



Pulmonary rehabilitation programme

**Exercise and advice for people
living with a heart or lung condition**

Over the next eight weeks we will be giving you information, practical advice and an exercise programme to help improve your breathing and general health. This booklet contains information on lung and heart disease that will support the education seminars you will have as part of your course. Throughout this booklet we will signpost you to other recommended sources of information, such as websites and leaflets. Please feel free to contact us at any point using the contact details below.

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More information about your lung or heart condition

Please ask your healthcare professional for more information about your heart or lung condition. Information sheets are available for the following conditions:

- Chronic obstructive pulmonary disease (COPD)
- Idiopathic pulmonary fibrosis and interstitial lung disease
- Bronchiectasis
- Obstructive sleep apnoea
- Heart failure

If you are unsure which condition you have, or would like more information on conditions not listed here, please ask your healthcare professional.



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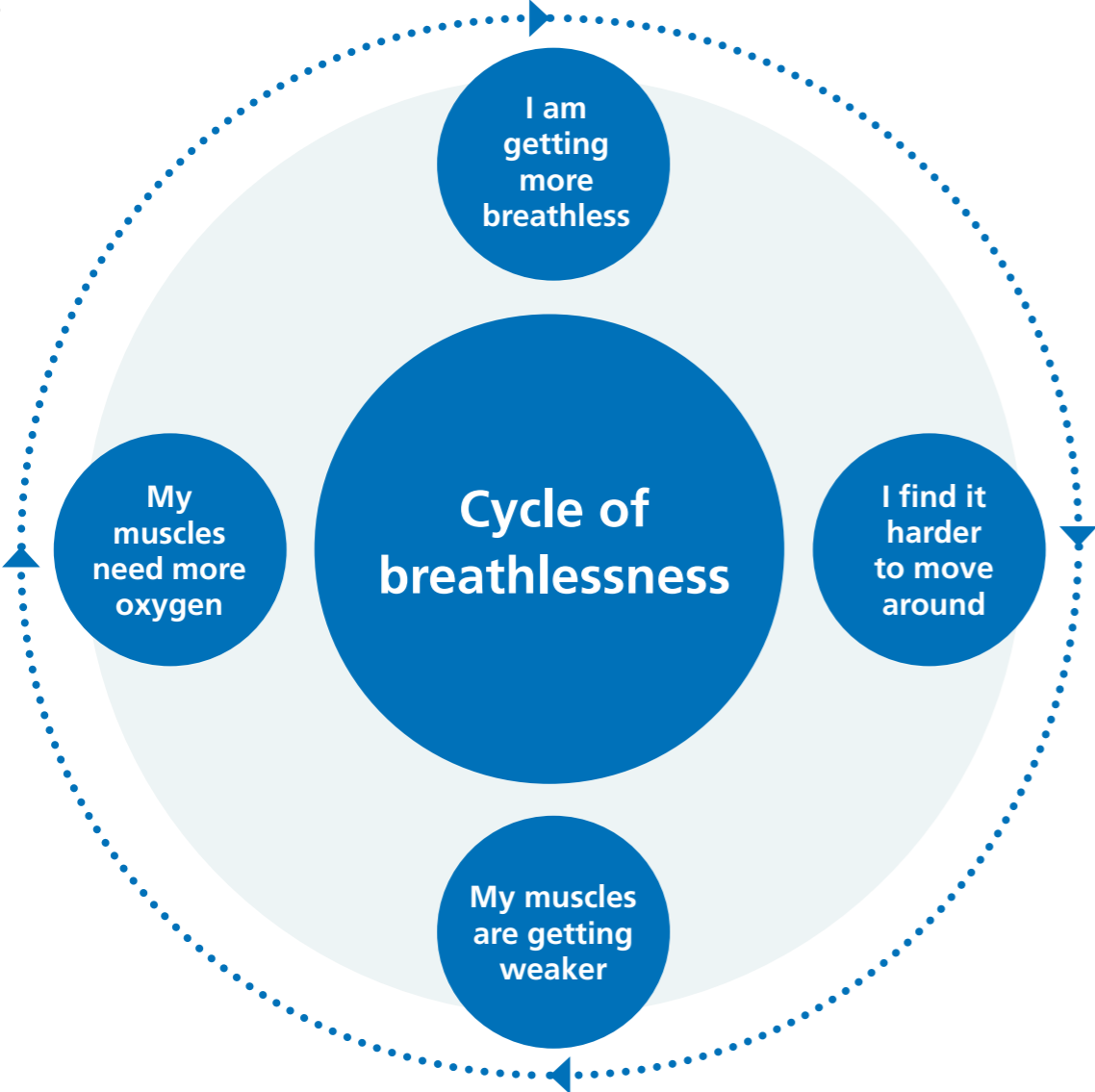
The importance of exercise

Heart and lung conditions can leave you feeling weak and short of breath, but keeping physically fit can help you overcome these symptoms

You may have noticed that over the past few months or years you have become increasingly short of breath and are not able to move around as much as you used to. As a result, your muscles have become weaker and less efficient. The weaker muscles need more oxygen to complete activities, which causes your breathing to get deeper and faster. This makes you feel short of breath.

The aim of a pulmonary rehabilitation programme is to increase your fitness while helping you to control your breathing. This will make your body more efficient at using oxygen and, in turn, make you less short of breath. As a result, you will feel more comfortable moving around and being physically active, which has important health benefits.

This programme cannot reverse your lung condition but it aims to make your body better able to cope with it.



Pulmonary rehabilitation is PROVEN TO WORK. It breaks this cycle by making your muscles stronger and more efficient, so you feel less breathless.



Exercise and physical activity will help you:

- Feel less breathless when moving around
- Improve your circulation
- Maintain a healthy weight
- Increase muscle strength and endurance
- Improve the efficiency of your heart
- Increase your sense of wellbeing and improve your mood
- Improve your sleep patterns
- Boost your immune system and increase resistance to infection
- Increase chest mobility
- Improve your balance
- Improve bone density

National guidelines suggest that all adults should aim to do at least 150 minutes of moderate-intensity physical activity each week. This is any activity that makes you feel moderately breathless.

We understand that if you have a lung or heart condition you may find this difficult. However, you should try to be as physically active as possible in order to improve your health and wellbeing.

- Some examples of moderate-intensity exercise or physical activity might include:**
- Walking indoors or outdoors
 - Walking upstairs
 - Cycling
 - Certain leisure activities such as dancing and bowling
 - Household activities such as DIY, gardening, vacuuming

It is also recommended that you try to do muscle strengthening activities on two days a week – examples are included in our exercise booklet.

Some activity is better than none. The more you do, the greater the health benefits and the better you'll feel.



What kind of exercise should I do?

There are three main types of exercise: aerobic, strengthening and stretching. The exercises in your exercise booklet combine all three types

Your daily activities will also fall into the three categories as well. For example, carrying shopping is a form of aerobic and strengthening exercise.

Aerobic exercise

Benefits of aerobic/cardiovascular exercise, for example walking, running, cycling and swimming:

- Rhythmic, repetitive physical activity challenges the circulatory system and uses large muscles.
- Blood flow to the muscles increases, which improves cardiovascular fitness.
- Improves fitness and strength of muscles.
- Improves circulation and can lower blood pressure.
- Reduces stress and boosts mood by releasing endorphins.
- Improves immune system so increases resistance to infections.

Strengthening exercise

Benefits of strengthening/resistance exercises for example weights and resistance bands:

- Increases muscle size and tone so tasks become easier to do as less effort is required and muscles can 'cope' with more.
- Also increases tendon, bone, and ligament strength.
- Stronger muscles are more efficient at using oxygen and energy reserves.
- Decreased risk of injury.
- Helps with balance and co-ordination.

Stretching exercise

Benefits of lengthening/flexibility/stretching exercises for example stretches, yoga and t'ai chi:

- Maintains good range of movement allowing normal movement patterns in all activities and requires you to expend less energy during daily activities.
- Improves posture and reduces the risk of back pain or other joint pains.
- Decreases risk of injury and improved balance and co-ordination.

How to exercise at home

- Combine all three types of exercise and exercise for at least 30 minutes, five times a week.
- Aim to be moderately breathless (faster breathing but able to talk in short sentences).
- Alternate strength exercises between arms and legs to allow your muscles to rest a little between exercises.
- Pace yourself and allow your breathing to recover between each exercise.
- Progress the number of repetitions or the resistance if exercises are not challenging enough.
- Remember to drink water before and after exercise to replenish lost fluid from your body.

Your fitness will generally peak after about six months if you continue with the exercises.

Exercising three times a week will maintain this level of fitness.

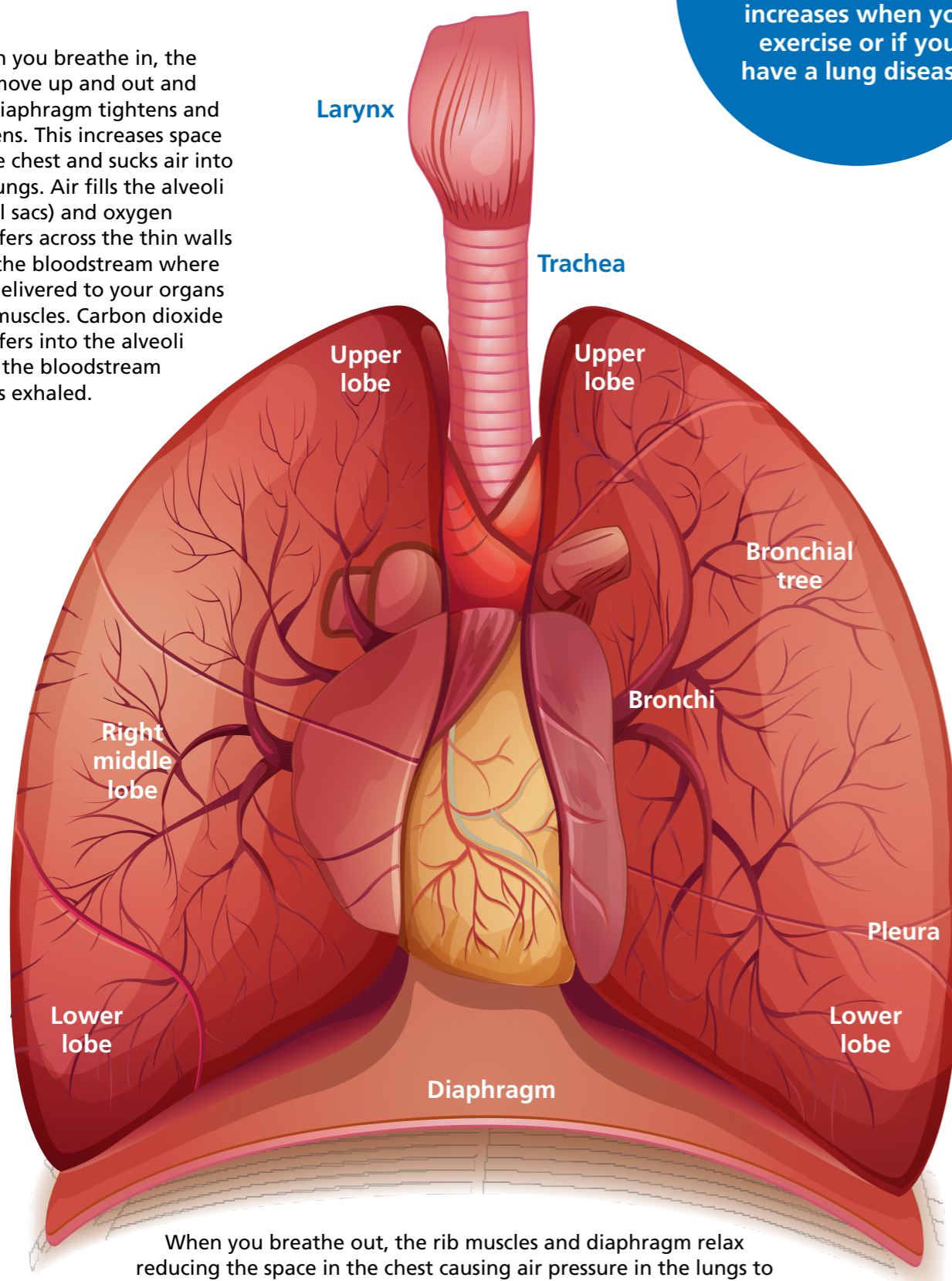


How the lungs work

The main role of the lungs is gas exchange – oxygen is breathed in and carbon dioxide is breathed out

When you breathe in, the ribs move up and out and the diaphragm tightens and flattens. This increases space in the chest and sucks air into the lungs. Air fills the alveoli (small sacs) and oxygen transfers across the thin walls into the bloodstream where it is delivered to your organs and muscles. Carbon dioxide transfers into the alveoli from the bloodstream and is exhaled.

We normally take 12 to 16 breaths a minute but the breathing rate increases when you exercise or if you have a lung disease.



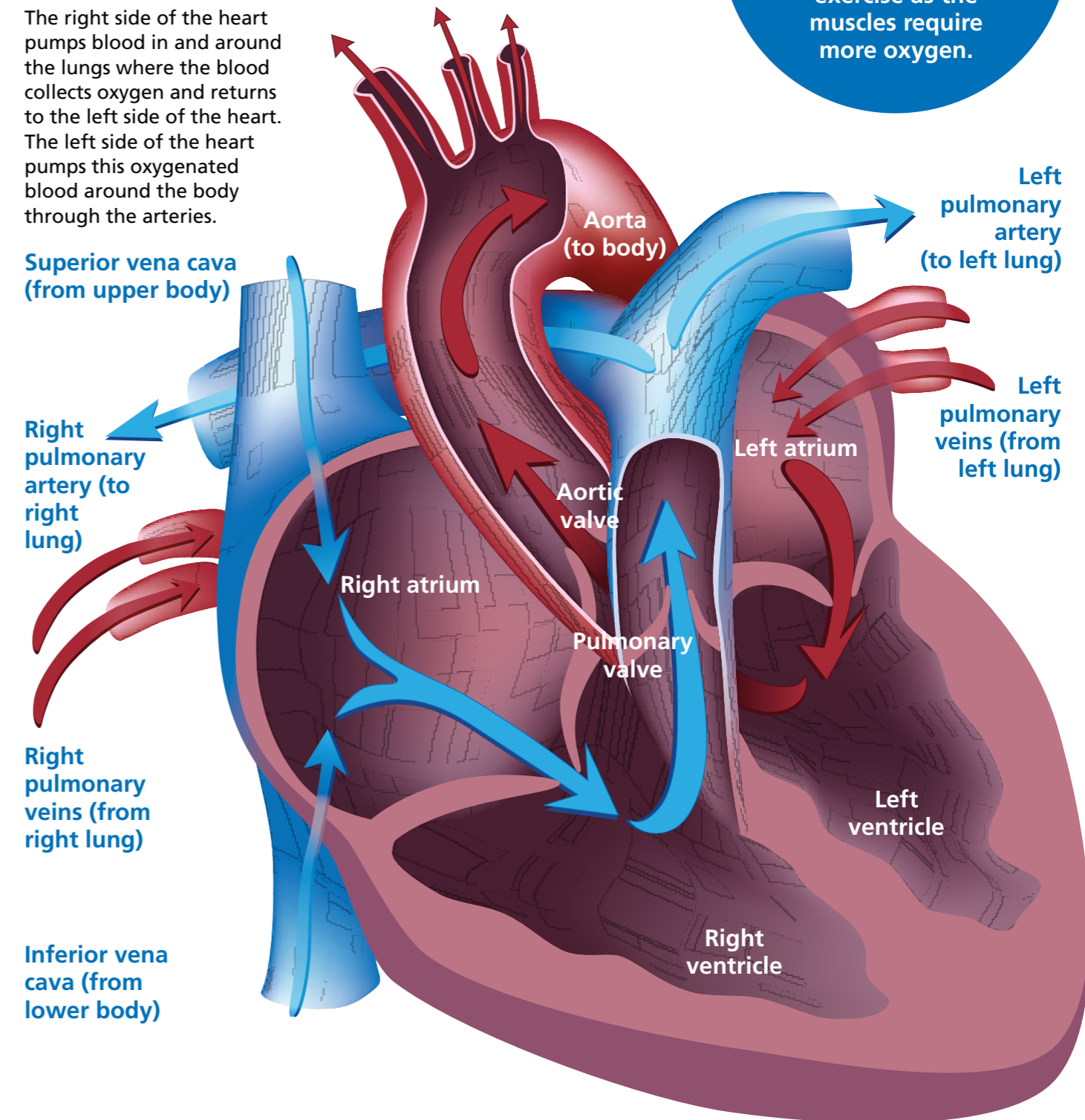
When you breathe out, the rib muscles and diaphragm relax reducing the space in the chest causing air pressure in the lungs to build so air flows out. This is usually a passive process.

How the heart works

The main role of the heart is to pump blood around the body

The right side of the heart pumps blood in and around the lungs where the blood collects oxygen and returns to the left side of the heart. The left side of the heart pumps this oxygenated blood around the body through the arteries.

The heart normally pumps between 50 to 100 beats per minute, although this will increase with activity or exercise as the muscles require more oxygen.



The left side of the heart pumps this oxygenated blood around the body through the arteries. Once the blood has provided the oxygen to the muscles, it returns back to the right side of the heart through the veins and the inferior vena cava.

Lung medication

You may be prescribed inhalers or tablets to manage your lung condition. Some need to be taken every day, others are for when you have a flare up



Inhalers

Inhalers are important medications for the management of certain lung conditions, such as COPD. The medication goes straight into your airways and so you can have a much smaller dose than if you took the medication in a tablet.

Short-acting bronchodilators (reliever inhaler)

Helps to quickly open up your airways, and relieve shortness of breath. Can be taken regularly, or as and when required.

Long-acting bronchodilators

Helps reduce breathlessness, exacerbations and improve quality of life. These medications will usually be prescribed with a reliever inhaler and should be taken regularly once or twice a day as prescribed.

You may be prescribed an inhaler that contains two medications; a long acting bronchodilator and steroid inhaler or a combination of two long acting bronchodilator inhalers.

These help reduce inflammation in the airways and may be helpful for people who are more symptomatic or who have lots of flare ups. They should be taken regularly as prescribed once or twice a day.

There are many different types of inhaled medications available. For more information about specific inhalers, please ask your health care professional or visit the British Lung Foundation website at www.blf.org.uk.

If you have a steroid inhaler, always wash your mouth out after use.

Some inhalers can be fitted with a spacer device. This makes your inhaler much more effective and allows more medication to get to your lungs.

Tablets

Oral bronchodilators (eg uniphyllin)

Opens up your airways. Taken once or twice a day as prescribed by your health care professional.

Oral corticosteroids (eg prednisolone)

These may be prescribed for short periods if you are having a flare-up. They help relieve symptoms by reducing airway inflammation. They are rarely prescribed for long term use as they have lots of side effects.

Oral antibiotics

If you have a chest infection, you may be prescribed antibiotics. There are many varieties of antibiotics. It is important you take them as prescribed.

Contact your doctor if you have any concerns or side effects relating to your medication.

Ask your doctor if you can be considered for a rescue pack. This is a packet of antibiotics and steroids you can keep at home in case you have a flare up.

Heart medication

There are a number of medications you may take for your heart condition, which treat different symptoms and work in different ways

It is very important that you take each of your medications exactly as prescribed by your healthcare team and that you understand the desired effects and possible side effects.

Heart medication

Below are listed some of the most common medications and what they do. If you need more information about what you are taking and why, please contact your healthcare team.

Angiotensin converting enzyme (ACE) inhibitors

These medications help lower your blood pressure and reduce the amount of effort your heart has to make.

Beta-blockers

These medications will help slow your heart rate, lower your blood pressure and can lessen the risk of some abnormal heart rhythms. The doctors may prescribe this with caution if you have asthma, low blood pressure or a heart block. You should talk to your doctor before you stop taking beta-blockers.

Aldosterone antagonists

These medications help the body get rid of excess water. This means they may help reduce ankle swelling and breathlessness.

Angiotensin II receptor blocker (ARB)

These medications reduce the workload of the heart. They may be offered if you experience side effects with ACE inhibitors or if you still have symptoms even if you are on the ACE inhibitors and beta-blockers. If you are on



these medications, the doctors will monitor your blood pressure and kidney function.

Hydralazine

These medications also help reduce the workload of the heart. They may be offered if there are side-effects with ACE inhibitors or if you experience ongoing symptoms despite taking ACE inhibitors and beta-blockers, or if there are side effects with ARB.

Diuretics

These medications reduce the build-up of fluid in your ankles

and lungs. Side effects can include kidney problems or gout.

Digoxin

This medication may be offered as 'add-on therapy' if you experience ongoing symptoms despite treatment. It may interact with other drugs or herbal remedies. Please ask your doctor if you have any queries.

Anticoagulants/antiplatelets

These medications make the blood thinner to prevent clotting.

Oxygen treatment

Some people with heart or lung conditions have low oxygen levels, which means that they may be prescribed oxygen therapy

The air we breathe contains 21% oxygen and this gas is important to every cell in our body. It is transported from the lungs in our blood, and is used by our muscles, organs and cells to produce energy. For healthy adults, the normal oxygen saturation is between 96 and 98%. In people with lung disease it is often between 88 and 92%, although it may be lower.

Not everyone with a heart or a lung condition will require oxygen therapy. If your oxygen levels are low when you are well, or get lower when you exercise, you may be offered an oxygen therapy assessment. Oxygen therapy must be prescribed by a trained healthcare professional and it should be re-assessed regularly. If used incorrectly, oxygen can be very dangerous.

If you are an oxygen user, then it is important to follow the following advice:

- Oxygen is a medication. It should only be used as prescribed by your oxygen team.
- Oxygen is combustible – never smoke or use naked flames near the oxygen.
- Follow the safety guidelines given with the oxygen.
- You must attend regular reassessments at the hospital to ensure the prescription is correct.



More information

See the British Lung Foundation leaflet *Oxygen treatment: what I need to know* available from the BLF website at www.blf.org.uk.

Breathing exercises

Learning a few simple techniques can help you manage breathlessness and give you the confidence to carry on with your daily activities

Breathlessness is usually the most uncomfortable symptom for any patient with a lung or heart disease. It can be quite scary and disabling but it's not dangerous or harmful.

Breathlessness is usually worsened by exercise and physical exertion, so patients may tend to avoid exercise. These breathing techniques will help you to control and reduce your breathlessness, enabling you to exercise and carry out daily activities more easily.

Blow-as-you-go

This technique can be used for all activities that cause breathlessness.

- Breathe in before moving from a sitting or standing position ie

when your arms are relaxed and your chest is in a good upright position.

- Blow out when you are doing the required activity/moving.
- This allows a more effective breath in to provide the oxygen needed for the required activity. It also means that the shoulder muscles, which help with inhalation, do not have to strain to do two activities at once ie moving ribs and moving arms.
- Exhalation is passive so it is easier to do activity during this phase of breathing.
- Blowing air out of the lungs empties them more effectively so they can refill with more fresh air. 'Blow-as-you-go' also acts as a natural pacing technique.



Pursed lip breathing

This technique is helpful during times of breathlessness, either at rest or during exercise. It can be done in any position.

- Breathe in slowly through your nose.
- Close your mouth slightly to leave only a small hole for air to pass through.
- Breathe all the way out slowly with your lips pursed.

This creates a slight pressure in your airways which helps to splint them open, allowing air to pass through effectively and oxygen to pass into your bloodstream more easily.

Pursed lip breathing increases the sensation of air passing through your mouth, which helps the brain register the movement of air in and out of your body, and reduce feelings of anxiety. It slows down the rate at which you breathe, preventing 'panting' and allowing more effective ventilation.



Breathing control or diaphragmatic breathing

This technique should ideally be used all the time but it is especially useful to control breathlessness at rest or when trying to relax.

- Get into a comfortable, well-supported position.
- Allow your shoulders and upper chest to relax.
- Breathe in through your nose and out through your mouth. If your nose is blocked or you feel

very breathless, it will be more comfortable to breathe through your mouth.

- As you breathe in, think of your lungs as balloons filling with air right to the bottom. If you place one hand on your stomach you should feel this rising slightly up and out.
- Breathe out gently through your mouth and the hand on your stomach will sink back down and in. Do not force the breath out.

This technique encourages air to fill the lungs more fully so more oxygen travels in. It also discourages tension in your neck, shoulders and arms. When tense, the muscles in your neck shoulders and arms often hinder good chest movement, and use up valuable oxygen. Breathing control helps to regulate the rate, speed and depth of your breathing to ensure effective ventilation.

Breathing control while walking

- Try to keep your shoulders and upper chest relaxed at all times.
- Breathe mainly in your lower chest/stomach area.
- Do not hold your breath, as this will only make you feel even more breathless.
- You may find it helpful to breathe rhythmically in time with your steps, particularly if you are climbing the stairs.

Pacing and knowing when to stop

- Stop and/or take a rest from an activity when you are still in control of your breathing – a good measure of this is whether you can still talk.

Pacing yourself helps in many ways:

- By taking more time to do an activity you do not have to rush your breathing.
- Regular rests allow your body and breathing to recover from activity more quickly.
- Regular rests can be more efficient in time and energy in the long run, as less time is needed to recover your breathing after the activity is done.
- Activities are less tiring and you are less likely to overdo things.
- By keeping your breathing under control you can prevent tension, anxiety, the release of adrenaline and a long period of recovery.

Positions to help ease breathlessness

Sitting in a chair

- Lean forward and rest your forearms on your lap.
- Lean forward supporting your forearms on a table. You may wish to rest your head forward onto a pillow.

Note: It is important you try to reduce tension in your shoulders or hands as this can help with relaxation.



Lying

- On your side supported with pillows under your head and with one pillow between your knees
- Half-lying propped up with pillows behind your back and with arms supported on pillows.

Standing

- Lean with your forearms resting forward on a support eg table/ chair/worktop.
- Lean backwards onto a support eg resting against a wall, with your arms relaxed and placed on your thighs.



Giving up smoking

One of the best things you can do for your health – and your wallet – is to give up smoking. There’s lots of help available, and you’ll soon notice the difference

Cigarette smoke is the main pollutant that can damage your heart and lungs and is a leading cause of lung disease and ischaemic heart disease. It results in the obstruction or narrowing of the small airways in the lungs and the destruction of the air sacs (alveoli), and also damages the inside of your arteries in your heart creating a build-up of plaques. It doesn’t matter for how long you have smoked, or what your health is like: one of the best things you can do for your health is to stop smoking. It is never too late to quit. Evidence shows that stopping smoking even if you already have lung disease reduces the rate of it worsening.

Benefits of stopping smoking

Health-related:

- Reduced cough and sputum production.
- The worsening of your lung function can be slowed down.

- Reduced frequency and severity of lung infections.
- Reduced risk of developing heart disease or cancer.
- Improved fertility levels and the chance of a healthy pregnancy and baby.
- You will taste and enjoy food more.
- Protect the health of those around you by not exposing them to secondhand smoke.

Lifestyle-related:

- Financial savings – as much as several hundred pounds a month if you’re a heavy smoker.
- No longer smell of stale tobacco.
- Improvements in the appearance of your skin and teeth.
- Feel more confident in social situations.
- Have a fresh smelling home and you will no longer be staining your walls with nicotine.
- Reduced risk of fire in your home.

Help to give up smoking

Did you know? You are four times more likely to quit smoking by using local stop smoking services.

There are many ways to improve your chances of success in quitting smoking. Here are some suggestions.

- Attend group or individual sessions with a stop smoking professional.
- Try nicotine replacement therapy. This is free if you don’t pay for prescriptions.
- Set a date to quit (stopping abruptly is more successful than cutting down).
- Keep yourself occupied by changing your routine.
- Save the money you would spend on cigarettes and treat yourself.
- Remember cravings only last three minutes.
- Don’t give up giving up.

FACTS There are lots of changes that your body goes through when you quit. As soon as you give up smoking your body starts to repair itself from the harm that cigarettes have done. See the table below:

| TIME | WHAT HAPPENS |
|------------------------|---|
| after 20 minutes | Your pulse returns to normal. |
| after 8 hours | Nicotine and carbon monoxide levels in your blood fall by half. Your oxygen levels begin to return to normal. |
| after 24 hours | Carbon monoxide is eliminated from your body. Your lungs start to clear out debris. |
| after 48 hours | There is no nicotine in your body. Your sense of smell and taste improve. |
| after 72 hours | Breathing becomes easier. Your energy levels rise. |
| between 2 and 12 weeks | Your blood circulation around your body improves. |
| from 3 to 9 months | Your lung function increases by up to 10% making breathing easier. |
| after 1 year | Your risk of having a heart attack is half of someone who still smokes. |
| after 10 years | Your risk of lung cancer falls to half of that of a smoker. |
| after 15 years | Your risk of a heart attack is the same as someone who’s never smoked. |

How diet can help your condition

This section provides tips on how to cope with common problems like weight changes, loss of appetite and changes in taste



Many people with lung and heart conditions find that their food intake is affected by their illness and treatments. People with breathing problems can experience different nutritional issues at different times, depending on the severity of their breathing problem and its treatment. A balanced diet will help to maintain your health and may decrease the risk of chest infections.

Healthy eating

- Have a wide variety of foods every day to ensure you receive all the nutrients essential for good health. Unless you have a clinically diagnosed allergy or intolerance, there is no reason to avoid any food.
- Keeping a healthy weight is also important as it may

assist in maintaining good health. If overweight, you are putting an extra strain on your lungs and heart. If underweight, you may not be getting enough energy and nutrients. If unsure about your ideal weight, ask your doctor or nurse.

- Try to drink at least six to eight glasses of fluid per day (unless you have been advised otherwise by your doctor or nurse). If you tend to feel bloated, drink your fluid between meals.
- Avoid having a large meal prior to any physical activity. If hungry, have a small snack of carbohydrate-rich food, such as a piece of fruit or a slice of bread.

Weight changes

Keeping a record of your weight is very important. Try weighing yourself once a month and recording it. You may also notice weight changes when your clothes become tight or loose.

People who lose weight unintentionally are at risk of malnutrition, which can cause weakness of the breathing muscles. This results in more chest infections (known as exacerbation’ or flare-ups) causing hospital admission and premature death compared to people who maintain their weight, or regain weight after a period of illness. Even people who are overweight can suffer from malnutrition if they are not eating a balanced diet. Good nutrition can prevent or reduce these problems Being very overweight can make breathing more difficult, especially if the weight is around your waist. Stored fat compresses the lungs and makes all activities more demanding because you have to breathe harder to carry the excess weight. Your waist measurement should be less than 102cm (40 inches) for men and less than 88cm (35 inches) for women.

More information

For information on how to lose, gain or maintain weight, ask your healthcare professional for an information leaflet.

Living with a long-term condition

Living with a chronic disease can be challenging, and inevitably leads to a whole range of thoughts and feelings that can be difficult to deal with

Many people describe times of feeling up and down with their illness. Re-adjusting to things and dealing with difficult symptoms such as breathlessness and cough and having to take certain medications can produce a range of frustrations. This can add to the stresses and strains of everyday life.

It is understandable that people sometimes find it difficult to cope and feel uncertain about the future. Having a chronic disease also requires adjusting to doing things differently and adopting new roles, which can be difficult to accept if people have been active all their life. It may be that

over time certain activities or responsibilities are more difficult to do, especially those involving a lot of physical effort.

Living with chronic disease and difficult symptoms can change the way you feel about yourself, make you worry about how others perceive you, and affect your confidence in carrying out everyday activities.

Breathlessness and chronic cough are common symptoms of cardio-respiratory disease, and most people who have experienced very breathless episodes have felt worried, anxious and frightened

about their health and have feared for their safety. A vicious circle can develop, whereby breathlessness can lead to anxious feelings, which exacerbates the breathlessness, causing greater anxiety and so on. The circle below shows a common pattern that people can find themselves in.

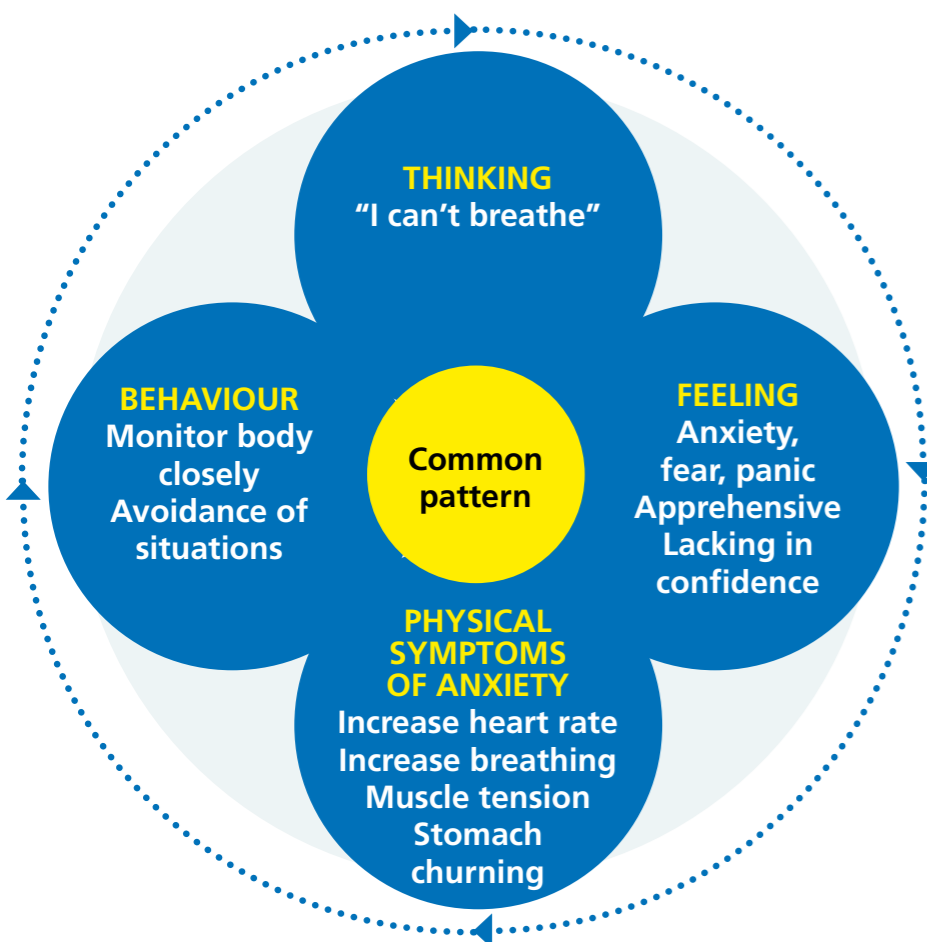
Lots of people with breathlessness report having panic attacks. Panic attacks affect people in many different ways, but there is usually a frightening feeling that something really awful is about to happen.

Many people find breathlessness and anxiety/panic very frustrating and lose confidence. As a result they may end up feeling miserable and down in spirits. It can be common to do less to avoid getting breathless, but that can mean life becomes more restricted and people feel more isolated.

Tips for dealing with breathlessness and anxiety

- Perform breathing exercises to help regain control of your breathing, eg breathing control or pursed-lip breathing.
- Stop focusing on your body – focus on what is going on outside rather than inside you.
- Distract yourself from frightening thoughts – for example, for three

Remember: although they may feel very unpleasant, the truth is panic attacks are not dangerous.



Remember that it is normal to worry about coping with health, illness and treatments and it doesn't mean you're 'going mad'. The clinical psychology service is available to help people cope with the emotional effects of living with a physical health problem. If you would like more information, please ask a member of the respiratory team.

slow breathing exercises and use distraction techniques during periods of 'normal' breathlessness so that you can act on them 'automatically' if you feel anxious.

- Recognise differences between physical symptoms and panic.
- Try to sort out any worries or troubles that you have. Talk about them; don't sweep them under the carpet.
- Do not avoid activities or situations due to anxiety, fear, or loss of confidence as they will only 'feed' the anxiety rather than challenge it.
- Build your confidence by undertaking activities, hobbies or interests that are important to your identity and self-esteem.
- Pace yourself and problem-solve situations – give yourself achievable goals to build your confidence and fitness slowly.
- Inform yourself about your illness – building up your knowledge and understanding your condition can help you feel more in control.
- Ask for help. This is not a sign of weakness but a positive way of dealing with the challenges of the condition and can free up more time for enjoyable activities and/or relaxation.

minutes, listen very carefully to someone talking, think of a pleasant scene, think of an object such as your favourite car, sing a song in your head or read text messages on your mobile phone.

- Question and test your frightening thoughts – although distraction is good in the short term, in the long run, it is most helpful to challenge your worrying thoughts, so that you no longer believe them. Say to

yourself – 'What is the evidence for and against my fears? How many times have I had these thoughts and has my worst fear ever happened?'

- Try to work out whether something else (ie a trigger) is making you anxious.

Other helpful coping strategies

- Organise and practise regular periods of relaxation. Practise

Managing chest infections

A chest infection is an infection of the airways leading down to the lungs, or an infection in the lungs themselves. It's a general term that covers a number of conditions, including pneumonia and bronchitis

If the usual symptoms of your lung condition suddenly get worse, this may be due to a chest infection.

What causes a chest infection?

Due to the design of your lungs, bacteria and viruses in the air can be easily passed down into them. Normally, this doesn't cause problems because your immune system kills the bacteria or viruses. However, occasionally, infection can take hold, particularly if your immune system has been weakened by other conditions, or your lungs have been damaged by cigarette smoke.

What are the symptoms of a chest infection?

- Persistent chesty cough.
- Sputum (phlegm) – an increase in production and/or change in colour from normal.
- Worsening breathlessness and/or wheeze.
- High temperature.
- Reduced energy levels and loss of appetite.

When should I contact my GP?

- If you have two or more of the symptoms mentioned above that persist for more than 24 hours.
- If you need to use your reliever inhaler more often OR it does not last as long as usual OR it doesn't seem to work at all.
- If your doctor has prescribed stand-by antibiotics and/or steroids you should start taking them if you think you have a chest infection.

How is a chest infection diagnosed?

Your GP will normally base a diagnosis of a chest infection on your symptoms and a medical examination. Your GP may use a stethoscope to listen to your lungs. Crackling sounds can indicate that you have a lung infection, or pneumonia. If your GP needs to investigate further, s/he may request a blood test, x-ray or sputum test.

How is a chest infection treated?

- A chest infection may clear up gradually without any treatment. However, if the symptoms persist or get worse, then treatment may be necessary. Antibiotic drugs are used for suspected bacterial infections. It is important to complete the full course, and a different type may need to be used if the initial course is not effective.
- Viral infections do not respond to antibiotics.

Preventing chest infections

It is impossible to avoid bacteria and germs, but living a healthy lifestyle by eating a balanced diet, drinking plenty of fluids and taking regular exercise can help you to remain healthy.

Other ways to prevent chest infections include:

Vaccinations

The flu vaccine is strongly recommended for people who are at risk of complications if they catch the flu, which includes anyone with a lung condition. The flu vaccine is prepared from a harmless version of the flu virus. The vaccination is given by injection, which will take around 14 days to protect you from catching flu. Doctors like to administer the vaccine in October, as the flu season tends to start in November.

Also recommended is the pneumonia vaccine. This is a one-off vaccine to help protect you from some forms of the bacteria that can cause pneumonia.

Hygiene

To reduce the risk of spreading bacteria to other people, make sure that you cover your mouth when you cough or sneeze, and wash your hands regularly. You should throw away used tissues immediately.

Quitting smoking

Smoking introduces toxins and irritants into the lungs and hinders your lungs defence mechanisms from clearing out germs and fighting infections. Quitting smoking will help your lungs avoid and recover from infections. See page 16 for more information.

Drink plenty of fluids to prevent dehydration of the tissues and membranes of the respiratory system.

Take paracetamol to reduce temperature and pain.

Rest and sufficient sleep also helps recovery, but try not to become too inactive as your fitness will decrease.

When you are ill, remember your breathing techniques are even more important to help reduce your breathlessness.



Clearing secretions from your chest

Producing more mucus in your lungs is a common symptom of heart and lung conditions, but simple breathing exercises can help you clear it

It is normal for everyone to produce some clear mucus in their lungs, as this is how our bodies trap and remove dust and dirt particles from the air we take into our lungs. People who live in or near, polluted areas will produce more mucus to trap the extra particles. Similarly, smokers also produce more mucus.

With an increasing amount of mucus and with narrowed airways, clearing the sputum can be problematic. This becomes a bigger problem when sputum becomes infected. When natural clear/white mucus becomes coloured (yellow/green) it is a sign of bacteria

The active cycle of breathing techniques (ACBT) is a simple way to move the mucus or sputum independently:

Breathing control

3-4 deep breaths with breath hold

Breathing control

3-4 deep breaths with breath hold

Breathing control

1-2 huffs

Breathing control

present, indicating an infection. It is even more important to clear the infected sputum as it can damage the lungs and make you ill.

Breathing control

Breathing control is relaxed gentle breathing. To perform breathing control, rest one hand on your stomach and allow your shoulders to relax. Breathe gently at your own pace and do not force the air in or out of your lungs. The lungs will expel air without actively using the chest muscles. You should feel your hand gently rise and fall in time with your breathing.

Deep breathing

- This is used to move your sputum by getting air behind it.
- Take a long slow deep breath in and let the air go as you breathe out without forcing.
- Do not do more than four deep breaths otherwise you may become dizzy or light-headed.
- If you feel breathless between the deep breaths return to breathing control. If you feel that your sputum is not moving repeat the deep breaths after a rest during which you do breathing control.
- Return to breathing control before the next step.

More information

For more information, talk to a member of the rehabilitation team, who may be able to refer you for individual airway clearance training. A helpful leaflet on ACBT is available at www.acprc.org.uk.

Huff

A huff is a forced breath out with your mouth and airway open (like steaming up a mirror) which can help move and remove sputum from your chest. It may make you cough, but you should be able to clear your sputum with no more than one or two coughs if you have performed enough deep breathing to move the sputum up your airways.

- To move sputum from the smaller airways, take a small to moderate sized breath in and perform a long huff out. If you are particularly wheezy, avoid long huffs and use shorter ones.
- To move sputum from the larger airways, take a deep breath in and a short huff out.
- If your sputum does not clear, return to breathing control and repeat the cycle again. If you feel that you are going to cough a lot, try to stop this by returning to breathing control.
- Repeat the cycle until you feel your chest is clear OR until you feel too tired to continue.

Managing your condition during sex

Breathlessness and fatigue, along with some medications, can affect your sex life, but there are steps you can take to change things for the better



Take one or two puffs of your reliever inhaler before starting, as it may relieve some shortness of breath or wheezing

If you are prescribed oxygen you can use this to help your breathing during sex

If you become very short of breath during intercourse try pausing to take a few slow, deep breaths rather than stopping altogether.

If you have a health problem you may find you have the following problems during sex:

- Increased shortness of breath, especially on exertion.
- Increased fatigue = less energy. It's tougher to get 'in the mood' for sex when you're tired
- Depression and anxiety are closely linked with lung disease and these can be emotional barriers to sex regardless of having a lung disease.
- Fear that symptoms might flare up during sex, which would ruin the mood and potentially ruin the next few days too.
- Some medications can affect your sex drive.

Suggestions to make things easier

- Have sex when you feel rested and breathing is at its best –

eg when medication is most effective and when energy levels are not too low. You may need to plan ahead – try resting before and after sexual activity.

- Clear phlegm from your chest before sex or avoid times when you are producing lots of secretions.
- Avoid sex after a heavy meal or alcohol – breathing is more difficult if you have a full stomach and alcohol can decrease sexual function.
- Avoid humid, hot or cold environments – use a well-ventilated room.
- Discuss with your GP if you feel your medication has reduced your sex drive – there are various methods and devices that may help you with this.
- The person with breathing symptoms should try to use

positions that require less energy to maintain. The key is to keep the diaphragm free and not to weigh down the chest.

Some changes in your sex life are just part of getting older, not because of lung disease – slower erections and delayed orgasms are normal in middle and later life. Try to be open and talk about any difficulties that either of you are experiencing – be prepared to try different ways to express your affection and tell each other what feels good.

More information

For more information, ask for the British Lung Foundation leaflet *Sex and breathlessness* or download information from www.blf.org.uk

How can I manage continence issues?

Incontinence is the inability to control urination. It affects men and women of all ages but is more common in older people

Incontinence is especially common in women. It can occur at any age but it is more likely to develop as you get the older. It is estimated that about four in 100 adults in the UK are regularly incontinent.

As many as one in five women over the age of 40 have some degree of incontinence. The numbers affected may even be higher but many people don't talk about the problem.

There are different types of incontinence including stress, urge, overflow, functional and reflex.

Stress incontinence

This is the most common type and is often linked with respiratory disease. It occurs when the pressure in the bladder becomes too great for the bladder outlet to withstand. Usually this happens because the pelvic floor muscles, which support the bladder outlet, are weakened. Stress incontinence can occur during coughing, sneezing, laughing, lifting heavy objects, exercise or making other movements that put pressure or stress on the bladder. Having weak pelvic floor muscles can be as a result of childbirth, obesity,

prostate disease, constipation, and lower levels of the hormone oestrogen after menopause.

Pelvic floor exercises for incontinence

You can feel your pelvic floor muscles if you try to stop the flow of urine when you go to the toilet.

- Sit comfortably
- Squeeze the muscles you use to stop urination 10-15 times in a row for 10 seconds
- Don't hold your breath or tighten your stomach, buttock or thigh muscles at the same time

When you get used to doing pelvic floor exercises, you can try holding each squeeze for a few seconds longer. Every week, you can add more squeezes and increase the length of the hold but always have a rest in between sets of squeezes. After a few months, you should start to notice the results as your incontinence should improve. You should carry on doing the exercises, even when you notice them starting to work. If problems persist, please speak with your GP.

If you do not have incontinence

It is still worth improving your pelvic floor muscles. The exercises to use are exactly the same as above. If you are not used to pelvic floor exercises then do the exercises as often as described above for the first three months. This will strengthen up the pelvic floor muscles. Thereafter, a five minute spell of exercises once or twice a day should keep the muscles strong and toned up which may help to prevent incontinence from developing in later life.



Coping with extreme weather

You may find that your symptoms get worse when it's very hot or very cold – follow our tips on how to prevent a flare up

How to protect yourself in winter

At home

- Recommended temperatures are 21°C for living room and 18°C for bedroom.
- Close curtains at dusk to help keep heat in the room.
- Shut windows at night.
- Make sure thermostats are set correctly. Hot water thermostats should be set at 60–65°C and central heating thermostats should be set at 21°C.
- Avoid placing furniture directly in front of radiators, otherwise your furniture will heat up rather than your room.

Outside

- Wear a coat, hat and scarf, and pull your scarf loosely over your mouth to reduce the effect of the cold air on your airways.
- Try and reduce the number of outdoor activities you do when it is very cold (less than 4°C), particularly when it is also windy and wet, which cools your body more quickly.
- If you start shivering when you are outside, keep walking or exercising to warm up or find somewhere to shelter indoors.

General

- In September, contact your GP surgery about getting a flu vaccination.
- Build up your immune system – eat at least five portions of fruit and vegetables a day, keep active and keep warm.



How to protect yourself in summer

At home

- Stay inside in the coolest rooms in your home as much as possible during the hottest part of the day.
- Keep windows closed while the room is cooler than it is outside. Open them when the temperature inside rises.
- Close curtains in rooms that get lots of sun.
- Drink at least eight glasses of water a day and eat more cold food (particularly salads and fruits, which contain water).

- Open windows at night for ventilation or use a fan.
- Take cool showers or baths. Splash yourselves several times a day with cold water, particularly on your face and the back of your neck.

Outside

- Plan your day in a way that allows you to stay out of the heat. If possible avoid going out in the hottest part of the day (between 11am and 3pm).
- If you have to go out, stay in the shade, wear a hat and wear light, loose fitting clothes.
- Take water with you if you go out.

Voice and swallowing problems

Heart and lung conditions can sometimes lead to voice and swallowing problems, but a few simple techniques can help reduce the symptoms

Breathing and swallowing share a common pathway involving mouth, throat and voice box. Shortness of breath and respiratory problems can lead to poor co-ordination of swallowing. This can result in saliva, food or drink going down 'the wrong way'.

Signs of a swallowing problem

- Eating makes you feel tired or short of breath.
- You have difficulty getting food down or food sticks in your throat.
- Wet/gurgly voice after swallowing.
- Recurrent chest infections.
- Loss of weight.
- Increased sputum.

Even if you're not experiencing difficulties now, it is useful to practise the following techniques as you may have some difficulties in the future ie when you have a flare up, chest infection or if breathing becomes more difficult.

Safe swallow guidelines:

- Sit upright in a supportive chair when eating or drinking.
- If you use oxygen at home, wear nasal prongs during eating.
- Eat slowly and take small bites/sips.
- Choose soft easy-to-chew foods and add sauces/gravy to reduce fatigue and shortness of breath.
- Don't gulp liquid – take small sips and take a breath between each sip.
- Alternate liquids and solids and have a dry swallow in between to clear residue from the throat.
- Avoid eating and drinking when you are short of breath – ideally you should be able to breathe

- comfortably through your nose.
- Eat little and often – rest midway through a meal if needed.
- Do not talk when eating.
- Stay upright for about 30 minutes after a meal.
- If you have reflux speak to your GP as you may be prescribed medication that will help.

People with respiratory problems often experience a dry mouth as a result of breathing through their mouth, medications (such as corticosteroids) and the use of oxygen. A dry mouth can be uncomfortable, increase the risk of dental problems and cause difficulties chewing and swallowing. It can also reduce the taste of food and drinks.

Tips to avoid a dry mouth

- Increase fluid intake – sip water throughout the day.
- Use a saliva substitute if needed.
- Suck sugar free sweets or chewing gum.
- Apply lip balm regularly.
- Reduce alcohol and caffeine intake.
- Avoid smoking.
- Review your medications with your doctor.
- Have regular dental check ups.

Changes in voice quality

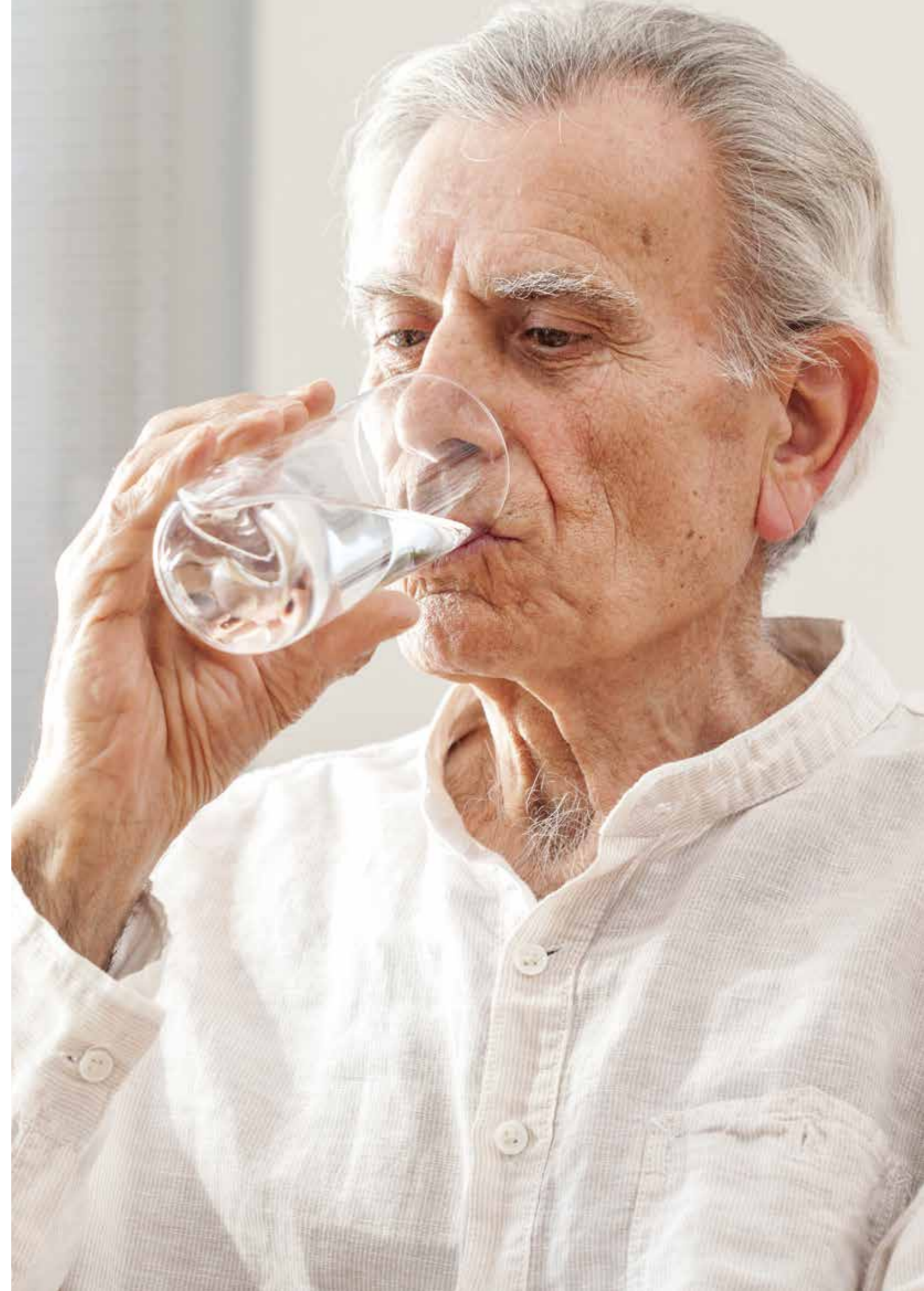
You may experience changes in the way your voice sounds. Below are some examples of what you may experience:

- Hoarseness.
- Raspiness.
- Severe dryness of the throat.
- Fullness or "lump" in the throat.

- Excess or excessively thick mucus in the throat.
- Voice fatigue after a period of voice use.
- Throat irritation or soreness.
- Loss of vocal range (especially the higher notes).

Tips for looking after your voice

- Drink plenty of water to keep your throat lubricated.
- Avoid large amounts of spicy foods, caffeine and alcohol.
- Rest your voice if it starts to sound hoarse or if you have a sore throat – don't force speech or whisper.
- Reduce the risk of reflux occurring by eating little and often, remaining upright for about half an hour after meals, and consulting with your doctor or pharmacist about anti reflux medications if necessary.
- Practice deep breathing and relaxation exercises.



Conserving your energy

Energy conservation is all about planning your daily activities and finding more efficient ways of doing them to achieve a balance between activity and rest

Conserving energy is central to managing your lifestyle so that you do not become overtired or wary of any exertion or exercise.

The following information will help you manage your own energy levels, and conserve energy where necessary, so that you can participate in all the day-to-day and week-to-week activities you need to. Sometimes this will mean little alterations to what you are already doing. However, some of the recommendations will involve learning new ways of thinking about, planning and participating in activities.

Activity analysis

Everything you do, from waking up to going to bed, is classed as 'activity' and uses some form of energy. For example, personal care, household tasks, leisure pursuits and work are common categories of activity and they require different types of energy.

Physical For example, going upstairs, hanging out the washing

Mental For example, doing a crossword or mental arithmetic

Emotional For example, experiencing mood swings, dwelling on personal or family problems

- We tend to think of daily activities in general terms, eg 'housework', but try to break down activities into smaller tasks.
- Think of ways to plan, pace and prioritise what you do. Avoid doing unnecessary activities, such as vacuuming every day.
- Ask for assistance. For example, instead of washing the car

manually, use the car wash or ask a friend to do this for you.

- Organise your time, space and methods, eg plan daily/weekly schedules and have frequently used items to hand.

Grading activity

Consider the different demands of various activities and try to break them up into smaller, more manageable tasks.

To use the activity of ironing as an example, ask yourself: do I have to do it? Can I leave it or get help? Does it have to be done today?

If you do need to do it, make it as easy as possible for yourself:

- Take it slowly and have regular rests.
- Tackle it when your energy levels are at their peak.
- Do it in a light, well-ventilated room.
- Lower the ironing board and sit down to iron, if possible.
- Use a lightweight iron.
- Use easy-iron clothes conditioner/ starch spray.
- Buy crease-resistant clothes.
- Assemble necessary items beforehand.

Making activities easier

- Sit on a chair/stool. Support your elbows on sink/table.
- Use long-handled equipment to avoid bending down if this makes you more breathless.
- Push or slide heavy items to avoid lifting.
- Plan ahead eg write shopping lists and stock the freezer.
- Consider using equipment to make the task easier ie a dishwasher.

- Order shopping via the internet or make use of home delivery services.
- When completing any activity, use the blow-as-you-go breathing technique to regulate your breathing.
- Avoid using aerosol-type cleaning products, which can irritate the airways – use waxes, creams or liquids, instead.

Finally, remember the five Ps:

Plan Organise what you do. Get rid of distractions and unnecessary tasks.

Pace Take it slowly. Do not rush and become frustrated or overtired.

Prioritise Consider what the important tasks are.

Posture Look after your spine and maintain a good posture.

Proficiency Practice energy conservation techniques and reap the benefits.

Getting support at home

Local authorities, charities and other organisations provide lots of help for people living with a heart or lung condition

Support from social services

If you need assistance with activities of daily living in the community, you can contact your local authority to request a community care assessment. A care needs assessment will be conducted before care services can be set up. The assessment will look at your current care needs, limitations, difficulties and your current support system. You may involve your carer, GP, housing officer, district nurse, mental health nurse or someone who represents you (an advocate).

Eligibility criteria

The assessment criteria have four levels (low, moderate, substantial and critical). Most local authorities would support people who have substantial and critical care needs only. Needing assistance with personal care is mostly considered to be a substantial or critical need. If you meet this criterion, some local authorities will support you with practical tasks like shopping and tidying up your living space. These services are means tested. Disability living allowance, personal independent payments and attendance allowance are often taken into account when a financial assessment is conducted.

Telecare alarm system

The alarm service is available for people who feel unsafe in their own home because of age, disability, isolation, illness or other forms of vulnerability.

It is a special alarm unit that is connected to the telephone line and linked to the emergency contact centre. The alarm unit has a built in button that can be



pressed to obtain assistance in case of an emergency. The alarm can also be activated by a remote pendant, which is worn around the neck or on a wrist band. Some boroughs specify the number of hours that a person spends alone to be eligible for a pendant alarm.

Meals on wheels

Meals on wheels are provided to people who are unable to cook a daily nutritional hot meal for themselves or to obtain a hot meal in any other way. Most local authorities provide a wide range of meals, including hot and frozen food that, where possible, caters for specific dietary and cultural requirements. Meals on wheels can only be recommended after a community care assessment, and there is a charge.

Day care

Most boroughs have day centres to promote choice and wellbeing for older people and people with complex needs. This service is aimed at supporting family carers, minimising avoidable admission to long-term care or hospital and helps promote effective rehabilitation and recovery. In most local authorities there is a charge to attend a day care centre.

Respite care

If you have a carer due to difficulties in carrying out daily living activities, you may be eligible for respite care. This means that you may be cared for in a residential/nursing home for a short while so that your carer can have a break from the caring role. This service is based on the



outcome of a community care assessment and it is means tested.

Blue badge

The blue badge scheme provides a national arrangement of parking concessions for people with severe walking difficulties who travel either as drivers or passengers.

Eligibility criteria for each borough vary.

Freedom/bus pass

The service is intended for people with different limitations due to disability, illness and age. Contact your local authority to refer yourself.

Personal independence payment

Personal independence payments are available for adults aged between 16 and 64. This benefit has replaced the disability living allowance. It is available to help with the extra costs for long-term illness or disability. It is not a means

tested benefit. To apply, go to www.gov.uk.

Attendance allowance

A benefit to help with personal care needs if you require regular help and have a long term physical or mental disability. It is payable to adults aged 65 and over. It is not means tested so your income and savings is not taken into account when applying. To apply go to www.gov.uk.

Council tax reductions/housing benefits

Council tax support and housing benefit is available for help with your rent from your local council if you receive pension credit benefit, you are disabled or on a low income.

Winter fuel payment

A payment to help with winter heating bills. If you receive state pension or another social security benefit you automatically qualify. For more information go to www.gov.uk.

If you require help filling in your benefit forms please contact your local Citizens Advice Bureau or, if you're aged 55 or over, please contact your local Age UK. Both the Citizens Advice Bureau and Age UK can provide useful information about the different types of benefits.

There is a welfare advisor available at Harefield Hospital to assist you if you have any benefit queries. Please contact a member of the pulmonary rehabilitation team to be referred.

If you do not meet the criteria to receive care through social services, you should contact voluntary or private care agencies in your area. You can also contact charities such as Age UK, Dementia Concern, and Crossroads Care.

More information

More information can be found on your local authority website.

Planning for the future

Planning for your future care and end of life care (also called advanced care planning) is important in case you become unable to make choices yourself

This is important, as healthcare professionals may not know how you would like to be treated if you were to suddenly become unwell. For example, if you were ill and unable to talk to them yourself.

Remember, you are the expert on you. Even your closest friends and family may not know exactly how and where you might like to be

cared for when you are unwell or dying unless you have told them in advance. This might mean you aren't cared for in a place or way you would have chosen to.

If you would like any further support or guidance regarding advanced care planning, please ask a member of the pulmonary rehabilitation therapy team.



More information

Ask the pulmonary rehabilitation team for the *Your life and your choices: plan ahead* (England and Wales) booklet produced by Macmillan.

The dying matters website: www.dyingmatters.org

The British Lung Foundation Website: www.blf.org.uk

Thank you for taking the time to read this booklet. We hope you have found it helpful. If you have any further questions, please ask a member of the pulmonary rehabilitation team, who will be delighted to help.

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