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# FLYING WITH OXYGEN

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## SUMMARY

1. Talk to your respiratory specialist – you may need an altitude test
2. Plan your trip – airline policy, flight schedules, oxygen supply
3. Make your booking and get travel insurance
4. Send Medical Clearance Form signed by you and the specialist to the airline
5. Organise oxygen - unless the airline is to supply it
6. Plan for your departure day
7. Enjoy your trip!

### 1. TALK TO YOUR RESPIRATORY SPECIALIST

Do not book a flight until you have checked with your respiratory specialist or GP. Some airlines will not give a refund.

The first step in planning a trip when you have chronic lung disease, or if you regularly use medical oxygen, is to speak to a respiratory physician about your intended journey. Does your doctor consider you are medically fit to make this trip? This applies to anyone with a chronic lung disease - whether or not they use oxygen at home.

Having spoken with your specialist about your flight intentions you may be referred for an **altitude simulation test**. This is carried out in a specialist testing centre (pulmonary physiology laboratory) where other breathing tests are carried out. It helps your specialist determine whether supplementary oxygen is needed when you are flying.

If you use oxygen on the ground make sure you discuss your travel plans with your oxygen supplier as well.

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## WHY EXTRA OXYGEN MIGHT BE NEEDED

During long haul flights planes cruise at 10,000-12,000 metres - above the ground (33,000-40,000 feet) and this significantly reduces the oxygen concentration available. You might need supplementary oxygen for air travel because the reduced air pressure results in less oxygen being available. Aircraft cabins are pressurised to partly compensate for this. However pressurisation only provides an oxygen concentration equivalent to being at about 2,440-3,000 metres (8,000-10,000 feet), i.e. 14-17% compared with 21% at ground level). There are small differences between different models of aircraft. For healthy people this is an adequate degree of oxygen but for those with lung disease, it may not.

It is important to have a healthy level of oxygen to avoid organ damage - particularly to the heart. If your blood oxygen drops too low you may not be aware of this. Breathlessness is not a reliable sign of low oxygen. That's why it's important to speak to your specialist before booking air travel. Be sure to follow your doctor's recommendations. You don't want to be the reason the plane is diverted with an ambulance waiting.

## 2. PLAN YOUR TRIP

If you need oxygen when flying, selecting an airline and booking a ticket is not just about checking out the best air fares. You very much need to compare flight schedules and different airline policies regarding oxygen use.

Some low cost airlines may not permit people requiring oxygen to travel with them at all, even if you bring your own supply. They are not able to manage it.

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**Each airline has its own policies relating to passengers who need oxygen while flying and these change from time to time.**

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Some airlines accept people using oxygen but do not provide it; you have to bring your own supply, e.g. Jet Star, Virgin.

Other airlines both provide oxygen for a fee or, in a few cases, free, but may still allow you to bring an approved portable oxygen concentrator.

This is why you should always check airline policies thoroughly before booking. Work out whether you will use airline-supplied bottled oxygen, bottled oxygen you obtain yourself, your own approved portable oxygen concentrator or a rented one. Airlines providing bottled oxygen do not usually permit passengers to bring their own bottles.

If you plan to use a battery operated portable oxygen concentrator the flight duration will be critical to determine how many batteries are needed. Provided you do not require oxygen on the ground, you may be able to break a long flight to recharge your concentrator during a 4-5 hours stop-over.

**IMPORTANTLY** you will need to complete the airline's **Medical Clearance Form**, have it signed by your specialist and submitted to the airline, as much as two weeks before you fly (see below).

### 3. MAKE YOUR BOOKING AND GET TRAVEL INSURANCE

#### BOOKING

Once you have determined the oxygen source for your flight and which airline suits your needs, it is **only then** that it is safe to book a ticket.

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**Make sure you advise the airline at time of booking that you will need to use oxygen on the flight**

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If you need oxygen when flying airlines require you to book by phone rather than over the internet, even if you plan to use your own portable oxygen concentrator.

If using the aircraft's oxygen or if taking your own oxygen cylinder on board, you will need to liaise with the airline as to what you need to do to make this happen.

If you are using a portable oxygen concentrator plan, your itinerary around battery duration. Unless you carry a large number of (heavy) spare batteries you will probably not be able to make a long haul flight from Australia without a break of 5-6 hours along the way to recharge batteries. .

Ask the airline what time you should arrive at the airport to check in. This may be much earlier than for passengers not flying with oxygen, especially if an oxygen bottle has to be fitted under your seat. When you check in make sure the ground staff member serving you is aware that you are travelling with oxygen or a concentrator, whether theirs or yours.

While many airlines allow passengers to pre-select their seat on the plane, passengers using oxygen may not be able to do this. As a person requiring medical clearance to travel you are not allowed to sit in the exit rows. The airline will generally assign you a seat, often near the toilets, usually by a window - so that other passengers don't have to climb over your oxygen equipment to get up.

#### TRAVEL INSURANCE

It is getting harder for people with chronic lung disease to obtain travel insurance, even if their specialist has certified they are medically fit to fly. If you are required to use oxygen while flying it is virtually impossible to obtain cover for your lung condition. However you should still try to purchase travel insurance, even if your lung condition is excluded. After all, something else might affect your travel plans.

Two companies you could try are Good2Go (part of AIG) and CGU. They offer an initial medical assessment. Some add a premium to your insurance. If you are covered by a private health insurer you may want to ask their advice as well. Many other insurers won't cover chronic lung disease at all, apart from stable asthma.

## 4. MEDICAL CLEARANCE FORM

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**The easiest way to obtain the airline's own guidelines and Medical Clearance Form is to download them from the airline website**

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AT the airline's website go to the webpages concerned with medical assistance, special needs or flying with medical conditions. Print off the Medical Clearance Form. If you do not have access to a computer contact the airline call centre or speak to your travel agent.

Read the form and guidelines, and answer all the questions you can. There is usually one section for you and one for your respiratory specialist to complete and sign. If you know the answers to some in the doctor's section it may help a busy doctor if you enter those.

The form asks about you, your contact details, flight details, and travelling companion and seeks your consent for your doctor to provide the airline with information about your medical condition. If you may need other assistance at the airport, such as a wheel chair or a buggy there is a place to indicate this on the form as well. There are long distances to walk at some airports.

The doctor will be asked for their contact details and qualifications, specialty, your diagnosis, medical history, your required oxygen flow rate, whether you need oxygen on the ground as well, assessment of your health prospects on the trip and any other assistance you might need. It may also ask for your blood pressure, pulse, oxygen saturation etc.

It is possible you may not need to see the specialist again to obtain their endorsement, especially if you have seen them recently - but you should not assume this. Speak to the doctor's medical secretary or practice manager to see whether it is acceptable to drop the form into the clinic and pick it up later, or if the doctor wishes to see you. Some busy specialists are now charging a fee for the time they need to check your file and sign the form, if not done at a consultation.

Keep a copy of the form before sending it off to the airline. The guidelines should tell you how, when and where to send it, once completed. This might be by post, fax or email, some weeks in advance. If this is not clear call the airline. Check with the airline that the form has been received and then wait for them to get back to you. Before they approve your flight with oxygen they may ask for extra information, such as details of the concentrator batteries, recent hospitalisations and whether you use oxygen on the ground.

Until December 2015 Virgin Australia only required the medical clearance form to be submitted at check in, but they have now changed their policy in line with other airlines. Even if you have used oxygen previously with a particular airline, you cannot assume their policy will remain the same next time. Always check.

## 5. ORGANISE OXYGEN

There are two ways you can obtain oxygen for a flight - if the aircraft is not to supply it.

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**Supplementary oxygen for use on your flight must be prescribed by a specialist and approved by the airline.**

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### BOTTLED OXYGEN

The airline might provide bottled oxygen fixed safely under the seat, often with a mask and usually for a fee. Not all airlines provide this service.

If you choose this option, bring along a nasal cannula or prongs (obtainable from a respiratory supplies firm or hospital). Ask if the airline engineer can fit the nasal prongs instead of the mask. This cannot always be arranged as a special adaptor is needed.

With prongs you can continue to use oxygen when speaking or eating, unlike with a mask. Generally you cannot remove bottled oxygen from its anchor point under the seat when you walk around the aircraft.

Some airlines do not provide oxygen but do allow passengers to bring their own bottles or portable concentrator on board. Speak to an oxygen supplier about this. Details at the end of this guide.



### PORTABLE OXYGEN CONCENTRATORS

FIGURE 1 NASAL CANNULA

In recent years portable rechargeable battery-operated oxygen concentrators have become available. An expanding range of models and brands suit different medical and travel needs. Although prices have dropped a little, they are still expensive, around \$5,000. They are also available for rental at about \$150 a week. If you travel fairly often it might be more cost-effective to buy one.

Second hand portable concentrators are available from time to time. Contact a supplier or a respiratory support group to find out if they know of any second hand portable concentrators for sale.

Some people have bought portable concentrators from overseas sellers over the internet because of the apparent lower price. However, an overseas concentrator may not be suitable for your oxygen needs, support services are less likely and there may be warranty problems. Some countries such as the USA, use 110 volts (versus 240 volts in Australia), so you need to check what voltages can be used when charging the unit. Some models operate on either 240 or 110 volts.

Before you buy a second hand machine, check how many hours it has been used. An electronic display should show this. Have the machine checked or serviced before you take it on a flight to ensure it is functioning well.

Make sure that any portable concentrator you intend buying can provide the flow rate and battery life you need. The maximum flow rate is not the same on all models.

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**Your altitude simulation test will help your specialist determine the correct flow setting for you**

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Also ensure that the model you plan to buy or hire is on the airline's approved list of models. Call the airline or visit their website.

A portable concentrator usually comes with its own trolley so that moving it around the airport is as easy as pulling a camera bag on wheels. You will need a nasal cannula to use your concentrator. You can take your concentrator with you when going to the toilet on the plane.

If your portable concentrator malfunctions, ask assistance from cabin crew. They may have emergency bottled oxygen you can use. Bring the concentrator operating manual with you so that you can recognise any error messages it produces.

## PORTABLE OXYGEN CONCENTRATOR BATTERIES

During your flight your portable oxygen concentrator runs on large lithium ion batteries. It produces oxygen by chemically "sieving" out the nitrogen and other gases from the cabin air, leaving concentrated oxygen. Depending on the duration of your flight you may need additional batteries. Many airlines require you to have 1½- 2 times the scheduled flight time in batteries - just in case the flight path has to be changed.

Rechargeable lithium ion batteries with a power rating greater than 100 Watt-hours are not permitted on civilian aircraft because of safety risks. Ask your supplier, check the labelling on the battery or the specifications given in the manual. Most, if not all, portable concentrator batteries meet this safety requirement, i.e. are less than 100 Watt-hours, but airlines are very much aware of this limit, and may ask about the batteries.

Since 2016 airlines have become especially aware of the fire risks of batteries on aircraft, and may raise this issue with you. Be sure to carry spare batteries safely. This usually means wrapping and stowing them separately. Check the Australian Civil Aviation Safety Authority information given at the end of this guide.

The day before leaving home, plug the charger into your power point and charge all your batteries. You may also need to recharge the batteries at an airport during stop-over time. Note whether your stop-over country uses a different voltage or plug.

Take great care when handling your rechargeable concentrator batteries. Touching the terminal of one to the terminal of another, or to any metal, can short circuit causing an explosion and fire. To be safe, tape over the terminals of each spare battery or wrap separately before stowing in your hand luggage. Bubble wrap is ideal. Under aviation regulations you are not permitted to pack lithium ion batteries into your checked-in luggage.

The concentrator instruction manual includes an estimate of how long fully-charged batteries should last, although this depends on the flow rate your doctor has recommended for you (e.g. 2 litres per minute) and your breathing rate (e.g. 15 breaths per minute). People often

breathe more rapidly on a plane than on the ground and so the batteries may not last as long. Sometimes it takes several trips to work out how long the batteries will last for you. If you use home oxygen, the flow rate you use in the plane will not be the same as on the ground.

## PLUGGING INTO A POWER POINT ON THE AIRCRAFT

Many concentrators can be used while plugged into a 240 volt power source. A few airlines have a number of seats with power points but you cannot be guaranteed one of these. So do not rely on a power point being available in your seat on the plane. This is unusual unless you travel business class - and only for some airlines and plane models. The power supply might not be 240 volts.

## 6. PLAN FOR YOUR DEPARTURE DAY AND DEPARTING

Passengers requiring oxygen on board are usually not allowed to check-in online beforehand or use the bag-drop queue, as airline ground staff need to run over arrangements with you on the day.

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**Make a check-list for your carry-on luggage**

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In addition to your portable oxygen concentrator or bottles, you will need to take in your carry-on bag:

- Your own nasal prongs
- Extra copies of the paperwork – the completed Medical Clearance Form
- Concentrator instructions, travel insurance policy and emergency contact numbers (including travel insurer, and concentrator repairer at your destination)
- All batteries fully charged (none in your checked in baggage)
- Recharger unit, and if needed, adaptor plugs for stop-over periods and final destination

Arrive at the airport in plenty of time. Nothing makes you more breathless than rushing or being rushed by someone else. If you are travelling with a portable concentrator, be prepared to explain it to airport security staff when it is X-rayed. You may be asked to open the concentrator's cover to show the batteries inside. If stairs are a problem ask at the check-in desk whether there are any stairs to access the plane.

Once in your seat, put on the nasal prongs or mask. If using a concentrator and if the model is a suitable size, push it under the seat in front of you for safety during take-off and landing. Removing the wheeled trolley can make this easier. Stow the trolley in the locker above your head before take-off. If the concentrator will not fit under the seat in front, ask for a seatbelt extender to safely anchor the concentrator. Cabin crew can assist you.

If you only use oxygen while flying, turn your concentrator on once the plane begins to take off. Strictly speaking, you don't need the oxygen until the plane is approaching 8,000 feet, but the machine may take a few minutes to reach

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**Do not wait until you feel that you need oxygen. You may not be aware of a drop in your oxygen level.**

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operating efficiency. Set the concentrator to the rate prescribed by your doctor and leave it on this setting. If using cylinder oxygen turn on to the appropriate setting after take-off.

You cannot take bottled oxygen to the toilet with you, since the bottle is fixed under the seat and the tubing is not long enough. If your doctor does not consider it safe for you to take short walks on the plane without oxygen, it would be better to organise a portable oxygen concentrator.

Nevertheless it still can be awkward managing a concentrator along the narrow aisle of the plane. Best to ask for a seat near the toilets and time your visits for when there isn't much of a queue.

## 7. ENJOY YOUR TRIP!

Make sure one of the cabin crew knows you are using oxygen. Despite all the paperwork you've completed beforehand - they may not have noticed. Different airline crews working for the same airline may deal with your oxygen use in slightly different ways. Be prepared to be flexible. If you have any problems during your flight, don't hesitate to call a member of the cabin crew.

Relax and enjoy your journey. Use the oxygen exactly as your doctor has recommended with the peace of mind that brings to you and your family. When the plane arrives at its destination, don't try to get off in a hurry. Wait till the rush is over and disembark in peace.

### ACKNOWLEDGEMENT

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This Guide can be downloaded from

[www.resphealth.org.au/news-and-events/publications/breath-of-life-newsletter](http://www.resphealth.org.au/news-and-events/publications/breath-of-life-newsletter)

## MORE INFORMATION

### OXYGEN & OXYGEN EQUIPMENT SUPPLIERS FOR WESTERN AUSTRALIANS

#### RESPIRATORY SUPPLIES

(08) 9349 0799 or 1300 738 003 country callers

192A Flinders Street, Yokine Western Australia 6060

[www.respiratorysupplies.com.au](http://www.respiratorysupplies.com.au)

#### AIR LIQUIDE HEALTHCARE

(08) 6389 1199

51 Hampden Road, Nedlands Western Australia 6009

[www.airliquidehealthcare.com.au](http://www.airliquidehealthcare.com.au)

#### SILVER CHAIN

(08) 9242 0242 (Perth) or 1300 650 803 (country WA)



6 Sundercombe Street, Osborne Park Western Australia 6017

[www.silverchain.org.au](http://www.silverchain.org.au)

OXYGEN SOLUTIONS

1300 558 947

67 Mars Road, Lane Cove, Sydney, New South Wales 2066 <http://oxygensolutions.com.au/>

## OTHER USEFUL INFORMATION

*LUNG FOUNDATION AUSTRALIA*

Better Living with COPD: A Patient Guide, Lung Foundation Australia, Brisbane, 2012. Ch 20, Travel and COPD, page 83-

<http://lungfoundation.com.au/wp-content/uploads/2014/02/20.-Travel-and-COPD.pdf>

Fitness to Fly fact sheet

[www.lungfoundation.com.au/wp-content/uploads/2012/06/Fitness-to-Fly.pdf](http://www.lungfoundation.com.au/wp-content/uploads/2012/06/Fitness-to-Fly.pdf)

Portable oxygen travel tips

<http://lungfoundation.com.au/wp-content/uploads/2015/01/Portable-Oxygen-Travel-Tips-February-2015.pdf>

Consumer story

<http://lungfoundation.com.au/patient-support/living-with-a-lung-condition/oxygen/travel-tips-with-portable-oxygen/>

*EUROPEAN FEDERATION OF ALLERGY AND AIRWAYS DISEASE PATIENTS' ASSOCIATIONS*

Enabling Air Travel with Oxygen in Europe (policy document)

[www.efanet.org/resources/42-library/campaign/2619-enabling-air-travel-with-medical-oxygen](http://www.efanet.org/resources/42-library/campaign/2619-enabling-air-travel-with-medical-oxygen)

*BRITISH LUNG FOUNDATION*

Guide to holidaying with a lung condition

[www.blf.org.uk/support-for-you/going-on-holiday/practical-issues](http://www.blf.org.uk/support-for-you/going-on-holiday/practical-issues)

*REGULATIONS ABOUT CARRYING OXYGEN, OXYGEN CONCENTRATORS AND LITHIUM-ION BATTERIES*

Civil Aviation Safety Authority (Australia) (CASA) on portable medical devices on-board

[www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC\\_100584](http://www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_100584)

CASA's carrying lithium ion batteries video

[www.youtube.com/watch?v=jvxS3-oQzT4&list=UU3ytY1MCWiwMiSyO414izow](http://www.youtube.com/watch?v=jvxS3-oQzT4&list=UU3ytY1MCWiwMiSyO414izow)

US Federal Aviation Administration Office of Hazardous Materials - Safety Guide for Airline Passengers and Batteries

[www.faa.gov/about/initiatives/hazmat\\_safety/](http://www.faa.gov/about/initiatives/hazmat_safety/) and

Downloadable from [www.resphealth.org.au/news-and-events/publications/breath-of-life-newsletter](http://www.resphealth.org.au/news-and-events/publications/breath-of-life-newsletter)  
Updated Jan 2017

[www.faa.gov/about/office\\_org/headquarters\\_offices/ash/ash\\_programs/hazmat/passenger\\_info/media/Airline\\_passengers\\_and\\_batteries.pdf](http://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/passenger_info/media/Airline_passengers_and_batteries.pdf)

International Air Transport Association guide for taking lithium batteries on board

[www.iata.org/whatwedo/cargo/dgr/Documents/passenger-lithium-battery.pdf](http://www.iata.org/whatwedo/cargo/dgr/Documents/passenger-lithium-battery.pdf)