

Patient information

COPD and other lung conditions

COPD

COPD is an 'umbrella' term used to describe a collection of lung diseases including emphysema and chronic bronchitis.



C: Chronic - long term condition

O: Obstructive - difficulty breathing out

P: Pulmonary - affects the lungs

D: Disease - condition

Over 1.2 million people in the UK have been diagnosed with COPD and it accounts for 10% of all admissions to hospital.

Emphysema

This lung condition is often caused by breathing in particles of dust, smoke and chemicals whilst either smoking, passive smoking, working in a dusty environment or being exposed to excessive fumes or air pollution.

The particles irritate the airways (tubes) in the lungs causing them to become inflamed. In response to this an inflammatory liquid is produced which dissolves and destroys the alveoli (air sacs) where gas exchange takes place.

As a result, the lungs become stiff (lose their elastic recoil), are unable to expand properly and the damaged lung tissue is unable to absorb the oxygen breathed in. It is also harder to get rid of the carbon dioxide.

The damage caused to the lungs is permanent and progressive. However, if the person is able to give up smoking, or reduce their exposure to fumes or excessive

dust, then further lung tissue damage will be reduced and progression will be slower.

Symptoms include:

- Breathlessness at rest and on exertion
- Wheeze
- Cough (with or without phlegm)
- Frequent chest infections

Chronic bronchitis

This involves an infection of the main airways of the lungs (bronchi), which causes them to become irritated and inflamed. The infection can be viral or bacterial.

Acute bronchitis usually clears up by itself without further treatment. However, chronic bronchitis often needs treatment with steroids to help reduce the inflammation.

Symptoms include:

- Persistent cough
- Yellow / grey phlegm
- Breathlessness
- Wheeze

Bronchiectasis

This a lung condition for which a specific cause has yet to be found. It usually develops around middle age and often occurs in those who have never smoked.

In Bronchiectasis the airways in the lungs become widened and floppy and a larger than normal amount of phlegm is produced. The floppy airways make it difficult to clear the phlegm properly and this can lead to a build-up of phlegm, which can then become infected.

Symptoms include:

- Breathlessness
- A persistent cough which produces varying amounts of phlegm
- Frequent chest infections

Asthma

People with asthma have very sensitive airways, which become inflamed and the muscles within them tighten when they have an 'attack'. The narrower airways make it very difficult to get air in and out of the lungs. It can also make it difficult to clear phlegm from the lungs.

Increased sensitivity of the airways, and a subsequent asthma 'attack', can be triggered by allergies to dust, animal fur, pollen, cigarette smoke, pollutants and fumes.

Symptoms are often relieved quickly by taking your reliever (blue) inhaler.

In chronic (refractory) asthma though it can be difficult to control the symptoms, despite taking daily inhalers and steroids. People with this form of asthma struggle to breathe on a daily basis.

Symptoms include:

- A wheeze that can be heard from a distance
- A persistent, irritable cough
- Breathlessness
- Chest tightness

Interstitial lung disease

This is an umbrella term used for a group of conditions that cause scarring and stiffening the lung tissue and the alveoli. They are often accompanied by inflammation.

This group of lung conditions can be caused by autoimmune issues, connective tissue disorders, occupational hazards, certain drug therapies and some are of unknown cause.

Lung conditions in this group include:

- Idiopathic Pulmonary Fibrosis (IPF)
- Hypersensitivity Pneumonitis (Farmer's lung and Bird Fancier's lung)
- Asbestosis

- Fibrosis related to autoimmune problems such as Sjögrens Syndrome, Sarcoidosis, Scleroderma and Rheumatoid Arthritis

Idiopathic Pulmonary Fibrosis (IPF)

IPF is a condition that tends to be more prevalent in men and often occurs after middle age. It is a lung condition characterised by reduced elasticity of lung tissue and also damage and scarring in the alveoli.

Idiopathic means that there is no specific known cause for this lung condition, but it can be related to prolonged exposure to dust (wood and metal), smoke particles and viral infections.

Symptoms include:

- Breathlessness
- Persistent dry cough
- Tiredness
- Loss of appetite and weight loss

Hypersensitivity Pneumonitis (HP)

HP is a lung condition caused by the body having an oversensitive immune system which responds adversely to something that is breathed into the lungs (mold spores, bacteria, chemicals). This causes inflammation of the airways and alveoli (air sacs) which can lead to scarring and stiffening of the lung tissue.

Symptoms include:

- Breathlessness
- Persistent cough
- Fever and joint pains

Asbestosis

This is a long-term lung condition caused by prolonged exposure to asbestos inhalation. It is unusual as it often does not produce symptoms until 20 - 30 years after exposure. The asbestos fibres are breathed into the lungs causing inflammation, scarring and hardening of the lung tissue. The pleura (lining) surrounding the lungs also becomes thicker and stiffer

Symptoms include:

- Extreme breathlessness
- Wheeze
- Extreme fatigue
- Persistent cough
- Pain in chest and shoulder area

Sjögrens Syndrome

This is a disorder of unknown cause (thought to be triggered by a viral or bacterial infection) where the body attacks its own immune system, causing scarring of the connective tissues. It also affects the body's ability to produce saliva and tears. It is more prevalent in women than men and tends to start around middle age.

Symptoms include:

- Breathlessness
- Dry eyes, mouth and skin
- Fatigue
- Muscle and joint pain

Sarcoidosis

This a rare lung condition is more commonly developed in women than men and results in small patches of red and inflamed tissue (granulomas) developing in the body - mainly in the lungs and skin. These are caused by the immune system attacking itself.

Symptoms include:

- Tender, red bumps on the skin
- Breathlessness
- Persistent cough

Scleroderma

This is another rare lung condition where the body's immune system attacks healthy

tissue. This causes hardening and scarring of the skin, joints, tendons and internal organs due to over-production of the protein collagen (which is found in connective tissue). This can cause fibrosis in the lungs.

Symptoms include:

- Patches of hard, itchy skin
- Breathlessness
- Low oxygen levels

Medication induced lung fibrosis

Unfortunately, some medications used to treat certain medical conditions can also carry a risk of developing lung fibrosis. These medications include:

- Nitrofurantoin
- Methotrexate
- Amiodarone
- Some chemotherapy drugs

If you need to be prescribed these medications, your doctor will discuss with you the side effects along with the benefit of taking them and they will monitor your health closely to reduce your risk of developing them.

Alpha-1-antitrypsin deficiency (AATD)

AATD is a rare, inherited condition which causes lung and liver problems. It is caused by the lack of a protective enzyme inhibitor (alpha-1-antitrypsin) being present in the body. This makes the lungs more sensitive to the damaging effects of inhaling dust, fumes and chemicals and that caused by frequent chest infections. This can lead to the development of COPD-like symptoms.

Symptoms include:

- Breathlessness
- Productive cough
- Wheeze
- Repeated chest infections

Diaphragm disorders

Although diaphragm disorders do not directly affect or damage the lung tissue, breathlessness is caused due to the dysfunctional breathing pattern which occurs due to the ineffective working of the diaphragm.

Such disorders include:

- **Congenital defects:** where the diaphragm has not formed properly
- **Hiatus Hernia:** weakness in the diaphragm muscle itself causes the stomach contents to push up into the chest cavity
- **Paralysis:** surgical trauma, poor function or damage to the nerves supplying the diaphragm (as in Multiple Sclerosis and Polio)

How are lung conditions diagnosed?

Quite often people with a long term lung condition will have been experiencing symptoms for a considerable time before they seek medical advice. This can sometimes be due to fear or because they think it is attributed to them getting older. However, it can also be because our bodies are very good at adapting to small changes in the way they work and so we may not have noticed that anything was wrong.

For this, and other reasons, people are often diagnosed purely by the symptoms they present with. However, there are other methods of diagnosing a lung condition:

- **Blood tests:** to check the levels of oxygen and carbon dioxide in your blood
- **Pulmonary function tests (spirometry):** to check how much air you breathe in and out and also to check how much oxygen is getting into your blood
- **Pulse oximetry:** this measures the amount of oxygen in your blood
- **Chest x-ray:** an overall picture of the inside of your lungs
- **Chest CT scan:** a more detailed x-ray of your chest where many detailed pictures of your lungs are taken
- **Bronchoscopy:** using a tube with a camera on the end to look into your lungs
- **Biopsy:** taking small samples of your lung tissue for analysis

These are just some of the most common tests carried out which will help your doctors to better understand what is going on inside your lungs. If you have any questions about your test results, be sure to ask someone to explain them to you.



Useful contacts

For Pulmonary Rehabilitation:

Suffolk Community Healthcare Care Co-ordination Centre (CCC)

Tel: 0300 123 2425

For Physiotherapy:

Physiotherapy Department

West Suffolk NHS Foundation Trust,
Hardwick Lane, Bury St. Edmunds, Suffolk, IP33 2QZ

Tel: 01284 713300

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