



# Home oxygen therapy

If you're living with a lung condition, you may be offered home oxygen therapy if your blood oxygen levels are persistently low. We've put this information together to explain what home oxygen therapy is, why it's used as a treatment and who can benefit from using it.

It describes the different ways oxygen is provided by the NHS. There's also advice on living well and safely with oxygen.

Got more questions? Call our friendly helpline team on **03000 030 555**

## What is home oxygen therapy?

Oxygen is a gas that is vital to all the cells in your body. Our bodies need oxygen for all their active processes like digesting food, contracting muscles, or even just thinking.

If you're living with a lung condition, you may be offered home oxygen therapy if your blood oxygen levels are persistently low all the time. This involves breathing in air that has a higher level of oxygen through a mask or a tube.

There are several different kinds of home oxygen therapy:

- **Long-term oxygen therapy (LTOT)** - used to stabilise oxygen levels for 15 hours or more
- **Ambulatory oxygen therapy (AOT)** - used to help you be more active. It can also be called portable oxygen
- **Palliative oxygen therapy (POT)** - used to manage very low oxygen levels at the end of life.

Oxygen therapy is a treatment for persistent low blood oxygen levels, not breathlessness.

"Get used to using it. It will make the difference between being stuck indoors or getting out and enjoying life. You may be able to do a few more jobs around the house or garden as well."

Linda, 64, who has bronchiectasis, emphysema and IPF, and uses ambulatory oxygen and oxygen at night.

# Will I benefit from home oxygen therapy?

## How does home oxygen therapy help?

Home oxygen therapy helps improve persistently low blood oxygen levels which place a strain on your heart. This can help you to walk further, do more daily activities, sleep better and improve your concentration.

The main aim of home oxygen therapy is to reduce strain on your heart. This can help prolong your life expectancy by reducing the risk of complications such as pulmonary hypertension. Most of what we know about the benefits of home oxygen therapy comes from studies of people with COPD. But when used as prescribed, oxygen therapy can improve life expectancy in many other people with lung conditions.

Oxygen is a medical gas and is prescribed like any other medication. It is regulated by the Medicines and Healthcare Products Regulatory Agency ([www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency](http://www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency)).

You must use your oxygen as prescribed and be monitored regularly so that your prescription can be adjusted according to your needs. Misusing oxygen can be harmful.

If you experience new symptoms of morning headache or heaviness; disorientation or confusion; increased tiredness or drowsiness you must tell your respiratory team or GP immediately.

## Who can be prescribed home oxygen therapy?

You may be prescribed home oxygen therapy if you have been diagnosed with one, or a combination, of the following conditions and have persistently low blood oxygen levels:

- chronic obstructive pulmonary disease (COPD)
- interstitial lung disease, which includes idiopathic pulmonary fibrosis
- cystic fibrosis
- bronchiectasis
- pulmonary hypertension
- severe heart disease
- obstructive sleep apnoea (OSA)

You should be assessed by a specialist, who will advise if extra oxygen is useful for your condition. Different lung conditions need different treatments and oxygen prescriptions are tailored to your individual needs.

Oxygen therapy doesn't help everyone with a lung condition. It is a treatment for persistently low blood oxygen levels, **not** breathlessness.

## What's the difference between obstructive and restrictive lung conditions?

Obstructive and restrictive lung diseases are terms used to describe types of lung conditions. Both can cause low blood oxygen levels and so home oxygen therapy may be necessary for some people with these conditions.

Obstruction refers to how quickly you can move air in and out of your lungs. Restriction refers to the total amount of air you can get into your lungs.

### Obstructive lung disease

If a healthy person takes a big breath in and then blows out as hard as they can, they should be able to get at least 70% of the air out of their lungs in one second.

In obstructive lung disease, airflow is slowed down so it takes longer for the lungs to empty. This can happen because of damage to your airways which makes them narrow or because of damage to lung tissue, which makes the lungs less elastic.

Common obstructive lung diseases are:

- chronic obstructive pulmonary disease (COPD)
- asthma
- bronchiectasis
- cystic fibrosis

### Restrictive lung disease

In restrictive lung disease, you cannot fill your lungs fully with air because your lungs are restricted from fully expanding. This can happen because the lungs themselves are stiff or scarred or because there is a problem with the chest wall or the breathing muscles.

Restrictive lung conditions include:

- interstitial lung disease, such as idiopathic pulmonary fibrosis
- sarcoidosis

The lungs may also be restricted due to:

- obesity
- scoliosis (or curved spine)
- neuromuscular disease, such as muscular dystrophy or motor neurone disease
- diaphragm paralysis (the loss of control of one or both sides of the diaphragm)

# When is a referral made and how is home oxygen therapy assessed?

## When could I be referred for home oxygen therapy?

If you've been diagnosed with a lung condition, have the right medication, but still feel very out of breath - it may be time for your health care professional to investigate if your blood oxygen levels are low.

You can be referred for assessment by:

- your GP or practice nurse
- community services such as the community respiratory team, community matron, physiotherapist or occupational therapist
- your hospital doctor - if you have been in hospital after a flare-up of your condition, or you are newly diagnosed with a lung condition
- an occupational health department if you work
- a private health care provider.

Before you are referred for assessment, you'll have simple test, called pulse oximetry, to make sure that an assessment for oxygen is right for you. If your oxygen levels fall below a certain percentage, and your health care professional thinks oxygen therapy could help, you may be referred to the home oxygen assessment and review service.

## Palliative oxygen

If you are approaching end of life and your advanced condition is causing both low oxygen levels and severe breathlessness, oxygen may be considered by your palliative care team. This may be for your use at home or in a hospice or nursing home. At this stage, oxygen can help relieve any distress that can occur when breathing is difficult. Patients with an advanced condition who are very breathless, but do not have a low blood oxygen level do not find oxygen therapy helpful. There are other treatments in this situation which work much more effectively. Read more about managing breathlessness at [blf.org.uk/support-for-you/breathlessness/how-to-manage-breathlessness](https://www.blf.org.uk/support-for-you/breathlessness/how-to-manage-breathlessness)

Oxygen treatment for advanced conditions is only be considered once other options to help ease distressing breathlessness have been tried. A simple handheld fan can be very effective at helping to alleviate the sensation of breathlessness. Oxygen equipment can be bulky, heavy and take up space in the home. It can also make it harder to talk with loved ones, or eat, so palliative oxygen treatment should be carefully planned and may not always be helpful. Read more about end of life care at [blf.org.uk/end-of-life](https://www.blf.org.uk/end-of-life)

## How will I be assessed for home oxygen therapy?

Once you are referred, the oxygen assessment must be done by an oxygen specialist. This can happen in a variety of places. You can sometimes be assessed in an outpatient clinic at the hospital. You may be assessed at home if your condition is very severe and this service is available in your area.

You will be asked about your smoking habits at your oxygen assessment and, if you smoke, offered help and support to quit. Current guidelines highlight safety concerns about smoking while using home oxygen therapy, because of a number of very serious (even fatal) incidents. Therefore, it is not recommended that home oxygen therapy is prescribed to current smokers until they have gone through a program of treatment and support to quit. Often smokers with low oxygen levels find that their oxygen

levels recover, and they no longer need home oxygen once they have quit. This is because a toxic gas called carbon monoxide in cigarettes soaks up oxygen in the blood meaning less is available for the vital organs in the body.

## What tests will I have?

### Pulse oximetry

If you have not already had a pulse oximetry test, this will be done first to make sure you are suitable for the assessment. Read more about pulse oximetry and what this test involves at [blf.org.uk/support-for-you/breathing-tests/tests-measure-oxygen-levels#pulse-oximetry](https://www.blf.org.uk/support-for-you/breathing-tests/tests-measure-oxygen-levels#pulse-oximetry)

### Blood tests

You will have blood tests to measure how well your lungs can provide oxygen to your body.

A blood sample will be taken from your wrist or from your ear lobe. The blood sample will be analysed, and the results will determine how much oxygen you have in your blood. You may then be asked to breathe oxygen through a mask, or through some tubing in your nose, for at least 30 minutes before a second blood sample is taken.

The blood sample will help to determine if the oxygen therapy has helped to correct your blood oxygen levels by the right amount. Some people with respiratory conditions can be sensitive to additional oxygen therapy being given to them, in some cases too much oxygen therapy can lead to the body retaining carbon dioxide. Too much carbon dioxide can lead to drowsiness, morning headaches/heaviness, lack of concentration and can be very serious. It's very important you are prescribed the accurate amount of oxygen therapy to correct your blood oxygen levels without causing a significant change in your carbon dioxide levels. If this does occur, home oxygen therapy may not be suitable for you and other options would be discussed with you with a specialist.

In some cases, you may need a second appointment four to six weeks later for a second blood test. This is to check that you have consistently low levels of oxygen in your blood before a decision is made. If the blood tests show you have too much carbon dioxide in your blood, you may need to see a specialist to review your condition before you are assessed again.

### Exercise or walking tests

You may also be asked to take an exercise or walking test. This assesses your oxygen needs and if your blood oxygen levels only fall when you're active. You may be asked to walk for six minutes up and down an indoor corridor or to climb a few stairs. If you need to, you can stop and rest.

Once the test results have been reviewed, you will be told if oxygen therapy is right for you. If the walking test shows your oxygen levels drop below a certain level, you will be asked to repeat the walking test using oxygen. This will involve you carrying the oxygen equipment or using a trolley as you would if you were outdoors doing your usual activities. Your home oxygen specialist can discuss the different types of oxygen equipment available and help determine what will suit your needs.

## What happens if I need home oxygen therapy?

You will be assessed by a health care professional who will be able to prescribe the right amount of oxygen for you. This may be your nurse, a physiotherapist or an occupational therapist. They will know the equipment provided by the local oxygen supplier. You will be advised who your first point of contact is for oxygen-related questions.

If you are told you need home oxygen therapy, you'll be assessed to make sure you get the right amount of oxygen for you. Not everyone needs the same amount!

Make sure to ask your health professional to explain what your personal target saturation range is, for example 88-92%. This maybe a higher range or a lower range depending on your own condition.

The amount of oxygen (flow) you are prescribed will help keep you within your personal range. It's important to only use your oxygen as prescribed especially not to increase the flow rate on your equipment. You should be monitored regularly so your prescribed flow rate can be adjusted according to your needs.

If you're told you need home oxygen therapy, it's important you understand why and what will happen next. **Don't be afraid to ask questions.** You should know how the service will work, how many hours a day you should use your oxygen, how often you'll be assessed, and which delivery method is best for you.

If you're told you need oxygen therapy:

- You should be given an explanation of what happens next and the choices you have.
- You should be given information and training about using oxygen in a language you and your family or carers understand.
- You should be shown the different types of equipment and try them out to see which is best for you. Ask your health care professional to explain which delivery method is best for you and why. Your prescription can be changed later if you need a different oxygen therapy.
- You might be asked if you need help with daily living from your local health care team or social services. If you do need help, someone will come to see you at home.
- Your GP will be told the result of your assessment and that you have been prescribed oxygen.
- If you smoke, you will be offered support and treatment to quit.

## How often will my home oxygen therapy be reviewed?

Clinical guidelines for oxygen assessment and review of specific lung conditions will vary. Depending upon the nature and stability of your condition, your home oxygen therapy may be reassessed every three to six months. Your oxygen therapy should be reviewed at least once a year.

If you have a respiratory tract infection or a flare-up, your health care professional will usually review your oxygen therapy promptly and you may need to be hospitalised. If your oxygen was adjusted following a flare-up or lung infection, you may be reviewed again within eight weeks to see if any more adjustment is needed.

If you experience new symptoms such as a morning headache, or you can't think straight and are drowsier or sleepier, tell your health care professional. You might have too much carbon dioxide in your blood.

# How is home oxygen delivered?

## How is oxygen and oxygen equipment supplied?

Oxygen as a treatment must be prescribed by a registered health care professional and ordered on a home oxygen order form (HOOF). All oxygen equipment is supplied by one of four suppliers according to where you live in the UK.

You will be asked to sign a home oxygen consent form (HOCF). You will also need to give permission for your medical and contact details to be shared with the supplier. The company will then supply all the equipment you need to your home. An engineer will install the equipment and explain to you or a relative, carer or friend how to use it.

## How is the oxygen breathed in?

You can breathe in the oxygen from its container either through nasal cannula or a face mask. A nasal cannula can be used to deliver up to six litres of oxygen a minute comfortably. If you need a higher flow rate of oxygen, its likely you will need a face mask. Discuss the different options with your respiratory specialist.

### What is a nasal cannula?

A nasal cannula brings oxygen from your concentrator or cylinder to your nose through flexible tubing. The tubing loops around your ears. It's made of plastic or silicone and is lightweight. People generally prefer them to face masks as they are more comfortable and deliver oxygen continuously into the nose. If your cannula is uncomfortable, ask your supplier if they have different options.

### What is an oxygen face mask?

Oxygen masks are held over your nose and mouth by plastic straps around your head. A simple face mask is useful if you have nasal irritation or nose bleeds. You may find a face mask easier if you always breathe through your mouth. But a face mask can feel uncomfortable and confining. Some masks offer better control of oxygen concentration at certain flow rates and your health care professional might suggest one if they think that you would benefit from it.

- If you use ambulatory oxygen only, after you've finished walking sit for a few minutes before disconnecting yourself from the oxygen.
- Bathroom activities can be exhausting. Use a towelling robe after a shower or bath, as you'll use less energy than drying yourself with a towel.
- Plan your day in advance and pace yourself to make sure you have plenty of opportunities to rest.
- Don't be afraid to ask for support if you need it!

## How is the oxygen delivered?

You will receive your oxygen through one, or a combination, of:

- an oxygen concentrator – either portable or static for home use
- oxygen cylinders – large or small that contain oxygen as a gas
- liquid oxygen – this comes in a storage container, it is decanted and breathed in as a gas.

All these oxygen systems are available on the NHS once you have been assessed.

**It is your responsibility to inform your oxygen supplier when you need more oxygen cylinders, concentrators or liquid oxygen tanks.**

Occasionally, oxygen therapy might make your nose dry or sore. **Do not use Vaseline or any other petroleum-based product to relieve this, as they can be flammable.** A softer nasal cannula may be available. Only use water-based products inside your nose or on your hands and face, such as K-Y jelly. Ask your pharmacist or health care professional if you need advice on what products, including sunscreen, you can use.

## Oxygen concentrators

An oxygen concentrator is a machine, about the size of a bedside table, which you plug into your usual household electricity supply. It extracts oxygen from room air and delivers it to you by short tubes into your nose (a nasal cannula) or a face mask. Long tubing can also be fixed around the floor or skirting board, both upstairs and downstairs, so that you can have oxygen around your entire house.

Rooms where you have an oxygen concentrator should be well ventilated. Don't worry – there will be plenty of oxygen left in the room for others to breathe!

The supplier of your oxygen service will reimburse money towards your electricity bill to pay for the supply that the concentrator uses. A back-up cylinder of oxygen is also provided in case of a power cut. Make sure you know how to use your back-up cylinder and keep it in a convenient place. An engineer will visit regularly to make sure the concentrator is working correctly.

Portable concentrators are also available for when you are outside your home if you need ambulatory oxygen. If you have a car, you should check to see if your portable concentrator can be charged in the car, so you can do this on long journeys.

## Oxygen cylinders

Oxygen cylinders contain compressed oxygen. They are provided with tubing and a nasal cannula or a face mask, delivered to your home and replaced when empty. They provide oxygen for variable lengths of time, up to eight hours depending on the size of the cylinder and the flow rate of oxygen you have been prescribed. Large cylinders are generally used for emergencies, such as a power cut or when your concentrator machine isn't working properly while you wait for an engineer to fix it.

## Portable (or ambulatory) oxygen

Your respiratory team may assess you for portable (or ambulatory) oxygen for when you exert yourself. If you are already on long term oxygen therapy, you may also need to use oxygen when you go out. Depending on your oxygen needs, you may be prescribed:

Portable oxygen cylinders	Conserving devices
These oxygen cylinders weigh about two to three kg (six to seven lbs) and come with a carrying case. The oxygen in them lasts for up to three hours, depending on the flow rate. The higher the flow rate, the shorter the period they will last. As with any oxygen equipment, portable cylinders must be used according to the manufacturer's safety instructions to avoid a fire risk. Your supplier may also be able to provide you with an oxygen trolley with wheels.	A conserving device is attached to a portable oxygen cylinder to make the supply last longer by giving you a pulse of oxygen only when you breathe in. This makes the oxygen last longer, but it is not suitable for everyone as it cannot supply high levels of oxygen. Your health care professional can tell you if this device is suitable for you.



## Liquid oxygen (LOX)

Liquid oxygen (LOX) may be suitable for you if you use a lot of portable oxygen or if you need a high flow rate of oxygen. It's delivered and transferred to a tank in your home. The tank will be replaced by your supplier when it is nearly empty.

The tanks are used to fill portable oxygen cylinders (which contain a longer supply of oxygen than the usual portable cylinders). Liquid oxygen tanks must be housed in a very well-ventilated room, garage or shed. There must be no items around likely to catch fire. The fire brigade is informed of everyone on oxygen, and LOX is only supplied on the ground floor of a property. Liquid oxygen is very cold – take care when decanting it.

## Home oxygen suppliers

Find an up-to-date list of home oxygen suppliers at [blf.org.uk/support-for-you/oxygen/delivery#suppliers](https://www.blf.org.uk/support-for-you/oxygen/delivery#suppliers)

## Life with home oxygen therapy

If you are receiving home oxygen therapy, it's important not to smoke, to inform your insurers and to be prepared when going on holiday.

### How do I use oxygen safely?

While you are using oxygen, it's not just going into your lungs. It's spreading into the air around you, your hair and clothes, your soft furnishings, and bedclothes. So, the whole room around you becomes oxygen enriched, and this can increase the chance of a fire. To avoid fire risks always use your oxygen equipment according to the manufacturer's safety instructions. For example, you should not use oxygen while cooking with gas. Some hand creams and alcohol gels are not suitable for use alongside oxygen since they may be flammable.

**No one should smoke near oxygen or use oxygen near a naked flame of any sort. E-cigarettes can also be a fire risk.**

The local fire service may offer specific advice for your home. Make sure you have a working smoke detector and check the battery regularly, at least every month. Cleaning the filters of your oxygen delivery method is important and your responsibility – remember to do this regularly, normally once a week.

Oxygen tubing should have two fire breaks: one at the end of the tubing near your face and the other near the oxygen concentrator. These will stop oxygen in the event of a fire. Never remove these fire breaks.

If you have difficulty with mobility or reduced sight, take care with oxygen tubing – if you are concerned about trips and falls, the community occupational therapist may be able to assess your home and offer ways to help. Your GP or local health care team can arrange this assessment.

**Remember oxygen is a medicine – too much oxygen can be dangerous. It is dangerous for you to alter the oxygen flow rate your equipment provides or change the type of mask you use, unless instructed to do so by your health care professional. It has been prescribed for you after a very careful assessment.**

## Smoking and oxygen

You should **never** smoke, including e-cigarettes, when using oxygen. A gas called carbon monoxide in the smoke reduces the amount of oxygen that your blood can carry around your body. This makes the oxygen therapy ineffective. Oxygen also helps combustion, so it is vital that there is **no smoking around oxygen**. There is a risk of facial burns and house fires if you or someone else smokes in your home when the oxygen supply is turned on.

You will be asked about your smoking habits at your oxygen assessment and, if you smoke, offered help and treatment to quit. Current guidelines highlight safety concerns about smoking while using home oxygen therapy, because of a number of very serious (even fatal) incidents. If you continue to smoke while using oxygen, a risk assessment and a medical review will be undertaken. It might be appropriate to withhold or withdraw oxygen therapy because of reduced benefit, risk to yourself, public safety, or risk to others.

If you smoke, your respiratory team will give you advice and support on how to quit. You can also visit our stop smoking pages for help to quit smoking at [blf.org.uk/smoking](https://blf.org.uk/smoking)

**You will not get any long-term benefit from oxygen if you continue to smoke or if you do not use the oxygen as prescribed.**

## Oxygen and insurance

If you use oxygen, it's important to tell your insurers. This should not affect insurance premiums, but it will make sure you are fully covered in the event of a claim. It's a good idea to inform both buildings and contents insurance providers. If you live in a rental property, consider telling your landlord if you think it might affect their insurance.

You should also inform your car insurance provider. But there is no need to notify the DVLA unless you experience giddiness, faint, or lose consciousness.

## Using oxygen while exercising

It's safe to use oxygen while exercising. In fact, it's a good idea to try and keep as active as possible! If you've been prescribed oxygen and have been told that your blood oxygen levels drop when you exercise, portable oxygen treatment may increase how much exercise you can do.

If you're regularly active, you should discuss this with your respiratory team while you're being assessed or reviewed for your oxygen therapy. You should ask them if you need to tailor your flow rate while you exercise.

## Going on holiday with oxygen

We all look forward to going on holiday and getting away from our routine. But if you're living with a lung condition, or looking after someone who is, it can take a bit more planning. We have more information about travelling with oxygen at [blf.org.uk/holidaying-with-oxygen](https://blf.org.uk/holidaying-with-oxygen)

**Before you book your holiday, discuss your health needs with your respiratory specialist.**

## What happens to my oxygen if I need emergency care?

If you are on LTOT (long-term oxygen therapy) and are unwell and need an ambulance, it's important the ambulance team know you are on oxygen therapy. Your oxygen team should give you an oxygen alert card and oxygen mask and tubing to be used in ambulance transfer. Your respiratory team may create an electronic alert highlighting you have home oxygen.

You should also know your own oxygen target saturation to tell the emergency team, so the flow of oxygen you get in the ambulance is right. If you don't know this, ask your respiratory team. It's a good idea to have this written down, in case you are unable to tell them yourself.

Get in touch with us to find support near you.

Helpline: **03000 030 555**

Monday to Friday, 9am-5pm

Ringing our helpline will cost the same as a local call.

[helpline@blf.org.uk](mailto:helpline@blf.org.uk)

[blf.org.uk](https://blf.org.uk)

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[blf.org.uk/oxygen](https://blf.org.uk/oxygen)

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We value feedback on our information. To let us know your views, and for the most up to date version of this information and references, call the helpline or visit **blf.org.uk**