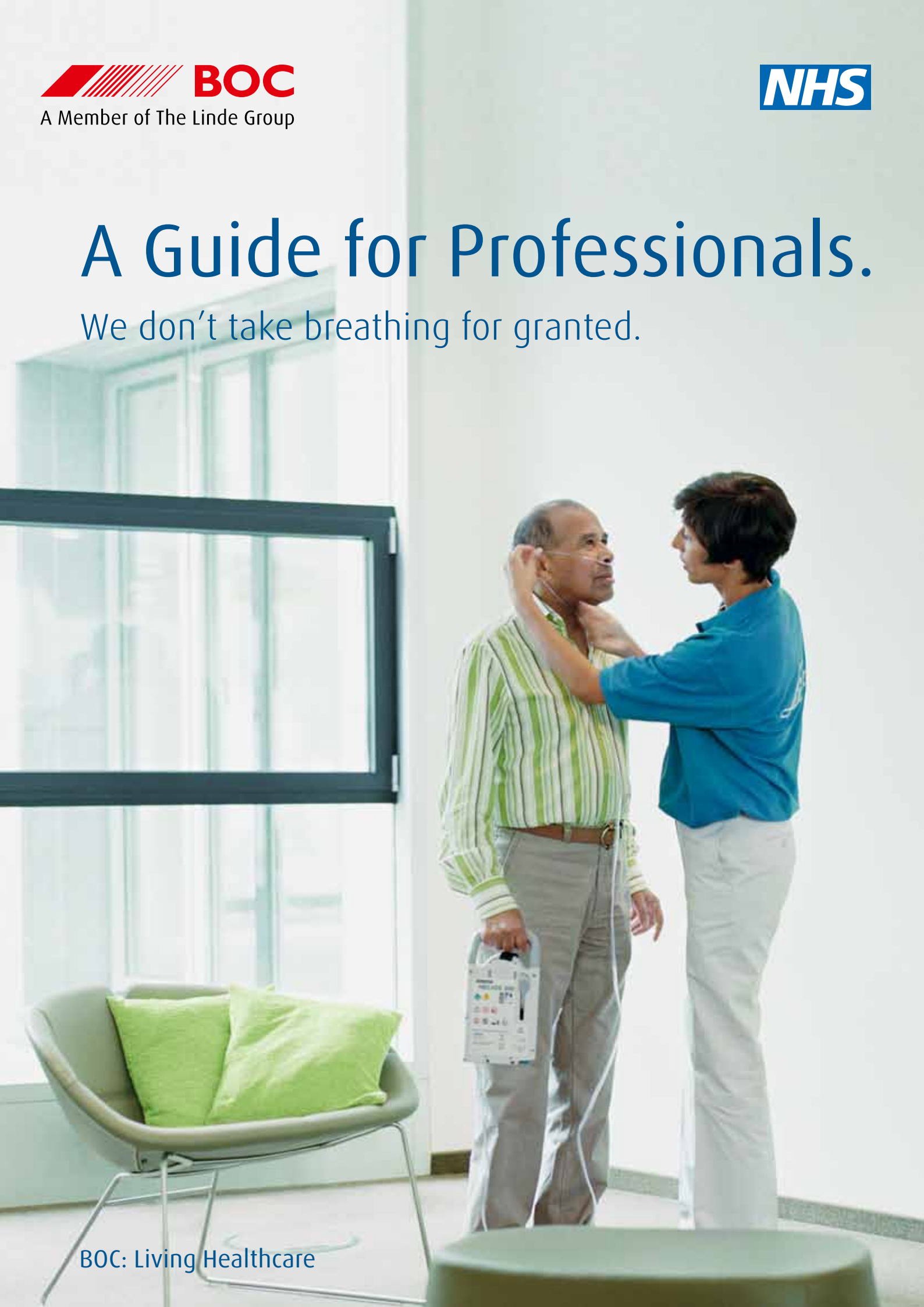


# A Guide for Professionals.

We don't take breathing for granted.



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# Introduction to home oxygen therapy.

Oxygen has traditionally been prescribed for those patients who have demonstrable respiratory disease which has lowered their blood oxygen levels either at rest or with exercise.

# Welcome to BOC Healthcare.

As an experienced professional, you will be aware that many patients are anxious about using home oxygen therapy. Our home oxygen service provides the very best oxygen therapy products and full support at home, for patients of all ages with a wide variety of breathing conditions.

Our home oxygen service covers everything to do with home oxygen therapy including:

- Delivery and installation of equipment
- Providing training and reassurance to patients
- Information and technical support
- Effective provision of clinical and commercial performance data
- Support of patient groups e.g. Breathe Easy
- Training sessions on our home oxygen service for clinicians, care establishments and schools
- 24/7 support for patients' urgent needs

This brochure provides useful information on a wide range of versatile oxygen therapy products as well as support on oxygen assessment. It also illustrates how our service works to provide patients with oxygen therapy that can enhance their quality of life.

We have a service lead who holds current professional registration. They are experienced and qualified within the respiratory field. The home oxygen service lead is supported by a respiratory advisor in each region, who are able to work with clinicians to find solutions for complex cases. Further support is available from the PCT HOS lead if required.

# How does our service work?

## Patient Service Advisors

Our patient service team have a wealth of knowledge and is available to deal with any telephone enquiries from patients, carers and healthcare professionals (HCP).

The team can organise the delivery and installation of equipment and provide information and technical support on oxygen products, helping clinicians to provide the best solution for their patients' needs.

The team's normal working hours are Monday to Friday from 8am to 5.30pm. We are open 24 hours for emergencies only.

## Home Oxygen Service Lead

A dedicated Home Oxygen Service Lead has been appointed. We have ensured that we have selected the best individual with extensive experience in their speciality and have the necessary registrations relating to their field of expertise.

## Respiratory Advisor

We have a dedicated Respiratory Advisor within the region who is a registered professional and is able to advise on all aspects of the home oxygen service. The Respiratory Advisor can also assist with complex cases providing joint visits where necessary.

## How to place an order

Whether your patient is seen in primary care for Intermittent Oxygen Supply Therapy (IOT, formally known as Short Burst Oxygen Therapy or SBOT) or assessed by a specialist oxygen assessment team for long term oxygen therapy and ambulatory oxygen, all healthcare professionals will need to complete the NHS Home Oxygen Order Form (HOOF).

You can fax the completed form to us on 0800 169 9989. This is a 'safe haven' system!

If you require help with completing the HOOF, please contact our clinician support number on 0845 609 4345.







## What happens next?

BOC Healthcare will provide an installation within three working days from receipt of order. Once your patient's oxygen order has been entered into our computer system we will send you a confirmation fax which contains the installation date.

- A standard delivery service is 3 working days. Where a 3 day HOOF is received in the days prior to a public holiday, BOC Healthcare will use all reasonable endeavours to provide and complete the supply, in order to avoid the patient having a lengthy delay which would otherwise occur.
- Next working day deliveries are available for discharge or assessment/follow-up patients.
- To aid discharge planning we will also specify AM or PM installation (please liaise with BOC to ensure discharged patients are able to receive training from BOC).
- Urgent supply requests will be completed within 4 hours of receipt of the request.  
**Important note:** Urgent supply requests should be reserved for emergencies only, as these are very costly to the NHS.

A patient service advisor will contact the patient or carer to arrange a suitable install date within the Service Level Agreement (SLA) period stated on the HOOF.

Please ensure that your discharge teams work closely with BOC to ensure patients are present to receive training at the time of installation, where possible.

Local oxygen assessment clinics will have to agree with the commissioners the appropriate equipment required for their assessment needs.

## How do you decide which oxygen system to supply?

Our respiratory specialists have created a special modality selection tool to assist HCPs in selecting equipment for patients which will most suit their oxygen needs and the individual patient's lifestyle.

All specialist oxygen assessment teams will be provided with appropriate items of oxygen equipment to enable thorough assessment of each patient. This will ensure the patient has the most suitable piece of equipment to meet their needs.

Our Patient Service Centre (PSC) is also available to offer advice on equipment and our Respiratory Advisor is on hand to assist with any complex cases.

To better understand how this works please refer to the modality selection tool.

The modality selection tool is also available on our website and is fully automated – [www.bochomeoxygen.co.uk](http://www.bochomeoxygen.co.uk).

## Patient Service Representatives

A specially selected team of Patient Service Representatives (PSRs) will be on hand to install, train and ensure your patient is fully familiar with the oxygen equipment provided.

Our local PSR will visit your patient on the planned day, deliver the oxygen equipment and train the patient in its safe use. Our experts will also provide a comprehensive Patient Handbook with easily understood instructions on how to use the equipment. Your patient may find it useful to have a family member, carer or friend with them for support.

## Patient follow up

If your patient's oxygen needs change, then please let us know. If the hours per day or the flow rate increases then we will need an updated Home Oxygen Order Form.

If the patient is moving home then please ensure they let us know. If you wish to submit an updated order form, it should be clearly indicated that the form denotes a change for an existing patient.

If your patient needs an installation at a second address, such as for respite care, day centre or for school use, please contact BOC on 0845 609 4345. The team will record the information and liaise with the patient to make arrangements.

# Patient categorisation.

These category definitions have been taken directly from the BTS Clinical Component for the Home Oxygen Service in England and Wales.

These guidelines enable patients to benefit from the latest technology advancements in home oxygen provision and receive support and experience from a dedicated oxygen supplier.

You will define your patients' needs by selecting the therapy type (IOT, Ambulatory, LTOT) on the Home Oxygen Order Form. Flow rate and oxygen percentage needs to be specified on the HOOF to enable us to provide the most appropriate oxygen equipment.

## Intermittent Oxygen Supply Therapy (IOT, formally known as Short Burst Oxygen Therapy or SBOT)

Intermittent oxygen supply is generally prescribed for palliation or for the provision of oxygen in certain groups of patients to use whilst waiting for emergency care to arrive.

There is no supportive research for the use of intermittent oxygen for patients with COPD.



For guidance on prescribing the correct equipment please use the modality selection tool.

## Ambulatory Oxygen Therapy

Patients who are not chronically hypoxaemic should be considered for ambulatory therapy if they desaturate on exercise. Ambulatory oxygen may be ordered for patients on LTOT who are mobile and need to leave the home – for example to attend school, travel to work, visit family or attend outpatient clinics. When ordering ambulatory oxygen, the specialist clinician should indicate on the home oxygen order form the flow rate and duration required. For guidance on selecting the correct ambulatory equipment to suit your patients' lifestyle and oxygen requirements please use the modality selection tool. Ambulatory oxygen is not normally needed urgently and therefore our patient service team will query any 4 hour delivery requests with the ordering clinician.



## Long-Term Oxygen Therapy (LTOT)

LTOT relates to the provision of oxygen therapy for continuous use at home for patients with chronic hypoxaemia (PaO<sub>2</sub> at or below 7.3 kPa [55 mg]). The oxygen flow rate must be sufficient to raise the waking oxygen tension above 8 kPa, (60 mmHg).

Clinicians usually prescribe LTOT where this is needed for at least 15 hours per day.

For children this may cover 24 hours per day, this may be varying flow rates between sleep and activity or a set flow rate whilst the child is sleeping only.

Ambulatory oxygen may also be indicated in patients on LTOT to facilitate their mobility and quality of life. LTOT and ambulatory hours of use must add up to no more than 24 hours.



### Active Group

An ambulatory system (as detailed in the later section) will be supplied in addition to a concentrator with back-up cylinders. Ambulatory requirements need to be detailed on the HOOF.

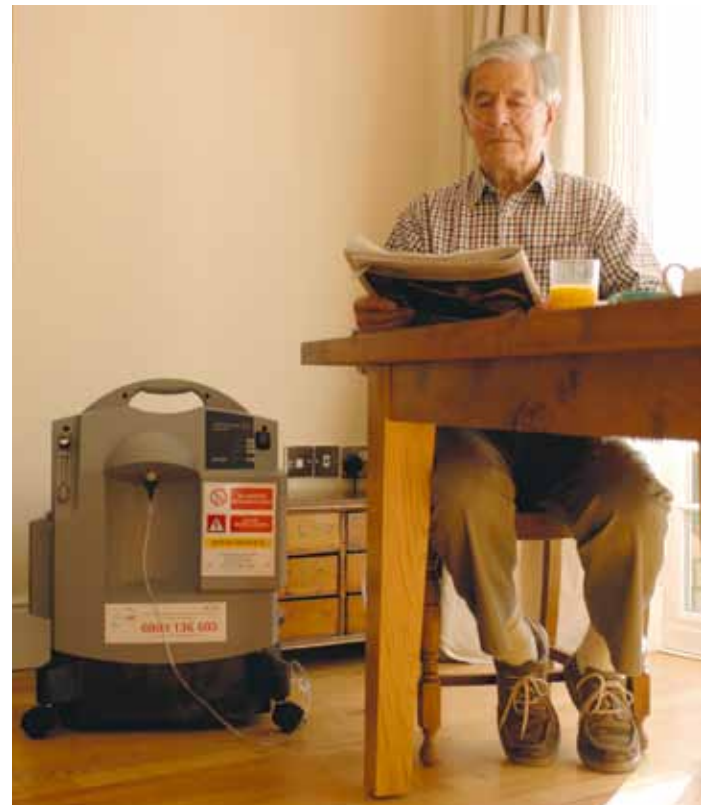


### Inactive Group

A concentrator with back-up cylinders will be supplied. As requested on the HOOF.

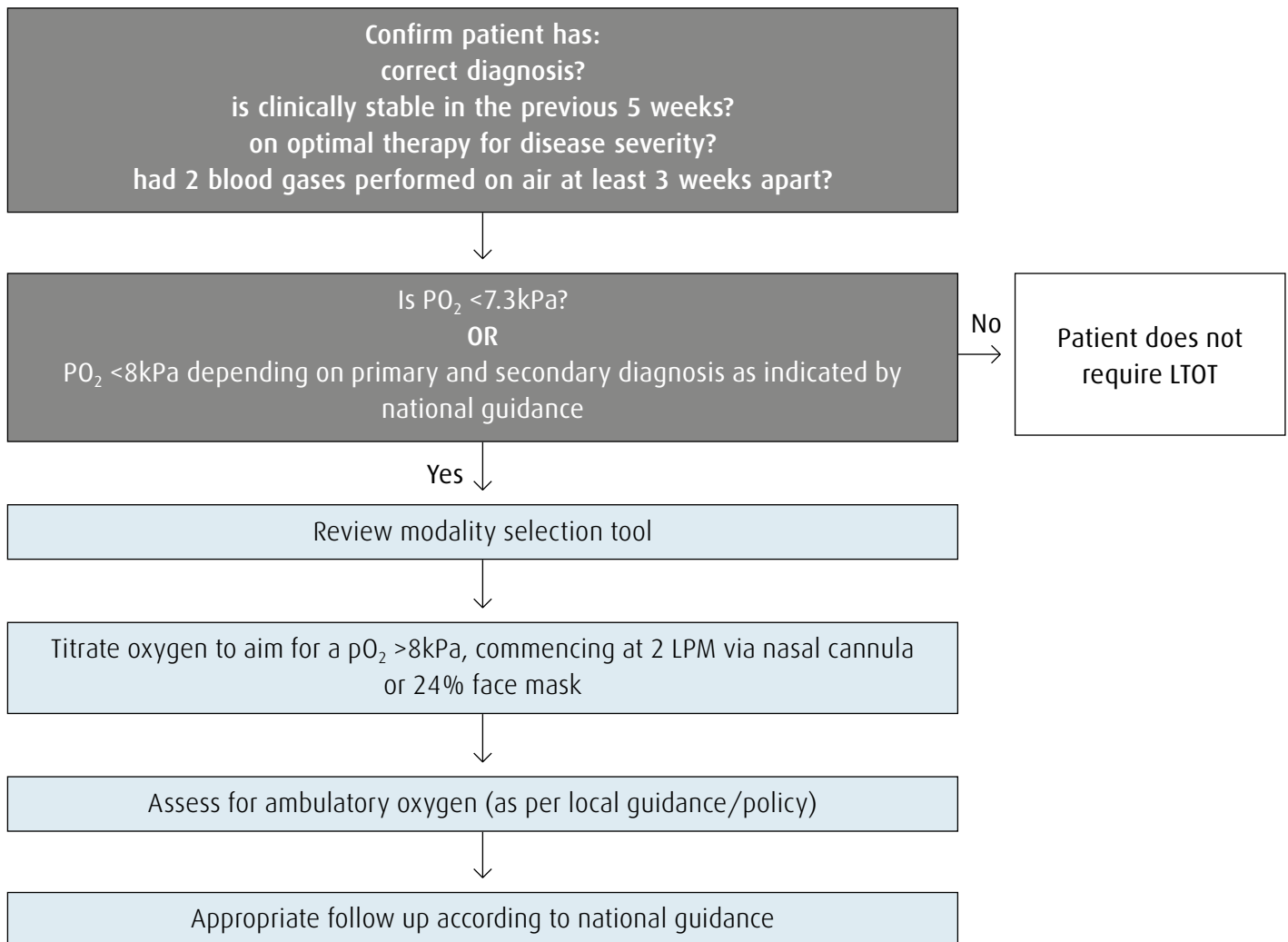


Ambulatory Oxygen Therapy.



Long-Term Oxygen Therapy (Inactive Group).

# Assessing for long term oxygen assessment.



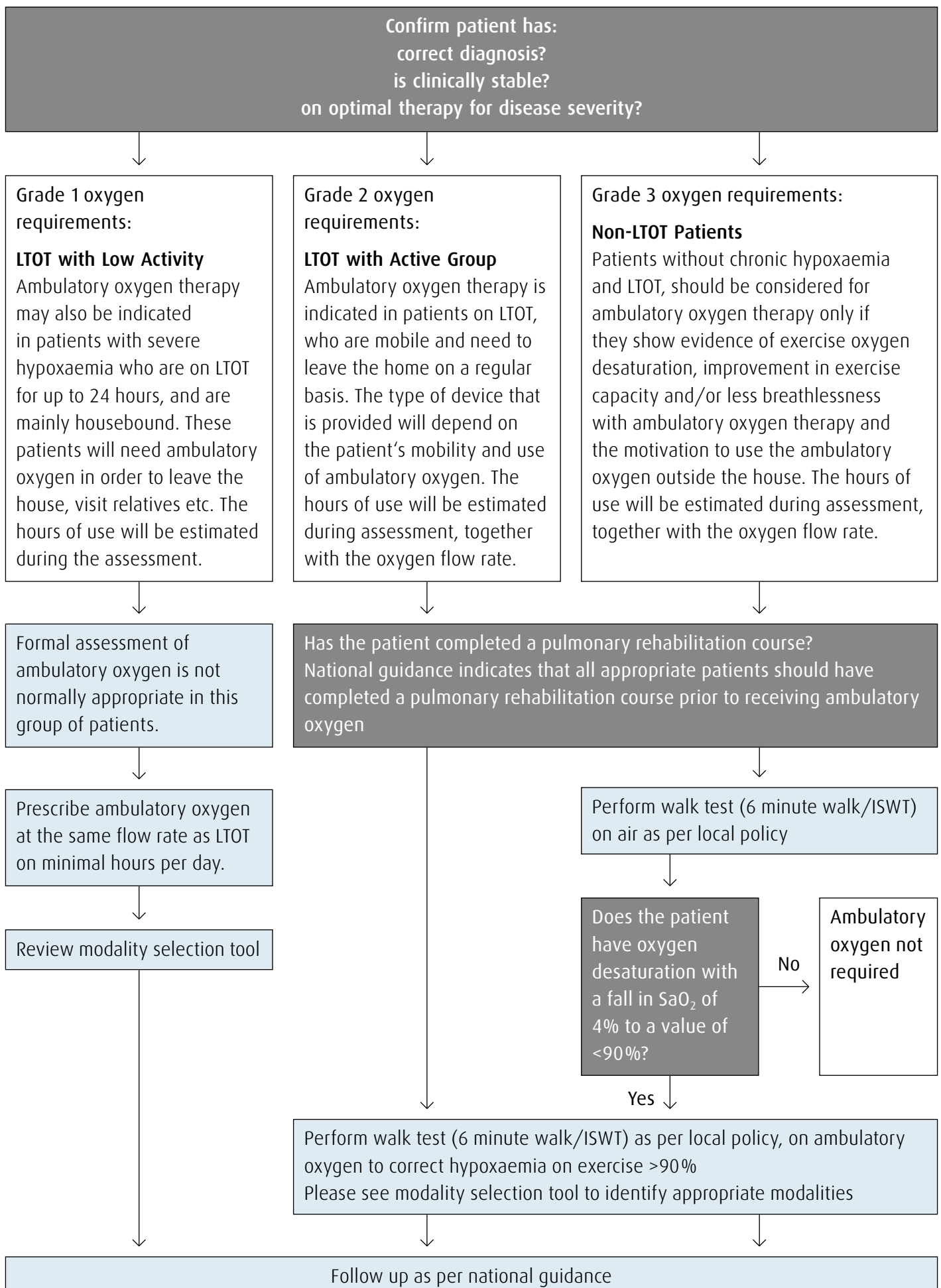
# Assessing for ambulatory oxygen therapy.

Ambulatory oxygen has been shown to be effective in increasing exercise capacity and reducing breathlessness in patients with exercise arterial oxygen desaturation.\*

Patients who are candidates for ambulatory oxygen will either already be on LTOT or they will have a  $PaO_2$  above the limit for LTOT prescription but show evidence of exercise desaturation.

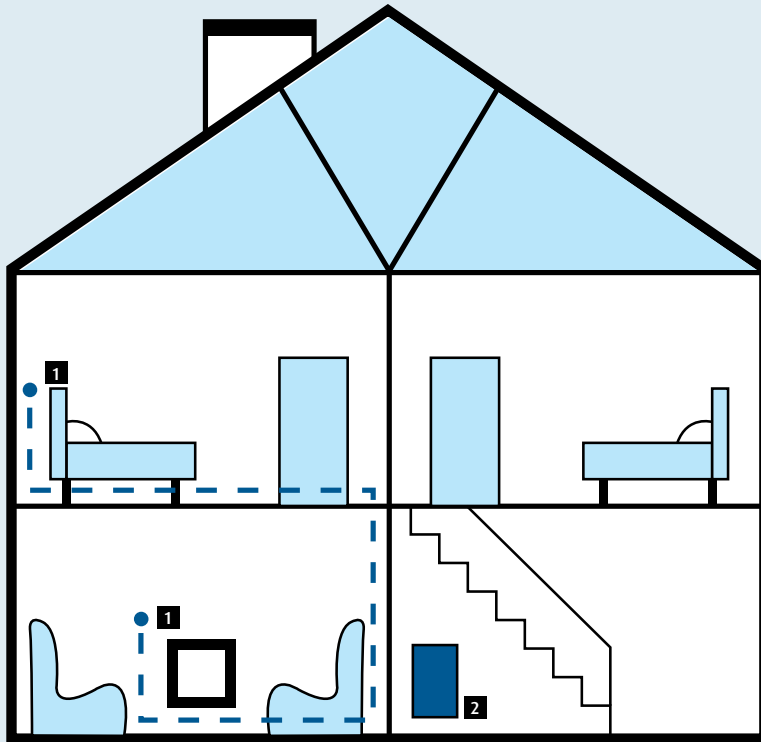
Ambulatory oxygen therapy should only be ordered after the appropriate assessment by the appropriate specialist. This flowchart has been approved by the BTS for ambulatory assessment.

\* BTS: Clinical component for the Home Oxygen Service in England & Wales 2006.



# The equipment.

Fig 1.



**1** Outlets, **2** Concentrator

## Concentrators

Concentrators extract oxygen from the air and deliver the oxygen at concentrations of 85% or greater. The flow rates can vary from 0.1 LPM (by fitting a flowmeter, which is installed by BOC Healthcare) or up to 15 LPM by supplying more than one concentrator. We do also have a supply of high flow concentrators for flows up to 10 LPM.

- For patients in need of LTOT
- One standard concentrator can deliver settings 1–5 LPM or 10 LPM if using high flow concentrator

- Up to 50 foot (15 metres) of tubing
- Installed and maintained by a trained Patients Service Representative

We recommend that patients have a fixed installation, so that outlet taps can be installed in several rooms with the oxygen being supplied by one machine, as shown in Fig 1. This allows the patient a greater degree of flexibility and mobility, whilst reducing potential trips and falls from excess tubing.

See the piped installation information in the Concentrator Equipment Guide included in this pack for more details. This information is also an invaluable tool for you to use when discussing LTOT with your patients.

## Transportable Concentrator

The iGo™ transportable concentrator is small and lightweight, yet capable of delivering up to 3 LPM of constant flow oxygen. An ideal choice for travelling, the iGo™ can be operated from a standard 12 V car charger socket or from its lithium ion battery which will give the user up to 4 hrs 40 mins of usage at 2 LPM pulse flow or 2 hrs 30 min on continuous flow.

The weight of the iGo™ is 8.1 kg. With the additional accessories, this will go up to 11 kg. This equipment will be for patients' LTOT and ambulatory supply. No other ambulatory supply will be given, apart from back-up static and potable cylinders.

If the patient has a secondary address they regularly visit, you must also supply this address in order for BOC to carry out a risk assessment and supply a second lot of static cylinders.

## Portable Concentrator

The XPO<sub>2</sub> is a portable concentrator which has been created with reliable components and developed with years of experience from stationary concentrators. It weights 2.9 kg. It will deliver pulse mode only and is suitable for ambulatory patients

requiring up to 4 LPM, who can also trigger a conserving device. The XPO<sub>2</sub> at setting 2 will last 2hrs 30mins per battery and an additional battery will be supplied.

It is imperative that the patient is tested on both the XPO<sub>2</sub> and a standard ambulatory cylinder with a conserving device. They also need to be assessed for normal flow rate on a ambulatory cylinder without a conserving device.

The flow settings do NOT directly benchmark to LPM/flow rate.

## Liquid

Liquid oxygen systems provide excellent mobility for patients who do not want oxygen therapy to compromise their lifestyle in any way. The system has a compact base unit which contains the reserve supply of liquid oxygen. This is used to refill the small portable unit with oxygen as and when your patients need it.

The standard portable liquid unit typically lasts approximately 8 hours at a flow rate of 2 LPM. The lightweight portable unit will last up to 18.5 hours based on a flow rate of 2 LPM on the "on demand" setting.

Liquid oxygen is suitable for patients who are highly ambulatory. Before installation, our PSR will assess the suitability of both the patient and property for the use of liquid oxygen.



**1** Concentrator unit, **2** Transportable Concentrator, **3** Portable Concentrator, **4** Liquid oxygen mother unit, **5** Liquid portable unit, **6** High Capacity cylinder, **7** Lightweight cylinder, **8** Self fill system

## Cylinders

### High capacity cylinders

These cylinders are provided for use as a back-up in case of power failure or malfunction of the concentrator. They are also used for patients who require high flow rates (up to 15 LPM) for short periods of time. These cylinders are not intended to be used as portable cylinders.

### Standard portable cylinder

Our standard portable cylinder delivers all the benefits of oxygen therapy whilst allowing patients to continue their day-to-day life.

Providing approximately 4 hours or in excess of 12 hours of oxygen, if a conserving device is used at a flow rate of 2 LPM. This cylinder is portable and extremely easy to use, meaning that whether your patients wish to go to work or to the shops or simply enjoy the garden, the standard portable cylinder is ideal.

### Lightweight cylinder

We have also developed a lightweight cylinder which is ideal for children\* or frail patients who find the standard portable cylinder a little too heavy to carry. This cylinder will last approximately 2.5 hours or up to 8 hours if using a conserving device at a flow rate of 2 LPM.

\* Please note the lightweight cylinder cannot accommodate a low or microflow meter





Oxygen conserving devices.

Both portable cylinder types come with a specially designed bag for ease of use and comfort. A trolley is also available for use with the standard portable cylinder, if required.

### Self fill system

UltraFill is an advanced home oxygen system that combines a stationary oxygen concentrator, filling station and is provided with two 200 bar portable cylinders. The patients who will benefit the most from the UltraFill, will be those who are also able to use a conserving device. This system is ideal for patients wishing to go out for a few hours a day, most days of the week. The patient also needs to be dexterous enough to operate the equipment or has a carer that can do this for them.

### Conserving devices

An oxygen conserving device is also available for use with ambulatory oxygen systems. The conserving device works by only releasing oxygen upon inspiration. This avoids any oxygen being wasted during the expiration phase of breathing. This can increase the usage time of the oxygen system by between 3 to 5 times depending upon the flow rate.

Conservers therefore allow patients to use smaller, more lightweight oxygen systems allowing them to become more mobile whilst on oxygen therapy. They can also reduce the drying irritation which continuous flow oxygen can have on a patient's airways.

Note: Patient must be assessed to ensure they can use conserving device.

We can supply a conserver that can be used in an “automatic” mode. In this mode, the conserver can recognise an increase in the respiration rate and deliver a larger ‘bolus’ of oxygen with each breath. Therefore, when the patient is exercising, oxygen saturation levels are better maintained at the required level.

Patients must be assessed using the conserving device to ensure the pulse mode will be sufficient to maintain their saturations within the required range.

## Masks and nasal cannula

### Nasal cannulae

Flows of up to 6 LPM with standard nasal cannula and high flow cannula offer 6 LPM – 10 LPM (high flow cannula are not recommended for constant use due to drying of mucosa, recommended for intermittent use for respite from mask).

### Venturi barrels

Blue	24% O <sub>2</sub> at 2 LPM
White	28% O <sub>2</sub> at 2 LPM
White	28% O <sub>2</sub> at 4 LPM
Yellow	35% O <sub>2</sub> at 8 LPM
Red	40% O <sub>2</sub> at 10 LPM
Green	60% O <sub>2</sub> at 15 LPM

## Other equipment

### Non re-breathe mask

A non re-breathe mask has a soft plastic reservoir bag attached at one end. You should fully inflate the bag on the non re-breathe mask before applying it to the patient’s face. The flow rate required should be enough so that the bag does not fully deflate on inspiration. Adult non re-breathe masks should always be inflated at a minimum flow rate of 10 LPM before selecting the required flow rate.

### Venturi mask

This is also known as an air-entrainment mask. It is a medical device to deliver a known oxygen concentration to patients on controlled oxygen therapy. These are different colours depending on the concentration and flow rate they deliver.

### Humidifier

This is a device for flows greater than 4 LPM. Oxygen is bubbled through cold water which adds moisture to the oxygen supplied. The humidification bottle should never be more than 6 feet (1.8 m) away from the patient. There is limited clinical evidence that cold water bubble humidification is beneficial, but there is evidence to prove it may increase the risk of infection. However, adding moisture can reduce the drying effect and therefore it may be more comfortable to patients.

### Firebreaks

In the event of a fire occurring in your oxygen tubing, the firebreak will act as a thermal fuse by cutting off the oxygen supply. When the firebreak triggers, it will immediately stop the oxygen flow, preventing the flames burning back to the oxygen supply. A firebreak is always fitted at the patient end of the tubing, just before the nasal cannula or mask. For concentrators, a second firebreak is fitted on the outlet of the machine. On the firebreak there is an arrow, which always points in the direction of the flow of oxygen.

For operational instructions and further information on all these products, please refer to the Equipment Guides or contact BOC Healthcare on 0845 609 4345. Our normal working hours are Monday to Friday from 8am to 5.30pm. We are open 24 hours for emergencies only.

If you would like any information on any other equipment relating to home oxygen therapy, please call our dedicated Clinician's line on 0845 609 4345.

#### Fire and Rescue Service (FRS)

A monthly list of all patients on home oxygen therapy will be sent to the local FRS. BOC has worked very closely with the FRS to develop a working partnership to improve the safety of all our patients. At risk patients may be eligible for a free visit from the community fire safety officer,

which includes a discussion on fire safety and safe exit routes in the event of a fire. Please contact your local FRS for further information.

If a patient is found not to have a working smoke alarm/detector in their property the local FRS will be informed on a weekly basis. Patients who ignore fire safety advice e.g. smoking on or around oxygen therapy will also be referred to their local FRS.



# Additional Support.

## Respiratory Advisor

Our Respiratory Advisor is an additional resource to all respiratory teams and can advise on all aspects of the home oxygen service, including patient assessment and categorisation, prescribing procedures and our oxygen therapy systems.

Our Respiratory Advisor can also provide a more detailed explanation of our service and how it can change to meet a patient's needs over time.

## Patient compliance

Our Patient Service Advisors will endeavour to remind patients if they have exceeded their prescription. In these circumstances we would advise the patient to return to their clinician in order to get an updated HOOF. We also provide detailed analysis of patient oxygen usage to PCTs as part of our regular review.

## Data Protection

You will appreciate that in order to provide our oxygen service we need to hold important personal data about patient's oxygen needs.

This information will be held securely within our database only for as long as we need it. We will only disclose this information to those health care

professionals who are involved in the patient care or in the administration of this care.

Patients have the right under the Data Protection Act (DPA) to see the personal data that we hold and process.

Should they wish to do this then they can contact:

### Data Protection Officer

BOC Healthcare  
Priestley Road  
Worsley  
Manchester  
M28 2UT

Following the installation of oxygen equipment, we will ask the patient to sign a patient declaration - if they are happy to do so.

## Where can I get more information or find answers to a query?

For more information on our oxygen products, guidance regarding the modality selection process or anything else, please refer to the Equipment Guides which are located in the folder cover of this guide. There is also a wealth of information on our website [www.bochomeoxygen.co.uk](http://www.bochomeoxygen.co.uk). If your query cannot be answered through either of these routes then please contact our Clinician Support Number on 0845 609 4345. Our normal working hours are Monday to Friday from 8am to 5.30pm. We are open 24 hours for emergencies only.

## Clinician Register

Before we can discuss patient details, you will have to identify yourself by recording your details on our 'Clinicians Register'. Please contact BOC if any of your details change.

If you are visually impaired and require a large print copy, please contact us.

## Contact us.

Our normal working hours are Monday to Friday 8am until 5.30 pm.  
We are open 24 hours for emergencies only.

Specialist clinician support number 0845 609 4345.

Please note that all equipment referred to in this guide are not manufactured by BOC, we are only a distributor.

## BOC Healthcare

Patient Service Centre, Priestley Road, Worsley, Manchester M28 2UT, United Kingdom  
Tel 0800 136 603, Fax 0800 169 9989, [healthcare.home-uk@boc.com](mailto:healthcare.home-uk@boc.com), [www.bochealthcare.co.uk](http://www.bochealthcare.co.uk)

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