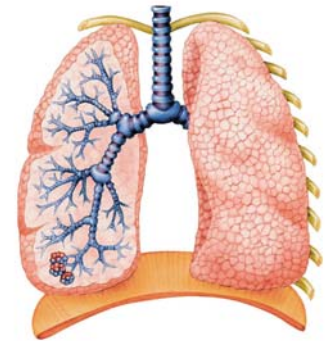


Chronic Obstructive Pulmonary Disease



Information Pack

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Introduction

The purpose of this Information Pack is to help healthcare staff employed by Sheffield Primary Care Trust and staff in Sheffield's care homes to deliver safe and effective care to patients with COPD. This Information Pack should also act as an aid to healthcare workers when educating patients with COPD about their condition and how best to care for themselves.

This Information Pack has been developed by the Care Homes Support Team in partnership with the Public Health Respiratory Development Team and the Community Respiratory Team and in consultation with a wide range of healthcare professionals. The information provided is evidence based and the primary sources of evidence are cited in Section 12.

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Contents

Section **Page**

1. What is COPD?

5



2. Detecting Breathing Problems

6



**3. Keeping Well with COPD
– A Brief Guide**

7



4. Inhalers

9



5. Nebuliser Therapy

12



6. Long-Term Oxygen Therapy

17



Contents

Section **Page**

7. Stopping Smoking

22



8. Activity and Exercise

23



9. Sputum Clearance Exercises

24



**10. Exacerbations (Flare-ups)
of COPD**

25



11. Who to Contact for Help

28



12. Information Sources

29



13. Appendix – Fluid Intake Guide

30



1. What is COPD?



COPD stands for **Chronic Obstructive Pulmonary Disease**:

Chronic - means long-standing

Obstructive – means blocking / narrowing

Pulmonary – means lungs

This means that COPD is a long-standing lung disease which involves permanent narrowing of the airways.

COPD is a general term that is used to describe a number of lung conditions, including **Chronic Bronchitis** and **Emphysema**.

Symptoms of COPD

People with COPD may have one or more of the following symptoms:

- Persistent cough
- Coughing up sputum on a regular basis or having difficulty coughing up sputum
- Getting out of breath easily
- Wheeze
- Frequent chest infections or flare-ups when the chest becomes worse for a while
- Breathing is much worse in the morning

What causes COPD?

Smoking is the biggest cause of COPD.



Other causes include **air pollution**, **pollution at work** (e.g. dust and gases) and **family history**.

Symptoms usually start in people over 35. Early symptoms may include a “smokers” cough, or recurrent winter chest infections.

How is COPD diagnosed?

If COPD is suspected:

- A doctor or nurse takes a full medical history
- The person undergoes a lung function test – this involves blowing into a machine called a spirometer
- The results of the test are used to diagnose COPD and find out how severe it is

2. Detecting Breathing Problems



COPD is one of a number of conditions that cause people to have breathing problems. If you are caring for someone who has a breathing problem, it is important that you know the cause of the breathing problem, in order to care for them properly.

In some circumstances the GP may already have made a diagnosis, in other cases the patient may have a breathing problem with no diagnosis which requires investigation by a GP.

1) Contact the patient's GP and ask for a non-urgent assessment if the resident has any of the following **long-standing** or **persistent** symptoms and you do not know the cause:

- Breathlessness at rest or on mild to moderate exertion e.g. when walking, transferring from bed to chair, dressing or eating
- Wheezy chest
- Ruttly sounds from the chest
- Cough - either dry or coughing up sputum
- Stopping breathing whilst asleep for a short period
- Needing more than a couple of pillows to sleep at night – which may be associated with ankle swelling

2) Contact the patient's GP and ask for a diagnosis if the resident is on any of the following treatments and you are unsure of the reason for the treatment:

- Inhalers
- Nebulisers
- Oxygen (long-term or occasional use)

3) When you have a confirmed diagnosis of the cause of the breathing problem and / or the reason for prescribed treatment, record the diagnosis clearly in the patient's notes.

3. Keeping Well with COPD - A Brief Guide



Following the “TOP 10” will help people with COPD to maintain their health and well-being:

1) Awareness of the disease

Patients with COPD and their carers need to know of the diagnosis and be aware of what the condition means. Explain the condition to the patient and relatives / carers and give them appropriate reading material e.g. British Lung Foundation leaflets; “COPD: Living with COPD” and “COPD – Diagnosis and Treatment”.

2) Stopping smoking

If a person with COPD is a smoker, encourage them to stop smoking as this can improve their breathing and reduce the decline in their lung function.

See **Section 7. Stopping Smoking**

3) Inhalers and nebulisers

Incorrectly used inhalers and nebulisers will have little effect. Make sure that the patient is taking their medication and caring for the equipment correctly.

See **Section 4. Inhalers and Section 5. Nebuliser Therapy**

4) Activity and exercise

Keeping active and taking appropriate exercise can reduce breathlessness and reduce the frequency of exacerbations (flare-ups). Encourage people with COPD to be active. Consider referral to Pulmonary Rehabilitation.

See **Section 8. Activity and Exercise**

5) Diet and fluids

Good fluid and dietary intake is essential and particularly important during exacerbations.

- Diets should be rich in fruit, vegetables and oily fish. Oily fish is particularly important for people with lung problems, especially if they are still smoking.
- The recommended minimum daily fluid intake is dependent on the patient's weight.

See **Section 13. Appendix - Fluid Intake Guide**



5) Diet and fluids (continued)

- During exacerbations consider the use of food and fluid charts
- If the person is underweight consider the use of food supplements and referral to the community dietician
- Patients will need a dentist review if they have ill-fitting dentures

Look out for signs of aspiration (the patient breathing food into their lungs) and refer to the Sheffield Speech and Language Therapy Service if you suspect the patient is aspirating.

6) Flu and pneumonia vaccinations

Advise people with COPD that they should have an annual flu vaccination and once only pneumonia vaccination.

7) Cold weather

Advise people with COPD to avoid going out if it is cold weather, and if they do go out in cold weather, to wear warm clothes including a hat, gloves and a scarf around the mouth.

8) Catching colds

Advise people with COPD to avoid others who may have a cold. In a care home setting, try to ensure that other residents, staff or visitors with a cold have minimal contact with residents who have COPD.

9) Mental well-being

Depression and anxiety is common for people with COPD. If you suspect that someone with COPD is depressed or anxious, contact the Sheffield Respiratory Mental Health Team for advice.

10) Exacerbations (flare-ups)

Exacerbations (flare-ups) should be treated as early as possible. Patients, carers and health professionals need to be aware of the early signs to watch out for, and how to care for someone during an exacerbation (flare-up).

See **Section 10. Exacerbations (flare-ups) of COPD**

4. Inhalers



Inhaler medication either relieves breathlessness by opening up the airways, or prevents exacerbations (flare-ups).

1) Support patients in using their inhalers properly and as prescribed

- Patients may need education about correct inhaler technique
- Patients may require assistance or supervision from their carer (or care home staff) each time they use an inhaler
- There are many different inhaler devices available. If you feel that a device is not appropriate for a patient, ensure that the patient is reviewed by an appropriately qualified healthcare professional

Inhaler and spacer leaflets for most types of inhaler and spacer are available on the NHS Sheffield intranet.

Care home staff should contact the Care Homes Support Team for copies of the leaflets.

2) Encourage patients with a Metered Dose Inhaler to use a spacer

By using a spacer much more of the drug gets into the lungs and for patients on steroid inhalers using a spacer reduces the incidence of oral thrush.

3) Patients should always rinse their mouth out with water and spit out after taking their inhalers

This will help to prevent oral thrush and other mouth conditions.

4) Inhalers should be washed once a week and spacers should be washed monthly

Follow the manufacturer's instructions or the instructions on the appropriate inhaler / spacer leaflet. This will help to prevent infections and ensure that they work correctly.

5) Make sure that the inhaler is in date

6) Inhalers and spacer devices should only be used by the person for whom the device is prescribed

7) Make sure there is a spare inhaler available for when the present one runs out. Do not over order or stockpile inhalers



What do Inhalers do?

There are four types of inhalers - short-acting bronchodilators (relievers), long-acting bronchodilators, steroid inhalers and combination inhalers.

Bronchodilators

These help to relieve symptoms by widening the airways, or stopping them from closing up. This makes breathing easier.

They usually come in **BLUE, GREY or GREEN** inhalers.

Steroid inhalers

These contain a corticosteroid and help to prevent exacerbations (flare-ups) by reducing the swelling and inflammation of the airways. They have a **long-term** effect.

They usually come in **BROWN, ORANGE or BEIGE** inhalers.

In COPD corticosteroids are usually prescribed as combination inhalers.

Combination inhalers

These are a combination of a bronchodilator and a steroid inhaler drug (e.g. Seretide™ and Symbicort™).

They come in **RED** with **WHITE** and **PURPLE** inhalers.

How often can inhalers be taken?

Salbutamol (e.g. Ventolin™) and Terbutaline (e.g. Bricanyl™)

These **BLUE** inhalers contain reliever drugs and can be taken up to four times a day at set times. In addition they can also be taken when someone feels breathless or before exercise.

During an exacerbation (flare-up)

Salbutamol - 4 to 10 puffs of the inhaler should be taken, up to every two hours if required – wait 30 seconds between each puff. If the salbutamol is taken via a metered dose inhaler, a large volume spacer (e.g. Volumatic™) should be used.

Terbutaline - 2 to 5 sucks of the turbohaler™ should be taken, up to every two hours if required – wait 30 seconds between each suck. Ensure that the patient is able to take a sharp, deep suck on the turbohaler™, and if they are unable, seek an urgent review of the inhaled medication.

If the inhaler is required as frequently as every two hours to relieve breathlessness, ensure that the patient's GP is aware and that a medical review takes place at least daily.

Also see **Section 10. Exacerbations (flare-ups) of COPD**

All the other inhalers

Are taken at set times and **should not** be taken in between times.



Commonly Used Inhalers for COPD

Drug	Colour of Inhaler	Frequency of Use * (always follow prescribed dose)	Type of Inhaler
Salbutamol (e.g. Ventolin™)	BLUE	4 times daily and as required for breathlessness / before exercise	Short-acting bronchodilator (reliever) (Effective in 5 – 15 mins)
Terbutaline (e.g. Bricanyl™)	BLUE	<i>Turbohaler™</i> - 4 times daily and as required for breathlessness / before exercise	Short-acting bronchodilator (reliever) (Effective in 5 – 15 mins)
Ipratropium Bromide (e.g. Atrovent™)	GREY or WHITE with GREEN	3 - 4 times daily	Short-acting bronchodilator (reliever) (Effective in 30 – 60 mins)
Salmeterol (e.g. Serevent™)	GREEN	<i>MDI</i> - 2 puffs twice daily <i>Accuhaler™</i> - 1 puff twice daily	Long-acting bronchodilator
Formoterol Fumarate (e.g. Atimos Modulite™ & Oxis™)	WHITE with BLUE	1 puff twice daily	Long-acting bronchodilator
Tiotropium (e.g. Spiriva™)	GREY with GREEN	<i>HandiHaler™</i> - 1 capsule once daily <i>Respimat™</i> - 2 puffs once daily	Long-acting bronchodilator
Symbicort™ (Budesonide and Formoterol Fumarate)	RED with WHITE	<i>Turbohaler™ 200/6</i> - 2 puffs twice daily <i>Turbohaler™ 400/12</i> - 1 puff twice daily	Combination
Seretide™ (Fluticasone Propionate and Salmeterol)	PURPLE	<i>MDI Seretide™ 250</i> - 2 puffs twice daily <i>Accuhaler™ Seretide™ 500</i> - 1 puff twice daily	Combination

***Usual dose for metered dose inhaler (MDI), unless otherwise stated**

5. Nebuliser Therapy



A nebuliser changes a liquid drug into a ‘mist’ or suspension of very small droplets in air or oxygen, which is then inhaled by the patient.

A Metered Dose Inhaler taken correctly with a spacer is just as effective as a nebuliser.

When should nebulisers be used?

Patients should only use nebulisers following an assessment by a doctor – check that patients with nebulisers have had a medical assessment.

Nebulisers are used to treat the following groups of patients:

- Patients suffering from an acute exacerbation of COPD - usually in the hospital setting
- Patient’s who’s symptoms of COPD are not being well managed by inhalers
- Patients who are unable to use inhalers

Who supplies nebulisers?

It is recommended that compressor machines are supplied by the Pulmonary Function Unit (Sheffield Teaching Hospitals Trust) following a medical assessment and an order by a consultant physician. Compressor machines can also be bought by a patient, however this is not recommended, because as stated above, nebulisers should only be used following a medical assessment.

The nebuliser chamber can only be obtained on prescription.

Medications used in a nebuliser

Nebulisers are most commonly used in COPD to take reliever medication such as salbutamol, terbutaline or ipratopium bromide.

Sometimes nebulisers are used in COPD to deliver saline (to help cough up sticky phlegm), or to deliver high dose steroids.



The parts of a nebuliser

There are three main parts to a nebuliser:

1. Facemask or mouthpiece

A facemask **should not** be used to deliver ipratropium bromide, as this increases the risk of glaucoma.

2. Nebuliser chamber

The small chamber into which the medication is placed, and where it is changed into a fine 'mist'.

3. Compressor

The compressor machine pressurises the air which then comes out through an outlet filter. Most compressors require mains electricity supply but portable compressors are available.

How to use a nebuliser

1. Place the compressor on a clean, hard surface.
2. Connect one end of the tubing to the outlet filter on the compressor and the other end to the nebuliser chamber.
3. Unscrew the nebuliser chamber and pour the drug into the bottom of the chamber. Check that there is a small mushroom shaped piece of plastic in the bottom of the chamber - this is essential for the nebuliser to work.
4. Screw the top of the nebuliser chamber back on.
5. Place the mouthpiece into your mouth, or place the facemask on, and turn on the compressor unit. The drug will now begin to vaporise.
6. It will take approximately 5 – 10 mins for all of the drug to vaporise. As the mist begins to run out, tap the side of the chamber to loosen any droplets from the sides of the chamber.
7. When there is no more mist coming out of the mouthpiece or mask, the dose is complete and the compressor can be turned off. There will always be a small amount of liquid left in the bottom of the nebuliser chamber, this is normal and nothing to worry about.



Cleaning procedure

It is important that the nebuliser chamber, facemask / mouthpiece and compressor are kept clean and dry as organisms may grow in damp equipment leading to infection. Always follow the manufacturer's instructions. The following is a guide:

After each use

1. Remove the nebuliser chamber from the mouthpiece or facemask, and from the air tube.
2. If the facemask or mouthpiece is soiled, wipe with a clean moist single-use tissue or detergent wipe and dry with a single use tissue / kitchen roll.
3. Unscrew the nebuliser chamber and shake out any excess liquid.
4. Place on a clean paper towel on a hard, flat surface and leave to air dry.
5. Reassemble once dry. Turn the compressor on to blow air through the nebuliser chamber for 5 – 10 seconds to make sure that all water is cleared from the system.
6. Disconnect the tubing from the compressor and store the tubing, chamber and mouthpiece or facemask in a clean dry container (e.g. an empty food container) until next use.

Daily – wash the nebuliser chamber

1. Remove the nebuliser chamber from the mouthpiece or facemask, and from the air tube.
2. Remove the vaporiser head from the chamber (the mushroom shaped piece of plastic).
3. Wash the nebuliser chamber and vaporiser head in clean, warm soapy water (use washing up liquid).
4. Rinse both parts under warm running water making sure to clear the jet holes in the vaporiser head.
5. Follow steps 4, 5 and 6 as described in the **After each use** section above.

2 – 3 times per week – wash the facemask or mouthpiece

1. Remove the facemask or mouthpiece from the nebuliser chamber.
2. Wash the facemask or mouthpiece in clean, warm soapy water (use washing up liquid).
3. Rinse under warm running water.
4. Place on a clean paper towel on a hard, flat surface and leave to air dry.



Cleaning procedure (continued)

Once a week - clean the compressor and the tubing

Clean the compressor and tubing with a clean moist single-use tissue or detergent wipe and dry with single use tissue / kitchen roll. The compressor must be turned off at the mains before it is cleaned.

Do not store the compressor on the floor - it is more likely to get dirty.

Servicing of equipment and replacement of disposables

Servicing

- For compressor machines that have been loaned out by the Pulmonary Function Unit (Sheffield Teaching Hospitals Trust), the compressor machine should be serviced every 12 months. The patient, relative or carer should contact the Pulmonary Function Unit to arrange a service every year.
- For compressor machines that have not been loaned out by the Pulmonary Function Unit, the patient, relative or carer should find out from the manufacturer how often a service is required. The patient, relative or carer then needs to arrange servicing with a private company.
 - Compressors usually require servicing once or twice a year
 - Companies in Sheffield that service compressors include Paramount Medical, Glossop Rd and Wicker Chemist, The Wicker (Medics compressor only)
- Patients should receive a replacement compressor whilst their machine is being serviced from the organisation that performs the service.
- For faults with a compressor supplied by the Pulmonary Function Unit, contact Clinical Engineering (Sheffield Teaching Hospitals Trust). For compressors not loaned out by the Pulmonary Function Unit, contact the manufacturer.

Filters

- For compressor machines that have been loaned by the Pulmonary Function Unit (Sheffield Teaching Hospitals Trust), filters should be replaced when they start to be discoloured (approximately every 3 – 6 months). It is the patient's, relative's or carer's responsibility to contact the Pulmonary Function Unit to order replacement filters when discolouration is observed.



Servicing of equipment and replacement of disposables (continued)

- For compressor machines that have not been loaned out by the Pulmonary Function Unit the patient, relative or carer should find out from the manufacturer how often the filter replacement is required
 - Filters usually require changing 3 – 6 monthly
 - Companies who service nebulisers can provide filters

Facemasks, mouthpieces and tubing

- Facemasks, mouthpieces and tubing should be replaced every 3 months or earlier if their condition starts to deteriorate **and** after every chest infection.
- For compressor machines that have been loaned out by the Pulmonary Function Unit, the patient, relative or carer should contact the Pulmonary Function Unit to order replacement facemasks, mouthpieces and tubing.
- For compressor machines that have not been loaned out by the Pulmonary Function Unit the patient, relative or carer should contact the patient's GP for replacements.

Nebuliser chambers

Nebuliser chambers should be changed every 2 months. The patient, relative or carer should contact the patient's GP for a replacement.

6. Long-Term Oxygen Therapy



This Long-Term Oxygen Therapy information is intended as a brief summary only. Healthcare staff should familiarise themselves with the comprehensive patient pack provided to all patients using oxygen by the oxygen supplier Air Products. Air Products can be contacted on 0800 373580.

Some people with severe COPD, other lung diseases, blood disease or heart disease require extra oxygen from a cylinder or concentrator.

Oxygen should be commenced by an appropriately qualified healthcare professional. In the case of COPD it can extend a person's life.

Long-term oxygen therapy is usually given to patients using an oxygen concentrator (see picture above). The concentrator takes air from the room and extracts oxygen which then comes out through tubing to the patient.

Safety

Oxygen therapy increases the risk of fire

- 1) Do not allow smoking in the vicinity of the oxygen concentrator or cylinders.
- 2) Ensure that the oxygen supply is at least 3 metres (10 feet) from naked flames and 1.5 metres (five feet) from closed fires and electrical equipment that gets hot, such as a TV.
- 3) Place the concentrator at least 8cm from the wall. Concentrators produce heat, this is normal. It is also normal for them to make a noise.
- 4) Ensure that the oxygen user does not use petroleum based moisturisers (such as Vaseline) or any other such products whilst using oxygen – water based lubricants such as KY Jelly and Aqua Gel can be used instead.
- 5) Do not use cans or sprays that are flammable in the vicinity of an oxygen supply or oxygen user.
- 6) Turn oxygen off when not in use.





Safety (continued)

- 7) In a care home setting place notices on doors to say that oxygen is in use or stored in the room.
- 8) Care homes should inform the local Fire Service that they have residents that use oxygen.

It is dangerous for a person with oxygen therapy to receive too little or too much oxygen

- 1) Document the initial oxygen prescription clearly in the patient's care plan; this includes the flow rate in litres (e.g. 2 litres per hour) and the duration (e.g. minimum of 15 hours per day).
- 2) **At least once in a morning and at least once in the evening (and in care homes at least once overnight)** the patient and / or carer should check the concentrator / cylinder is set correctly for the prescribed amount of oxygen and that the patient is receiving it for the required number of hours in a day.
- 3) **At least once in a morning and at least once in the evening (and in care homes at least once overnight)** the patient and / or carer should check that the oxygen tubing is not kinked, and that the flow of oxygen can be felt coming from the mask or nasal cannula.
- 4) Do not adjust the oxygen flow rate or duration unless instructed by the resident's GP, a respiratory nurse or by the hospital.
 - Ask the person making the change to the oxygen prescription to put it in writing and inform Air Products using a HOOF form
 - Make sure the change to the dose is clearly recorded in the care plan
- 5) Only use the oxygen concentrator, cylinder, tubing, facemask or nasal cannula provided for the individual – these form a critical part of the prescribed therapy. In a care home setting, if there is more than one resident using oxygen, it is advisable to label all equipment with the resident's name.





Safety (continued)

- 6) Do not switch between the use of a nasal cannula and a facemask because they deliver different amounts of oxygen.
- 7) In a care home setting, observe for the unauthorised interference of the equipment – e.g. by confused residents.
- 8) Ensure that there is a back-up cylinder available for each patient using an oxygen concentrator. The back-up cylinder is only for use in the case of a power cut or fault with the oxygen concentrator. The cylinder should be located as near to the patient as possible preferably in the same room. A B10 cylinder will last 17 hours and 34 minutes on 2 litres per minute.
- 9) When an oxygen concentrator is switched on, a green light should show. If there is an amber or red light showing, place the patient on the back-up cylinder and immediately call Air Products.
- 10) If the concentrator alarm sounds this indicates there is a low oxygen supply or the electricity supply is lost. Check for obvious causes first (e.g. the concentrator has been disconnected from the mains). If the problem cannot be simply and quickly resolved, place the patient on the back-up cylinder and immediately call Air Products.
- 11) Watch out for the following symptoms and report this to the GP or out-of-hours services as soon as possible, because these symptoms may indicate that the resident is receiving too much or too little oxygen:
 - headaches in the morning
 - tingling in the hands or fingers
 - increased breathlessness compared to normal
 - dizziness
 - blue lips or finger nails
 - sleeping most of the time
 - tachycardia (fast pulse)
 - new or increased confusion
 - new or increased tremor





Safety (continued)

Oxygen reviews

All patients on long-term oxygen should be registered with the Oxygen Specialists at the Northern General Hospital. Once registered the patient will receive an annual review, and more frequent reviews if required.

Check that the patient is registered by calling the Oxygen Specialists. If the patient is not registered, ask the patient's GP to refer the patient to a Respiratory Consultant.

Other safety issues

- 1) Make sure that oxygen cylinders and concentrators are safely positioned, i.e. not obstructing corridors or fire exits.
- 2) Make sure that oxygen tubing is safely positioned so that there is minimal risk of someone tripping over the tubing.
- 3) Oxygen cylinders come in different types. Ask the person who delivers the cylinder to show you how to operate it. If in doubt, ring the supplier.
- 4) Oxygen cylinders and concentrators can be heavy to move around. It is best to have the concentrator near to where the person needs it most of the time, rather than moving equipment around from room to room. Air Products can supply a second concentrator if this is needed.

Care of equipment by the patient / carer

- 1) **Facemasks – wash daily** in warm soapy water. After washing, place on a paper towel on a hard surface to air dry thoroughly before next use. If the resident needs oxygen 24 hours a day, they will need a spare facemask to use whilst the other one is drying.

Facemasks should be replaced every 6 months and following a respiratory infection.

- 2) **Nasal cannula – clean daily** with a detergent wipe or a moist single-use tissue. Do not immerse the tube in water. Allow to thoroughly air dry before use. If the patient needs oxygen 24 hours a day, they will need a spare nasal cannula to use whilst the other one is drying.

Nasal cannula should be replaced every 4 weeks, or sooner if the cannula becomes uncomfortable, the cannula is blocked or following a respiratory infection.



Care of equipment by the patient / carer (continued)

- 3) **Air filter– wash weekly.** Remove from the side of the concentrator, wash in warm soapy water and rinse in clean running water. Then squeeze out excess water and place on a paper towel on a hard surface to air dry. Whilst the filter is drying, place a clean and dry spare filter in the concentrator.
- 4) **Oxygen tubing – check weekly** for holes in the tubing, or sooner if you suspect a leak. If a hole is found, do not attempt to repair the tubing. Switch the patient to the back up cylinder and contact Air Products immediately.

Replacement facemasks, nasal cannula, air filters and oxygen tubing can be ordered from Air Products at any time without charge.

Servicing by Air Products (every 6 months)

Air Products should service equipment every 6 months. At the service they will:

- Check the oxygen tubing for holes
- Check the clock inside the counter to see how much electricity has been used, and on a quarterly basis will arrange a reimbursement of the cost of the electricity the machine has used (based on an estimate). (Full details of the process of reimbursement are outlined in the patient pack)
- Supply new equipment as required (e.g. nasal cannula or facemask)

Ensure that Air Products are informed of any change to the address of the oxygen user (for example, when a person who uses oxygen is transferred to a care home).

Portable oxygen

Portable oxygen cylinders are available for when the patient wants to go out. If the patient is going to be entirely sedentary whilst out (e.g. in a wheelchair), the oxygen dose will remain the same. If the patient will be exerting themselves whilst out (e.g. walking) they will require an ambulatory assessment at a hospital.



***Pictures in Section 6. Long-Term Oxygen Therapy,
kindly provided by Air Products.***

7. Stopping Smoking



Smoking is the biggest cause of COPD.

If a person with COPD continues to smoke then the condition will get worse and worse.

If the person stops smoking, the disease will progress much more slowly.

It is never too late to give up smoking – the person will benefit from stopping no matter how old they are.

Carers and nurses can help by doing the 3 A's:

1. **Ask** a smoker if they want to give up or have thought about giving up.
2. **Advise** against smoking and explain the benefits of giving up:
 - their disease will progress more slowly
 - their breathing may improve
 - they may cough up less sputum
 - they may have less exacerbations
 - they may feel more healthy
3. **Assist** them to stop:
 - give support and encouragement
 - contact the resident's GP or Practice Nurse who may be able to give practical help (e.g. prescribe nicotine patches)
 - telephone the **Sheffield Stop Smoking Service** for advice and support on **0800 068 4490**.

Information about stopping smoking can also be found on the following websites:

www.sheffieldstopsmoking.org.uk
www.ash.org.uk
www.quit.org.uk
www.givingup-smoking.co.uk

8. Activity and Exercise



People with COPD who keep active and take exercise tend to be able to do more and have a better quality of life.

1. Encourage patients with COPD to keep active

Reassure patients that it is not dangerous to get out of breath as long as they are not gasping for breath or so out of breath that they cannot speak.

2. Everyday activities often provide the best opportunities for patients to be more active

E.g.

- walking further and more often
- performing household chores
- washing and dressing (especially for people with severe breathlessness)

3. Patients should use their BLUE inhaler 15 - 30 minutes before any activity that could bring on breathlessness

This will help to reduce breathlessness during the exercise.

4. When being more active than normal remind residents to use the 4 Ps –

Plan / Prepare

- plan the activity and prepare the environment

Pace

- go at a steady pace, allow plenty of time and take rests

Pursed-lip breathing (Blow as you go)

- breathing out through pursed lips during and after activity can reduce breathlessness for some people

Position

- after the activity, a sitting down position and leaning forward, can help some people to recover their breath

5. Consider referral for Pulmonary Rehabilitation

These are exercise classes run specifically for people with breathing problems.

PCT staff can make a referral by using the appropriate Single Point of Access (SPA) referral form, which is available by ringing SPA.

Care homes can speak to their District Nurse or contact the Care Homes Support Team for more details about Pulmonary Rehabilitation.

9. Sputum Clearance Exercises



These exercises will help the patient to cough up sputum that has built up in the lungs. This will help breathing and can help carers and nurses to obtain a sputum sample.

It is particularly important to do sputum clearance exercises during an exacerbation (flare-up) of COPD, but they can also be performed whilst the patient is stable.

Some people with COPD will find these exercises very difficult particularly during an exacerbation (flare-up). If this is the case:

- PCT staff should refer to physiotherapy via a contact assessment SAP form
- Care home staff should contact the resident's GP or District Nurse and ask for a referral to physiotherapy

The following exercise sequence can be used twice daily or more often if needed:

1. Take the **BLUE** reliever inhaler and wait 15 minutes

2. Relaxing

Get into a relaxed position (ideally a seated position) to relax your shoulders and tummy muscles and focus on breathing gently for a few minutes to become relaxed. Aim for breathing in through the nose and out through their mouth.

3. Deep breathing

Sit up straight.

Take a deep breath in until you cannot fit any more air in, hold for 3 seconds, and then gently breathe out. Repeat three times.

Follow the deep breathing with relaxed breathing again.

If the patient has caught their breath and feels that sputum is loosened, go onto the next stage (huffing).

4. Huffing

Take a medium breath in and then force the air out gently through a wide-open mouth, as if you are misting up your glasses to clean them. Repeat 3 times.

10. Exacerbations (Flare-ups) of COPD



An exacerbation is a flare-up of COPD. The patient's symptoms of COPD will get worse, perhaps for just a few days, or the person may become so unwell that they need to go into hospital.

Exacerbations (flare-ups) can be caused by:

- Catching a cold
- Changes in the weather (hot or cold weather)
- Dust in the air (air pollution)

The usual treatment for an exacerbation (flare-up) is a course of antibiotics and / or a course of oral steroids. Steroids should be given for 7-14 days.

1. Get to know what is normal for your patients with COPD when they are stable, and record your findings

- How breathless are they normally?
- How much sputum do they normally cough up?
- What colour and consistency is their sputum normally?
- How often do they normally use their reliever inhalers?

2. Watch out for early signs of an exacerbation (flare-up)

- More breathless or wheezy than normal
- Coughing more than normal
- Change in amount, colour or consistency of sputum
- Needing inhalers or nebulisers more often
- Noisy chest
- Chest / back tightness or pain
- Feeling generally unwell or weak
- Feeling hot and sweaty
- Decreasing appetite
- Blue lips or finger nails
- Confusion or acting out of character

Find out from the patient what indicates to them that they are starting with an exacerbation (flare-up).

If you notice any of the above, contact a GP or Emergency Care Practitioner (ECP) straightaway.

If the patient is too breathless to speak or gasping for breath, call 999 straightaway.



3. Give the best possible care during an exacerbation (flare-up)

This may shorten the duration of the illness and prevent hospital admission.

- Make sure the patient takes their medication as prescribed, especially antibiotics, steroids and inhalers.
- A **BLUE** inhaler can be taken every couple of hours if it is prescribed by the doctor for “as needed” use:

Salbutamol - 4 to 10 puffs of the inhaler should be taken, up to every two hours if required – wait 30 seconds between each puff. If the salbutamol is taken via a metered dose inhaler, a large volume spacer (e.g. Volumatic™) should be used.

Terbutaline - 2 to 5 sucks of the turbohaler® should be taken, up to every two hours if required – wait 30 seconds between each suck. Ensure that the patient is able to take a sharp, deep suck on the turbohaler®, and if they are unable, seek an urgent review of the inhaled medication.

- Encourage sputum clearance exercises.
See **Section 9. Sputum Clearance Exercises**
- Encourage a sitting-up position rather than lying down – if lying down, then lying on the side is much better than on the back.
- Encourage more fluids than normal. **Keep a fluid chart.**
See **Section 13. Appendix – Fluid Intake Guide** for the minimum recommended fluid intake.
- Encourage frequent small meals rather than one large meal a day.
Keep a record of diet taken.
- Encourage gentle activity and avoiding the cold.
- Give paracetamol and / or use a fan if the patient is hot and sweaty.
- As the patient recovers encourage them to increase their activity and walk short distances if they are able.

If the inhaler is required as frequently as every two hours to relieve breathlessness, ensure that the patient's GP is aware and that a medical review takes place at least daily.

If after 2 to 3 days of treatment, the patient is not showing signs of improvement, call the GP or ECP as a matter of urgency.

If after 5 days of treatment the patient is not well on the way to recovery, call the GP or ECP as a matter of urgency.



4. Monitor for deterioration in the patient's condition. Look out for any of the following:

- General condition is poor and / or getting worse
- Increased breathlessness
- If the patient needs to use their **BLUE** inhaler more frequently than every two hours
- Blue lips or finger nails
- Reduced consciousness
- Increased confusion
- Ankle or leg swelling that is new or getting worse
- Diabetic residents – if their blood sugar is too high or too low
- Headaches
- Hand flapping – if the patient extends their arms, and their hands flap involuntarily (rather than tremor)

Call 999 straightaway if the patient shows any of the following signs:

- **is too breathless to speak or is gasping for breath**
- **has reduced consciousness**
- **has increased confusion**
- **has hand flapping**

Contact the GP or ECP urgently if you notice any of the other signs above or do not feel able to cope with how poorly the resident is.

11. Who to Contact for Help



Air Products

Suppliers of oxygen concentrators and cylinders
Telephone 0800 373580
www.airproducts.co.uk/healthcare/

Clinical Engineering (Sheffield Teaching Hospitals Trust)

Telephone 271 5076

Care Homes Support Team

Telephone 226 4332

Community Respiratory Team

Telephone 226 2494
To make a referral use the SPA (Respiratory) form

Oxygen Specialists

Telephone 226 9207 or 226 9175

Pulmonary Rehabilitation

Contact the Physiotherapy Service on 231 9821

Pulmonary Function Unit (Sheffield Teaching Hospitals Trust)

Telephone 271 4784

Sheffield Respiratory Mental Health Team

Telephone 226 4109

Sheffield Stop Smoking Service

Telephone 0800 068 4490
www.sheffieldstopsmoking.org.uk

Sheffield Speech and Language Therapy Service

Telephone 226 2041

COPD Nurse Specialists, Northern General Hospital

Telephone 226 6388

**All telephone numbers were correct at the time of
formulating this pack in February 2010.**

12. Information Sources



Air Products

Information Pack - Your Home Oxygen Service
Available from Air Products for all oxygen users.
Telephone 0800 373 580
www.airproducts.co.uk/healthcare/

British Lung Foundation

Health information leaflets and booklets are available on a range of topics related to COPD and other lung conditions (languages other than English are also available).
Invisible Lives Report (2007)
www.lunguk.org

British Thoracic Society

www.brit-thoracic.org.uk

NICE Guidance

Chronic obstructive pulmonary disease - Management of chronic obstructive pulmonary disease in adults in primary and secondary care
Clinical Guidance 12, February 2004
www.nice.org.uk/Guidance/CG12

NHS Sheffield

Sheffield COPD Treatment Guidelines (Sheffield Formulary, Section 3. Respiratory System)

These guidelines are available on the NHS Sheffield intranet.

Patient Information Leaflets – Using Inhalers

These leaflets are available on the NHS Sheffield intranet.
Care home staff can obtain these leaflets from the Care Homes Support Team.

13. Appendix - Fluid Intake Guide



SUGGESTED FLUID INTAKE VOLUME PER 24 HOURS.

* NB DURING TIMES OF ILL HEALTH AND PERIODS OF HOT WEATHER PATIENTS ARE LIKELY TO NEED INCREASED FLUIDS UNLESS RESTRICTED ON MEDICAL ADVICE.

PATIENT'S WEIGHT		MLS	FLUID OZs	PINTS
Stones	KGs			
6	38	1,190	42	2.1
7	45	1,275	49	2.5
8	51	1,446	56	2.75
9	57	1,786	63	3.1
10	64	1,981	70	3.5
11	70	2,179	77	3.75
12	76	2,377	84	4.2
13	83	2,575	91	4.5
14	89	2,773	98	4.9

REFERENCE:

Abrams & Klevmar "Frequency Volume Charts - a indispensable part of lower urinary tract assessment" 1996 Scandinavian Journal of Neurology 179; 47-53