Chronic Obstructive Pulmonary Disease (COPD) and exacerbations or “flare ups”

Information for patients

This leaflet can be made available in other formats including large print, CD and Braille and in languages other than English, upon request.
What is Chronic Obstructive Pulmonary Disease (COPD)?

COPD is a chronic lung condition. Although the title can seem complicated, COPD is actually a combination of two conditions: emphysema and chronic bronchitis.

**Emphysema**

The tissue of your lungs is made up tiny air sacs called alveoli. Normally this gives your lung the texture of sponge. The walls between these air sacs can become broken down and form larger pockets changing the texture of the lungs to that of bubble wrap.

**Chronic bronchitis**

The airways of your lungs are known as bronchi. In COPD these airways become inflamed. The inflammation causes narrowing of your airways and much more mucous than normal to be secreted. This makes it more difficult to breathe.

**What causes COPD?**

The most common cause is smoking. Cigarette smoke contains lots of different chemicals which cause the airways to become inflamed. Over time, this leads to permanent damage. It is highly unusual to develop COPD if you have not been a smoker.

There is probably a genetic susceptibility to the damage caused by cigarette smoke. If your mother, father, brothers or sisters had COPD, you have more of a risk of developing it.

There are a number of different jobs such as mining, foundry working and agriculture which can increase your chance of developing COPD, with chances being greatly increased if you also smoke. We ask what you have done for a living to try and work out why you may have developed COPD.
An inherited condition called alpha 1 anti-trypsin deficiency can also make you much more prone to developing emphysema (damaged lungs, leading to breathing difficulties). If you are young, we will often do a blood test to check if you have this condition.

**What symptoms does COPD cause?**

COPD can cause a range of different symptoms. These can include:

- **Breathlessness**: This is often worse when you are walking or exercise, in warmer weather and at night.

- **Coughing**: This can be present throughout the day and also at night.

- **Sputum (phlegm)**: It is common to cough up phlegm. This can vary in colour and you may find it worse at specific times if the day such as in the morning.

- **Other symptoms**: You may be prone to chest tightness or pain, fatigue or tiredness. You may also find your appetite affected.

**How is COPD diagnosed?**

Your team will normally listen carefully to your symptoms and take into account if you have been a smoker and for how long. This will give them an idea of how likely you are to have possibly have developed COPD.

You will then usually have a breathing test called spirometry. This is a straightforward test which measures whether there is any narrowing in your airways and how severe it is.

This test is normally done before and after you are given some medicine from an inhaler. This helps the team work out whether you have COPD or asthma.
This is a common test and is normally done in your doctor’s surgery or in a hospital clinic.

Other tests include:

- **X-Rays:** You will usually have a chest X-ray. This is to help make sure there aren’t any other chest problems causing your symptoms.

- **Blood tests:** Your team may do some blood tests to make sure you aren’t anaemic or have any other problems such as heart failure which might be causing your symptoms.

  If you are young and have developed COPD, your team may take blood to test for the condition mentioned previously (alpha 1 anti-trypsin deficiency).

These are the most common tests you are likely to have. However, there may be other tests such as detailed heart or X-ray scans which your team may also wish you to have. They will explain why these tests are needed.

**How is COPD treated?**

Once you have been diagnosed, you will be keen to know what treatment you may have. Patients with COPD will normally be offered the following:

**Inhalers**

These are the most common treatments for COPD. There are lots of different inhalers available. They all contain similar drugs. These drugs are a combination of steroids, which improve the inflammation in your airways and muscle relaxants, which help to open your airways up and make it easier to breathe.
The aim of the inhalers is to improve your day-to-day breathlessness and cut down the amount of chest infections you get.

You will normally take 1 or 2 inhalers regularly as your preventer treatment and have another inhaler to use whenever you get breathless or wheezy. This is known as a rescue inhaler. It’s important that you know how to use these inhalers properly so your team will check regularly that you are happy with them.

**Stopping smoking**

This is the only thing which can stop COPD getting worse. It is the best thing that you can do to help yourself. The best way to do this successfully is to go to a Stop-Smoking-Clinic. Most GP surgeries now offer these.

**Exercise training**

Exercise is really important. People with COPD tend to lose fitness and muscle strength more easily than other people. We encourage you to continue to exercise, especially doing things that you enjoy.

If you are still breathless despite the inhalers, your team will offer you the chance to attend a class called Pulmonary Rehabilitation. This is an exercise training class for people who are chronically breathless due to a lung condition. It is run by specialist physiotherapists who are experienced at working with people who get easily breathless.

Over the course of the class, which runs for 6-8 weeks, they will help you to exercise and gradually build up your fitness. Patients who complete the class are generally fitter, less breathless and more likely to live a normal life. They also have a lower chance of having a flare up of COPD and being admitted to hospital.
Other treatments

In addition to those mentioned above, there are other treatments which your team may offer you. These include:

Mucolytics

This is a medicine called carbocisteine. This helps make your phlegm much runnier and easier to cough up. You will be given this if you are having difficulty clearing your chest.

Theophyllines

These are tablets which are muscle relaxants for your airways. They are usually taken twice a day. There are a number of different brands including Uniphyllin, Slo-Phyllin, Nuelin and others. They are usually prescribed when you are still wheezy, despite using the right inhalers.

Oxygen

When COPD is more severe, it can cause your blood oxygen levels to be chronically low. This can lead to problems such as fatigue, more frequent flare ups, leg swelling and breathlessness. If we find this, we normally arrange for you to have oxygen therapy.

This is usually given through a small plastic tube called nasal cannula from either, small cylinders (if you are out and about), or from a machine called an oxygen concentrator at home.

What is an exacerbation of COPD?

An exacerbation of COPD is also known as a flare up of your COPD. You will get to know what your normal day-to-day symptoms are from your chest and what a good day and a bad day feel like.
You will also know how long these bad days usually last for. A flare up is when your symptoms get much worse than your usual bad days and for longer.

**What causes a flare up of my COPD?**

The most common causes of exacerbations are infections. Viruses are most common but they can be caused by bacteria or a combination of both.

There are other causes of exacerbations which are not infections. These include worsening air pollution, pollen, dust, particularly hot or cold weather, smoking and forgetting to take your regular COPD medication.

**What symptoms could I get during a flare up of my COPD?**

During a flare up your usual symptoms will tend to be worse than normal. You may however get different symptoms:

- **Breathlessness:** You may be more breathless doing the day-to-day things you usually manage.

- **Cough and phlegm:** You will probably cough more than you usually do. The volume and colour of your phlegm might change. It may become harder to cough up the phlegm as it is stickier.

- **Wheezing:** You may be wheezier and using more of your reliever inhaler.

- **Other:** You will probably be more easily tired. You may get pains in your chest or chest tightness. You may also notice your ankles or legs beginning to swell.
What tests will I need to diagnose an exacerbation?

The most important things your team will use to diagnose you are to listen to you describe your symptoms and to examine your chest.

If they are concerned or they send you to hospital they may do other tests including:

**X-rays**

You may have an X-ray of your chest. This is usually done to make sure there isn’t another reason for your symptoms. The team are looking for things like pneumonia, fluid in the chest or collapsed lungs.

**Heart tracings**

These are known as ECGs and are recordings of the electricity being conducted through your heart. These are done to make sure that there hasn’t been any problem with your heart that has caused your symptoms.

**Blood tests**

If you are admitted to hospital you will usually have blood tests. These check for evidence of infection in your body and whether there are other problems such as kidney or liver problems which may be contributing to your symptoms.

You might also have a sample of blood taken out of the artery in your arm, this is called an arterial blood gas (ABG). This measures the amount of oxygen and carbon dioxide in your blood.

This is usually done if you have a more severe flare up of your COPD or if there is concern that you are not getting better. It helps guide the team as to what other treatment you may need.
Sputum (phlegm) samples

If you are coughing up phlegm, particularly if you have had courses of antibiotics recently we may ask you for a sputum sample. This could help guide which antibiotic is best for you.

What treatment might I need?

Inhalers

Your team may increase the dose of your regular or preventer inhaler to help you recover from this flare up. They will discuss with you as to how long you will stay on the higher dose.

Oxygen

If your oxygen level is low, we will give you oxygen through either a face mask or through nasal cannula.

Antibiotics

If the team believe you have had a bacterial infection which has caused this exacerbation, then you may be given antibiotics to treat this. If the team believe you have had a viral infection, then you will not normally be given antibiotics as these have no effect on viruses.

Steroid tablets

If the flare up or exacerbation is more severe, then you may be prescribed steroid tablets called prednisolone. You are normally given 6-8 tablets per day for 5 to 10 days.
Nebulisers

A nebuliser is a way of delivering medicines through a face mask. If you have an exacerbation that is more severe, your team will give you medicines called bronchodilators which are muscle relaxants for the airways through a nebuliser. These are usually much more concentrated versions of the medicines contained in your blue or reliever inhalers.

Other medicines

If you are very wheezy, or not getting better as quickly as your team would like they may also use other medicines such as Aminophylline, a muscle relaxant for your airways. If your team prescribe this for you, it will normally be given continuously for at least 1 - 2 days through a drip. When you have got better, you may be switched to the tablet form of this medicine.

What other treatment might I need?

If your breathing has become very bad, this may cause the level of carbon dioxide to build up in your bloodstream. This can make your blood acidic. This would cause you to become very sleepy and would make all the other treatments less effective.

In this situation, your team may use a breathing machine to help support your breathing while the other treatments take effect. This is done by attaching you to the breathing machine through a well-fitting face mask. The machine then helps you take deeper breaths in and out and helps lower the carbon dioxide level in your blood.

This treatment is called non-invasive ventilation. Although it can sound quite frightening, the team looking after you will keep a close watch on you and you will have regular breaks while you are having this treatment.
**Where will I be admitted to?**

If you are admitted to hospital you will normally be seen in the emergency admissions unit or the ambulatory care unit. If you need to stay in hospital for more than 48 hours, you will usually move to one of our medical wards.

Occasionally, you may need to be admitted to the high dependency wards or intensive care ward if you are very unwell. The medical and intensive care teams will explain why if this necessary.

**When will I get home?**

We will get you home as soon as you are well enough.

You will usually be seen by one of our specialist teams called the COPD team before you go. This team makes sure that you have all the right inhalers and know how to use them. They also will help get you the right support if you want to stop smoking. They may offer you the chance to come to one of our Pulmonary Rehabilitation classes after you have recovered.

If you are recovering quickly, we may also arrange for you to get home sooner and be seen in your home by a team called Hospital at Home. This is a team specialising in looking after patients whose COPD has flared up. They can arrange for you to have a nebuliser at home for a short time if they feel you need it. They will see you regularly while you are recovering.

**Is there anything that can stop this happening again?**

Chest infections are a part of normal day-to-day life so you will still get them. However, there are things which can make these flare ups less frequent.
Stop Smoking

The best thing you can do is to stop smoking. Smoking makes your COPD worse and makes your chest less sensitive to your COPD treatment. We will give you all the help that we can to stop.

COPD treatment

We may adjust your regular treatment to help you get better sooner. To try and cut the down the chance of another flare up.

We may add or change your day-to-day treatment:

COPD management plans

You will get to know how you feel when your COPD is flaring up. Your team will teach you how to respond to these changes. These plans usually involve increasing your regular preventer treatment, when to start antibiotics or steroid tablets and when to go to accident and emergency.

Pulmonary rehabilitation

As mentioned before patients who go to this programme have less flare ups, and a lower chance of being admitted to hospital. They also cope better with exercise and day to day symptoms.

Other treatments

If you have frequent flare ups, your hospital doctor may think of using a long term antibiotic called a Azirhromycin or a tablet called Roflumilast to try and cut down the frequency of these. These treatments can only be started by hospital chest specialists.
What can I do to help myself get better?

The most important thing is to stop smoking or at least cut down. You should also try not to miss any doses of your regular medicines.

Once you are starting to feel better it’s important to start exercising again. Initially this will be gentle exercise, even as simple as standing up from sitting or walking up stairs. As your breathing gets better and your confidence increases you will gradually increase what you do.

Will I need any other tests or follow up after I get home?

We may ask you to come back to a hospital clinic so that we can check that you have recovered. We may arrange further investigations to help make sure that you are on all the right treatment.
Where can I find more information

The British Lung foundation website
https://www.blf.org.uk/support-for-you/copd

Contact Numbers

University Hospital of North Tees Lung Health
Telephone: 01642 624270

Department of Respiratory Medicine
Telephone: 01642 624936 Monday – Friday 9 am – 5 pm

Emergency Department
Telephone: 01642 382899 24 hours a day, 7 days a week
This leaflet has been produced in partnership with patients and carers. All patient leaflets are regularly reviewed, and any suggestions you have as to how it may be improved are extremely valuable. Please write to the Clinical Governance Team, North Tees and Hartlepool NHS Foundation Trust, University Hospital of North Tees or Email: nth-tr.leaflets@nhs.net

Comments, Concerns, Compliments or Complaints

We are continually trying to improve the services we provide.

We want to know what we’re doing well or if there’s anything which we can improve, that’s why the Patient Experience Team is here to help.

Our Patient Experience Team is here to try to resolve your concerns as quickly as possible. If you would like to contact or request a copy of our PET leaflet, please contact:

Telephone: 01642 624719
Monday – Friday, 9.30am – 4.00pm
Messages can be left on the answering machine and will be picked up throughout the day.

Freephone: 0800 092 0084
Email: nth-tr.PatientExperience@nhs.net

Out of hours if you wish to speak to a senior member of Trust staff, please contact the hospital switchboard who will bleep the appropriate person.

Telephone: 01642 617617
24 hours a day, 7 days a week

The Patient Experience Team is available to discuss your concerns in person Monday – Friday, 9.30am – 4.00pm. The office is based on the ground floor at the University Hospital of North Tees.

Data Protection and use of patient information

The Trust has developed a Data Protection, Caldicott and Disclosure Policy (IG5) in accordance with the Data Protection Legislation (General Data Protection Regulations and Data Protection Act 2018) and the Freedom of Information Act 2000. All of our staff respect this policy and confidentiality is adhered to at all times. If you require further information please contact the Information Governance Team.

Telephone: 01642 383551 or Email: nth-tr.infogov@nhs.net

University Hospital of North Tees, Hardwick, Stockton-on-Tees. TS19 8PE
University Hospital of Hartlepool, Holdforth Road, Hartlepool. TS24 9AH
Telephone: 01642 617617