Chronic obstructive pulmonary disease (COPD)

COPD describes a group of lung conditions that make it difficult to empty air out of the lungs because the airways have become narrowed. This information covers what COPD is, the symptoms you might get, and how it's diagnosed and treated. We have also included tips about controlling your breathing and how to manage flare-ups or exacerbations.

What is COPD?

Chronic obstructive pulmonary disease, or COPD, describes a group of lung conditions that make it difficult to empty air out of the lungs because the airways have become narrowed.

Chronic = it's a long-term condition and does not go away
Obstructive = your airways are narrowed, so it's harder to breathe out quickly and air gets trapped in your chest
Pulmonary = it affects your lungs
Disease = it's a medical condition

Two of these lung conditions are long-term (or chronic) bronchitis and emphysema, which can often occur together.

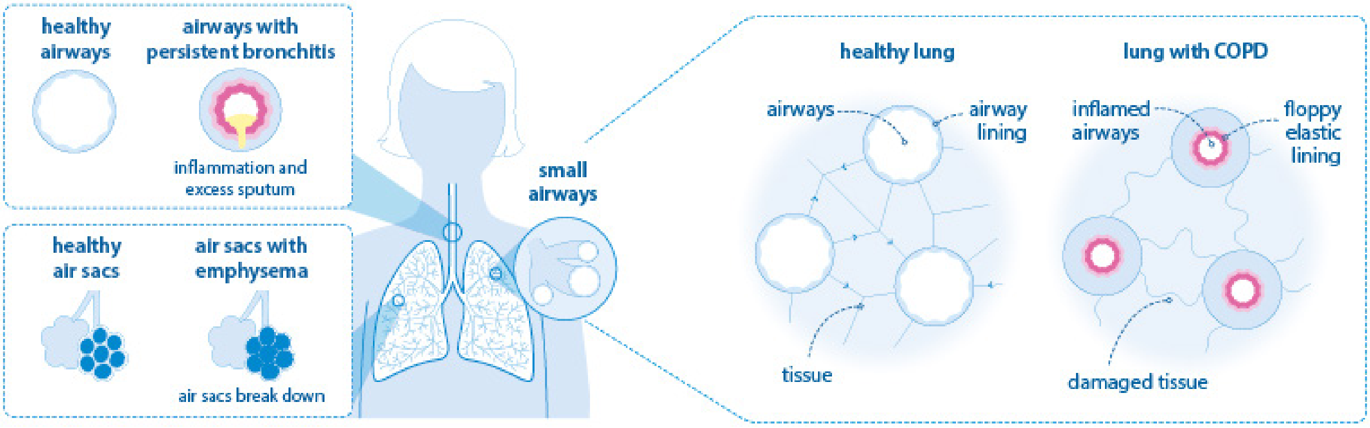
- Bronchitis means the airways are inflamed and narrowed. People with bronchitis often produce sputum, or phlegm
- Emphysema affects the tiny air sacs at the end of the airways in your lungs, where oxygen is taken up into your bloodstream. They break down and the lungs become baggy and full of bigger holes which trap air

These conditions narrow the airways. This makes it harder to move air in and out as you breathe, and your lungs are less able to take in oxygen and get rid of carbon dioxide.

The airways are lined by muscle and elastic tissue. In a healthy lung, the springy tissue between the airways acts as packing and pulls on the airways to keep them open. With COPD, the airways are narrowed because:

- the lung tissue is damaged so there is less pull on the airways
- mucus blocks part of the airway
- the airway lining becomes inflamed and swollen

There are treatments to help you breathe more easily and help you keep active, so it's important to get an early diagnosis.



What causes COPD?

COPD usually develops because of long-term damage to your lungs from breathing in a harmful substance, usually cigarette smoke, as well as smoke from other sources and air pollution. Jobs where people are exposed to dust, fumes and chemicals can also contribute to developing COPD.

You're most likely to develop COPD if you're over 35 and are, or have been, a smoker or had chest problems as a child.

Some people are more affected than others by breathing in noxious materials. COPD does seem to run in families, so if your parents had chest problems then your own risk is higher.

A rare genetic condition called alpha-1-antitrypsin deficiency (**blf.org.uk/support-for-you/alpha-1-antitrypsin-deficiency**) makes people very susceptible to developing COPD at a young age.

What's the difference between COPD and asthma?

With COPD, your airways have become narrowed permanently – inhaled medication can help to open them up to some extent. With asthma, the narrowing of your airways comes and goes, often when you're exposed to a trigger – something that irritates your airways – such as dust, pollen or tobacco smoke. Inhaled medication can open your airways fully, prevent symptoms and relieve symptoms by relaxing your airways.

So, if your breathlessness and other symptoms are much better on some days than others, or if you often wake up in the night feeling wheezy, it may be that you have asthma.

Because the symptoms are similar and because people who have asthma as children can develop COPD in later life, it is sometimes difficult to distinguish the two conditions. Some people have both COPD and asthma.

What are the symptoms of COPD?

Symptoms include:

- getting short of breath easily when you do everyday things such as going for a walk or doing housework
- having a cough that lasts a long time
- wheezing in cold weather
- producing more sputum or phlegm than usual

You might get these symptoms all the time, or they might appear or get worse when you have an infection or breathe in smoke or fumes.

If you have COPD that has a severe impact on your breathing, you can lose your appetite, lose weight and find that your ankles swell.

How is COPD diagnosed?

Your health care professional will ask if you cough, if you have a lot of sputum and if your breathlessness is brought on by anything. They'll also ask how your daily life is affected and other questions about your general health. They'll ask if you've smoked and if you've been exposed to dust, fumes or chemicals.

Spirometry

To get an accurate diagnosis, you should have a simple test called spirometry (**blf.org.uk/support-for-you/breathing-tests/spirometry-and-reversibility**). This involves blowing hard into a machine that measures the total amount of air you can breathe out, called your lung capacity, and also how quickly you can empty your lungs. The measure used is called the forced expiratory volume in one second, often shortened to FEV1. Healthy people can empty at least 70% of the air from their lungs in the first second of a hard blow out.

Spirometry only covers one aspect of your lung function. People with the same spirometry result may be more or less breathless depending on their level of fitness, any other medical problems and the exact way COPD has damaged their lungs.

Chest X-ray and blood test

For the vast majority of people, a firm diagnosis of COPD can only be confirmed by spirometry. It will not be made on a chest X-ray finding on its own. Your health care professional should arrange for you to have a chest X-ray or scan and blood test to rule out other causes of your symptoms.

BMI

Your doctor will calculate your body mass index (BMI) to find out if you're a healthy weight. This is important because you can deal with your COPD better if you're not underweight or overweight.

Your health care professional may want to get a better picture of your condition and how it affects you, including:

- tests to find out how well your lungs are functioning
- tests to see if the oxygen level in your blood is significantly reduced
- asking how often you have symptom flare-ups or chest infections
- finding out how short of breath you feel during everyday activities

You may also see a specialist doctor or nurse to confirm the diagnosis or to work out the right treatment for you. You may also see other health care professionals:

- physiotherapists – to help you deal with your sputum, control your breathing and keep active
- dieticians – to help you manage your weight
- occupational therapists – to help make your daily living easier
- counsellors or talking therapists – to help your mental wellbeing
- if you smoke, stop smoking advisors – to help you quit

What are the treatments for COPD?

The core care for COPD is:

- having treatment and support to stop smoking
- having a flu jab every year and a one-off pneumonia vaccination
- an exercise programme called pulmonary rehabilitation (**blf.org.uk/support-for-you/keep-active/pulmonary-rehabilitation**) if your breathlessness stops you doing things
- having your own self-management plan (**shop.blf.org.uk/collections/self-management**)
- identifying and managing your other health problems, because most people with COPD also have other long-term conditions
- taking medicine or combinations of medications to improve breathlessness and help prevent flare-ups

Remember: You should have regular check-ups with your health care professional – at least once a year. Check you're getting the best COPD care at **blf.org.uk/passport**

Don't smoke

If you smoke, the most effective treatment for COPD is to stop. Your health care professional and pharmacist can help you find ways that make it easier for you. You're around three times as likely to quit with help from support services and medication. Have a look at **blf.org.uk/smoking**

Get vaccinated

Make sure you get your flu jab every year to protect you against the flu viruses likely to be going round over the winter. Vaccination reduces your risk of developing serious complications if you are exposed to flu such as pneumonia and heart problems. The NHS offers it for free to people living with long-term conditions like COPD.

Your doctor should also offer you a vaccination against pneumococcal infection – a bacterial infection that can cause pneumonia and other illnesses. You only need to have this once.

You can also avoid infections by staying away from people – including children – who have colds, flu, sinus infections or a sore throat. If you do get an infection, make sure you treat it quickly.

Pulmonary rehabilitation

Pulmonary rehabilitation or PR is a programme of exercise and education designed for people living with COPD. It's one of the best treatments available for COPD. Ask your doctor to refer you.

A course lasts about six to eight weeks and you'll be part of a group.

At each session, you'll spend about half the time on physical exercise. This will be carefully designed to provide the right level of activity for you. You'll also get information and tips about things like:

- breathing techniques and positions to help you when you're out of breath
- how to manage stress
- healthy eating
- how to use your inhalers and other medicines
- what to do when you're unwell

PR is about helping you manage your COPD better. It's a treatment not a cure, but you'll feel better- more confident and in control.

After you've completed your course, it's important to carry on exercising regularly, stay active and use the techniques you've learned. Have a look at **blf.org.uk/keep-active** or call our helpline to find out more. Remember – it's not harmful to make yourself breathless.

Most people find PR improves their ability to exercise and their quality of life. The impact of PR is often bigger than the impact of taking inhaled medications. By combining the two approaches, you're likely to get the most benefit.

Have a self-management plan

It's important you have a plan to help you manage your COPD that's agreed with your doctor or nurse and reviewed every year. You can get one from **blf.org.uk/self-help**. You should also have regular check-ups with your health care professional – at least once a year.

Look after other medical problems

Most people with COPD have one or more other long-term health conditions. Examples include heart disease, diabetes, osteoporosis, muscle and joint problems as well as anxiety and depression. This can happen because:

- People with COPD have often smoked, and smoking causes other health problems, especially heart disease.
- Long-term medical problems are more common as people get older and COPD tends to occur in older people.
- COPD makes people breathless and less physically active which increases the risk of other health problems.

It is important to make sure all your health conditions are well managed and all your symptoms are properly treated. For example, heart disease is common in people with COPD and can be another cause of breathlessness. Having anxiety can make it harder to cope with feeling short of breath and worsen your breathlessness.

Medications for COPD

Your doctor will decide with you which medications to use depending on how severe your COPD is, how it affects your everyday life, and any side effects you may have had.

Bronchodilators

Bronchodilators are a type of medicine you inhale that open up your airways to help you breathe more easily.

Short-acting bronchodilator

- If you only get short of breath when you're active, your doctor will give you a short-acting bronchodilator. This will help your breathing quickly and the effects last for 4 to 6 hours.

Long-acting bronchodilator

- If you're breathless daily, you'll be prescribed a long-acting bronchodilator. This may take longer to have an effect, but the effects last longer – 12 to 24 hours. There are two main types of long-acting drugs. They are called long-acting anti-muscarinic (LAMA) and long-acting beta agonist (LABA). Most people with COPD who are breathless will benefit from taking both kinds. Sometimes they come in separate inhalers and sometimes in combinations. You may get on better with one or another version, but in general they are all thought to be equally effective.

If you have more than one or two flare-ups or exacerbations of your COPD requiring treatment, you may be changed to an inhaler with a small dose of steroid in it. This can help reduce inflammation and swelling in your airways. You'll usually be given a combination inhaler – two or three medicines in one inhaler – with one or two bronchodilators and a steroid.

Steroid inhalers are also useful in people whose condition is an overlap of asthma and COPD.

Taking your inhalers

If you are given inhaled medicine to take regularly make sure that you use it every day as prescribed, even if you feel well. This can also reduce the risks of a flare-up. You can take your inhaled medicine in different ways. These include different sorts of inhalers:

- dry powder inhalers – suck in as hard as you can then hold your breath for ten seconds
- pressurised metered dose inhalers (**www.asthma.org.uk/advice/inhaler-videos/pmdi/)** – they produce a puff of medication like an aerosol – use a slow deep breath in and hold your breath for up to ten seconds
- spacers (**blf.org.uk/support-for-you/breathlessness/treatment#spacers**) – these attach to pressurised metered dose inhalers to help you breathe in the drug more effectively
- nebulisers (**blf.org.uk/support-for-you/nebulisers**) – these devices turn the medicine into a mist that you can breathe in. They're used in an emergency when you need large doses of inhaled medicine, such as during a flare-up. Most people don't need such a big dose and get as much benefit from normal inhalers as long as they use them correctly with a spacer device

Do you know how to use your inhaler?

Your inhaler will only help if you use it correctly. Ask your pharmacist, nurse or doctor to show you how to use each type of inhaler you have and make sure they review your technique at least every year.

Have a look at the UK Inhaler group videos on the Asthma UK website (**www.asthma.org.uk/advice/inhaler-videos/**) to see how to use your inhaler properly.

Mucolytic

If you cough up a lot of sputum, you may be given a drug called a mucolytic as a tablet or syrup. This may make your sputum thinner and easier to cough up.

If you want to know more about your medication, ask your chemist, doctor or nurse.

Side effects from medications

It's not common to get side effects from inhaled drugs, as the dose is usually very small. Steroid inhalers can sometimes make your voice hoarse or give you a fungal infection, called thrush, in your mouth. You can reduce the risk by using your inhaler correctly and rinsing your mouth out after every time you use it.

Steroid tablets can help during flare-ups but cause side effects if taken at a high dose or for a long time. Long-term treatment is not usually recommended. Side effects include increased appetite, difficulty sleeping, diabetes, weakening of the bones (osteoporosis), thin skin that bruises easily, cataracts and severe mood changes.

Further care options for COPD

Some people may also benefit from further care. Talk to your health care professional about your particular circumstances.

Oxygen

Your health care team may send you to a specialist to see if oxygen therapy (**blf.org.uk/support-for-you/oxygen**) can help you. Oxygen is only useful as a treatment for people with a low oxygen level. It doesn't help breathlessness in people whose oxygen level is not low. It's not a treatment for breathlessness, which in COPD, is usually caused by difficulty moving air in and out as you breathe, rather than by a low oxygen level.

Non-invasive ventilation

If you're admitted to hospital with a severe flare-up of your condition, you may be offered non-invasive ventilation. This involves wearing a snug-fitting mask over your nose, or over your nose and mouth, connected to a machine that pushes air into your lungs. Non-invasive ventilation supports your breathing to give your muscles a rest and gently helps with each breathe you take. This increases your oxygen level and helps you breathe out more carbon dioxide. If you regularly wake up with a headache, tell your doctor. It can be a sign your breathing is shallow at night and you might benefit from non-invasive ventilation at home.

Surgery

Lung volume reduction procedures

A few percent of people with emphysema and COPD may benefit from a lung volume reduction procedure (**blf.org.uk/support-for-you/copd/treatment/surgery**) to reduce the amount of air trapped in their lungs. This can involve an operation to remove the worst affected area of lung or putting valves into the airways with a fibre-optic camera to block the worst area off. This allows the remaining healthier parts of the lungs to work better so that you can breathe more easily.

If you've had pulmonary rehabilitation and are still limited by breathlessness, ask your doctor if you might be suitable for a lung volume reduction procedure. Your GP can refer you to a specialist centre.

Lung transplant

Lung transplant is a high-risk major operation and is only suitable for a small number of people. Currently, there are not enough donor lungs available to meet demand.

Whether you can be considered for a lung transplant depends on factors that influence the chance of a successful outcome. These include your general health and fitness, other medical conditions that mean that you would not be able to cope with the procedure and whether you are over- or under-weight. You will also need to have not smoked for at least 6 months. There is no strict age cut-off, but it's unusual for people with COPD to have a transplant much over 60 years old. Ask your doctor if you think you might be suitable.

What can you do to manage your COPD?

You can do a lot to help manage your condition yourself. Knowing all you can about your condition, your symptoms, your medications and how to cope with flare-ups will make your day-to-day life easier. Keeping active and doing exercise can make a big difference – many people find this helps them more than inhaled drugs.

Keeping active

If you have COPD, being active and exercising can help you to improve your breathing, fitness and quality of life. Don't avoid activities that make you breathless: you'll get less fit and out of breath more easily. Regular exercise can help reverse this by strengthening your muscles. Exercise also benefits your heart and blood pressure, and makes you less likely to develop conditions such as diabetes and osteoporosis (fragile bone disease). There are many different ways to be active – find one that you might enjoy.

The best way to learn how to exercise at the right level for you is to take part in pulmonary rehabilitation. Ask your doctor to refer you.

There is strong evidence that people with COPD benefit from PR and exercise more generally. Remember again that it is not harmful to make yourself breathless.

Controlling your breathing

There are techniques and positions that can help you cope when you get out of breath and feel more in control of your breathing.

If you practise breathing techniques and use them every day, they'll help you when you're active or if you suddenly feel short of breath. Try different breathing techniques to find what helps you. There are also positions that can help you to practise breathing control or to control your breathing when you get breathless. Talk to your respiratory physiotherapist or nurse to find out what works for you.

Have a look at the techniques and positions online at **blf.org.uk/how-to-manage-breathlessness**

Some people with COPD who joined a singing group said singing helped them to manage their symptoms better. Have a look at **blf.org.uk/singing** to find out more and find a group near you.

Top tips to manage your breathlessness

- Use a towelling robe after showering or bathing, as you'll use less energy than drying off with a towel.
- Using a handheld battery-powered fan to blow air onto your face can help you to feel less breathless.
- Plan your day in advance to make sure you have plenty of opportunities to rest.
- Find simple ways to cook, clean and do other chores. You could use a small table or cart with wheels to move things around your home, and a pole or tongs with long handles to reach things.
- Put items that you use frequently in easy-to-reach places.
- Keep your clothes loose, and wear clothes and shoes that are easy to put on and take off.
- Use a wheeled walking frame.

Eating well and keeping a healthy weight

It's important to eat a balanced diet and maintain a healthy weight. Your doctor or nurse can help you to work out what your healthy weight should be and can refer you to a dietician or local scheme to help you if necessary.

- If you're overweight it will be harder for you to breathe and move around.
- If you're losing too much weight because eating makes you feel breathless, or you find it difficult to shop and prepare meals, try to eat little and often. Ask your doctor or nurse about nutritional supplements

There's information on eating well, maintaining a healthy weight and how your diet can affect your symptoms, at **blf.org.uk/eating-well**

Take care of your emotional wellbeing

Living with a long-term condition can affect many aspects of your life. Physical symptoms such as breathlessness and coughing, feeling more tired and being less active can mean you feel stressed, anxious or depressed.

The risk of anxiety and depression is greater in people with more severe COPD, people who have been admitted to hospital, and those with low oxygen levels.

Treatment is available to support you. Many other people have experienced anxiety and depression and have recovered. They are both very normal reactions to living with COPD. Talk to your health care professional about medications and counselling.

Don't bottle things up – talking to someone you trust, including your health care professional, can help. It's very important to stay active and sociable, and to learn more about COPD. This will help you to understand and cope better with your condition. You might want to get involved with a local group to meet others going through a similar experience. Have a look at our information about looking after your mental health (**blf.org.uk/support-for-you/dealing-with-your-mental-health**).

Our support groups are for people living with a lung condition and their families. It's a great way to get more information and make new friends. To find your local group, visit **blf.org.uk/breathe-easy** or call our helpline on **03000 030 555**

What else can I do to manage my COPD better?

- **Sleep and rest**: make sure you sleep well and get enough rest every day. This will help with your energy levels. For advice about how to get a good night's sleep, have a look at the NHS site (**www.nhs.uk/live-well/sleep-and-tiredness/how-to-get-to-sleep/**). Talk to your health care professional if that doesn't help.
- **Ask for help if you need it**: ask your health care professional about ways you can adapt your home to help you move around more easily. An occupational therapist and your local council can help you with this.
- **Be aware of your symptoms**: if your ankles swell, tell your health care professional. Medicines can help reduce this as can some things that you can do at home. But many people with COPD have other conditions, and leg swelling or a rapid heartbeat can be a sign of a heart condition.
- **Plan ahead**: it's important to talk to your doctor or nurse about longer-term treatments and advance care planning. This means thinking about what you would like to happen if your condition gets worse, or you experience more severe flare-ups, to help your family and your doctor to understand your wishes. There's more information on advance care planning and taking control of your choices at **blf.org.uk/end-of-life** or call our helpline.

Managing COPD flare-ups

A flare-up – sometimes called an acute exacerbation – is when your COPD symptoms become particularly severe.

Call 999 if you're struggling to breathe or have sudden shortness of breath and:

- your chest feels tight or heavy
- you have a pain that spreads to your arms, back, neck and jaw
- you feel or are being sick

You need to be seen urgently.

Signs of a flare-up are:

- your breathlessness gets worse and this goes on for some time without getting better
- you cough more
- you produce more sputum
- your sputum changes colour or gets stickier

Flare-ups can be triggered by an infection or there may be no apparent reason. Watch out for changes in your chest symptoms if you get a cold.

Make sure you have an action plan that you've agreed with your health care professional so you know what to do if you have a flare-up.

If your breathlessness gets worse, but you have no fever and your sputum is normal for you, the first step is usually to use your reliever inhaler more. Make sure you know how to make changes – such as increasing the dose or changing how you take your bronchodilator medicine – to help with your symptoms. Many milder flare-ups will respond to this.

If your symptoms pass and don't develop into a flare-up, remember to tell your health care professional about your experience.

Your flare-up plan may include a rescue pack of drugs (antibiotics or steroid tablets or both) that you keep at home. To be certain that you have a flare-up that needs this medication, it's usual to start rescue drugs after using your reliever medication for a day or two. But you must discuss your particular situation with your health care professional.

- to take steroid tablets. It's important not to use these too frequently, because of potential long-term side effects.
- to take antibiotics. This will usually be when you are producing more sputum than usual or it has changed colour, as well as being more breathless for some time despite taking reliever medication.

If you take your rescue pack medication make sure that you let your doctor or nurse know.

Let your doctor or nurse know if things don't improve within two days of starting the rescue pack.

Most people can be treated at home if they have a flare-up, but you may need to go to hospital depending on how severe your symptoms are. If you use the ambulance service, make sure to say you have COPD, so you get the right oxygen treatment.

It usually takes a few weeks or even months to feel completely back to normal after a flare-up.

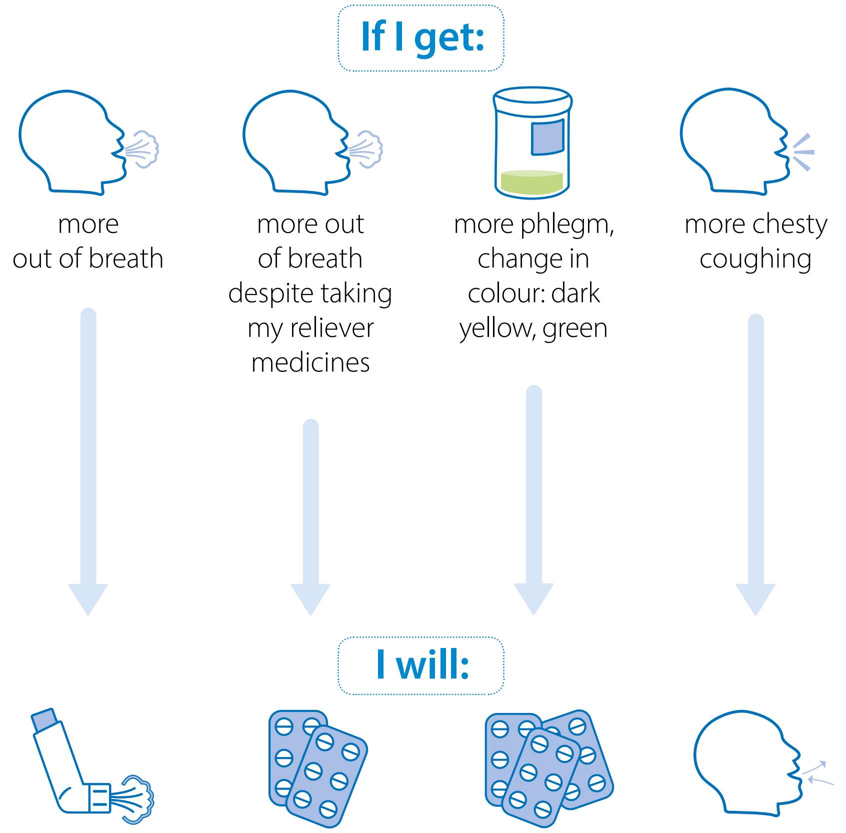
If you're a smoker, stopping smoking will help you to live longer but can also reduce or stop flare-ups completely.

If you have more than three flare-ups in one year that require your rescue drugs, get a review with your GP or nurse. It may be a good idea to get samples of your sputum analysed to see if you have an unusual or resistant infection. These can include pseudomonas (**blf.org.uk/support-for-you/pseudomonas**) and atypical mycobacterial infections, such as non-tuberculous mycobacterial infection (NTM) (**blf.org.uk/support-for-you/non-tuberculous-mycobacterial-infection-ntm**).

Your doctor may order a scan of your chest to see if there is an area of damaged lung that makes you more susceptible to infections.

If you are susceptible to these infections, make sure you act very quickly when you have a flare-up and be aware your usual rescue drugs may not be effective. Sometimes people who have frequent chest infections benefit from taking regular antibiotics. This is usually started by specialist teams.

Do I feel worse than usual?



If I get:

more out of breath

more out of breath despite taking my reliever medicines

more phlegm, change in colour: dark yellow, green

more chesty coughing

I will:

use my reliever inhaler more

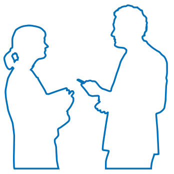
start my rescue pack - steroids

start my rescue pack - steroids and antibiotics

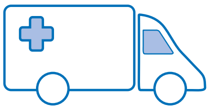
keep calm and use ways to control my breathing

I will remember:

to tell my doctor or nurse



that if I feel really bad, I must call 999



If I use my rescue pack, I will tell my doctor or nurse so they can keep track of my flare-ups and I can get my medicines replaced.

Hospital at home schemes

Most people with COPD who have a flare-up do not need to be admitted to hospital and can stay at home. But in some areas of the country, people who would be admitted to hospital elsewhere, can also be treated at home. These local hospital at home schemes provide medication and visits by a specialist team. This means you can recover at home where you might feel more comfortable and can be more active when you feel ready. If you would prefer to be treated at home, speak to your doctor or nurse.

Sex and COPD

Having an illness like COPD can affect any relationship. It can make you feel tired, anxious or depressed. You might worry about sex if you are afraid that you will become too short of breath, or need to cough up sputum.

Your doctor, nurse or physiotherapist can help you to manage this, don't worry about asking them. For example, discuss with them your questions about getting or maintaining an erection; urine leakages and the impact of other conditions you may have, such as heart problems.

There's more information at **blf.org.uk/sex-and-breathlessness**

Looking after someone with COPD

If you care for a family member or partner, it is important to continue to enjoy things together and for the person with COPD to keep as active and independent as they can.

Take a look at **blf.org.uk/carers** or call our helpline on **03000 030 555**.

Financial help

If you have COPD, or you care for someone who does, then you might be entitled to financial support: go to **blf.org.uk/welfare-benefits** or call our helpline on **03000 030 555**.

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 blf.org.uk

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