Chronic obstructive pulmonary disease

Part II: Management

Dr Noemi Eiser concludes our two-part feature on COPD by explaining how to manage the condition, whether it's mild, moderate or severe

Chronic obstructive pulmonary disease (COPD) describes a group of conditions that include chronic bronchitis and emphysema. It was described in COPD part one (*Breathing Space* issue 20). Certain principles apply to successfully managing COPD – whatever the severity.

Since continued smoking is the main reason that COPD deteriorates, it is vital to quit as soon as possible. No other measure is as effective. Nicotine replacement therapies and bupropion or varenicline tablets are available for craving and withdrawal symptoms and plentiful help is available via the NHS, both support groups and courses. Your GP or Specialist Respiratory team (Specialists) can advise on local availability.

Exercise is good for everyone to maintain health and fitness. For people with COPD, it has special benefits, increasing muscle and bone strength, flexibility and relaxation. It also reduces breathlessness, days in hospital, stress levels and depression. When unfit, you get breathless on less exertion. The less you do, the less you can do. Choose an exercise that suits you: it could be walking, maybe with your dog or in a group, gardening, dancing, swimming or yoga.

A healthy balanced diet, with plenty of fluids, is always important. If you are underweight, your muscles, including breathing muscles, will function poorly and so you will be more breathless, less able to do essential daily activities and less capable of fighting infections. Being overweight is also bad as it puts extra stress on your breathing.

You need annual influenza vaccinations and a pneumonia vaccination as these infections may be more serious in people with COPD. Everyone with COPD should be reviewed annually – for severe COPD, this should be six-monthly at least.

If you are anxious or depressed, you may be offered treatment for this. The first hurdle is to recognise and accept this problem, which undoubtedly makes your breathing worse. Coping strategies and relaxation are easy to learn from your Specialists but, if they are insufficient, medication is also available.

Medications

■ Bronchodilator inhalers

Most COPD medications are inhaled either as aerosols from inhalers, preferably attached to a spacer (chamber) that gets more of the aerosol deep into the lungs, or as dry powders. Different devices suit different people. Your GP, Specialists or pharmacist should teach you how to use your chosen inhaler and, from time to time, check that you are using it correctly.

Bronchodilator aerosols open up the airways. Short-acting β2-agonists (SABA), such as salbutamol or terbutaline, act in minutes, their effects lasting four to six hours. Keep a supply by you to use as necessary for breathlessness.

For more persistent breathlessness, long-acting β2-agonists (LABA) and tiotropium taken regularly are appropriate; their effects last 12 and 24 hours respectively. None of

these medications are addictive or lose their effects over time. However, large doses of SABA or LABA inhalers can cause trembling or palpitations while tiotropium can cause a dry mouth.

Steroids

Steroids are given either as tablets (prednisolone) or aerosols (ICS). Long-term prednisolone is unhelpful and produces serious side-effects: indigestion, muscle weakness, osteoporosis (bone thinning) and weight gain. However, one- to two-week courses help to combat inflammation during COPD flare-ups.

ICS have few side effects but can occasionally produce a hoarse voice, thrush in the throat and, in high doses (particularly inhaled without spacers), may cause osteoporosis and increase risk of pneumonia.

Other tablets

Mucolytics (e.g. carbocysteine) are occasionally useful in making sticky sputum (phlegm) easier to cough up. This is particularly helpful if cough has produced stress incontinence.

Theophyllines occasionally help breathing but need careful monitoring for side-effects, particularly in the elderly and those taking other medications.

Mild COPD

The main emphasis for people with mild COPD is stopping smoking. Usually only SABA inhalers are required for breathlessness on exertion. Hopefully, following these suggestions, you should keep well and your COPD will progress very slowly.

Moderate COPD

With moderate COPD, you notice breathlessness on less exertion. As well as the above measures, pulmonary rehabilitation is strongly recommended. Remember, it is never too late to stop smoking! If you have not succeeded yet, please keep trying; it remains the most important part of your treatment.

Pulmonary rehabilitation is a medically-supervised six- to eight-week programme run by multi-disciplinary teams. It includes exercise, information on COPD and how to reduce and cope with stress and breathlessness. You will learn how to keep active and control your COPD. Maintaining exercise afterwards will ensure that you do not lose the benefits you have gained. Ask your GP or Specialists where you can enrol, if you have not already participated in pulmonary rehabilitation.

To stay as mobile and as independent as

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The BLF Helpline has a new call back service. Fill out the form at www.lunguk.org/callback and we'll call you back within two hours.

possible, everyday activities should produce the minimum fatigue and breathlessness. This requires planning and organisation. Schedule your activities, bearing in mind your good and bad times of the day. Place stools or chairs around the house so that you can sit and recover your breathing when necessary.

Unfortunately, sex is often a particular anxiety for people with COPD, who worry that it will either increase breathlessness dangerously or will induce embarrassing coughing and sputum production. Mutual understanding and communication are crucial to continuing an active, fulfilling sex life.

More troublesome breathing may require regular LABA and tiotropium inhalers. Tiotropium and LABA combined with inhaled steroids also help reduce the rate of flare-ups, if frequent. It is advisable to keep standby emergency medications at home for flare-ups.

A self management plan (SMP), agreed with your GP and your Specialists, will make you more self-sufficient. It gives more specific advice about managing your COPD yourself, both when stable and during flare-ups. An exercise diary is also useful to record the effects of exercise.

Both hot and cold weather can affect people with COPD. Try to keep temperatures in your home at 21°C (living room) and 18°C (bedroom). Keep an eye on the weather forecast. Cold air, fog or air pollution may narrow your airways, making breathing more difficult. Stay inside at these times, keeping as active as possible and wearing warm clothing, in layers. In heatwaves, stay inside during the hottest part of the day, keeping the home as cool as possible; drink plenty of fluids.

History of COPD

1808 Charles Badham differentiates chronic bronchitis from other diseases

1827 Rene Laennec describes pathological changes in emphysema

1923 E L Collis connects socio-economical deprivation and industrial pollution with morbidity and mortality of chronic bronchitis

1955 Oswald and Medvei recognise the importance of smoking

1959 Ciba Guess Conference defines COPD

1967 Moran Campbell describes the dangers of giving too much oxygen

1977 Fletcher & Peto show deterioration in lung function related to smoking and smoking cessation greatly reduces the rate of deterioration

1970s oxygen concentrators developed

1980s long-term home oxygen treatment established

1990s importance of:

- pulmonary rehabilitation
- hospital-at-home treatment for flare-ups
- non-invasive ventilation for very severe flare-ups in hospital.

2000s importance of non-lung effects of COPD – in muscles etc.

Severe COPD

If your COPD is severe, it is likely that your life is considerably affected. Please don't forget, it is never too late to stop smoking! If you have not yet succeeded, keep trying, it remains the vital part of your treatment.

In addition to the inhalers already mentioned, you may need water tablets for ankle swelling. Very occasionally, a nebuliser is prescribed instead of an inhaler to give larger doses of SABA. However, almost always, the same benefits can be obtained by increasing the dose of aerosol via an inhaler with spacer.

If eating makes you breathless and you are losing weight, instead of big meals, try eating little and often. Fortify your foods to make them more nourishing. Occasionally food supplements are needed to keep weight up; these should be eaten in addition to your normal food, not instead of it! You may need treatment for osteoporosis if you are unable to exercise much, particularly if you take inhaled steroids.

Lung surgery is occasionally indicated for removal of a large cyst if judged to be the major cause of breathlessness. When lung function and breathing are really bad due to more localised COPD, removal of the worst effected part of the lungs may be considered. Unfortunately, lung transplantation is rarely an option, partly due to the scarcity of organs.

Home oxygen

Oxygen is not a treatment for breathlessness, but is essential if blood oxygen is low. Long Term Oxygen Therapy (LTOT) is prescribed for, at least, 15 hours daily when blood oxygen remains permanently low. Usually this oxygen is produced from room air by an oxygen concentrator, a machine the size of a small fridge.

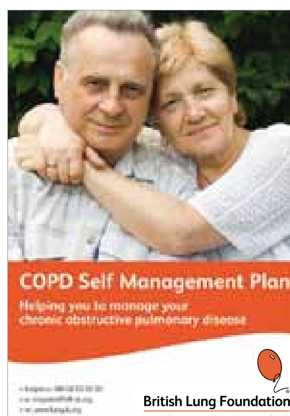
You will be assessed with both simple finger probe and blood test before being prescribed a precise oxygen flow rate. It is dangerous to alter this flow rate unless instructed to do so by your Specialists. You may also be assessed for suitability for portable oxygen to use when you go out.

Advance planning is essential for travel. If flying, check before booking whether the airline will meet your needs and whether extra costs will be incurred and take:

- your SMP
- an electrical adaptor if necessary, enough medicine to cover your holiday and extra emergency supplies
- adequate insurance
- a letter from your doctor explaining your condition and your need for a nebuliser (if required).

On long-haul flights, aircraft cabins contain less oxygen than at ground level. Some people, not normally needing oxygen, may also need it during the flight. Everyone with severe COPD should be assessed and, if appropriate, given a letter for the airline company advising them of the circumstances and requesting the correct amount of oxygen for the flights. With planning, oxygen can be arranged via the NHS at UK destinations and abroad. Your oxygen supply company is obliged to arrange this for you. Call them well in advance to discuss this.

ABOVE: oxygen, which is essential if blood oxygen is low, usually comes from a concentrator like this



ABOVE: the BLF's SMP is available through your healthcare professional

Acute exacerbations (flare-ups)

As soon as you realise that you have a flare-up, put your emergency plan into action as advised by your Specialists. Use extra LABA for increased breathlessness. If your sputum goes yellow or green, take your standby antibiotics for a week; penicillins or tetracyclines are generally effective but, if they don't work, maybe an unusual bug is responsible for your flare-up. In these circumstances a sputum test will decide which antibiotic is suitable. For more difficult breathing, take a one- to two-week course of steroids.

However, if your flare-up does not settle quickly, call your GP or Specialists; your SMP explains when you should call an ambulance. You may need more intensive management in hospital or, after careful assessment, management by an Early Discharge or Hospital-at-Home team. They may lend you a nebuliser or, if your blood oxygen is low, give you temporary oxygen treatment.

In hospital, if you are not improving quickly, you may have non-invasive ventilation. This equipment delivers air at slightly increased pressure via a face mask to your lungs, to increase oxygen delivery to your blood and improve your breathing. It has greatly improved the outlook for people with very severe flare-ups.

■ *For more advice on COPD, call the BLF Helpline on 08458 50 50 20 (Monday to Friday, 10am to 6pm). The BLF booklets COPD: diagnosis and treatment and Living with COPD, and the leaflet Sex and breathlessness are available via the Helpline or at www.lunguk.org. See page 36 for our feature on pulmonary rehabilitation.*