight. Also, be mindful that oxygen provided by the carrier will be available only while you are onboard the aircraft. Airlines do NOT provide oxygen for passengers when they are in the terminal either before or after a flight. If your trip includes connecting fights with a different airline, you must make separate arrangements with each carrier before your departure. Remember that you are responsible for managing your own oxygen needs during any layovers in your trip and also during your stay at your destination. If necessary, contact your oxygen supplier, and ask to have a representative meet you with portable oxygen at the airport when you arrive.

If in-flight oxygen service is not available, in most cases you will be able to use a personal oxygen concentrator (POC) during your flight.

Personal Portable Oxygen Concentrator (POC)

Air carriers with flights departing from or arriving in the United States now allow the use of FAA-approved portable oxygen concentrators (POCs) by passengers. Travelers who choose this type of equipment are responsible for supplying and operating their own POC unit.

As of January 2010, 11 portable oxygen concentrators have been approved by the FAA for use by passengers on commercial aircraft (Special Federal Aviation Regulation No. 106). They are the following:

AirSep (R) FreeStyle™
AirSep(R) LifeStyle™
Delphi RS-00400 (Central Air)
DeVilbiss Healthcare iGo®
Inogen One™
Inogen One G2™
International Biophysics LifeChoice®
Invacare XPO100™
Oxlife Independence Oxygen Concentrator
Phillips Respironics EverGo™
SeQual Eclipse 3™

POC units may be rented or purchased from oxygen suppliers or medical device companies. The decision to purchase or lease usually depends on the anticipated length of use. All airlines require a Physician's Statement from patients traveling with POCs. This document verifies that the patient is knowledgeable and capable of operating the POC unit. Not all FAA-approved POCs are permitted on all airplanes. Some airlines only allow certain POCs on selected flights. Always check in advance that the POC you intend to use is approved by your airline for your specific flight. POCs offer several advantages over other oxygen delivery systems for travelers. Unlike carrier-supplied oxygen, these devices can be used by passengers during long layovers or delays. Travelers can also use this lightweight and convenient equipment at their final destination without making any additional arrangements.

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) FOR SLEEP APNEA

CPAP machines were developed primarily for use at home. Advances in CPAP technology now make it possible for patients with sleep apnea to use their CPAP devices during long-duration flights that span normal sleeping hours. Like POCs, CPAP machines are classified as medical assist devices. They are, therefore, permitted on most domestic and international flights. Remember that an external power source may not be available during your flight. Check with your airline ahead of time to make arrangements for any electrical power you will need.

Notes concerning use of POCs:

- If your system is not a FAA-approved POC, you will not be permitted to take it with you onto the aircraft.
- Because POCs are considered assistive devices, they are not counted as part of your carry-on luggage.
- It is the responsibility of POC users to provide a sufficient number of batteries to power the device for the duration of the flight. Travelers should plan not only for power needs during scheduled flight times but also for any unanticipated delays.
- While POCs may be recharged during layovers, airlines cannot guarantee travelers access to electrical outlets during flight. When traveling with a POC that can be plugged directly into a power source or recharged, request a seat that offers access to an electrical outlet.

Important Travel Tips

When planning a trip, keep the following points in mind if you suspect that you will require oxygen therapy:

- Schedule an appointment with your doctor well in advance to discuss your travel plans and your oxygen therapy needs.
- Investigate different airlines before booking your flight. Review and compare their policies on oxygen use during flight and their pricing for in-flight oxygen services. Be certain that your oxygen needs can be met by the airline you select.
- Notify your airline about your need for portable oxygen at the time you make your reservation. (The number of seats [usually window only] allotted by the airline for oxygen-dependent passengers may be limited.)
- Remember that portable oxygen can be used on board commercial aircraft only if it is supplied by the airline carrier or is delivered through an FAA-approved POC.
- If you will also need portable oxygen at the airport or at your destination, don't forget to make those arrangements with your oxygen supplier before departing on your trip.
- Always confirm your in-flight oxygen arrangements with the airline a few days (at least 48 h) prior to your departure.

- Remember to pack everything you will need during your flight in your carry-on luggage. Be sure to include respiratory inhalers, medications, and extra batteries or power cords for your equipment.
- Arrive early at the airport to allow additional time for passing through security checkpoints with your oxygen equipment.
- Advise airline representatives at both the check-in desk and during the boarding process that you are traveling with portable oxygen. Ask for permission to "pre-board," if possible.
- Carry copies of a current Physician's Statement with you at all times to verify your need for portable oxygen.

For more information:

Airline Oxygen Council of America (AOCA)
www.airlineoxygencouncil.org

American Association for Respiratory Care (AARC)
www.yourlunghealth.org/healthy_living/articles/traveling/index.cfm

National Home Oxygen Patients Association (NHOPA)
www.homeoxygen.org/airtrav.html

Transportation Security Administration (TSA)
www.tsa.gov/travelers/airtravel/specialneeds/editorial_1374.shtm

Acknowledgments

The ACCP would like to thank the Occupational and Environmental Health NetWork and the co-chairs of this project, Hubert Chen, MD, FCCP, and Clayton T. Cowl, MD, MS, FCCP.

AMERICAN COLLEGE OF CHEST PHYSICIANS®

American College of Chest Physicians
3300 Dundee Road
Northbrook, IL 60062

(847) 498-1400 phone
(847) 498-5460 fax

www.chestnet.org