

Patient information

Oxygen Therapy: Using Portable Concentrators

Why might I need oxygen therapy?

Our bodies need a certain amount of oxygen to function properly. Oxygen is needed for many things such as helping with muscle function, digesting food and helping our brains to think!

If you have a long-term lung or heart condition you may struggle to get enough oxygen into your body because of irreversible damage to your lung tissue, increased lung stiffness, or because your lungs produce a lot of phlegm. All of these problems can reduce your lungs ability to take up enough oxygen to supply your internal organs.

Some conditions where you may need oxygen therapy include:

- COPD or emphysema
- Interstitial lung disease or lung fibrosis
- Bronchiectasis
- Lung cancer
- Pulmonary hypertension
- Severe heart disease
- Heart failure
- Neuromuscular conditions (Multiple Sclerosis, MND etc)

Oxygen levels that remain low for long periods of time can be dangerous and can make you very poorly.

If your oxygen levels in your blood are too low then you may be referred for an assessment for possible oxygen therapy.

Symptoms of low oxygen levels include persistent headaches, dizziness, high blood pressure, increased breathlessness and confusion.

How to use oxygen therapy

Please be aware that **oxygen is a prescribed drug**. It is vitally important that you use it as you have been prescribed in order to gain the best benefits. **Too much oxygen can be as dangerous as too little.**

If you have been prescribed **ambulatory oxygen therapy** then you should be using your oxygen concentrator whenever you are up on your feet and moving about. You may be advised that you can remove your oxygen therapy when sitting down and resting, but you will need to confirm this with your home oxygen therapy team or other prescriber.

If you have been prescribed **long-term oxygen therapy** then you will need to use your oxygen both when sitting down and when up on your feet and moving about, as your body will need more constant oxygen therapy. In some cases you may need to be provided with a larger static concentrator for use in your house (this works in the same way as your portable concentrator but remains plugged in to the mains electricity).

If you are needing high levels of oxygen, a portable concentrator will probably not provide the volume of oxygen you need, so it may be more appropriate for you to switch over to using oxygen cylinders. This can be discussed with your home oxygen therapy team.

Please note: once you have been prescribed home oxygen therapy your prescription will be reviewed on a regular basis.

What is a portable oxygen concentrator and how does it work?

Once it has been determined that you need to have oxygen therapy you may be issued with **a portable oxygen concentrator** to provide your oxygen (which should be used on exertion).

This comes in the form of a small machine which can be carried anywhere, using either a shoulder strap or a specialist rucksack-type bag. The typical weight of the machine is **2.1kg**.



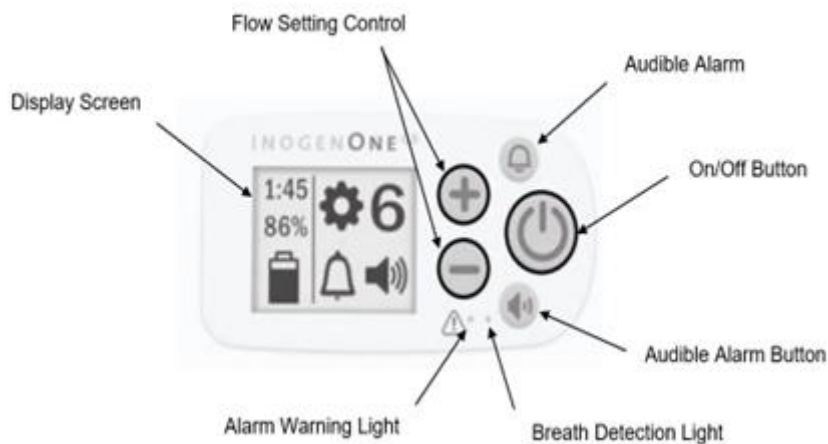
A portable oxygen concentrator works by drawing in air from its surroundings, filtering out the other gases and then delivering the pure oxygen to the user at a pre-set level.

Therefore, as long as the battery in the machine is charged, and the machine is switched on, it should provide a limitless supply of oxygen.

You need to be able to breathe through your nose!!

Portable oxygen concentrators **do not** deliver a continuous flow of oxygen. They only deliver oxygen when the user breathes in through their nose. For this reason the user must be able to breathe in through their nose **at all times** as failure to do so will mean that the user will not receive any oxygen. You will know if the oxygen is being delivered to you when you hear a brief hissing sound as you breathe in.

How to use your portable oxygen concentrator



- 1) Switch the machine on by pressing and holding the on/off button until it beeps.
- 2) Check that your battery is charged sufficiently:

| Icon | Meaning |
|------|--|
| | The battery is completely empty and your machine needs charging |
| | The battery has less than 10% charge remaining - the icon will flash |
| | The battery has approximately 50% charge remaining |
| | The battery is fully charged |

- 3) Adjust the oxygen setting to the setting you have been prescribed by pressing the **+** or **-** buttons. You will hear a beep each time you press these buttons.
*You may need to adjust the settings buttons more regularly depending what activity you are doing.
- 4) Make sure the oxygen tubing is attached firmly to the port on the machine.....and off you go!
- 5) To turn off the machine press and hold the on/off button for approx. 2 seconds

Exercising with a portable oxygen concentrator

When you carry out moderate or vigorous physical exercise (ie. in a Pulmonary Rehabilitation or exercise class), the amount of oxygen you need to adequately supply your muscles and the other organs in your body increases.

In these situations it can often be difficult to maintain the nose breathing required to effectively use a portable concentrator.

If you find that you are struggling to maintain good oxygen levels when using your portable concentrator, during these times, please speak to your home oxygen therapy team or Physiotherapist and it can be arranged for you to be supplied with back-up oxygen cylinders to use instead. The oxygen cylinders will give you a constant flow of oxygen, whether you breathe through your nose or mouth, and will help you to manage your oxygen levels better.

Please speak to your home oxygen therapy team or Physiotherapist who should be able to advise you.

Important information about your portable concentrator:

Battery charging time: **5 hours**

Battery life depends upon the setting that you use your concentrator on (the higher the setting the shorter the battery life). With your device fully charged the battery life should be as follows:

| Setting | Battery Life |
|---------|---------------|
| 1 | 6 hrs 30 mins |
| 2 | 5 hrs |
| 3 | 3 hrs 30 mins |
| 4 | 2 hrs 30 mins |
| 5 | 1 hr 50 mins |
| 6 | 1 hr |

Going out for the day

If you are going out for the day, always make sure that you have charged the battery in your portable oxygen concentrator the night before, so that it doesn't run out!

If you have also been supplied with oxygen cylinders then it is always advisable to take one with you as a back-up, in case your portable concentrator fails.

Side effects of oxygen therapy

If you have been identified as 'at risk' and have an oxygen alert card and you experience headaches, a faster than normal pulse rate, disorientation or confusion when using your oxygen you must inform your home oxygen therapy team as soon as possible.

Smoking and oxygen therapy



It is vitally important that you **DO NOT** smoke cigarettes, vapes, E-cigarettes, or use naked flames near your portable concentrator.

You should also not use your portable oxygen concentrator near anyone else who is smoking or vaping for the same reasons.

Choosing to ignore this advice could cause serious burns to the user and in some circumstances cause an explosion, which could put yourself and those around you in danger.

It is for these reasons that it has now been made policy in West Suffolk that if you are a current smoker you will not be assessed for oxygen therapy. You will need to have quit smoking for 6 weeks and show commitment to this before you are considered for an assessment.

If you have been prescribed oxygen therapy, having quit smoking, and you start smoking again then your oxygen may be legally removed or withheld from you for safety reasons.

Other dangers

You should not use flammable liquids, cleaning fluids or petroleum based emollients (Vaseline or lip balms) near oxygen as they could cause a fire, burns or an explosion.

Water-based face/lip products or products such as KY gel (for sore noses) should be used instead.

Also be advised that you should not use your oxygen near gas or electric hobs, BBQs, electrical devices or fireworks.

Regular maintenance checks

- Make sure you clean your nasal cannula, or face mask, regularly (at least twice per week) and change them approximately every 2-4 weeks. If you have a cold or chest infection then this procedure should be carried out more frequently.
- Make sure that you check your oxygen tubing at least twice per week to ensure that there are no kinks or holes. Kinks or holes in the tubing will reduce the flow of oxygen to the user and could be dangerous.

PLEASE BE AWARE!!

- Because the concentrator draws air in from its surroundings, it is vitally important that the portable oxygen concentrator is **not stored in an enclosed space when in use** (ie. a carrier bag or enclosed rucksack) as this will reduce its efficiency and could cause the machine to overheat and stop working.

Holidays in the UK

Using a portable oxygen concentrator should not restrict you holidaying in the UK. However, always make sure:

- that you take your oxygen providers contact details with you in case your machine becomes faulty
- that your holiday destination has facilities for you to plug in your portable concentrator so that it can be recharged regularly

Holidays abroad:

If you are planning to fly abroad and you need oxygen therapy, then you will need to have a **Fitness to Fly Test** at a specialist centre prior to going. Flying at a higher altitude can reduce your body's ability to take up enough oxygen and could be dangerous. Your GP should be able to help you organise this test.

Always check with individual airlines as to their policies for supplying you with oxygen during the flight.

If you need oxygen during your holiday abroad then you will need to arrange to hire/rent a portable oxygen concentrator in the country of your holiday destination as UK oxygen providers **do not allow their equipment to be taken out of the UK**. You will need to organise and pay for this yourself.

If travelling to Europe you also will need a valid Global Health Insurance Card (GHIC) in case you become unwell.

Warning messages on your portable concentrator

| Message on Display Screen | Action Needed |
|---------------------------|--|
| Battery Low | Battery power is low with less than 10 minutes remaining. Please re-charge your battery |
| Replace Columns | Maintenance is required. Please contact your equipment supplier (Baywater Healthcare) as soon as possible |
| Oxygen Low | Your machine has been delivering a lower level of oxygen for 10 minutes. Contact your equipment supplier (Baywater Healthcare) if the problem persists |
| Battery Hot | The battery has exceeded its temperature limit and the machine has stopped supplying oxygen. Please check the concentrator is not in confined space and/or move it to a cooler location. If the problem persists contact your equipment supplier (Baywater Healthcare) |
| No Breath Detect | The machine has detected that you have not taken a breath in for 60 seconds. Check your oxygen tubing for kinks or holes and make sure you are breathing through your nose |
| System Error | Your concentrator may have stopped producing oxygen. Remove the battery and then replace and try using again. If the problem persists contact your equipment supplier (Baywater Healthcare). |

UK home oxygen suppliers:

- **Baywater Healthcare:** covers East Anglia, the North West of England, Yorkshire & Humberside, the West Midlands and Wales.
Call: 0800 373 580
- **BOC:** covers the East Midlands and Northern Ireland
Call: 0800 136 603
- **Dolby Vivisol:** covers the North East & South of England and Scotland
Call: 0800 917 9840 (UK)
Call: 0800 833 531 (Scotland)

Asthma and Lung UK (previously known as the British Lung Foundation) also have a friendly team who would be happy to answer any questions that you may have regarding oxygen, oxygen suppliers and travelling with oxygen. They can be contacted on:

**Tel: 0300 222 5800 (9am to 5pm Monday to Friday) or
helpline@asthmaandlung.org.uk**

Useful contact numbers

If you have already been prescribed home oxygen and have any questions, need any advice regarding your prescription, or need to re-arrange or cancel an oxygen assessment or review, please contact your home oxygen therapy team on **0300 123 2425** (West Suffolk)

Clinical research

West Suffolk NHS Foundation Trust is actively involved in clinical research. Your doctor, clinical team or the research and development department may contact you regarding specific clinical research studies that you might be interested in participating in. If you do not wish to be contacted for these purposes, please email info.gov@wsh.nsh.uk. This will in no way affect the care or treatment you receive.

Accessibility

If you require this leaflet in a different format, please contact the patient advice and liaison service on 01284 712555 or email PALS@wsh.nhs.uk

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