Fact Sheet – Supplementary / Home Oxygen Therapy

Background

Some people with Alpha-1 Antitrypsin Deficiency (A1AD) have lung disease (e.g., chronic obstructive pulmonary disease, chronic bronchitis, emphysema) that can lead to hypoxia or chronic hypoxemia. Hypoxia occurs when there is not enough oxygen in the blood available to support cells and biological processes. Hypoxia can be mild or severe, and acute or chronic. In chronic severe hypoxia people may experience shortness of breath (SOB) and heart issues such as tachycardia. Oxygen therapy aims to protect organs (e.g., heart and brain) rather than helping with SOB however it may also help with SOB. Medical tests (e.g., spirometry, arterial blood gas test, heart test, sleep study) help identify why hypoxia is occurring, whether oxygen saturation or exercise desaturation are happening, and whether supplementary oxygen therapy is required.

Oxygen

Oxygen is a colourless, odorless, tasteless gas, carried in the blood around the body to sustain cells and organs. Supplemental oxygen is 'medical grade oxygen' which means that it is above 85% pure oxygen. Patients require a prescription for supplemental oxygen. Studies have shown that supplementary oxygen helps people live longer; oxygen can also help with energy, concentration, and to combat fatigue. The aim is to maintain oxygen levels of above 55 mmHg at rest and 90% during exercise.

Oxygen Prescription / Script

Oxygen is prescribed when blood oxygen levels are below 55 mmHg (less than 90% when it is checked via a finger oximeter). The oxygen script indicates the oxygen dose in litres per minute, how many hours a day it is required, whether a higher dose is required on exertion, when to use the concentrator e.g., while sleeping, whether to use the "pulse delivered" oxygen setting or to use it "continuously" (not just when breathing in).

Types of Supplementary Oxygen

There are several types of devices that provide medical grade oxygen, all of which provide oxygen to the lungs via tubing and mask/ cannula or similar facial device. Most people will have more than one type of device e.g. a stationery concentrator, gas cylinders and sometimes a portable oxygen concentrator (POC) to support mobility. Devices include:

1. *Gas cylinders (stored oxygen)*. These cylinders come in a variety of sizes.
2. *Stationary/static in-home concentrators*. These concentrators take in air but do not store oxygen. They run on electric power. If a person requires oxygen therapy for more than 4 hours a day at a flow rate of 2 L/minute or more (i.e., 1 x E size gas cylinder a week), a concentrator rather than a gas cylinder is usually prescribed.
3. *Portable oxygen concentrators (POCs).* Portable concentrators are not typically offered as part of government-funded home oxygen support programs but are useful if supplementary oxygen is needed frequently outside the home.

Example supplementary oxygen devices (gas cylinder, stationary concentrator and a POC)

State Oxygen Programs and Government Funded Equipment

Many people qualify for government funded supplies/equipment. Details vary on a state-by-state basis, but people will often receive an oxygen concentrator and two portable cylinders a month to assist if the power goes out. Oxygen suppliers deliver the oxygen. It is good to have someone at home to receive the delivery. Below are web links to the various state programs:

Australian Capital Territory

Domiciliary Oxygen and Respiratory Support Scheme
Web: Domiciliary Oxygen and Respiratory Support Scheme (DORSS) - Canberra Health Services (act.gov.au)

New South Wales

The NSW Home Respiratory Oxygen Program
Web: Home Respiratory Program - EnableNSW

Northern Territory

Territory Equipment Program (TEP)
Web: Territory Equipment Program (TEP) and the Seating Equipment and Technical Service (SEAT) | NT Health

Queensland

The Medical Aids Subsidy Scheme
Web: Home oxygen | Queensland Health

South Australia

Home Oxygen Therapy
Web: Home oxygen therapy | SA Health

Tasmania

The Victorian Aids and Equipment Program
Web: Victorian Aids and Equipment Program (health.vic.gov.au)

Victoria

Domiciliary Oxygen Program
Web: Domiciliary Oxygen Program (DOP) | SWEP (bhs.org.au)

Western Australia

Domiciliary Oxygen
Web: 190909_FRM_Statewide Domiciliary Oxygen Referral Form FINAL2 (health.wa.gov.au)

If you Need to Buy Equipment

- Avoid purchasing equipment online as it may not be serviced easily, and the quality of the parts may be unreliable.
- Stationary/static oxygen concentrators will normally be provided by your state if required. They stay in one place or can be wheeled from room to room, but are heavy (c. 40kg) and need to be connected to mains power. Long plastic tubing can be provided to allow moving around your home without having to move the concentrator.
- Portable oxygen concentrators are expensive (around $5000) and are not funded by states. However, they can be purchased from care packages or privately. They may also need to be serviced on a regular basis which is an additional expense.
- Gas cylinders come in various sizes and can weigh from 2kg upwards depending on size. A trolley is often used with larger cylinders to assist with mobility.

Travelling with a concentrator

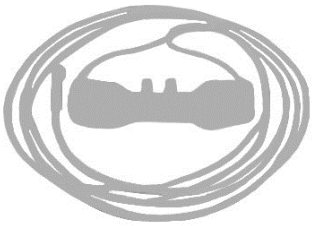
If you are on oxygen therapy and wish to travel, you just need to plan a little and consider safety:

- Check with your travel provider about their requirements.
- You may need a letter from your doctor if travelling by plane.
- Some airlines may allow you to take your own devices while others require you to use their equipment. There may be costs associated with using their equipment and you would need to arrange a supply while waiting for any connecting flights.
- It can take several weeks to satisfy the requirements of some airlines, so start your planning as soon as possible.
- Travel with a copy of your medical history.
- Plan your trip and factor in insurance issues.
- Consider site issues e.g., stairs.
- Properly store your concentrator to avoid injuries and prevent damage.
- Keep your oxygen device away from bodies of water and be aware of the weather (avoid getting the concentrator wet).
- Keep your portable oxygen concentrator in a well-ventilated area.
- DO NOT leave your oxygen equipment in a vehicle when not in use.

Home Oxygen Considerations

If using home oxygen:

- Supplementary oxygen is not addictive and does not weaken lungs.
- Use your home oxygen as prescribed e.g. if your doctor asks you to use your oxygen 15 hours or 18 hours a day, then follow the prescription.
- Never adjust the oxygen level before you speak with your doctor.
- When on home oxygen you must tell your doctor if you are feeling more sleepy than usual or getting headaches. If so, you may need to explore oxygen adjustment (e.g., turning it down or taking it off for a few minutes) as it could be an episode of hypercapnia (high levels of carbon dioxide in your blood - C02). Speak with your doctor about ways to manage hypercapnia.
- If you had a sleep test / study and it showed that your oxygen levels drop while sleeping, there are sleep machines which help to keep your airways open at night called CPAP machines (**c**ontinuous **p**ositive **a**irway **p**ressure). Home oxygen can be set up to run through your CPAP machine at night.
- Use a mask or nasal cannula with a stationary concentrator but it is best to use a nasal cannula with a POC.
- "Conserving devices" are sometimes used on compressed gas tanks as they can make oxygen supply last longer, but they only deliver oxygen with each breath in (not continuously). Conserving devices should not be used if you have COPD or if you have been told you retain carbon dioxide / C02.



Example conserving device with tube

Safety Considerations

There are many safety issues to consider when prescribed home oxygen.

- Avoid open/naked flames/sparks as oxygen is highly combustible. Aim for at least two metres between your concentrator and any heat source. Naked flames include gas cookers and stove tops, BBQs, candles, lighters, matches, kerosene heaters, welding equipment, cigarettes, some vapes, grinders.
- Avoid using oxygen near flammable aerosol products e.g., hairspray, air fresheners.
- Avoid petroleum-based self-care products around your concentrator including lip and nose care products or petroleum jellies.
- Keep equipment dry.
- Plan for what to do in a power blackout. If you don't have access to a backup source of home oxygen, call an ambulance for urgent assistance.
- Know where your oxygen tubing is at all times to help prevent you from tripping over it or becoming entangled in it, which could disrupt the flow of oxygen.
- Store your concentrator away from heat sources (e.g., heaters, fireplaces, vents, electric blankets, etc.)
- Alert visitors and other occupants in your home when you are using an oxygen concentrator.
- Plug your concentrator directly into a power point - never into a power-board.
- Avoid covering concentrator vents.
- Store oxygen concentrators at least 30cm from a wall
- Clean equipment as per manufacturer's advice and replace tubing regularly and if any signs of wear and tear.
- Check how to correctly transport your equipment e.g., when travelling.
  Advising your insurance provider that you will be using supplemental oxygen at home can assist in the event of an accident.

Need More Information or Support?

Contact Alpha-1 Organisation Australia.
Email contactus.a1oa@gmail.com

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This brochure was produced by Alpha-1 Organisation Australia (A1OA) and is a guide only. It does not replace professional health advice. Web links were correct at the time of printing.