Cardiac rehabilitation programme

Contents

Welcome to cardiac rehabilitation

Welcome to the BOC cardiac rehabilitation programme. You have been referred to this course because you have been diagnosed with a heart condition, or have had a cardiac procedure or treatment.

The course is run by BOC Healthcare. We have extensive experience of delivering community healthcare programmes on behalf of the NHS. The team delivering your care comprises of a cardiac nurse, occupational therapist, cardiac physiotherapist and a technical instructor. The clinical team is supported by the administration department which is based in Manchester. If you have any queries or questions they can be contacted by calling 0800 0121 858 or emailing BOC.ClinicalServices@nhs.net.

This booklet supports the course that you are about to undertake and should be brought with you to every appointment/class.

The team hope that you enjoy the course and that at the end of it you feel better and fitter. In addition, you should have a greater understanding of your condition and what you can change to have a positive impact on your health.

What is cardiac rehabilitation?

Cardiac rehabilitation or cardiac rehab is an exercise and education programme to help you improve your health and return to your normal daily activities such as work, exercise, family life, and relationships.

What is cardiac rehabilitation?

Strong evidence suggests that people that attend cardiac rehab reduce some of the risk factors associated with coronary heart disease. You have been asked to attend cardiac rehabilitation as part of your recovery after your cardiac event, or cardiac treatment.

You will be assessed prior to attending the course and during this assessment the cardiac specialist will devise a tailored exercise plan for your needs.

The programme is held within groups which will enable you to speak to other people in a similar situation. The group sessions will increase your confidence to exercise and will provide you with a comfortable environment to ask questions to help improve your recovery.

The team welcomes partners and family members to attend the course with you. This will provide them with reassurance and support.

Structure of the programme

The course will last for six weeks. You will attend twice a week, each session lasting two hours. One hour will consist of your tailored exercise plan and one hour of advice and education covering topics such as lifestyle behaviours, medication and relaxation. The education part of the course is to help you make the right choices about your lifestyle and to reduce your risk of any further complications.

Your exercise programme will be devised to improve your general fitness and is specific to you, so don't worry, you won't be asked to do anything that is not safe for you. Remember, even doing a small amount of exercise can help your recovery.

What to bring with you?

For the exercise session we recommend you bring the following with you:

- → Your education booklet/exercise diary
- → Your medication including GTN spray if you have been prescribed one. You will not be able to exercise without it
- → A bottle of water
- → A small towel
- → For diabetes patients, if you are required to check your blood sugar levels, please ensure you bring your glucometer and testing kit with you

Wise precautions for all our patients

Whilst exercise is good for you, you must not exercise if you are feeling unwell or taking any antibiotics. We ask that you have two clear days from symptoms before doing any form of exercise. If you are unsure, please do not hesitate to call a member of the cardiac rehab team. We are here to help you.

Don't exercise on a full or empty stomach - have something light to eat about two hours prior to your class.

Avoid exercising in extreme heat or cold – and dress appropriately for the temperature. It is also important to slow your pace down during warm periods – you will still be benefiting from your activity!

Don't push yourself too hard – keep within your prescribed exercise plan.

Wear appropriate clothing – something loose and comfortable. Your shoes should be supportive and suitable for activity i.e. no flip-flops!

Please note there will be no changing facilities at the venue.

Important

You must inform the cardiac rehabilitation team if you have forgotten to take your medication or if your medication has changed. If you have forgotten your GTN spray you will not be able to exercise. Also, please let a staff member know if you have been feeling unwell.

Why is exercise important?

We all know that exercising is beneficial for our health, we hear about it all the time on the TV/radio and read about it in magazines. It is also an important aspect of your recovery after having a heart attack or heart surgery or being diagnosed with a heart condition.

Evidence from many scientific studies show that regular exercise has a favourable effect on your health, it can help with weight loss and can also help reduce your blood pressure and reduce cholesterol. Exercise combined with other lifestyle changes such as giving up smoking and having a healthy diet can have such a positive effect on your health.

We understand that exercising after having a cardiac event, treatment or surgery can be a very daunting prospect, therefore, cardiac rehabilitation is the perfect start to your road to recovery. It will give you the confidence to exercise in a controlled environment with others who are in a similar situation. Please seek medical advice before exercising outside of cardiac rehab.

Exercise programme

The exercise programme is based on a circuit training routine. This means that you can work on your aerobic exercise more efficiently.

You will be asked to follow one of the theses circuits:
- → Green circuit
- → Orange circuit
- → Red circuit

There are 12 stations each with a different set of exercises for you to follow depending on which circuit you have been asked to follow.

You will be taken through each exercise by a member of the team, please remember to record your heart rate and Rated Perceived Exertion (RPE) scores in your exercise diary.

Home exercise routine

It is important to continue your activity at home. We suggest that you follow the programme below once a week. However, if you are unwell please do not push yourself to complete the programme.

Warming up and cooling down

The warm up and cool down session is a very important element of your programme and you should spend at least 15 minutes on your warm up and at least 10 minutes on your cool down.

The warm up section involves pulse raising, mobility and preparatory stretching that will reduce the risk of you injuring yourself during your conditioning section. The pulse raising should be rhythmic movements that gradually increase in intensity, which decreases the risk of angina and arrhythmias during exercise.

Start your warm up exercise gradually, don't be tempted to start too quickly as your heart needs to warm up as well!

Your warm up session should include activities such as walking, low-level cycling and gentle stretching of the muscle groups that you will be using during the conditioning section. This all helps to reduce the risk of injury.

The following exercises will be included:

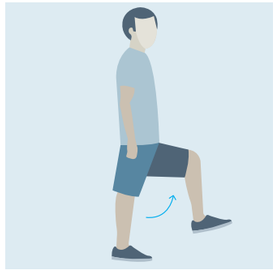
To raise your pulse rate

Walking, heel digs, toe taps, knee raises, leg curls, side steps marching on the spot, or low-level cycling. Do this for around eight minutes. Remember to start slowly and build up gradually. This exercise is to help warm up your muscles so you can stretch safely.

Walking

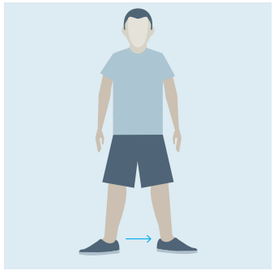
Heel digs

Toe taps



Knee raises

Leg curls



Side steps

Marching on the spot

Low-level cycling

Stretching

You need to stretch before exercising to reduce the risk of injury by preparing the muscles to be used in the conditioning phase of the class. Stretching will also improve good balance and help to identify any sore muscles.

If you are recovering from surgery, please be careful when stretching the area where your surgery was performed.

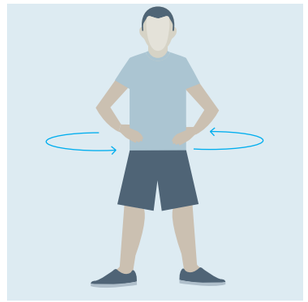
Your stretching should last for five minutes and we would recommend you include this into the last five minutes of the cool down. Keep your feet moving during upper body stretches (march on the spot) this keeps your heart rate slightly raised and keeps you warm. Move your feet after each lower body stretch. Don't be tempted to over-stretch, only go as far as your muscles allow.

Upper back stretch

Link your fingers together and stretch your arms out in front of you. Gently lower your head so you are looking at the floor – hold this position for about 8 to 15 seconds. You should feel the stretch in-between your shoulder blades

Chest stretch

Hold your hands together behind your back and gently raise your arms up a few inches. You should feel the stretch across your chest. Hold this for about 15 seconds.



Lower back and waist mobility

During these lower limb stretches ensure that each stretch is followed by a dynamic movement to maintain the elevated heart rate.

With your feet at shoulder width apart, put your hands on hips and slowly lean, from your hips to each side. Repeat this five times to each side.

Calf stretch

Find a wall to lean against. With one leg behind the other, press the heel of the back foot onto the floor – you need to feel a stretch in your calf, if you can't then move the back foot further back away from the wall. Hold this position for 15 seconds and then repeat on the other leg. As your recovery progresses you can move up through the levels. A member of the cardiac rehab team will advise you on the correct level for you to follow.

It is very important to maintain your activity levels, not just during your rehab session. A member of the team will advise which level you should be following, these levels are listed on the next page.

Exercises

There are five levels, each increasing in time and endurance. You can select which cardiovascular and active recovery exercises from the list below.

- → **Level 1**: Select five cardiovascular exercises and complete each exercise for two minutes. Select five active recovery exercises completing 10-15 repetitions of each
- → **Level 2**: Select six cardiovascular exercises and complete each exercise for two minutes. Select four active recovery exercises completing 10-15 repetitions of each
- → **Level 3**: Select seven cardiovascular exercises and complete each exercise for two minutes. Select three active recovery exercises completing 10-15 repetitions of each
- → **Level 4**: Select eight cardiovascular exercises and complete each exercise for two minutes. Select two active recovery exercises completing 10-15 repetitions of each
- → **Level 5**: Select ten cardiovascular exercises and complete each exercise for two minutes. No active recovery exercises at this level

Cardiovascular exercises

- → **Shuttle walk** – walk up and down the hallway or march on the spot
- → **Sit to stand** – start from sitting on a chair (preferably a dining char), keep your back straight and stand up. You can use your hands for support if required
- → **Step-ups** – using the bottom stair only step up and down as quickly as you are comfortable with
- → **Forward and back steps** –
- → **Squats with forward arm raises** – from the standing position, sit back bending your knees, raise your arms in front of you. Return to the standing position
- → **Upright row** – holding a hand-weight in each hand, lift both arms simultaneously in front of your chest – keeping your elbows bent. Remember to keep marching on the spot
- → **Jogging on the spot** – keep a steady pace
- → **Static bike** – pedal at a steady pace
- → **Astride step** – start with legs straddling your step box, step up to the centre of the box with the lead foot, bring the other foot up so both are on top of the box, step down off the box with lead foot to side of the box, bring the other foot down on the opposite side of the box and repeat
- → **Side taps** – standing with soft knees, feet shoulder width apart, keep toes pointing forward, lift one leg out to the side and tap the floor with your toes, repeat with opposite leg

Active recovery exercises

- → **Bicep curls** – holding a hand-weight in each hand, bend and straighten your arms one at a time. Keep your elbows tucked into your sides. Remember to keep your feet moving, either marching on the spot or stepping from side to side
- → **Forward arm raises** – holding a hand weight in each hand start with your hand on your thighs and raise to your chest
- → **Side-arm raises** – holding a hand-weight in each hand. Raise your arms simultaneously side-ways to shoulder height. Lower your arms to side and repeat. Keep your feet moving during this exercise
- → **Tricep kickbacks** – feet shoulder width apart, gently lean forward 20 degrees, hold onto a chair if needed, keeping back straight, keep upper arm tucked into your side with weight in hand, gently extend the elbow, straighten arm pushing weight behind to a comfortable position, bend elbow to return to start position and repeat
- → **Seated row** – whilst sitting on a chair, with your legs straight out in front of you with heels resting on the floor make a rowing motion pulling your hands backwards towards your chest emphasising movement from the elbows. Ensure shoulder blades are pinched together

This scale is used to help you estimate how hard you are working and the effort that is required:

Borg scale

Effort score	Description
1	Very light. No problem.
2	Very light. Very easy.
3	Fairly light. Fairly easy.
4	Moderate. Beginning to feel puffed.
5	Fairly hard. Beginning to feel puffed.
6	Hard. Feel puffed.
7	Very hard. Tiring.
8	Very, very hard. Very tiring.
9	Exhausted. Out of breath. Shattered.
10	Maximum. Exhausted.

Important: safety precautions

If you experience any pain whilst exercising **stop** immediately. You should never experience pain during exercise, if you are in a cardiac rehabilitation class tell a member of staff.

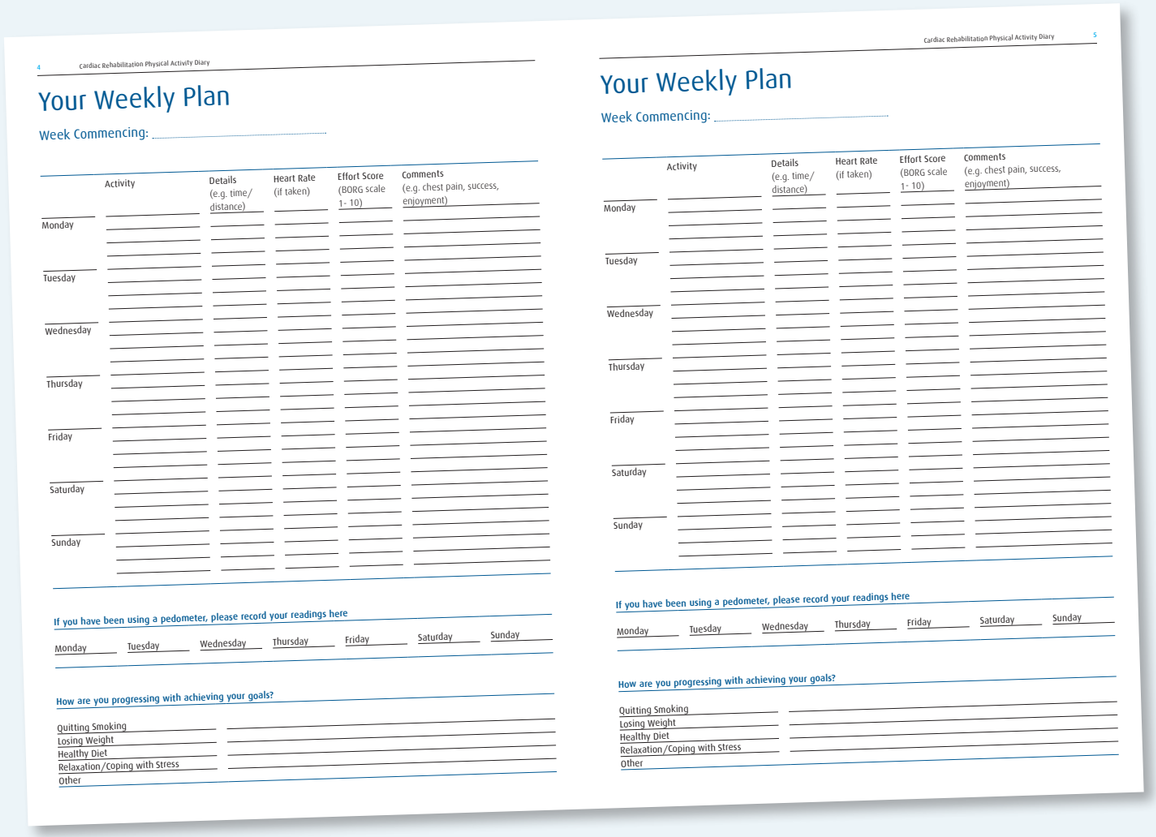
It is important that you follow the exercise programme that has been prescribed to you. If you feel you could push yourself further (following the borg scale) please discuss this with a member of the cardiac rehabilitation team, do not take it upon yourself to change your programme without advice.

During exercising if you feel any of the following you should stop immediately

- → Chest pain (if you have a GTN spray you should use it as prescribed)
- → Tightness in the chest
- → Palpitations
- → Feel dizzy or faint
- → Feel sick
- → You feel pain, swelling or stiffness in joints
- → You have excessive shortness of breath

Exercise diary

Ensure that you record all activity in your exercise diary.



4 Cardiac Rehabilitation Physical Activity Diary

Your Weekly Plan

Week Commencing: .....

	Activity	Details (e.g. time/ distance)	Heart Rate (if taken)	Effort Score (BORG scale 1- 10)	Comments (e.g. chest pain, success, enjoyment)
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

If you have been using a pedometer, please record your readings here

Monday ____ Tuesday ____ Wednesday ____ Thursday ____ Friday ____ Saturday ____ Sunday ____

How are you progressing with achieving your goals?

Quitting Smoking
Losing Weight
Healthy Diet
Relaxation/Coping with Stress
Other

Cardiac Rehabilitation Physical Activity Diary 5

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Education on heart conditions: angina

What is angina?

Angina is a pain that comes from the heart. It is more common in men over the age of 50 years and it can sometimes occur in younger people.

The most common type of angina is caused by narrowing in the coronary arteries of the heart and this causes the blood supply to be reduced to a part(s) of your heart muscle. Sometimes angina can be caused by uncommon disorders of the heart valves or heart muscle.

In most cases, angina pains come on with a certain amount of exertion and you can predict the level of exertion that triggers a pain. This situation is called stable angina. It is common to have stable angina for many years and, with treatment, most pains can be prevented. Over months or years, the pains may come on with a lesser amount of exertion if the condition gradually becomes worse.

If the pattern of your pain changes fairly suddenly and the pains develop after minimal exertion, or while you are resting, this is called unstable angina. This is an emergency and needs immediate medical care.

If you have angina, you have a higher than average risk of having a heart attack. However, your risk of having a heart attack is much reduced if you take aspirin and a statin. If you have a pain that lasts longer than 10 minutes, or is different or more severe than usual, call an ambulance immediately. It may be unstable angina or a heart attack and immediate medical care is needed.

What causes angina?

As discussed if you have angina, one or more of your arteries of the heart (coronary arteries) is usually narrowed. This causes the blood supply to be reduced to a part(s) of your heart muscle.

The blood supply may be good enough when you are resting. Your heart works harder when you walk fast or climb stairs and your heart rate increases, when this happens your heart muscle needs more blood and oxygen. If the extra blood that your heart needs cannot get past the narrowed coronary arteries, the heart responds with pain.

Narrowing of the arteries is often caused by fatty patches/ plaques known as atheroma and develops within the inside of the lining of the arteries.

Plaques of atheroma can gradually form over a number of years. They may be in one or more places in the coronary arteries. In time these can become bigger and cause enough narrowing of one or more of the arteries to cause symptoms. However, atheroma can develop in any section of the coronary arteries.

What are the symptoms of angina?

The most common symptom is a pain, ache, discomfort or tightness that you feel across the front of the chest when you exert yourself. For example, when you walk up a hill or against a strong, cold wind. You may also, or just, feel the pain in your arms, jaw, neck or stomach.

An angina pain does not usually last long. It will usually ease within 10 minutes when you rest. If you take some glyceryl trinitrate (GTN) it should go within one to two minutes.

Angina pain can also be triggered by other causes of a faster heart rate – for example, when you have a vivid dream or an argument. The pains also tend to develop more easily after meals.

Less typical symptoms that sometimes occur

Some people have non-typical pains for example, pains that develop when bending or eating. If the symptoms are not typical then it is sometimes difficult to tell the difference between angina and other causes of chest pain, such as a pulled muscle in the chest or heartburn.

Some people with angina also become breathless when they exert themselves. Occasionally, this is the only symptom and there is no pain.

Tests and treatment

If you have suspected angina, tests are usually advised

- → Blood tests to check for anaemia, thyroid problems, kidney problems, a high blood sugar (glucose) level and a high cholesterol level, as these may be linked with angina
- → An ECG (a tracing of the heart) can be useful. However, a routine ECG may be normal if you have angina. In fact, more than half of people with angina have a normal resting ECG
- → Myocardial Perfusion Scan is a test which is often done to confirm the diagnosis of angina. This test involves having an injection of a small amount of radioactive substance. A special camera, known as a gamma camera, is moved around you for 10–20 minutes. The gamma camera picks up the radioactive trace and produces pictures to reveal how well blood is reaching the heart. This is done both when you are resting and when your heart is beating faster. You may be asked to increase your heart rate by exercising (for example, by walking or jogging on a treadmill)
- → An ultrasound scan of the heart known as an echocardiogram (ECHO). During this test you may be asked to exert yourself or be given an injection to make your heart work harder. The operator will then be able to see your heart working under stress.
- → An MRI scan sometimes can also show how your heart works under stress, as above. Some people may find MRI scans difficult. You need to lie very still in a confined space
- → An angiogram is sometimes recommended for some people. In this test a dye is injected into the coronary arteries. The dye can be seen by special X-ray equipment. This shows up the structure of the arteries (like a road map) and can show the location and severity of any narrowing

Treatments

- → Lifestyle measures to reduce the risk factors e.g. stop smoking, diet, in-activity
- → Medications may be needed but this will be decided by your cardiologist and you can discuss this with your cardiac rehab specialist team

Surgical treatments

These are called angioplasty and coronary artery bypass graft (CABG) surgery. You may be offered one of these procedures if:

- → You have pains not controlled by medicines; or
- → The site and severity of the atheroma deposits are particularly suited to one of these treatments. In some cases, this may even be if you have few or no pains, as the overall outlook may be improved in certain circumstances

Immunisation

People with angina should have the pneumococcal immunisation and annual seasonal influenza immunisations. Please contact your GP to ensure you are up to date with your immunisations.

Heart failure

What is heart failure?

Heart failure doesn't mean that your heart is going to stop; it means it isn't functioning as well as it should be.

In a normal healthy heart, during each beat a set amount of blood enters the heart and is pumped out again. People with heart failure aren't able to pump the blood around the body as well as they should. This can make it difficult for your body to get as much blood and oxygen as it needs.

Heart failure is usually classified on which heart function or which side of the heart is most affected, rather than the actual cause of your heart failure.

The main types are:

- Systolic heart failure. This means that the ventricles of the heart do not contract properly during each heartbeat so blood is not adequately pumped out of the heart. In some cases there is only a slight reduction in the power of the ventricle, which causes mild symptoms. If the power of the pumping action is more reduced, then symptoms become more severe
- Diastolic heart failure. This occurs when the ventricle does not fill up with blood enough when the heart rests in between each heartbeat. This can sometimes be due to the wall of the ventricle being stiffer than usual. This makes it more difficult to stretch
- A combination of the above two types.Heart failure may affect only the right ventricle (right-sided heart failure) or the left ventricle (left-sided heart failure), or both.

What are the symptoms of heart failure?

The symptoms that may develop depend upon the type of heart failure that you have.

Generally, left heart failure causes you to be short of breath (breathlessness). This is generally worse when you exert yourself (for example, walking up hill) or when you are lying flat in bed. This shortness of breath can be associated with a cough.

The main symptom of right heart failure is swollen ankles and legs. This is due to the build-up of excess fluid in your legs. Your liver may also become enlarged.

Other symptoms of heart failure (on either side of the heart) can include:

- Tiredness
- Dizziness
- Feeling sick
- Constipation
- Loss of appetite

Medications and lifestyle changes can make significant improvements in these symptoms.

What can you do to help?

- Diet. If you are overweight, try to lose weight to reduce the extra burden on your heart. Do not have too much salt in your diet, as salt can cause water retention. Eg. do not add salt to your food at the table and avoid cooking with it
- Do not smoke. The chemicals in tobacco cause blood vessels to narrow, which can make heart failure worse. Smoking can also make CHD worse. You may benefit from being referred to a local "stop smoking" clinic if you are finding it hard to stop smoking
- Exercise. For most people with heart failure, regular exercise is advised. The fitter the heart, the better it will pump. The level of exercise to aim for will vary from person to person. Before you start to increase your exercise, get the go-ahead from your doctor, as some people with heart valve problems should not exercise. If you are not used to exercise, you could start by going for a daily walk
- Immunisation. You should have an annual influenza jab and be immunised against the pneumococcal germ (bacterium).
- Weigh yourself each morning if you have moderate-to-severe heart failure. If you retain fluid rapidly, your weight goes up rapidly too. So, if your weight goes up by more than 2 kg (about 4lb) over one to three days, you should contact a doctor. You may need an increase in your medication
- Alcohol. You should not exceed the recommended amount of alcohol, as more than the recommended upper limits can be harmful

Treatment

Various medications are used to treat heart failure:

Angiotensin-converting enzyme (ACE) inhibitors
Most people with heart failure are prescribed an ACE inhibitor. There are several types and brands. These medicines prevent a build-up of fluid by interfering with a body chemical (the enzyme called angiotensin) which is involved in regulating body fluid. ACE inhibitors also have a protective effect on the heart and may slow down the progression of heart failure.

Beta-blockers
A beta-blocker medicine such as bisoprolol or carvedilol is usually prescribed in addition to an ACE inhibitor. Like ACE inhibitors, beta-blockers have a protective effect on the heart. A low dose is started at first and then increased every few weeks until a regular dose is reached. Occasionally, beta-blockers cause an initial worsening of symptoms before symptoms improve.

Diuretics ("water tablets")
A diuretic is commonly needed to ease fluid retention. This is taken in addition to an ACE inhibitor and beta-blocker. Diuretics work on the kidneys and make you pass out extra urine. This helps to clear excess body fluid that builds up. There are different types and brands of diuretics. The dose depends on how bad your fluid retention has become and can be increased if necessary if your fluid retention becomes worse.

Diuretic medicines are normally taken in the morning. This is so the extra toilet trips are during the day and not at night. (Their effect on making extra urine lasts about six hours.) However, they can be taken at other times. For example, if you plan a morning shopping trip, take the diuretic tablet when you return.

Mineralocorticoid/aldosterone receptor antagonists (MRAs)
These medicines, such as spironolactone and eplerenone, also prevent the build-up of fluid. They interfere with the enzyme angiotensin which is involved in regulating body fluid. Research has shown that they improve your outlook. They may reduce your risk of needing to be in hospital and may extend your life expectancy.

Angiotensin is produced in your kidneys. If your kidney function is not good, you may not be able to take these medicines. Regular blood tests are used to monitor how your kidneys are coping.

One in ten men who take spironolactone may also have breast tenderness and enlargement.

Myocardial infarction (M.I.)/heart attack

What is a heart attack?

A heart attack (Myocardial Infarction or M.I.) is a serious medical emergency in which the blood supply to the heart is suddenly blocked – this is usually as a result of a blood clot.

Coronary Heart Disease (CHD) is the leading cause of heart attacks. CHD is a condition in which the major blood vessels that supply the heart get clogged up with deposits of cholesterol known as plaques. These plaques can rupture (burst) and this causes a blood clot to form at the site of the rupture. This clot may block the supply of blood to the heart which triggers the heart attack.

Recovery times after a heart attack vary and can depend on the amount of damage to the heart muscle.
Some people recover after only two weeks, others can take several months.

During recovery the aim is to gradually restore your physical fitness allowing you to resume your normal daily activities, and to prevent a further heart attack through a combination of lifestyle changes – such as healthy eating and stopping smoking, and with drug therapies.

Most people manage to return to work after a heart attack.

What are the symptoms of a heart attack?

The most common symptom is chest pain which can be described as pressure, tightness or squeezing in the middle of your chest. You may experience pain from your arms, jaw, neck, back and abdomen.

Other symptoms may include:
- → Dizziness
- → Sweating
- → Feeling or being sick
- → Anxiety
- → Coughing

Treatment

The type of treatment will be dependent on the type, severity and when the symptoms started.

Surgical treatments will include coronary angioplasty and coronary artery bypass. Non-surgical treatments include medication that will breakdown blood clots.

Education: treatments

Preventative medications

Reducing the recurrence of cardiovascular events involves both lifestyle modifications and effective drug treatments.

Blood pressure management

High blood pressure puts extra strain on your blood vessels, heart and other organs such as the brain, kidneys and eyes.

Persistent high blood pressure can increase your risk of serious and potentially life-threatening conditions such as
- → Heart disease
- → Heart attacks
- → Strokes
- → Heart failure
- → Kidney disease
- → Vascular dementia

Blood pressure is recorded with two numbers
- → Systolic (top number)
- → Diastolic (bottom number)

The systolic pressure is the force at which your heart pumps blood around your body and the diastolic pressure is the resistance to the blood flow in the blood vessels.

As a general guide the optimal blood pressure target is less than 140/85. In selected groups, eg. diabetes, kidney disease, a lower blood pressure of less than 130/80 is more appropriate.

If you have high blood pressure, reducing it even a small amount can help lower risks. For people with cardiovascular disease you should have your blood pressure monitored at least every six to twelve months. This can be done at a number of places including your GP surgery, local pharmacies and as part of your NHS health checks.

Blood pressure medications are commonly prescribed as a preventative measurement to keep your blood pressure controlled.

These can include
- → Beta-blockers e.g. Atenolol, Bisoprolol, Propranolol, Carvedilol, Metoprolol, Nebivolol – this group of drugs make the heart beat more slowly and with less force
- → Angiotensin-converting enzyme (ACE) inhibitors e.g. Ramipril, Captopril, Enalapril, Lisinopril - this group of drugs help to relax the blood vessels – effective in people under 55 years of age

- → **Angiotensin-II receptor antagonists** e.g. Candesartan, Irbesartan, Losartan, Olmesartan, Valsartan – this group of drugs help to relax the blood vessels and is often used for people unable to tolerate ACE inhibitors
- → **Calcium-channel blockers (CCBs)** e.g. Amlodipine, Felodipine, Verapamil, Diltiazem. This group of drugs help to relax the blood vessels and is effective for black people and in people over the age of 55
- → **Diuretics** e.g. Bendroflumethiazide, Indapamide, Furosemide, Bumetanide, Spironolactone, Amiloride – diuretics work to reduce the amount of water and salt in the body

Cholesterol management

Statins are a group of medications that help to lower the levels of cholesterol in the blood and are usually recommended for all people with cardiovascular disease.

High cholesterol levels are potentially dangerous as they can lead to hardening and narrowing of the arteries (atherosclerosis) and cardiovascular disease.

Cholesterol should be checked on a regular basis via your GP surgery.

Antiplatelet therapy

Antiplatelet therapy is often prescribed for people who have or have had

- → A heart attack or angina
- → A stroke or a Transient Ischemic Attack (TIA)
- → Peripheral Arterial Disease (PAD)
- → Coronary Artery Bypass Surgery (CABG)

Medications such as Aspirin, Clopidogrel and Dipyridamole have antiplatelet effects, which means they make the blood less sticky and can stop blood clots developing.

Regular medication reviews are advised with your general practitioner to ensure your medications remain safe and effective.

It's very important to read the information leaflets that come with your medications, to check if there are any interactions you should be aware of. If in doubt, contact your GP or pharmacist for advice.

Coronary angioplasty

Coronary angioplasty is a common treatment to widen narrowed sections of the heart (coronary) arteries. It is also often referred to as Percutaneous Coronary Intervention (PCI). It does not involve major surgery to the heart but does involve the use of a catheter which is inserted into coronary arteries via the large blood vessels.

What is coronary angioplasty?

Coronary angioplasty is a procedure where a narrowed section of an artery in the heart (coronary) is widened by using a balloon and a stent attached to a special catheter.

The catheter is a thin, flexible tube which is inserted into a coronary artery. The balloon at the tip of the catheter is blown up at the narrowed section of artery to forcing it to become wider. A small tube (known as a stent) is left in place to keep the artery widened.

What is coronary angioplasty used for?

Coronary angioplasty is commonly used to treat people who have angina and are having lots of symptoms. In these people, angioplasty is usually carried out at a chosen time and date – this is known as "elective angioplasty".

Angioplasty can also be used to help in emergency situations, for example when someone is having a heart attack.

What happens after an angioplasty?

You should avoid any heavy activities such as lifting for about a week until the small wound, where the thin, flexible catheter was inserted and has healed.

You should **not** drive a car for a week after having an angioplasty.

If you have an LGV or PCV license, you need to check with the DVLA about driving a bus or lorry following an angioplasty.

What are the possible risks, complications or side-effects?

One of the most common problem is that a bruise may form under the skin where the thin, flexible catheter was inserted (usually the groin). This is not serious but it may be sore for a few days.

Failure of the procedure

Sometimes it is not possible to stretch the narrowed artery. An alternative treatment for angina called coronary artery bypass grafting may then be an option. However, most people feel that it was worth trying an angioplasty first. This is because, unlike bypass grafting, it does not involve major surgery.

Long-term complications

In some cases, the fatty patches, or "plaques", (atheroma) re-form within the small tube (stent) over the following few months and years. This may narrow the artery again and angina pains may return. It is difficult to give figures as to how often this occurs. If it does, the procedure can be repeated, or other treatments for angina can be considered, such as coronary artery bypass grafting.

Newer techniques are being developed to try to prevent this possible problem. For example, stents that are coated with chemicals which prevent the local formation of atheroma are being developed. It may be that these coated stents (called "drug-eluting stents") will be commonly used in the near future.

Coronary Arterial Bypass Graft (CABG)

A Coronary Arterial Bypass Graft (CABG) is a surgical procedure used to treat coronary heart disease.

It diverts blood around narrowed or clogged parts of the major arteries to improve blood flow and oxygen supply to the heart.

Like all organs in the body, the heart needs a constant supply of blood. This is supplied by two large blood vessels called the left and right coronary arteries.

Over time, these arteries can become narrowed and hardened by the build-up of fatty deposits called plaques.

This process is known as atherosclerosis. People with atherosclerosis of the coronary arteries are said to have coronary heart disease.

Your chances of developing coronary heart increase with age. You're also much more likely to be affected if:

- you smoke
- you're overweight or obese
- you have a high-fat diet

Coronary heart disease can cause angina, which is chest pain that occurs when the supply of oxygen-rich blood to the heart becomes restricted. While many cases of angina can be treated with medication, severe angina may require a coronary artery bypass graft to improve the blood supply to the heart.

Another risk associated with coronary heart disease is the possibility of one of the plaques in the coronary artery rupturing (splitting), creating a blood clot. If the blood clot blocks the blood supply to the heart, it can trigger a heart attack. Therefore, a coronary artery bypass graft may also be recommended to reduce your chances of having a heart attack.

The procedure

A coronary artery bypass graft involves taking a blood vessel from another part of the body – usually the chest, leg or arm – and attaching it to the coronary artery above and below the narrowed area or blockage. This new blood vessel is known as a graft.

The number of grafts needed will depend on how severe your coronary heart disease is and how many of the coronary blood vessels are narrowed.

After surgery

After having a coronary artery bypass graft, most people will experience a significant improvement in symptoms such as breathlessness and chest pain, and their heart attack risk will be lowered.

However, it's important to be aware that a coronary artery bypass graft isn't a cure for coronary heart disease. If you don't make lifestyle changes, such as eating a healthy diet and exercising regularly, your grafted arteries will also eventually become hardened and narrowed.

In some cases, a coronary artery bypass graft may need to be repeated or you may need a procedure to widen your arteries using a small balloon and a tube called a stent (coronary angioplasty).

Implantable Cardioverter Defibrillator (ICD)

Abnormal heart rhythms (or arrhythmias) can cause your heart to beat too quickly, too slowly or in an irregular pattern. These heart rhythms can happen suddenly and unexpectedly and sometimes people die as a result.

ICDs work by detecting any abnormal heart rhythms that may occur. If your heart rhythm is too slow, the device can give your heart extra support by working as a normal pacemaker. If your heart beats too fast, the ICD can give you a burst of extra beats at a slightly faster rate which should return your heart back to a normal rhythm, or it can give you a shock (defibrillation) to restore a regular heartbeat.

How does an ICD work?

Your ICD constantly monitors your heart rhythm through the electrodes. If it notices a dangerous heart rhythm it can deliver the following treatments:

- **Pacing** – a series of low-voltage electrical impulses (paced beats) at a fast rate to try and correct the heart rhythm
- **Cardioversion** – one or more small electric shocks to try and restore the heart to a normal rhythm
- **Defibrillation** – one or more larger electric shocks to try and restore the heart to a normal rhythm

Living with an ICD

It's very important to have regular follow-up appointments at your ICD clinic, so you can have your ICD checked. Your appointments may be every three to 12 months, depending on the type of ICD you have and if it has delivered any treatment. You will need to have follow-up appointments for the rest of your life.

You may have to make some changes to your lifestyle, for instance if you drive or take part in contact sports. You also need to be aware of how some electronic devices, such as TENS machines or airport security systems, can affect your ICD.

Pacemaker

How do they work?
Your heart's sinus node is your natural pacemaker. It sends an electrical impulse to make your heart beat. The job of a pacemaker is to artificially take over the role of your sinus node. Electrical impulses are sent by the pacemaker to stimulate your heart to contract and produce a heartbeat. Most pacemakers work just when they're needed – on demand. Some pacemakers send out impulses all of the time – this is called fixed rate.

Pacemakers do not give your heart an electrical shock.

Education: risk factors

You may have heard the term “risk factor” before. A risk factor is something that can increase your probability of acquiring a disease. There are some risk factors such as your sex, age, family history and ethnic background that you can do nothing about, but there are others that are in your control and that you can influence by changing your lifestyle and habits. These changes can help you maintain a healthy heart and help reduce the risk of further issues.

Smoking

Smoking is one of the main contributors to coronary heart disease and can increase the risk of having a heart attack. So, if you smoke, stop!

It is a major risk factor for developing atherosclerosis (furring of the arteries).

Stopping smoking is the most important change that you need to make and is certainly one of the hardest habits to break. If you have had a cardiac event, then stopping smoking is imperative for your health.

Quitting smoking will not just help your heart health but it will enable you to:

- Breathe more easily
- Give you more energy
- Have a better sex life
- Improve your smell and taste
- Live longer
- Protect the health of your loved ones

Stop smoking treatments (smoking cessation)

There are different treatments available to you but the best treatment will be dependent on your age, medical conditions and on your personal preference.

- Nicotine Replacement Therapy (NRT) This medication provides you with a low level of nicotine but without the nasty chemicals. It can help to reduce the cravings and bad moods that occur when you are stopping smoking. NRT can be purchased from pharmacies and can be available on prescription from your GP or an NHS stop smoking service, if you have had a recent cardiac event then it is important to get advice from a healthcare professional. NRT is available in different forms such as patches, chewing gum, tablets etc.
- Varenicline (brand name Champix) This is a medication that works in two ways:
  1. It helps to reduce the cravings
  2. It blocks the rewarding and reinforcing effects of smoking

  Varenicline is a prescription only medication. You will need to contact your GP or visit a NHS stop smoking service. It is in tablet form and a course normally lasts around 12 weeks.
- Bupropion (brand name Zyban) This medication in the past has been used to treat depression but it has been found to be beneficial to those who wish to give up smoking due to its effect on addictive behaviour. Bupropion is prescription only.
- E-cigarettes E-cigarettes are electronic devices that deliver nicotine as a vapour. It therefore allows you to inhale nicotine without most of the nasty chemicals. The long-term use of e-cigarettes is unknown as they are fairly new so research and evidence is still in development. There is research that demonstrates that they can help you give up smoking. E-cigarettes are not available on prescription so, therefore you will need to purchase one.

Local Stop Smoking Services

There’s a free local Stop Smoking Service near you. Studies show that you’re four times more likely to quit with help. Developed by experts and ex-smokers and delivered by professionals, your local Stop Smoking Service provides expert advice, support and encouragement to help you stop smoking for good.

For your local Stop Smoking Service visit the NHS smokefree website and enter your postcode

https://www.nhs.uk/smokefree/help-and-advice/local-support-services-helplines

High blood pressure

Hypertension, also known as high blood pressure is a long-term medical condition in which the blood pressure in the arteries is persistently elevated.

You may not know that you have high blood pressure as there are often no symptoms, it is usually something that you are not aware of.

The only way of knowing if you have high blood pressure is to have it checked by your GP or practice nurse or if you have used your own BP monitor. It is recommended that all adults should have their blood pressure checked regularly.

Your heart pumps blood around your body to deliver oxygen and energy. A degree of pressure in your blood vessels is needed to do this. However, if there is too much pressure it can create added strain on your arteries and heart which over time can lead to serious conditions such as:

- → Heart attack
- → Atrial fibrillation
- → Heart failure
- → Kidney disease
- → Stroke
- → Vascular dementia

Unfortunately, the risk of having high blood pressure increases with age.

There isn't always a clear cause of high blood pressure but there are a number of factors which increase the risk:

- → Diet
- → Lifestyle
- → Age
- → Ethnic origin
- → Family history
- → Other medical conditions, such as diabetes.

High cholesterol

Cholesterol is a fatty deposit known as a lipid and it is important in assisting your body to function. The substance is made by the liver but can also be found in some foods.

Your health can be effected by having very high levels of lipids in your blood. Like high blood pressure having high cholesterol by itself does not usually cause any symptoms but it increases your chance of serious health problems.

Cholesterol is carried in your blood by proteins and when the two mix they are called lipoproteins. There are two main types and they are high-density lipoproteins (HDL) and low-density lipoproteins (LDL) and they function differently.

HDL is often referred to as "good cholesterol" and it carries the cholesterol away from the cells and back to liver where it is broken down and you pass this when you go to the loo. Higher levels of this type of cholesterol are considered good. LDL is the bad type of cholesterol. This is carried to the cells that require it but if there is too much it can cause a build-up in the artery walls which can lead to disease of the arteries. Cholesterol in the blood is measured via a blood test.

It is vitally important to lower the levels of the low-density lipoproteins as they increase your chance of:

- → Heart attack
- → Narrowing of the arteries
- → Stroke
- → Peripheral arterial disease

The risk of developing coronary heart disease also increases if you have excessively high levels of cholesterol. It is also linked to angina.

What causes high cholesterol?

- → Smoking
- → An unhealthy diet (high levels of saturated fat)
- → Family history
- → Having other medical conditions such as diabetes or high blood pressure

What should my cholesterol levels be?
Blood cholesterol is measured in units called millimoles per litre of blood, often shortened to mmol/L.

NHS choices state that as a general guide, total cholesterol levels should be:

- → 5 mmol/L or less for healthy adults
- → 4 mmol/L or less for those at high risk

As a general guide, LDL levels should be:

- → 3 mmol/L or less for healthy adults
- → 2 mmol/L or less for those at high risk

An ideal level of HDL is above 1 mmol/L. A lower level of HDL can increase your risk of heart disease.

Your ratio of total cholesterol to HDL may also be calculated. This is your total cholesterol level divided by your HDL level. Generally, this ratio should be below four, as a higher ratio increases your risk of heart disease.

However, cholesterol is only one risk factor and the level at which specific treatment is required will depend on whether other risk factors, such as smoking and high blood pressure, are also present.

Education: lifestyle changes

Smoking

As discussed in the risk factor section of this booklet, stopping smoking is the most significant change you can make to help improve your heart health.

There's a free local Stop Smoking Service near you. Studies show that you're four times more likely to quit with help. Developed by experts and ex-smokers and delivered by professionals, your local Stop Smoking Service provides expert advice, support and encouragement to help you stop smoking for good.

For your local stop smoking service visit the NHS smokefree website and enter your postcode

Diet

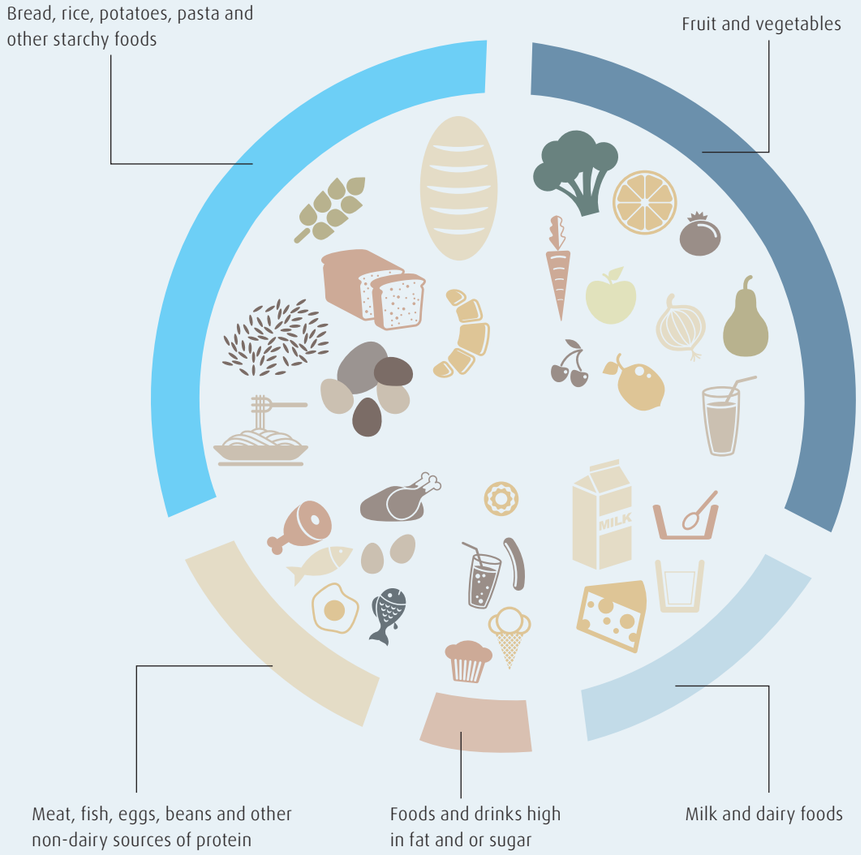
Taking care of what you eat and drink can have a real effect on the health of your heart. Having a healthy diet will help to keep your heart and your blood vessels in good shape. You should monitor what you eat and drink and make healthy changes to improve your diet.

It is vitally important that if you suffer from high blood pressure that you cut down on your salt intake as too much salt raised your blood pressure. Most of the salt you eat is in prepared foods such as bread, ready meals and breakfast cereals so you need to mindful and read the labels on the packaging very carefully and choose low-salt options where you can. You must aim to eat less than 6 g (0.2 oz) of salt a day (which is roughly the size of a teaspoon).

Eating a low-fat diet that includes a lot of fibre and plenty of fruit and vegetables helps to keep your heart healthy.

For example:

- → Pasta preferably whole-wheat
- → Rice
- → Cereal – oats, bran, wholegrain
- → Legumes – lentils, chickpeas, beans
- → Bread – wholegrain, granary or multi-seed
- → Fruit and vegetables



The Eatwell Plate

The NHS has developed the "Eatwell Plate" which highlights the different food groups that make up our diet. It also shows us the proportions in which we should eat these different food groups in order to maintain a healthy and balanced diet.

Using the "Eatwell Plate" will help you to incorporate the five main food groups into your diet and in the right proportions.

Fruit and vegetables

You should be aiming to eat at least five portions of a variety of fruit and vegetables a day as these provide you with essential vitamins, minerals and fibre. Please note that it is not just fresh fruit and vegetables that are included, you can also try dry, frozen or tinned fruit and vegetables. They also do not have to be eaten on their own: they also count if they're part of a meal or dish.

The NHS has provided some simple guidance regarding what counts as a portion size

Fruit
- → Small-sized fresh fruit – one portion is two or more small fruit e.g. two plums, two satsumas, two kiwi fruit, three apricots and 14 cherries
- → Medium-sized fresh fruit – one portion is one piece, such as one banana, apple, pear or orange
- → Large fresh fruit – one portion is half a grapefruit, once slice of melon, one large slice of pineapple or two slices of mango
- → Dried fruit – a portion of dried fruit is about 30 g
- → Fruit juice – A 150 ml glass of unsweetened 100% fruit or vegetable juice counts as one of portion but only one glass counts, so further glasses of juice don't count towards your "five a day" portion

Please be aware that certain food groups interact with common tablets which you may be taking for other conditions. This would include warfarin and statins.

Vegetables
- → Green vegetables – two broccoli spears or four heaped tablespoons of kale, spinach, spring greens or green beans count as one portion
- → Cooked vegetables – three heaped tablespoons of cooked vegetables, such as carrots, peas or sweetcorn, or eight cauliflower florets count as one portion
- → Salad vegetables – three sticks of celery, a 5 cm piece of cucumber, one medium tomato or seven cherry tomatoes count as one portion
- → Tinned and frozen vegetables – these are roughly the same quantity as you would eat for a fresh portion.
- → Potatoes – do not count as part of your "five a day".

Carbohydrates (starchy food groups)

These include potatoes, bread, pasta, cereals and rice and should make up about a third of what you eat. To include more fibre you could consider using wholegrain options.

Starchy foods are a good source of energy and the main source of a range of nutrients in our diet. As well as starch, they contain fibre, calcium, iron and B vitamins. You may think starchy foods are fattening, but gram for gram they contain fewer than half the calories of fat. Just watch out for the added fats used when you cook and serve them: this is what increases the calorie content.

Milk and dairy

This food group includes milk, yoghurt and cheese which provide you with protein and calcium. Our bodies need protein to work properly and to grow and repair themselves. Calcium helps to keep our bones and teeth strong. The calcium in dairy foods is particularly good for us because our bodies absorb it easily.

Lower fat options are widely available as a healthier alternative.

Protein

Proteins are essential in keeping our bodies strong and also aid repair. They can be found in meat (some meats are higher in protein than others), fish, eggs, tofu and beans. It is recommended to have a portion of protein at two meals throughout the day.

Meat is a good source of protein, vitamins and minerals in your diet. However, the Department of Health has advised that people who eat a lot of red and processed meat a day (more than 90g cooked weight) should cut down to 70g per day.

Red meat provides us with iron, and meat is also one of the main sources of vitamin B12.

A healthy diet should include at least two portions of fish a week, including one of oily fish. That's because fish and shellfish are good sources of many vitamins and minerals. Oily fish – such as salmon and fresh tuna – is also particularly high in long-chain omega-3 fatty acids, which may help to keep your heart healthy.

Sugar and fats

A small amount of sugar and fat can be incorporated into your diet. This will help provide you with vitamins A & E, D and K. It is important to avoid foods that contain a lot of saturated fat as this has a direct impact on your blood pressure. Saturated fats can be found in red meats, butter, palm oil or ghee.

Polyunsaturated fats and monounsaturated fats can be found in olive oil, rapeseed oil or sunflower oil and their spreads. These fats will not raise your cholesterol levels, however, they can still cause you to put on weight if you eat too much.

Saturated fat guidelines
An average sized man should consume less than 30 g a day An average sized woman should consume less than 20 g a day

Saturated fats can be found in
- → Fatty cuts of red meats
- → Sausages/pies
- → Butter, palm oil and ghee
- → Hard cheese and cream
- → Biscuits, cakes and pastries

Anyone with special dietary requirements or medical needs should check with a healthcare professional to ensure the "Eatwell Plate" applies to them.

How can you stick to making the changes to your diet?

- → Learn more about your food. Check the labels and make more meals from scratch so you know what you are eating
- → Don't think about the things you are giving up but think about trying new things instead
- → Get the family involved, these changes will benefit everyone
- → Menu plan – plan ahead for meals and snacks. Make sure you have healthy food nearby to stop you reaching for the fatty or salty foods
- → Be sensible – you cannot try everything at once. Take small steps and build upon them

Weight

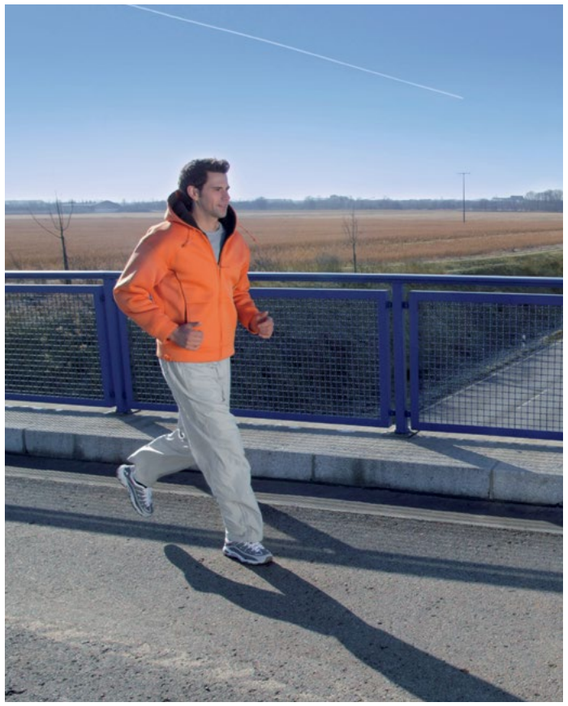
Being overweight forces your heart to work harder to pump blood around your body, which can raise your blood pressure. Check out the BMI chart opposite to see if you need to lose weight. If you do need to shed some weight, it is worth remembering that just losing a few pounds will make a big difference to your blood pressure and overall health.

If you would like free local support to help you lose weight, you can visit the NHS weight loss plan at

http://www.nhs.uk/livewell/loseweight/Pages/Loseweighthome

Another option is to download NHS weight loss plan to your smartphone. Enter the web address on your internet browser

http://www.nhs.uk/tools/Pages/Toolslibrary.aspx?Tag=Lose+weight



BMI chart

Weight lbs	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215
kgs	45.5	47.7	50.0	52.3	54.5	56.8	59.1	61.4	63.6	65.9	68.2	70.5	72.7	75.0	77.3	79.5	81.8	84.1	86.4	88.6	90.9	93.2	95.5	97.7
Height in/cm	Underweight					Healthy					Overweight					Obese				Extremely obese				
5’0’’/152.4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
5’1’’/154.9	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	36	37	38	39	40
5’2’’/157.4	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	33	34	35	36	37	38	39
5’3’’/160.0	17	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	32	33	34	35	36	37	38
5’4’’/162.5	17	18	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	32	33	34	35	36	37
5’5’’/165.1	16	17	18	19	20	20	21	22	23	24	25	25	26	27	28	29	30	30	31	32	33	34	35	35
5’6’’/167.6	16	17	17	18	19	20	21	21	22	23	24	25	25	26	27	28	29	29	30	31	32	33	34	34
5’7’’/170.1	15	16	17	18	18	19	20	21	22	22	23	24	25	25	26	27	28	29	29	30	31	32	33	33
5’8’’/172.7	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	32	32
5’9’’/175.2	14	15	16	16	17	18	19	20	20	21	22	22	23	24	25	25	26	27	28	29	29	30	31	31
5’10’’/177.8	14	15	15	16	17	18	18	19	20	20	21	22	23	23	24	25	25	26	27	28	28	29	30	30
5’11’’/180.3	14	14	15	16	16	17	18	18	19	20	21	21	22	23	23	24	25	25	26	27	28	28	29	30
6’0’’/182.8	13	14	14	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29
6’1’’/185.4	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28
6’2’’/187.9	12	13	14	14	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27
6’3’’/190.5	12	13	13	14	15	15	16	16	17	17	18	19	20	20	21	21	22	23	23	24	25	25	26	26
6’4’’/193.0	12	12	13	14	14	15	15	16	17	17	18	18	19	20	20	21	22	22	23	23	24	25	25	26

Alcohol

If you drink alcohol above the NHS recommended levels on a regular basis you are increasing your risk of raising your blood pressure. It is important to stay within the recommended levels if you drink alcohol.

- → Men and women are advised not to regularly drink more than 14 units a week
- → Spread your drinking over three days or more if you drink as much as 14 units a week

Alcohol contains calories so therefore can have an impact on weight. You can try low-alcohol options and lower strength beers. Always check the label to ensure how many units the bottle/can contains. If you drink at home it is worth buying a measure so that you know how much you are drinking.

If you think you may have a problem with the amount of alcohol you drink, talk to your family doctor or practice nurse.

Alcohol awareness chart

Pint cider
ABV 5.3%
3 units

Pint larger
ABV 5.2%
3 units

Pint bitter
ABV 5%
2.8 units

Half pint cider
ABV 5.3%
1.5 units

Half pint larger
ABV 5.2%
1.5 units

Bottle larger
ABV 5.2%
1.7 units

White wine (175ml)
ABV 13%
2.3 units

Red wine (125ml)
ABV 12.5%
1.6 units

Champagne (175ml)
ABV 11.5%
2 units

Bottle of wine
ABV 13.5%
10 units

Double cognac
ABV 40%
2 units

Doubke whisky
ABV 40%
2 units

Double whisky
and coke – ABV 40%
2 units

Single gin and tonic
ABV 40%
1 units

Pimms
ABV 25%
1.3 units

Sambuca shot
ABV 42%
1 units

Alcopop
ABV 5%
1.4 units

Practical advice: driving

Condition	Car or motorcycle licence	Bus, coach or lorry licence
Angina	You don't need to tell DVLA if you have angina. You may continue to drive if you have angina (even if you need medication) unless it happens while resting, driving, or with emotion. You must stop driving until your symptoms are under control if it does.	You must tell DVLA if you have angina. You will need to complete a **form VOCH1** and send it to DVLA.
Heart, cardiac and coronary angioplasty	You don't need to tell DVLA that you've had a heart, cardiac or coronary angioplasty. However, you must stop driving for at least one week after this procedure. Only start driving again when your doctor says you're safe to do so.	You must tell DVLA if you've had a heart, cardiac or coronary angioplasty. You must stop driving for at least six weeks after this procedure. You will need to complete a **form VOCH1** and send it to DVLA.
Arrhythmia	You must tell DVLA about your arrhythmia if one of the following applies: → you have distracting or disabling symptoms → your arrhythmia has caused or might cause incapacity	You must tell DVLA if you have arrhythmia. You will need to complete a **form VOCH1** and send it to DVLA.
Atrial and ventricular defibrillators (Implantable cardioverter defibrillator)	You must tell DVLA if you have an atrial or ventricular defibrillator.	You must tell the DVLA. You will need to complete a **form VOCH1** and send it to DVLA.
Blood pressure	Ask your doctor if you're not sure if your blood pressure treatment will affect your driving. You must tell DVLA about your condition if your treatment causes side effects that could affect your driving.	You must tell DVLA if you have blood pressure problems. Fill in **form BP1** and send it to DVLA.
Congenital heart disease	You must tell the DVLA if you have congenital heart disease	You must tell the DVLA. You will need to complete a form **VOCH1** and send it to DVLA.
Coronary artery bypass or disease	You don't need to tell DVLA if you have a coronary artery bypass or disease. You should stop driving for at least one month and only restart driving when your doctor tells you it's safe.	You must tell DVLA if you have a coronary artery bypass or disease. You should stop driving for at least 3 months and only restart. Drive only when your doctor tells you it's safe. Fill in form **VOCH1** and send it to DVLA.
Cardiac problems	You don't need to tell DVLA if you have cardiac problems. However, you should stop driving and only restart when your doctor says it's safe to do so.	You must tell DVLA if you have cardiac problems. Fill in form **VOCH1**.
Heart attack (myocardial infarction)	You don't need to tell DVLA if you've had a heart attack. You must stop driving for at least 1 month and only restart driving when your doctor tells you it's safe.	You must tell DVLA if you have had a heart attack. Fill in form **VOCH1.**
Heart failure	You don't need to tell DVLA if you've had heart failure. You must stop driving for at least 1 month after your heart failure is under control. You must only restart driving when your doctor tells you it's safe.	You must tell DVLA if you have heart failure. Fill in **form VOCH1.**
Heart valve disease or replacement valve	You don't need to tell DVLA. You should stop driving for at least one month and only restart driving when your doctor tells you it's safe.	You must tell DVLA if you have heart valve disease or a replacement valve. Fill in form **VOCH1.**
Hypertension (high blood pressure)	You don't need to tell DVLA if you have high blood pressure.	You must tell DVLA if you have high blood pressure. Fill in **form BP1** .
Pacemakers	You must tell DVLA if you have been fitted with a pacemaker.	You must tell DVLA if you have a pacemaker fitted. Fill in form **VOCH1.**

Driving

If you drive and you have been diagnosed with a heart condition or have suffered a cardiac event it does not necessarily mean you will have to stop driving. Your doctor will advise you on when you can start driving again. It will be dependent on what kind of heart condition you have and the treatment that you are undergoing.

In some circumstances you will need to inform the DVLA. It is important to note that you can be fined up to £1,000 if you don't tell the DVLA about a medical condition that affects your driving. You may also be prosecuted if you are involved in an accident as a result.

The list of conditions opposite is not exhaustive and if you have any doubt please contact your doctor and the DVLA.

You can visit

www.gov.uk/health-conditions-and-driving for further information or call them on **0300 790 6806**.

Regardless of what kind of driving licence you hold it is very important to inform your car insurers that you have a heart condition. Failure to do so may render your insurance invalid.

Returning to work

For the majority of people who have been diagnosed with a heart condition and having received treatment they will be able to return to work. However, how soon you return to your job will be dependent on a number of factors:

- the type of heart condition you have
- the type of treatment you have received
- how you are recovering
- the kind of job you do

Your doctor or the cardiac rehab team will be able to discuss this with you.

You may want to discuss with your employer the opportunity to undertake a phased return to work. You could start your return with shorter days or lighter work for a while.

By participating in cardiac rehabilitation this will help with your recovery and will build not only your fitness but your confidence too.

The British Heart Foundation have an information booklet dedicated to returning to work you can download a version by visiting the following the link or order a printed copy. www.bhf.org.uk/publications/heart-conditions/returning-to-work-with-a-heart-condition

Personal relationships

You and your partner may feel anxious about resuming your sex life after being diagnosed with a heart condition or after having heart surgery. This is very normal. You can resume sexual activity as soon as you feel well enough.

You may experience a loss in your sex drive but do not worry this is very natural as you have experienced a life changing event. There is a possibility that the medication you are taking may be a contributing factor. Please do not be embarrassed to speak to your doctor.

Holidays

Having a heart condition or experiencing a cardiac event should not stop you from enjoying a holiday. However, it is recommended that you do not travel for 12 weeks after being diagnosed with a heart condition or having had heart surgery.
If you wish to travel abroad then it is very important that you have the right level of travel insurance and that you declare your medical condition.

Before travelling speak to your doctor to get advice on whether it is safe for you to travel.

The British Heart Foundation have extensive advice on holidays and travelling abroad – please visit their website www.bhf.org.uk

Managing stress

Being diagnosed with a heart condition or recovering from a cardiac event can be stressful enough but it is important for your health to try and manage stressful situations. “Being stressed” can lead you to unhealthy habits such as returning to smoking, alcohol and a bad diet. It is important to control your stress levels by learning to what situations maybe the cause. Try to avoid these situations if that is not possible then you will need to have coping mechanisms. Your cardiac rehab team will take you through techniques to help you manage and cope with these stressful situations. You can also seek advice from your doctor.

Long term management of your condition

Hopefully this programme will show you that small changes to your life can make significant improvements to your health.

It is important to maintain your activity once you have completed this phase of your rehabilitation. The cardiac rehab team will provide you with details of the maintenance programme that is run locally to you and will also provide details of leisure centres that you are able to join to help you maintain your recovery.

Relaxation and psychological support

Whilst exercise is a key factor to your recovery, relaxation is also a very important part of rehabilitation. The team will take you through some techniques to help you to relax. Did you know that stress can cause us to tense our muscles so it is important to learn how to relax those tense muscle groups!

Good relaxation techniques have many benefits:

- Reduces muscle tension
- Decreases breathing rate and heart rate
- Decreases blood cholesterol
- Decreases blood pressure and volume
- Reduces tiredness and improves energy levels
- Helps you manage your stress levels
- Improves sleep
- Improves self-confidence in maintaining healthy lifestyle changes

Psychological support

During your rehabilitation you will be offered advice on how to manage your stress. In addition, you will also be offered support, if you feel you need it, on coming to terms with your heart condition. If you would like further support our team can refer you onto a specialist team. Please do not hesitate to ask for further information

Maintenance and support groups

It can be very beneficial to meet and talk to other people who have had similar health complications. Hopefully, you will have met some likeminded people during your rehabilitation classes, however there are also additional local and national support groups where you can talk about your own experience and hear other people's stories, join an exercise class and hear from experts.

National support groups

British Heart Foundation
www.bhf.org.uk

British Hypertension Society
www.bhsoc.org

British Cardiac Society
Web-site: www.bcs.com

Local support groups

Middleton Heartline
www.middletonheartlineclub.co.uk
Tel 0161 662 4000

Rochdale Heartbeat
www.rochdaleheartbeat.co.uk
Tel 01706 372 199

Living Well/Thinking Ahead
www.thebiglifegroup.com

These centres will support you in a number of areas including:
- → Stop smoking
- → Health trainers
- → Exercise plans

Maintenance groups

Once you have completed your six week rehab programme (consisting of 12 sessions) you will be given the opportunity to be referred onto a local maintenance group.

These classes last for one hour and you can attend for as long as you feel necessary. In addition, there are a number of local classes held in leisure centres and gyms specifically for people who have a heart condition. The team can refer you to these classes or any of the other support groups such as stop smoking.

Don't forget that there is nothing stopping you setting up your own walking group or support group.

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