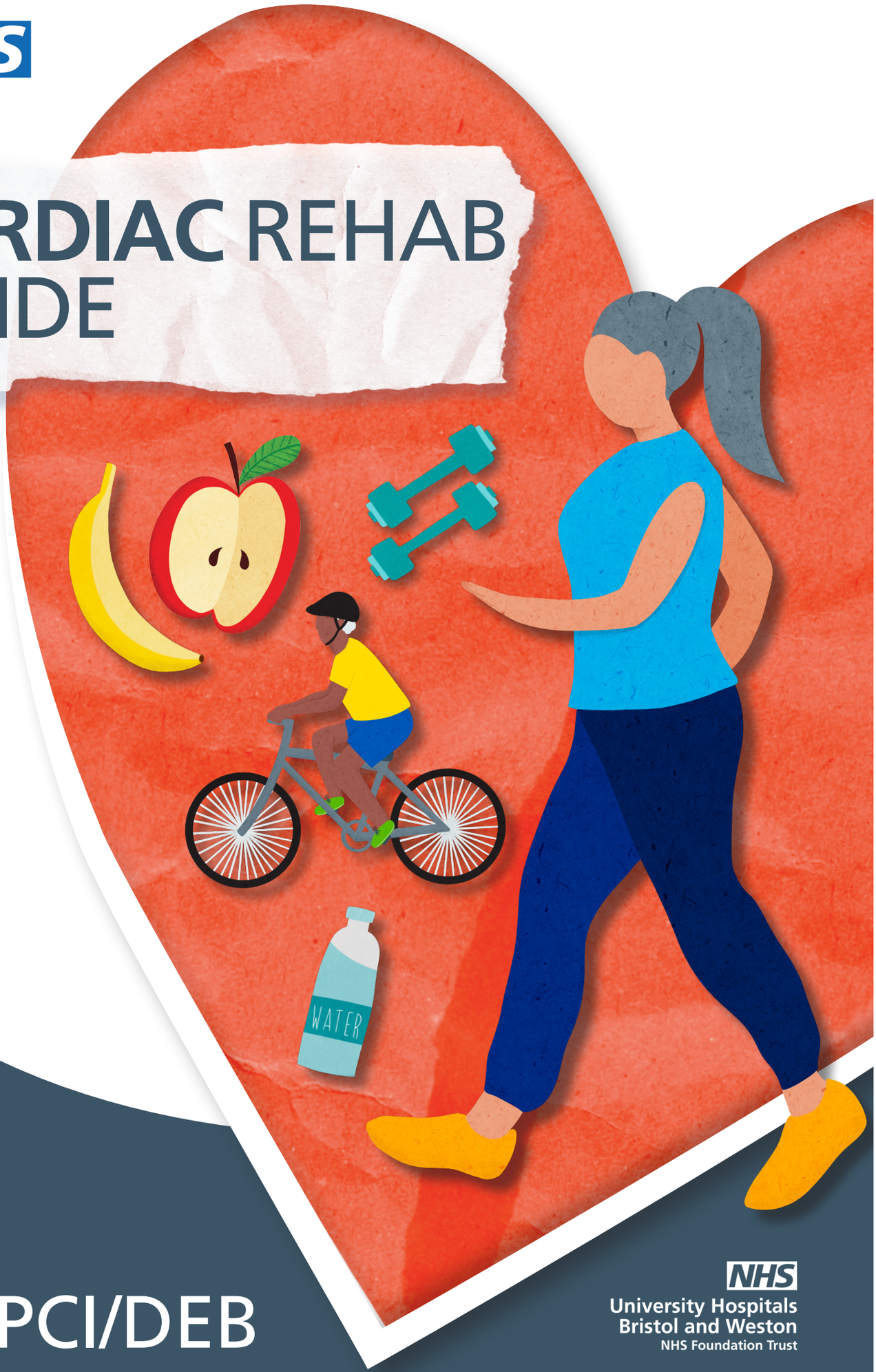
NHS

CARDIAC REHAB GUIDE



MI/PCI/DEB

NHS
University Hospitals Bristol and Weston
NHS Foundation Trust

Cardiac Rehab Guide, MI/PCI/DEB 3rd Edition

Published by University Hospitals Bristol and Weston NHS Foundation Trust, Trust Headquarters, Marlborough St, Bristol, BS1 3NU.

Printed by University Hospitals Bristol and Weston NHS Foundation Trust.

Contents

PART 01

CHAPTER ONE 1
Your heart

CHAPTER TWO 9
Advice for going home

PART 02

Core Rehabilitation (at home)

CHAPTER THREE 17
Risk factors

CHAPTER FOUR 25
Week 1: Just home

CHAPTER FIVE 41
Week 2: Lifestyle & well-being

CHAPTER SIX 63
Week 3: Physical activity and exercise

CHAPTER SEVEN 79
Week 4: Healthy eating

CHAPTER EIGHT 103
Week 5: Diabetes and high blood pressure

CHAPTER NINE 111
Week 6: My maintenance plan

CORE CARDIAC REHAB

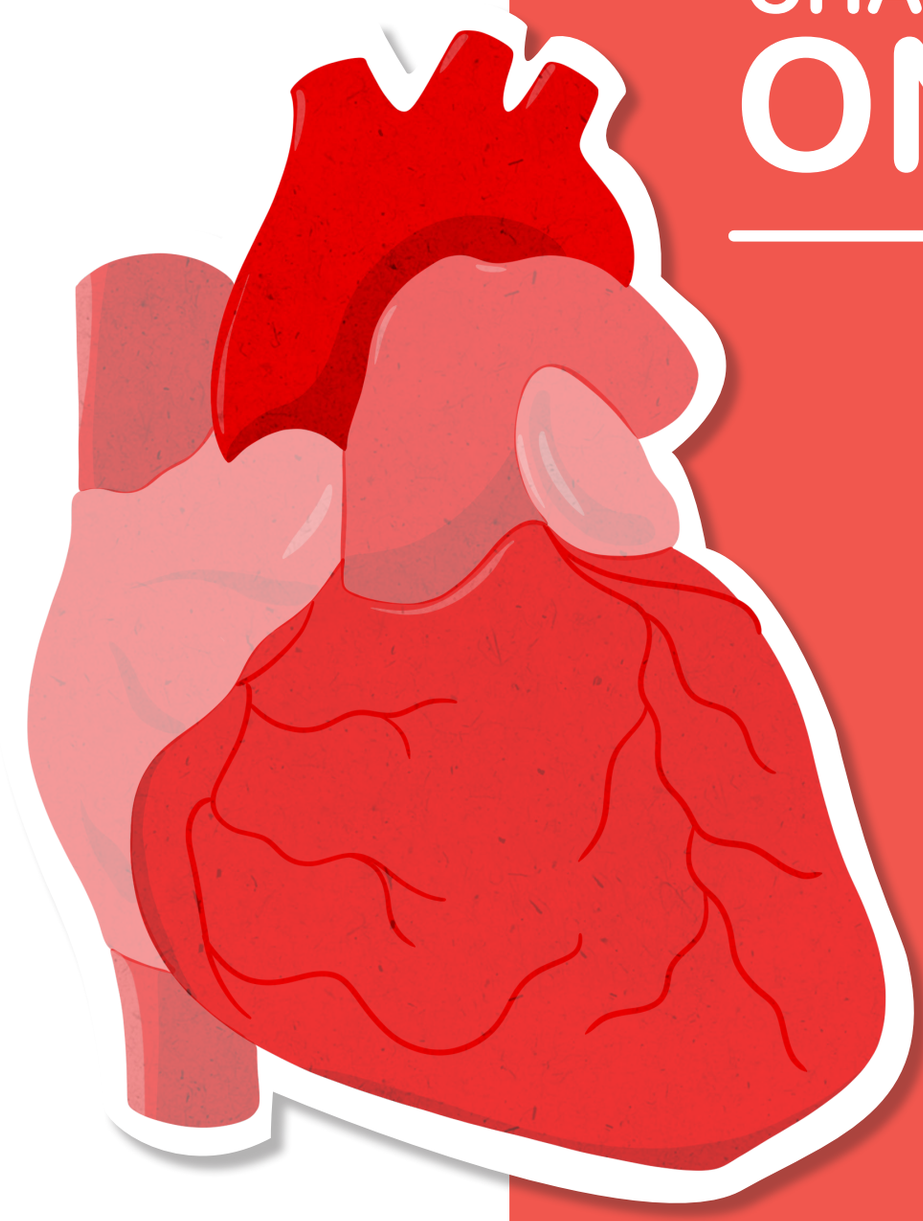
PART 03

Useful Information

Medication 122
Glossary of terms 128
Standing exercise programme 129
Seated exercise programme 133
Additional cardiac rehab logs 140
Behaviour change diary 162
Useful contacts 167

PART 01 YOUR HEART

CHAPTER ONE



Your Heart

Introduction	2
What is coronary artery disease?	2
What is angina?	3
What is a heart attack?	4
Recognising chest pain	5

PART 01 YOUR HEART

Welcome to your rehabilitation guide for people who have had either a heart attack (also known as a myocardial Infarction or MI), a percutaneous coronary intervention (PCI or stent), or a drug eluting balloon (DEB). This guide will help explain your heart condition, the procedure you have had as well as the medical treatment. The guide will also assist you in your recovery and help you in making lifestyle changes to help improve your heart health as well as your general health and fitness.

Each chapter represents a different week of your recovery and will cover the different risk factors to heart disease and will tackle how to reduce your personal risk factors, giving you the knowledge and skills to help your recovery. Please do not hesitate to ask any questions you may have.

This is your personal rehabilitation guide; you have been assessed by a professional to make sure it is appropriate for you. Please do not share the content with others, as it might be the wrong advice for them. They will need to be assessed by a healthcare professional who can give them the appropriate advice and support.

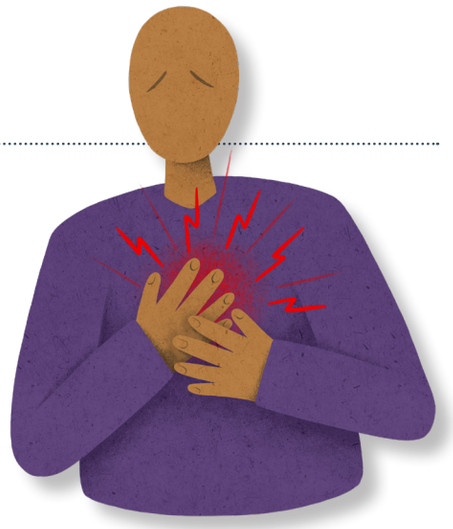
What is coronary artery disease?

The heart is a muscle which needs a blood supply to get oxygen and nutrients for it to be able to pump blood around the body. The heart's oxygen is carried through the coronary arteries (blood vessels). If the arteries become narrowed, this reduces the blood supply to the heart causing symptoms such as chest pain or angina. Angina can feel like tightness or chest discomfort, or it can present as arm or jaw pain. Some people may experience shortness of breath. If the arteries get completely blocked this is called a myocardial infarction (MI) commonly known as a heart attack.

Coronary artery disease is the gradual thickening of the arteries, which makes the arteries narrower meaning that less blood can flow through them. This process takes a long time and happens over years. Atheroma is the medical term for abnormal fatty deposits in an artery. These fatty deposits are made of cholesterol which builds up in the arteries, it can be made worse by the arteries becoming damaged or inflamed. It is usually only part of an artery which is affected and sometimes this narrowing can happen in several of the arteries.

The heart has three main coronary arteries: the left, right and the circumflex, there are also smaller arteries that branch off the main arteries.

What is angina?



Angina is the term used to describe symptoms that occur when the supply of oxygen-rich blood to the heart becomes restricted. Angina can be brought on by several different factors including:

- physical activity
- stress or emotional upset
- eating a heavy meal
- cold weather

Although angina does not damage the heart it is important to learn how to monitor and manage the symptoms effectively.

What are the symptoms of angina?

The symptoms of angina differ for each person. It can cause pain, discomfort, aching, tightness, pressure, burning or occasionally severe breathlessness. You may feel the angina pain in one or more of the areas:

- in the chest
- in one or both arms
- across the shoulders
- in the neck, throat or jaw
- across the back
- in the upper abdomen (often a burning sensation)

If the pain or discomfort is eased completely by resting or taking your GTN spray/ tablets, it is likely to be angina. Sometimes it will not be appropriate for you to have GTN, if this is the case your doctor or nurse will discuss this with you.

You should see your GP if:

- your symptoms start to increase in severity and frequency
- GTN becomes less effective leading to increased usage
- your symptoms begin to occur on minimal effort or at rest

These are signs that your angina is becoming worse. Angina can be described as either stable or unstable.

PART 01 YOUR HEART

Stable angina is when symptoms occur with an increase in physical demand. For instance, it is triggered by a particular event such as activity or emotion. With stable angina, when you are at rest, enough blood is reaching the heart muscle but when your heart has to work harder (exercise or when emotional), not enough blood is delivered through the narrowed arteries causing angina symptoms. Symptoms of stable angina should ease after a few minutes of rest and taking GTN spray/ tablets. Stable angina is usually well controlled with medication.

Unstable angina is when you get angina for the first time, or your stable angina gets worse and unpredictable. The angina symptoms may come on with less activity or at rest. If you experience angina symptoms at rest, even if it is relieved by GTN spray or tablets, you will need to discuss this with your GP within 24 hours. If your symptoms last for 15 minutes and are not fully relieved by your GTN (see GTN protocol on page 167) then **call 999.**

Many people learn to live with their angina. It is important to still be as active and pace your activity so it doesn't bring on your angina or make you too breathless, this will be discussed in more detail in chapter six; Physical activity and exercise. Not everyone who has a heart attack will have angina.

Acute coronary syndrome (ACS) is a term which is used to describe unstable angina and a heart attack.

What is a heart attack? (or myocardial infarction)

This occurs when one of the coronary arteries becomes blocked. This happens when one of the plaques attached to the wall of the coronary artery ruptures. Blood cells called 'platelets' become attracted to the damaged area forming a blood clot. When this occurs part of the heart no longer receives a blood supply and can become damaged as a result. However, over the following 6 to 12 weeks this area will heal and scar over and the remaining healthy heart muscle will start to compensate for this damaged part.

Will I have another heart attack?

Many people ask this question. There are no guarantees for anyone, but after the first few days, the chances of having another heart attack are small and become less as time goes on. Adopting a healthy lifestyle and taking appropriate medication will reduce the risk.

Recognising chest pain

Chest pain symptoms vary for each individual but it's very important that you recognise the various symptoms.

If you are experiencing symptoms associated with a heart attack it is important that you come into hospital as soon as possible because the longer the clot is there the more damage can potentially occur.

How do I know if I have angina?

It is important never to ignore chest pain or discomfort, but it is also sensible to consider other causes such as indigestion or muscular pains. The symptoms of angina may vary from person to person, but the following points may help you to establish the cause.

- Pain is triggered by exertion and eased by resting.
- Although we have used the term 'pain', angina is often described as being an ache, discomfort, tightness, heaviness, or pressure.
- Pain or discomfort may be felt in the chest, although symptoms could also travel up into the neck, throat, or jaw.
- Pain can be felt in one or both arms and in the back, between the shoulder blades.
- The feeling may be like indigestion and be experienced in the upper part of the stomach.
- The symptoms may be like the pain you experienced when you had your heart attack.

PART 01 YOUR HEART

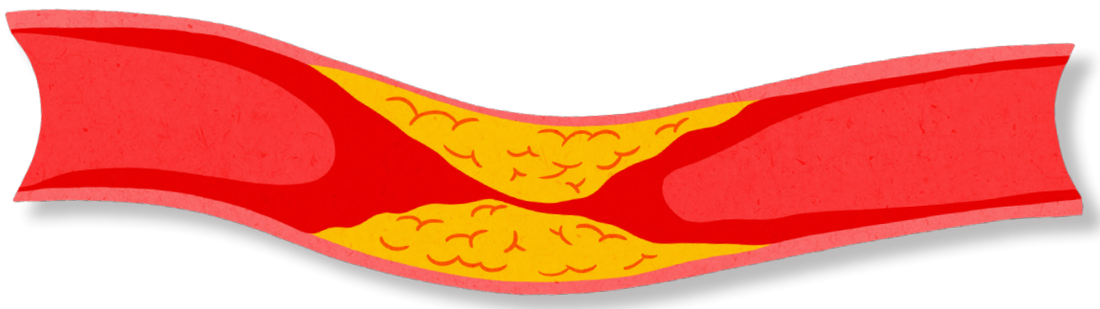
Angiogram is an X-ray picture of your coronary arteries to identify any narrowing or blockages. This involves inserting a long thin tube, called a catheter, into an artery in either your wrist (radial artery) or at the top of your leg (femoral artery). A local anaesthetic will be used to make the area go numb and you may also be given some sedation (medicine which makes you feel relaxed and sleepy during the procedure). The catheter is guided using X-ray images until the tip reaches your heart. A special dye is then injected through the catheter into each of the heart arteries, this shows the position, size and shape of any narrowings or blockage. If no narrowings or blockages are found the procedure will finish at this point.

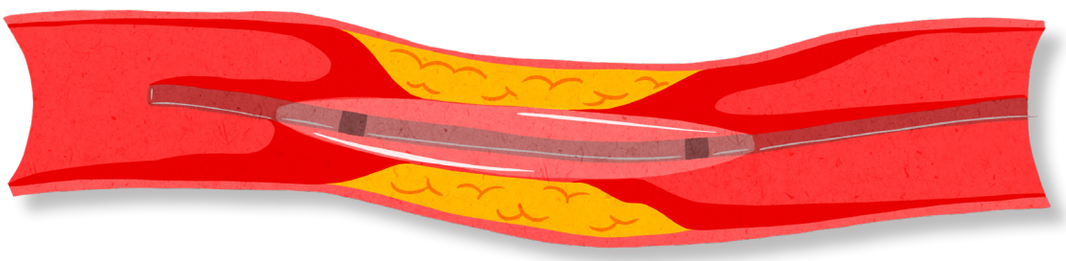
Angioplasty, can also be known as balloon angioplasty and percutaneous transluminal angioplasty (PTA). An angioplasty is a procedure which involves inserting a thin tube with a tiny balloon on the end, into your narrowed coronary artery. The balloon is then inflated to open up your coronary artery, the balloon is then deflated and then removed, which allows more oxygenated blood to reach your heart muscle.

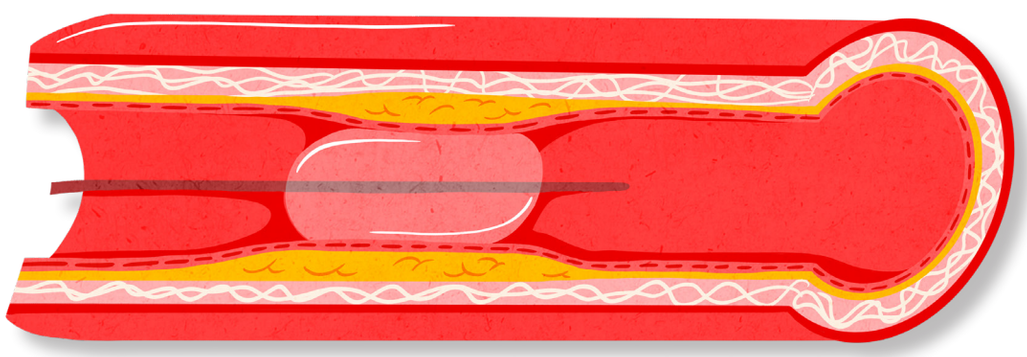
Percutaneous coronary intervention (PCI) is a combination of a coronary angioplasty with stenting. A stent is a small stainless steel wire mesh tube which is then placed in the coronary artery to hold the artery open. It is possible to have more than one stent in more than one artery. A stent will remain in the artery permanently.

Drug eluting balloons (DEB), is very similar to an angioplasty, however the balloons which are used are coated in an anti-restenotic drug (to stop it form narrowing) which is released in to the wall of the blood vessel during inflation of the balloon. This helps protect the blood vessel walls from fatty deposits building up in the blood vessels.

Angioplasty & drug eluting balloons (DEB)







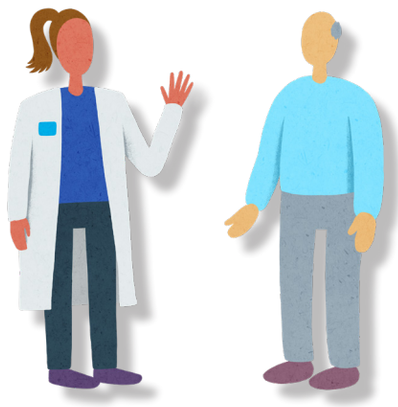
PART 01 ADVICE FOR GOING HOME

CHAPTER TWO

Advice for going home

Advice following sedation 10
General advice when you first go home 11
Road to recovery 14
Ticket to go 15

PART 01 ADVICE FOR GOING HOME



In this section we will tell you a bit more about what to expect after your cardiac event. It is a good idea to read this section before you go home, so you can ask a member of the team looking after you if you have any questions.

Advice following sedation

If you have received any form of sedation during your procedure, you must follow this advice. Sedative, may impair your judgement, over the next 24 hours you are advised to:

- rest
- ensure you are accompanied home by a responsible
- adult who can stay with you

Do not:

- ✕ **take sleeping pills or tranquillisers without medical advice**
- ✕ **drink alcohol**
- ✕ **operate machinery (including kitchen equipment)**
- ✕ **sign any important documents or make a responsible decision**
- ✕ **drive a vehicle**
- ✕ **climb ladders or scaffolding**
- ✕ **be in charge of people**

If you had been told to stop any medication before your angioplasty/stenting, you will be advised by the doctor or nurse when to restart them.

Your future care, you will be given a copy of your discharge letter, an electronic copy will be sent to your GP, together with a copy of your electrocardiogram (ECG). This will inform them of your stay in hospital and the procedures you have had. Following your procedure you will receive a letter for a follow up appointment, or further treatment. If you cannot come to this appointment, please phone the number on the letter to arrange a new time.

General advice: When you first go home

When you first return home you may feel physically and emotionally drained, this is normal. Your recovery may appear slow. It may be helpful to think of your progress week-by-week rather than on a daily basis. It takes time to re-establish normal routines and balance in your life, finding regular sleeping patterns and regaining your confidence will all take time. It is very important to keep active, this will be covered in detail in chapter six, Physical activity and exercise. To start with try to continue the activities and exercises you began in hospital.

Your puncture site has now stopped bleeding, but it takes a further two to three days to heal completely from the inside.

Bruising is normal and may get worse over the next few days, and it may take up to two weeks to completely disappear. If it is painful, take a non-aspirin based painkiller (such as paracetamol) and rest.

If a lump appears at the puncture site, please visit your GP to get it checked or phone the number at the end of this leaflet. In most cases this is a collection of blood under the skin.

If you are a day case patient, you should be collected after the procedure and have someone with you overnight in case of complications, although these are rare. If your puncture site starts to bleed or swells, apply direct pressure and go to the nearest emergency department. If it is bleeding uncontrollably, call 999 for an ambulance.

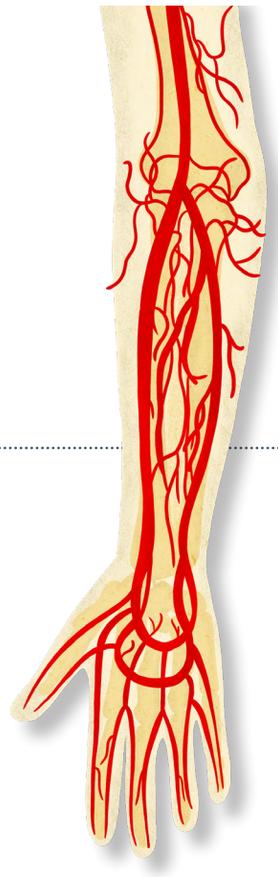
You should not have a bath. However, a quick shower is acceptable. Please ensure the wound site is well dried with a clean towel.

Groin (femoral artery)

If you have had an angioseal inserted (a collagen plug used to seal the artery), this will dissolve over the following 90 days. You will be given a card, which you should keep with you at all times. It is normal to feel a pea-sized lump for these 90 days.

If you have not had an angioseal implanted and you had a member of staff press on your groin for a long period of time, you should ensure your wound is kept clean and dry. In both cases it is important to rest and only take gentle exercise for the next 48 hours.

PART 01 ADVICE FOR GOING HOME



Wrist (radial artery)

If the wound is on your wrist, a small dressing will be applied when the trans radial (TR) band is removed. You may remove this dressing 24 hours after going home in order to prevent the risk of infection. Again, it is important to stick to gentle exercise for the next 48 hours.

Activities of daily living you should avoid lifting, gardening and housework for two to three days. This avoids putting a strain on the healing artery and helps to prevent unnecessary complications. Slowly return to your normal activities within your own limits. Hobbies such as golf, tennis and cycling will be discussed in more detail later on in the guide.

Showering it is okay to shower using your usual shower gel or soap.

Appointments We will arrange an outpatient appointment for you, after your discharge. The details will be sent to you, if you do not receive your appointment letter, you can contact the booking team on 0117 342 5905.

Medications you may have been started on new medicines during your hospital stay. The medications are discussed in more detail in the appendix on page 122. There are lots of medicines started following an event and it is not possible to cover them in this guide. If you'd like further information about your medicines, please speak to the pharmacy team. You will also find information leaflets within the medication boxes. On the day you are discharged, it is common for some medications to change according to the latest ward round decisions. Your medicines will take at least 2 hours after the prescription has been seen by the pharmacist; we appreciate your patience with this.

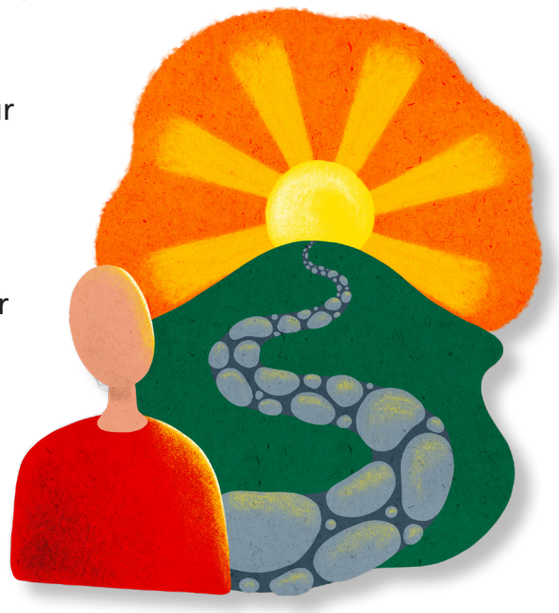
You will receive a discharge summary with your medication, please read this information carefully. The pharmacy will label your medication clearly with your name and directions of how to take them. The discharge summary will state your up-to-date medications and will also be sent to your GP. We advise you make an appointment with your GP to review medications around 1 week after you are discharged from hospital.

PART 01 ADVICE FOR GOING HOME

Road to recovery

Even if you are feeling much better it is important to follow the cardiac rehabilitation guide to help your recovery. It will take time to recover after your cardiac event, usually two to three months (sometimes longer). During your recovery it is normal to experience both good and bad days. As time goes by, good days will become more frequent, and you will have fewer bad days. Your recovery and how you feel will depend on:

- What cardiac event and procedure or treatment you have had.
- If you had any complications.
- Your fitness and how well you were before your cardiac event, if you were restricted with the activities before your event, for instance your walking was restricted due to chest pain or shortness of breath then it may take you longer to recover as your body will be deconditioned.
- Your motivation and mood.



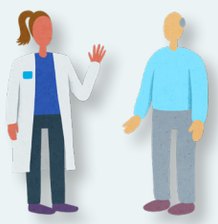
What to expect

- **Feeling tired** is normal, sleep is how the body recovers. Pacing yourself and your activities will help your energy levels.
- **Sleeping difficulties** are common, this can be due to several reasons including; stress, not being physically active enough, lack of routine, pain or discomfort (see page for advice).
- **Worry (anxiety) and sadness (depression)** are often experienced after a cardiac event, this is covered in chapter five, well-being and lifestyle. Be kind to yourself during your recovery (and beyond!)

Remember everyone will recover at different speeds. If you are concerned about your recovery and feel you are not recovering at the pace you think you should discuss this with a medical professional.

Ticket to go

Going home - checklist If you have any concerns, please discuss them with the ward staff before going home.

		✓
	Do you have transport home.	
	Are you aware of the do's and don'ts of activities on discharge?	
	I have my own medications and I am happy with the instructions for taking them.	
	I have a copy of my discharge letter. A copy will be electronically sent to your GP.	
	I will receive an outpatient appointment This appointment will be sent after discharge.	
	Do you or your partner/family have any other questions?	

PART 02 RISK FACTORS

CHAPTER THREE

Risk factors

Risk factors you cannot change (non-modifiable)	18
Risk factors you can change (modifiable)	19
Making lifestyle changes	21
Making the change	23
How to cope with setbacks	23

PART 02 RISK FACTORS

Let's get started on your cardiac rehabilitation journey by looking at the risk factors to heart disease. There are many risk factors that contribute to the build-up of atheroma (fatty build up in the arteries) and can increase the risk of coronary heart disease. Some people are at higher risk of developing heart disease and therefore are more prone to developing angina or having a heart attack.

You can't control some of the risk factors (non-modifiable), but an awareness and regular monitoring will help to identify any issues and enable early medical treatment. Many risk factors are related to lifestyle and can be controlled (modifiable).

Non-modifiable (Things you can't change)	Modifiable (Things you can change)	
• age	• physical inactivity	• poor diet
• family history	• smoking	• diabetes
• biological sex	• high cholesterol	• stress
• ethnicity	• high blood pressure	• air pollution
	• obesity	• oral hygiene

Risk factors you cannot change (non-modifiable)

Age

The risk of heart disease increases with age as fatty deposits accumulate within the arteries causing narrowed and blocked arteries.

Family history

If a close family member (father, mother, brother, sister) has a history of early heart disease (before age 55 in males and before age 65 for females), you are at a higher risk of coronary heart disease.

Biological sex

Males have a higher incidence of heart disease at an earlier age. Females can get heart disease too, after the onset of menopause, the incidence of coronary heart disease in females more closely matches that of males.

Ethnicity

People with African or Asian ancestry are at higher risk of developing coronary heart disease than other ethnic groups.

The risk factors you can change (modifiable)

We will look at a different modifiable risk factor each week (chapter) throughout this cardiac guide. Let's take a look and complete the table below to identify personal risk factors that may have contributed to your heart disease:

Risk factor		Target	Where I am now?	Short term goal	Long term goal
Do you exercise regularly?	**YES** / **NO**	150 minutes of moderate intensity activity in 10 minutes or more			
Are you overweight?	**YES** / **NO**	Refer to page 112	Waist measurement: _____ inches/cm		
Do you have high blood pressure?	**YES** / **NO**	aim below 140/90 or if you are diabetic below 130/80			
Do you smoke?	**YES** / **NO**	Stop smoking			
Do you experience high levels of stress?	**YES** / **NO**	Support and management			
Do you eat a Mediterranean diet?	**YES** / **NO**	Fruit/veg x5 portions or more per day 2 portions of fish per week, one of which should be oily			
Salt	**YES** / **NO**	Reduce to less than 6g per day			
Sugar	**YES** / **NO**	Reduce added sugars			

table continued on next page...

PART 02 RISK FACTORS

Risk factor		Target	Where I am now?	Short term goal	Long term goal
Do you have raised cholesterol?	YES	**TOTAL CHOLESTEROL** below 4 (or 25% reduction)			
		LDL Below 1.8mmol/L Below 1.4 mmol/l (High risk)			
	NO	**HDL** More than 1.0mmol/l Men More than 1.2mmol/l women **Triglycerides** lower than 1.7mmol/l (fasting) Lower than 2.3mmol/l			
Do you drink more than 14 units of alcohol in a week?	YES NO	Not to regularly drink more than 14 units per week (2 units per day). Aim for 2 alcohol free days per week.			
Are you diabetic?	YES NO	Ask your GP, practice nurse or diabetic nurse for your HbA1c target			

The more risk factors you have, the higher your risk of coronary artery disease. Changing your lifestyle can significantly reduce your risk factors and your chances of further heart issues. Although the medications and medical treatments help your heart it is important to make lifestyle changes too. This guide will help you understand your risk factors and how to make the lifestyle changes to aid your recovery and reduce your risk of future coronary artery disease.

Making lifestyle changes

Making lifestyle changes can be daunting and stressful, especially if you have a lot of changes to make. There are things that you can do to make it easier and increase your success. For instance, you are more likely to be successful if you start with small and sustainable changes and gradually build up rather than trying to achieve everything at once.

Top tips for making lifestyle changes

- **Identify your goals** by deciding what you want to change, for example, giving up smoking, taking more exercise, eating more fruit and vegetables.
- **Prioritise your goals**, this helps you to avoid feeling overwhelmed by too many goals and can help you concentrate on one at a time. Making positive changes with one thing will give you confidence to make other positive changes.
- **Break-down your goals** and set achievable goals. This will help your motivation and you won't get too overwhelmed by your ultimate goal.
- **Record your achievement,** keeping a record of both your goals and progress, can help your motivation. You will find a cardiac rehab log throughout this guide which will help you record your goals and help you keep track of the progress you make (see page 38).
- **Rewarding yourself** can be a great incentive, for example, if you are giving up smoking, save the money to buy something special instead.
- **Take ownership of your goals**, tell your friends and family about your goals so they can help support you.

PART 02 RISK FACTORS

Goal Setting

Goal setting provides a sense of direction and purpose. By knowing what you want to achieve, you know where to concentrate your efforts, and it will help you organise your time and your resources to make the changes possible.

SMART goals are **S**pecific **M**easurable **A**chievable **R**elevant **T**ime based

For instance, if you want to lose weight set a specific weight over a certain amount of time. Goal setting can be tricky. It can be difficult to know what you are aiming for let alone know how to achieve the goal. Discuss this with a health care professional if you need some guidance.

Keep a diary

This will help you understand your behaviour for instance, smoking; record how you were feeling, who you were with and where you were when you had a cigarette. Your diary can help identify your behaviour and help you form new habits.

Trigger - what happened to cause the behaviour?

Behaviour - the thing you want to change?

Consequence - how you felt afterwards?

Next time - you are triggered try a healthier alternative. For instance, have a boiled sugar free sweet instead of a cigarette, or try meditation instead of glass of wine after a stressful day at work.

Below is an example of a diary, additional diary pages can be found in the appendix in chapter 10.

Example	Trigger	Behaviour	Consequence	Next time I could try
1	Worrying about work	Eating a large slice of cake	Feeling less stresses	Going for a walk
2				
3				

Making the change

Once you have decided what you are going to change, formulate a plan to help you succeed. This can be done focusing on one of the following areas.

FREQUENCY: For example, if you have a pudding every day, you might want to reduce this to three times a week and then twice a week. Or, If you go to the pub regularly you could reduce the number of times you go in a week

AMOUNT: For instance, you could have smaller portions of desserts or swap for a healthier option such as fruit. You could swap your alcoholic drink at the pub for a non-alcoholic alternative.

TIME: You could still go to the pub the same number of time within a week but just spend less time there, so you do not drink as much. (Don't drink quicker because you have less time!)

How to cope with setbacks?

Setbacks are to be expected, you can help yourself by;

- **Being kind to yourself,** if you lapse into old habits be kind to yourself and learn from your setback then get back on track, don't let a bad day turn into a bad week or month.
- **Avoid complacency**, it can be common for smokers to think "I'll just have one or two" and become addicted again. If you do have one, try and restart again and don't be harsh on yourself.
- **High risk situations**: take care in situations with friends who are drinking or smoking.
- **Be assertive**, if offered a cigarette or cake you can say "no thank you". You do not need to explain yourself or eat/smoke to please anybody. Your number one priority should be to look after your health.
- **Coping with craving**: be prepared for urges to go back to old habits such as smoking, or unhealthy eating. This will not last but keep strong to yourself and your goals.

This cardiac rehab guide has been broken down to explore different risk factors each week. Although this guide will support you over the next few weeks and months, lifestyle changes should be for life. Take each day at a time, days will soon build up to weeks and months. Small changes will add up and make a difference to your health. As you start to see the improvements and feel better your motivation will be boosted. Remember Rome was not built in a day!

PART 02

WEEK 1
JUST HOME

CHAPTER FOUR

Week 1 - Just Home

Everyday activities	26
Exercise precautions	28
Driving	30
Smoking	31
Air pollution	35
Action plan to stop smoking	37
Cardiac rehab log week 1	38

PART 02 WEEK 1 JUST HOME

This is the first week of your cardiac rehab programme; please start this section once you are home from hospital. This week you will be:

- Starting to do regular walks and learning about increasing your daily activities.
- Learning about the cardiac rehab log so that you can track your progress.
- Learning about the risks associated with smoking, the benefits of stopping smoking and how to quit.
- Learning about the risks of air pollution and how to reduce your risk.

Many people feel anxious about going home, this can also be a worrying time for partners too. During the first few days at home you should take things easy. Don't do much more than you were doing in hospital. You can start doing light activities such as washing up and preparing light meals. You will not be able to do heavy housework or carry heavy shopping for the first few days.

Everyday activities

Walking is a great form of exercise, and it will help you keep active as well as increasing your stamina and fitness. Your heart disease may have limited your ability to exercise for a while, meaning that you will have naturally lost some fitness. It is very important that you keep active and increase your activity slowly. Initially your cardiac rehabilitation programme will mainly focus on walking and then other exercises will be introduced as explained throughout the guide. To start, walk the distance you were doing in hospital and gradually build up as you feel able to. On your first walk you may want to take someone with you, to help your confidence.

Build up the distance you walk rather than the speed. It is normal to feel a little short of breath when you are walking. If you are too breathless to hold a conversation, slow down or stop until your breathing has recovered. Your capability will vary daily and how far you go depends on how you feel. You should return home feeling comfortable, a little breathless but not exhausted. Over the weeks you should see a steady improvement in your ability to exercise.

If you are unable to avoid walking up hills, pace yourself (go slowly) and if possible walk up hill at the start of your walk when you feel fresh. Remember you will not be able to go as far or as fast up hills as you would on the level or downhill, go at a pace which you can talk in full sentences. As with any exercise/activity it is important to warm up and cool down, this can be done as part of your walk with a slower pace at the beginning and end of your walk.

If you needed a walking aid when you were in hospital, this can be returned when you no longer need it. You can return it to the BRI physiotherapy department when you attend a follow-up appointment.

Light household chores

Such as washing up or dusting, may be restarted as soon as you are discharged from hospital. Gradually increase your activity, doing a little more each day, so that after a few weeks you can progress to activities that require a little more effort such as light sweeping.

Do:

- Increase your walking gradually.
- Listen to your body and be guided by any discomfort and how tired you feel.
- Remember factors as age and previous fitness will influence your recovery.
- Stop and rest as needed.
- Gradually increase lifting for example lifting light shopping bags and restart activities within comfortable limits.
- Light domestic tasks, like washing up, drying up, dusting or cooking a meal
- Potter around the garden.
- Progress your activities gently and gradually.

In the first six weeks do not do heavy activities such as:

- Vacuuming
- Carrying heavy shopping
- Digging the garden
- Mowing the lawn
- Heavy house maintenance
- Heavy lifting

PART 02 WEEK 1 JUST HOME

Heavier activities

Such as those that involve heavy housework, can be commenced gradually starting 6 weeks after your cardiac event.

Intensive activities

That require lifting or moving heavy objects, digging or mowing the garden should be avoided for at least six weeks, this will be covered in more detail in chapter six. Over a period of about six to eight weeks you should gradually increase your daily activities and walking.

In the early weeks after an cardiac event it is important to pace yourself to avoid getting over tired, this is normal and will pass.

You will know if you are working too hard or doing too much if you:

- become too short of breath to talk without gasping
- are excessively tired
- experience chest pain or discomfort

Exercise precautions

Only exercise when you feel well. If you are unwell with a virus, cold, tummy bug or you are taking antibiotics, please do not attempt strenuous exercise. We recommend that you wait at least 2 days after the symptoms have disappeared before recommencing anything more than light physical activity.

Make sure you have eaten a light meal approximately 1-2 hours before exercising. Do not exercise on either a full or completely empty stomach.

Watch for warning signs

Listen to your body and stop exercising immediately if you experience:

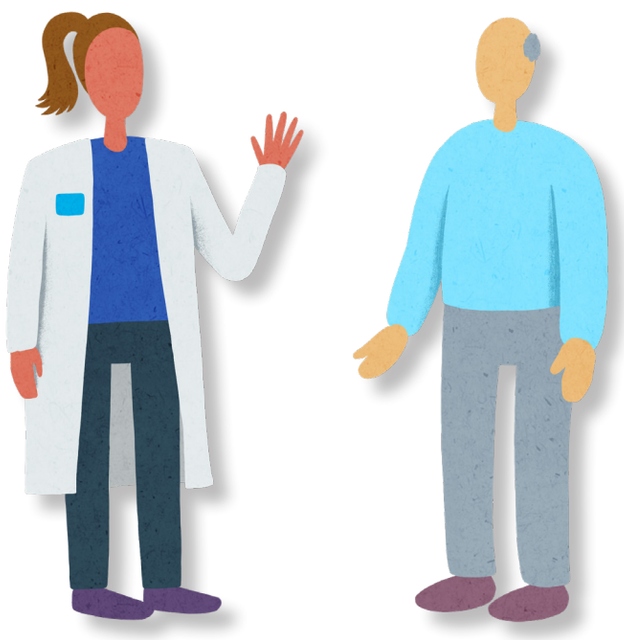
- pain
- feeling unwell
- excessive breathlessness
- feeling dizzy or faint
- angina
- palpitations
- excessive sweating

If you get any of these signs:

Rest immediately and reduce your activity level until you feel better. If you experience angina pain and have a GTN spray, please follow the GTN protocol on page 167.

If issues such as palpitations, excessive shortness of breath, feeling dizzy or faint do not begin to resolve within 15 minutes of resting ring 111 for further guidance. **If your symptoms become severe and you are in distress call 999.**

Please do not contact the cardiac rehab for advice if you are very unwell – always use 111 or 999. See your GP if symptoms settle but you are concerned.



PART 02 WEEK 1 JUST HOME

Driving

People who have had a heart attack should not drive for a certain period of time. Returning to driving will depend on your treatment and the results of your echocardiogram (heart scan). Check with either your hospital consultant, a cardiac rehab professional or you GP before you drive.

The most up to date information is available on the DVLA website which can be accessed via the QR code below or by visiting https://www.gov.uk/health-conditions-and-driving or telephone 03007906806.

You do not need to inform the DVLA unless you have specific complications (this will be discussed with you). If you have had a permanent pacemaker (PPM) or an Implantable Cardioverter Defibrillator (ICD) inserted, you must inform the DVLA (phone number 0870 240 0009).

Vocational driving licences like LGV or PCV please contact the DVLA for more information. You can also talk to your hospital consultant, GP or cardiac rehabilitation professional.

If you are a Taxi driver you should contact your local licensing authority for advice.

Diabetes and driving

You must inform the DVLA if you use insulin for treatment of diabetes. If you experience warning signs of hypoglycaemia (low blood sugar) while driving you must stop as soon as possible – do not ignore the signs.

You must inform the DVLA if:

- You suffer more than one episode of disabling hypoglycaemia within 12 months.
- You develop difficulty in recognising the symptoms of hypoglycaemia.
- You suffer any disabling hypoglycaemia while driving.

For further information about medical conditions and driving, please visit the DVLA website: **www.direct.gov.uk/driverhealth** or phone the DVLA on **0870 240 0009.**

Insurance

You must inform your insurance company or brokers of your cardiac event before you drive again. If you don't, your insurance may become invalid. Check your terms and conditions before you drive again.

Smoking

This week will be looking at smoking as a risk factor and how you can reduce your risks. If you do not smoke then please turn to page 35.

You will have stopped smoking in hospital, so why not continue and kick the habit for good?

Risks of smoking

- Smoking is addictive; it causes heart disease and increases your chances of having another cardiac event.
- Tobacco smoke affects the sticky particles (platelets) in the blood making it more likely to clot.
- Nicotine makes the heart work harder by raising blood pressure and causing it to beat faster.
- Carbon monoxide from cigarettes deprives the heart muscle and body of essential oxygen. In smokers the amount of oxygen carried by the blood can be reduced by up to half.
- Chemicals in tobacco products cause damage to the lining of the coronary arteries, leading to the building up of fatty deposits within the arteries.
- Smoking can also harm others through involuntary (passive) smoking, especially those who are pregnant or with lung or heart disease.
- Smoking can cause cancer.

Stopping smoking will be beneficial to your heart and overall health; it will improve your circulation, heart and lungs which will all work more efficiently. After you have stopped smoking for a year, your risk of heart disease decreases by approximately 50 percent. However, your breathing and ability to exercise improves within weeks of stopping. Other benefits of stopping smoking include being financially better off as well as improvements in your taste and sense of smell.

PART 02 WEEK 1 JUST HOME

The benefits of stopping smoking begin the minute you stop!

The table below from www.nhs.uk shows the benefits of stopping smoking and the timescales for these benefits to occur.

Time since stopping smoking	Benefits
20 mins	Your blood pressure and pulse return to normal
1 - 2 days	Your lungs begin to clear out mucus and other smoking debris. Carbon monoxide and nicotine is removed from your body. Taste and smell improve
3 days	Your breathing becomes easier and energy levels increase
2 to 12 weeks	Circulation improves throughout your body
3 to 9 months	Coughs, wheezing and breathing problems improve as your lung function increases by up to 10%
1 year	Your risk of having a heart attack falls by 50%
10 years	Your risk of lung cancer falls by 50%
15 years	Your risk of a heart attack is the same as a lifelong non-smoker

For more details see **https://www.nhs.uk/better-health/quit-smoking**

Top tips to help you stop smoking

- Be clear about your reasons for stopping. Write them down.
- Understand your habit, identify certain times and situations when you smoke, break the link. For instance, if you always smoke when drinking coffee, then drink orange juice for a while (use the diary on page 162 to help).
- Take one day or even one hour at a time.
- Get the support of your family and friends.
- Think positive. You can do this. Think of yourself as a non-smoker.
- If you get disheartened remember 1000 people stop smoking and stay stopped in Britain every day. This can be you!
- Plan what to do with the money at the end of the first day, week or month.
- Learn relaxation techniques (See chapter five).
- Learn to do things with your hands such as hobbies like drawing.
- Try chewing sugar-free gum. Eat fruit as vitamin C helps get rid of nicotine. Try not to eat high calorie foods you don't normally eat.

Some people worry about putting on weight, however, most people do not put on weight. Of the few that do, it is usually just a few pounds which can easily be lost when you have kicked the habit. Remember stopping smoking will reduce the risk of future heart disease.

Support with stopping smoking

Nicotine replacement products (NRT) include patches and inhalators. Studies have shown that you are more likely to be successful at stopping smoking using NRT products. Ask your nurse, doctor or pharmacist about the possibility of being prescribed NRT.

Nicotine withdrawal symptoms include

- Hunger
- Disturbed sleep or dreams
- Elation
- Depression
- Irritation
- Cravings

The good news is the symptoms should go in about a month, so persevere. If you are concerned, discuss any symptoms with your practice nurse, GP or the cardiac rehabilitation team.

Electronic cigarettes (e-cigarettes)

These devices that mimic the action of smoking and contain nicotine (in most cases), but without the toxic effect of tobacco smoke. As well as nicotine, e-cigarette liquid can contain harmful chemicals, although these are at much lower levels than in cigarettes. Whilst it is not advised that non-smokers should take up using e-cigarettes, they can be a useful tool to help stop smoking.

E-cigarettes are fairly new and we currently do not have a full picture on their safety, Public Health England are monitoring the evidence as it develops. Although, E-cigarettes are not risk free, they carry a fraction of the risk of cigarettes.

More information can be found here
https://www.nhs.uk/live-well/quit-smoking/using-e-cigarettes-to-stop-smoking/

What if I start smoking again?

If at first you don't succeed try and try again. Remember you will eventually succeed. Have a break and do not feel guilty. When you are ready, try again.

Pann, bidi and shisha, tobacco that you do not smoke is not a safe alternative to smoking. They increase your risk of heart, respiratory disease and cancer and are addictive.

NHS stop smoking services are free and will boost your chances of quitting smoking for good. Your GP, pharmacist or health visitor can refer you; you can phone your local stop smoking service to make an appointment.

For more information visit:

https://www.nhs.uk/live-well/quit-smoking/

NHS Smoke Free National Helpline

tel: 0300 123 1044 or visit their website at https://quitnow.smokefree.nhs.uk/

There is an action plan to help you stop smoking on page 37.

Air pollution

Air pollution refers to the gases in the air which harm our health as we breathe. These gases include nitrogen dioxide, ozone, sulphur dioxide and carbon monoxide as well as soot and dust.

The air becomes polluted from various sources including fumes from vehicles, factories, and power plants. Fertilisers, animal manure, burning firewood, candles, or incense indoors as well as cigarette smoke.

There are also natural sources of air pollution such as soil, pollen, volcanoes, and sandstorms.

When you breathe in polluted air the gases enter your lungs and then pass through into your blood stream. The polluted air can make your blood vessels stiffer and narrower increasing your risk of developing coronary artery disease by:

- Making it harder for your blood to flow through your blood vessels (including the heart's blood vessels).
- Your blood becomes thicker and more likely to clot.
- Increasing your blood pressure.
- Making your heart work harder.

Top tips to reduce your exposure to polluted air

- Whenever possible, walk or cycle instead of driving or using public transport. This is due to the fact that air quality is worse in vehicles.
- When walking, running or cycling take routes away from lots of traffic.
- Reduce the time you spend outside during rush hour.

There is no evidence to support wearing a facemask to protect you from air pollution.

Top tips to improve the air quality at home

- Use gas or electric rather than burning wood or coal.
- Use solid or liquid cleaning products rather than sprays.
- Use extractor fans in the kitchen and bathroom. Do not smoke or allow others to smoke indoors.
- Open the windows regularly throughout the day to refresh the air.

Exercise and air pollution

If the air pollution level is low, you can exercise as normal. However if the air pollution is moderate, high or very high, you should think about reducing the amount of exercise you do outside and consider exercising inside instead. Remember exercise is important for your heart and general health as well as mental wellbeing.

You can check the level of air pollution in your local area by checking the daily pollution forecast at

https://uk-air.defra.gov.uk

Action plan to stop smoking

My SMART (specific, measurable, attainable, realistic and timed) goal is

- .....
- .....
- .....
- .....

What help and support can I get?

- .....
- .....
- .....

How can I reach my goal?

- .....
- .....

What's going to get in the way of making these changes?

- .....
- .....

What will I do about that?

- .....
- .....

How confident do I feel that I can make the changes?

1 2 3 4 5 6 7 8 9 10

1-Not confident 10-very confident

Review date:

PART 02

WEEK 1 JUST HOME

Cardiac rehab log week 1

Track your progress and record your walks and diet. After you have done your walk, record it so that you can monitor your progress. Assess progress weekly rather than daily and do not compare yourself with others.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Walking Time/ distance							

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 02

WEEK 2 LIFESTYLE & WELL-BEING

CHAPTER FIVE

Week 2 - lifestyle & well-being

Anxiety and stress	42
Managing stress	44
Relaxation	46
Sleep hygiene	50
Thoughts, feelings and emotions	52
Intimacy	54
Men's health	**55**
Women's health	**56**
Lifestyle, work and holidays	**58**
Cardiac rehab log week 2	**60**

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

This is the second week of your cardiac rehab programme. This week you will be:

- continuing to build up your walking and exercise.
- completing your cardiac rehab log so that you can track your progress.
- learning about anxiety, stress, emotions and relaxation.
- learning about returning to your usual activities such as sleep, intimacy, holidays and returning to work.

Anxiety and stress

Stress, is where felt demands exceed our perceived ability to cope. Stress is usually triggered by something external, such as meeting deadlines or falling out with friends.

Anxiety, the threat can be internal thoughts and therefore continue beyond the external trigger. It is the individual's reaction to stress.

Anxiety and stress can put a strain on your body and adrenaline is released, which makes you more alert and helps you cope with stressful situations. Too much adrenaline however can make you feel unwell, increasing your blood pressure and heart rate. It can also raise blood sugar in diabetics making it harder to control.

Stress in life is normal and it is impossible to avoid it, however our ability to cope with stress is important. If things become too stressful, we can feel that we cannot cope and life stops being enjoyable. You may feel out of your control, however relaxation can reduce the effect of anxiety by reversing your physical and or mental tension. This sends signals to slow down your muscles and organs and increase the blood flow to your brain. This is the opposite reaction to the fight or flight response stimulated by stress, this will be discussed on page 44.

When does stress cause problems?

Stress becomes a problem when you have continuous high levels of stress chemicals (Adrenaline and Cortisol). Stress over a long period of time (chronic stress) can cause a variety of emotional and physical problems, including being a risk factor for developing coronary artery disease.

Chronic (prolonged) stress can:

- increase your blood pressure.
- increase your heart rate.
- interfere with blood sugar control if you are diabetic.
- increase general inflammation in your body.
- lead to unhealthy behaviours such as smoking, drinking too much alcohol and unhealthy food choices.

Causes of stress can include:

Daily life such as getting stuck in traffic, pressures at work, difficulties with partners or family. Daily life tends to contribute the most to higher stress levels.

Life events, are the major life changes including having heart surgery or a cardiac event, a bereavement, getting married or divorced, having a baby, moving house or starting a new job.

Emergencies are unpredictable for example a road traffic accident, a family member becoming unwell or a flood.

Optional stress, we often put ourselves under stress such as setting impossible deadlines, being a perfectionist, rushing around and not getting a balance, working too much and by being unable to say no. Look at your habits and see what changes you can make so that you can prioritise yourself and your health.

It is important to understand the effect of stress, as this will help you recognise that you are stressed and allow you to prioritise your mental health and take control with relaxation and altering your lifestyle choices such as saying "no" and making time for yourself.

The signs of stress can include:

PHYSICAL Such as butterflies or tightness in the stomach, palpitations, headaches, feeling dizzy or sick, cold clammy hands and feet, tense, sore muscles, rapid pulse, dry mouth, restlessness, tiredness, trouble sleeping, poor appetite or comfort eating, sudden weight loss or gain.

EMOTIONAL This could be flaring up at little things, irritability/ bad temper, feeling anxious, scared, panicked or worried, feeling alone or hopeless, or feeling numb and uninterested in life.

THINKING This includes problems concentrating and remembering, not being able to make decisions, racing thoughts, lack of self-confidence or having negative thoughts.

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

When you are stressed, it can be harder for you to notice that you are actually stressed. Other people are likely to notice that you are:

always rushing | sudden changes in mood | find it hard to listen to other people | unable to sit still | impatient | always critical of yourself or others | forgetful | difficulty relaxing | tense | unable to make decisions | lost your sense of humour

Managing stress

Learning to manage your stress is incredibly important; it will help your heart condition, reduce your blood pressure, and result in healthier life choices as well as improving your quality of life. The first step to managing stress is to identify what causes your stress and make changes. You can also learn what triggers your stress and become better at responding to particular stressful situations such as pausing and doing some deep breathing before responding, this will be discussed in more detail on page 48. Learning relaxation skills will help reduce background levels of stress.

Preventing stress is important and much easier than reducing stress, adding the following to our daily routine can help you relax and relieve stress.

Top tips for managing stress

- Set clear boundaries regarding what you can achieve and do not take any more on.
- Work as a team and delegate tasks to others.
- Be satisfied with what you've achieved.
- Learn to say "No" if what you are being asked is not necessary and is not of benefit to you.
- Take time to yourself and make time to relax each day, even if its 10 minutes at a time.
- Don't rush from one thing to the next, pace yourself and take breaks.
- Challenge your thoughts and think positively.
- Talk about your worries with loved ones or with medical professionals.
- Set time aside each day to relax for instance to read, meditate or paint.
- Check your muscle tension and posture, we tend to carry a lot of tension in our muscles when we are stressed. Pause throughout the day and check to make sure your jaws are not clenched and your shoulders are relaxed down and not up by your ears!
- Do more of what you enjoy.

You may find despite trying really hard you are unable to control your stress and it interferes with your life, it would be beneficial to seek support from your GP.

The table below will help you identify how you manage your stress. The information below the table will help you determine if you could use healthier options or use other methods of stress relief?

	Always (yes)	Sometimes	Never (no)
Tell people "I'm fine" even though I'm not			
Go for a walk or get some exercise			
Get very angry like shout at my family, throw or hit something, Take "time out"			
Try and get away from the stress/ situation			
Drink alcohol, smoke a cigarette, or have a coffee			
Deep breathing or counting to 10			
Do nothing – just cope with the stress on my own			
Talk to someone – a friend or family member			
Have a really big cry			
Write a list of what you need to do and decide what is the most important thing to start with			

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

The stress bucket!

It can be helpful to think about your levels of stress in relation to a bucket. The bucket fills up as you experience stress, which can overflow when we do not empty it regularly, this can make us feel overwhelmed. Taking time to empty your bucket with relaxation and things we enjoy doing, helps us keep stress at manageable levels. Take measures regularly to empty your stress bucket rather than let it overflow. Think about how fill your stress bucket (on a scale of 1 to 10, with 1 being empty and 10 being overflowing). This will help you recognise when you're stressed and you can put in strategies as discussed to help.

Relaxation

Is different to sitting down and watching TV. Deep relaxation can be attained through different techniques, which involve breathing, muscle relaxation or visualisation. Relaxation takes practice and tuning into your body and senses. It is a good idea to practice relaxation when you are not stressed, this helps you to learn how to relax and you will then find it easier to use your techniques to relax when you become stressed and under pressure. We will look at different techniques you can try to help you relax. Experiment and see what works for you!

Benefits of relaxation include:

- reduces pain
- reduces tiredness
- improves sleep
- helps you cope with stress and stressful situations

It is important to practice relaxation regularly even when you feel you don't need it, this can build self-awareness, and help you to stop stress building and filling your stress bucket rather than waiting until you are stressed to take action.

Mindfulness is a technique you can learn which allows us to notice what is happening in the present moment. A great number of us spend the majority of our day in autopilot (e.g. not noticing our commute to work, making dinner, getting ready etc). Quite often, autopilot can also mean automatically experiencing chronic stress, being mindful makes us present and takes us out of autopilot. It can help you feel calmer and be beneficial to your overall wellbeing. Mindfulness is not the same as relaxation, you might notice you are more aware of your mind, body and surroundings which can help you relax. The aims of mindfulness include:

becoming more self-aware

feel calmer and less stressed

feel in control on how to respond to your thoughts

cope with difficult or unhelpful thoughts

be kinder to yourself and others

Top tips for being mindful

- Find something to focus on that makes you feel calm and alert.
- Listen to a piece of music and pay attention to all the words.
- Notice how your thoughts come and go and do not define who you are.
- Try something new for instance, walk a different route to the shops, or sit in a different seat in the living room or during a meeting, this will help you notice your surroundings.
- When exercising focus on how your body is feeling and coordinating your breathing. Notice your surroundings, for example how the sun or wind feels against your skin.
- Free yourself from the past and future and enjoy being in the present.
- Yoga and Tai Chai are mindful activities which can help increase your awareness on your body and breathing.
- Meditation can be considered a state of deep relaxation; it can help you feel balanced calm and focused. Mediation involves sitting or kneeling, silently (it is best not to lie down as you are likely to fall asleep!) and paying attention to your breathing, your body and calming your mind. When your mind starts to wander (which it will!) bring it back to focus on your breathing.

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

Relaxation techniques

When we are stressed we tend to breath too quickly (hyperventilate), this can cause symptoms including tingling, dizziness and muscle cramps. Abdominal breathing helps slow your breathing and also brings us out of autopilot and helps the body to relax and calm down.

Abdominal breathing, is easiest to learn when you are lying down. It can be helpful to have one hand on your chest and one on your lower part of your tummy. This helps you to focus on getting your tummy (abdomen) rising and falling as you breathe.

Relax your shoulders and breath through your nose, your tummy should be rising as you breathe in.

Hold the breath for a couple of seconds and then gently breath out through your mouth drop your shoulders and relax.

Repeat for a few minutes and notice how your body is feeling.

Make abdominal breathing daily habit even if you are not feeling stressed. You do not need to stop what you are doing when you are doing your abdominal breathing. You can do it whilst in meetings, driving your car or watching TV.

The calming hand, is a grounding technique which can help people to refocus and calm anxiety. It also works well with episodes of breathlessness, when you feel that your breathing is out of control.

1. **RECOGNITION/ACCEPTANCE:** Firstly, recognise the signs that you are stressed or starting to panic. Hold your thumb firmly and remind yourself of what to do next to regain control. This will help to calm your breathing.
2. **SIGH OUT:** this relaxes your shoulders, arms and upper chest.
   Try to breathe out for longer than you breathe in.
3. **INHALE:** Take a slow and gentle relaxed breath in, focusing on filling your lungs with air.
4. **EXHALE:** Take a slow and gentle relaxed breath out, until your breath comes to its natural end. Relaxed breathing helps to relax the body and calm down the nervous system.
5. **STRETCH HANDS, RELAX AND STOP:** stretch and relax your hand, this acts a reminder to your body that you are in control.

54321 mindfulness

The mind can go to past memories we can't change, or the future that is filled with imagination. If it is something fun in the future that might be helpful, if it is predicting something unhelpful or frightening, in noticing where your mind has gone, you may choose to bring your thoughts back into the present moment, this is known as "grounding". 54321 mindfulness techniques is a grounding technique where you purposefully take in the details of your surroundings, this turns attention away from thoughts, memories or worries and refocusing on the present moment. Try to notice small details that your mind would usually tune out, such as sounds of the birds, or the texture of clothing.

What 5 things can you see? Look for small details such as patterns on leaves or tiles, or an object you have never noticed.

What 4 things can you feel? Notice the sensation of your clothing on your body, the heat of the sun on your skin, or the weight of your feet on the floor.

What 3 things can you hear? Pay attention to the noises we normally do not notice such as the sounds of birds, rustling of leaves or a clock ticking.

What 2 things can you smell? Try and notice the smells in the air around you such as wet grass, flowers, candles or your own perfume or aftershave.

What 1 thing can you taste? Carry gum or a healthy snack and pay close attention to the flavours when you eat it.

Body awareness is another grounding technique which will make you present by directing your focus to sensations in the body. Focus on the physical sensations created by each step.

Take 5 long, deep breaths through your nose and exhale through puckered lips.
Place both feet flat on the floor, wiggle your toes. Curl and uncurl your toes several times. Spend a moment noticing the sensations in your feet.
Stomp your feet on the ground several times. Pay attention to the sensations in your feet and legs as you make contact with the ground.
Clench your hands into fists, then release the tension. Repeat this 10 times.
Press your palms together. Press them harder and hold this pose for 15 seconds. Pay attention to the feeling of tension in your hands and arms.
Rub your palms together, notice the sound and the feeling of warmth.
Reach your hands over your head and stretch up towards the sky, keep the stretch for 5 seconds then return your arms loosely by your side.
Take 5 more deep breaths and notice the feeling of calm in your body.

Mental exercises take your mind off uncomfortable thoughts and feelings.
They are discreet and easy to use.

- Name all the objects that you see.
- Describe the steps in performing an activity that you know how to do well.
- Count backwards in increments of 7!
- Sing along to a song.
- Name all you family members, their ages and one of their favourite activities.
- Or why not come up with your own challenge!

Sleep hygiene

It is very common for people to experience difficulties with sleeping after a cardiac event. This can be due to several different reasons including, worrying thoughts and change in routine or not being active enough throughout the day. Having difficulties with sleeping can be stressful and worrying for some people, this can make the situation worse.

Top tips for good sleeping habits

Develop a good routine, start relaxing and unwinding and preparing for sleep an hour before you plan to go to sleep. You should wind down both physically and mentally. Try and establish a regular routine so that your body gets the cues that bedtime is coming (like a warm bath, turndown the lights, do a short meditation or read a book). Do not spend this down time thinking about your to do list or the stresses in your life.

Establish a sleep routine by going to bed and getting up at the same time each day, even at the weekends.

Keep naps short (less than 60 minutes) and before 3pm in the afternoon, if you need to take one.

Avoid exercising within two or three hours of going to bed.

Avoid smoking, caffeine or alcohol in the evening as this will affect the quality of your sleep.

Avoid large meals and beverages late at night as this can cause indigestion which interferes with sleep. Drinking too much too close to bedtime may result in needing regular trips to the toilet throughout the night.

Sleeping environment, dark, cool and gadget free bedroom, remove anything in your bedroom that can cause distractions such as phones, TVs, avoid blue light as this reduces sleep quality.

Sunlight exposure, daylight is key to regulating daily sleep patterns, try to get outside for at least 30 minutes of natural sunlight each day.

If you are still having difficulties sleeping, you could try:

- Distracting yourself by listening to music or meditate, don't worry about falling asleep as this will make it harder.
- Staying awake, read until your eyes close.
- Keep a pen and paper by your bed to write down any worrying thoughts so that you can revisit them during the day.

Going to sleep takes practice, if you feel you are still having difficulty and have tried everything discuss this with your GP.

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

Thoughts, feelings, and emotions

The way we feel, think and the physical sensations we experience all interact with each other. Negative thoughts are often as result of being anxious or depressed. Often, by challenging the negative thoughts we can make ourselves feel better.

Feeling down, sad or fed up after a cardiac event is common, these feelings will normally pass with time. Thoughts may range from occasionally feeling fed up to feeling out of control and tearful. It is common to have any or all of the following feelings:

Loss of interest in things that was once enjoyable
Tearful
Poor appetite
Sadness
Lacking in energy
Waking up very early in the morning
Loss of interest in your appearance
Difficulty sleeping

If any of the above interfere or take over your life and last longer than two weeks, you might be depressed.

Depression affects the way that you think and you tend to see the negative and imagine the worst. Things that were previously enjoyable may become dull and uninteresting. The chances are that the worst case scenario won't actually happen. Depression can make the slightest setback or challenge very stressful.

Top tips to help with negative thoughts

- Put your thoughts into perspective, think about the likelihood of your thoughts coming true. If they were to happen what would you do to cope? Problem solving will help you realise you have the skills to cope and if not, you can work out a plan on who could support you.
- Sadness is a normal emotion that everyone may experience at times and should pass. Accept this as a normal part of your recovery.

- Staying active is a great way to help boost your mood.
- Talk to someone you trust about how you are feeling.
- Think positively.

If you are concerned about your mood please discuss this with your GP or the cardiac rehab team.

Anxiety is a feeling of unease, feeling worried or fearful, it can be mild or severe. Feeling anxious is a perfectly normal reaction to some situations, however if feelings of anxiety are constant, overwhelming or out of proportion this can affect your daily life. Feeling anxious tends to make you over think. The section on stress (on page 44) and relaxation (on page 46) will also help you with anxiety.

Top tips to stop over thinking

1. Notice when you are stuck in your own thoughts, overthinking can become a habit that you don't even recognise. When you are repeatedly replaying events in your mind or worrying about things you cannot control, acknowledge this is not productive. Thinking is only positive when it leads to positive action.

2. Keep the focus on problem solving, dwelling on your problems is not helpful but looking for solutions is. Look for things you can control and take ownership of them, for instance if you are worried about your heart think about what you can control to help yourself such as diet, exercise or stopping smoking.

3. Challenge your thoughts; it's easy to get carried away with negative thoughts. Your emotions will interfere with your ability to look at situations clearly. Pause and think, what evidence do you have that your thought is true or isn't true? We often spend a lot of energy and time worrying about something which never happens!

4. Let go of the past, stop expending energy on the "what ifs" and "should haves". We are unable to change the past, acknowledge the past and move on by living in the moment and planning for the future.

5. Distract yourself, telling yourself to stop thinking about something does not tend to work. Distract yourself with exercise, conversations, work, reading or hobbies.

6. Live in the moment, take in your surroundings and enjoy being present, use your 5 senses to help. This is described on page 48.

7. Schedule worry time, this can be time which you set aside to think and problem solve your worries. By putting a time limit on your worry time, this can help you stop over thinking.

Write down your to do list, prioritise and identify whether any action can be taken to sort this out like you could stop worrying about the car breaking down by getting it serviced.

Partners/family members may also feel fed up, overwhelmed and anxious. It is common for them to be overprotective and be anxious or apprehensive about you resuming activities. This can result in stress for both of you. They may also benefit from reading the stress and relaxation section and using the resources available.

For additional resources visit the UHBW cardiac rehab web page where you will find educational talks for stress and relaxation and relaxation videos, as well as signposting links.

https://www.uhbristol.nhs.uk/patients-and-visitors/you-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/

The British heart foundation offer a helpline tel: 0300 3303311 Monday to Friday (9am to 5pm)

NHS Taking Therapy offer talking therapy which you can self-refer to by visiting the following website;

https://www.vitahealthgroup.co.uk/nhs-services/nhs-mental-health/

Intimacy

This may be a time when couples need extra love and reassurance. Worrying about sex after a cardiac event may affect both partners. It is normal to feel anxious about the effect sex may have on your heart. If you are in a stable relationship, are relaxed and rested, then sex should be possible and as enjoyable after your cardiac event as it was before. We recommend that if you can comfortably climb 2 flights of stairs or walk 1 mile on the flat at an even pace without any undue breathlessness or chest pain, then you can restart sexual relations if you would like to.

Your love life (some helpful hints)

- Find a comfortable position which doesn't restrict your breathing.
- Treat sex like any other activity. If you are tired and tense wait until you feel better.
- Take a more passive role to begin with.
- Avoid sex within two hours of a heavy meal.
- If you develop angina during sex, stop, rest and follow the guidelines for chest pain management.
- Before starting or restarting the oral contraceptive pill or HRT, female patients should check with their GP or hospital consultant.
- Beta blockers and other medication can affect sexual function.
- If your desire for sex does not return in the first few weeks, do not worry talk to your partner. You will probably both be feeling anxious about it.
- **Do not take Viagra.**

Men's Health

Erectile dysfunction is a common problem among males with heart disease. There are medications and treatments which help. Speak to your GP or cardiac rehabilitation nurse. Some medication that is prescribed to improve erectile dysfunction, such as sildenafil (Viagra) and tadalafil, can cause serious adverse reactions if taken with certain heart medication. You **MUST** consult your GP if you are considering trying this type of medication. Beta blockers and other medication can affect sexual function. Speak to your GP or cardiac rehab team.

Although some patients find this a difficult subject to discuss it is important that you speak with your GP or Cardiac Rehabilitation professional if you are having difficulties resuming relationships. They will be able to support and advise you. More information visit;

https://www.bhf.org.uk/informationsupport/heart-matters-magazine/wellbeing/erectile-dysfunction

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

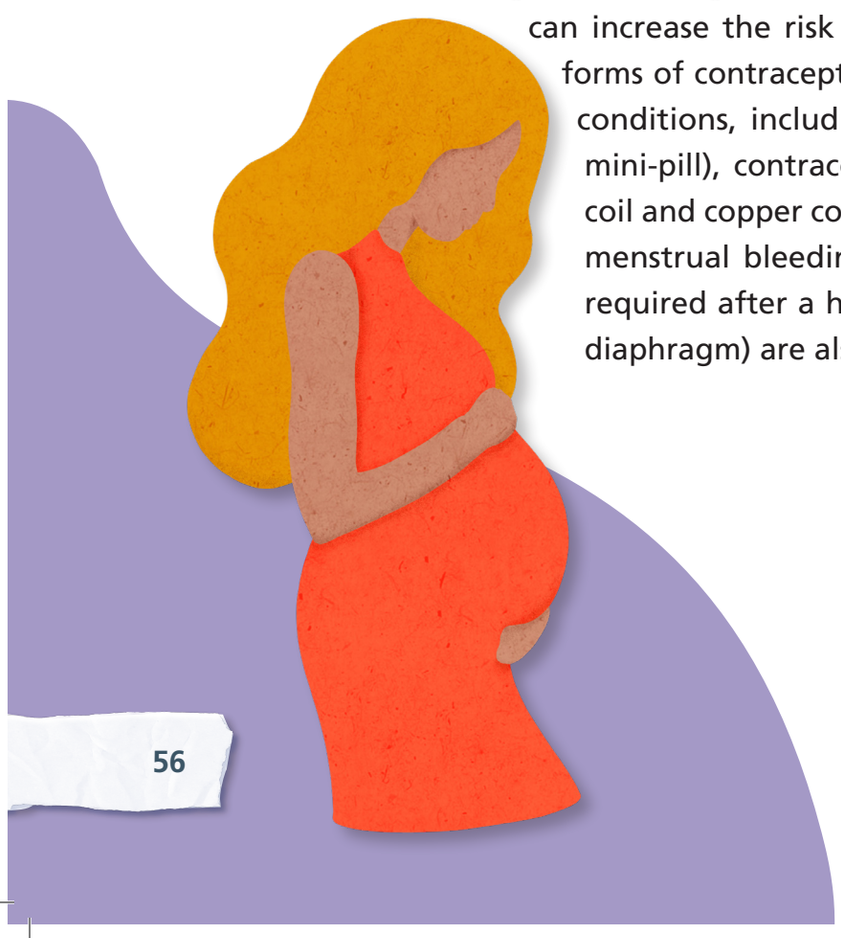
Women's Health

Pregnancy after a heart attack

It may not be safe for you to become pregnant after having a heart attack, particularly if the pumping function of your heart is reduced, or you have significant narrowing of your coronary arteries. Pregnancy puts a significant strain on the heart, and international guidelines recommend waiting for 12 months after a heart attack before becoming pregnant. It is recommended that you see a Cardiologist with expertise in managing heart disease in pregnancy before conceiving, to talk through any specific considerations for your individual care. In addition to the safety of the mother, several of the medications commonly used after a heart attack are not safe for a fetus. If you become pregnant after a heart attack whilst taking medication, it is important that you inform your GP as soon as possible, who can refer you for the appropriate specialist advice.

Contraception after a heart attack

It is important for women to use safe and effective contraception after a heart attack. It is advisable to avoid oestrogen-containing combined oral contraceptive pills (COCP) which can increase the risk of blood clots. There are many other forms of contraception that are safe for women with heart conditions, including the progesterone only pill (POP or mini-pill), contraceptive implant, depot injection, Mirena coil and copper coil (although the copper coil may increase menstrual bleeding in combination with blood thinners required after a heart attack). Barrier methods (condoms, diaphragm) are also safe to use.



Hormone replacement therapy (HRT) after a heart attack

You may have already been taking hormone replacement therapy (HRT) before your heart attack, or may wish to start it at some point after your heart attack for symptoms of menopause. Naturally occurring oestrogen reduces the risk of coronary artery disease in women before the menopause.

However it is not recommended to use HRT solely for the purposes of reducing the risk of a further heart attack.

The decision to continue or start HRT after a heart attack requires an individualized assessment of risk and benefit with your doctor.

HRT tablets containing oestrogen are associated with a slightly increased risk of stroke. HRT tablets are also associated with an increase in the risk of blood clots. Transdermal HRT (patches or gels) at usual therapeutic doses are not linked with these increased risks.

If you have had a heart attack caused by spontaneous coronary artery dissection (SCAD) it is recommended that you avoid taking oral oestrogen HRT preparations.

Further information can be found at:

https://www.nhs.uk/conditions/hormone-replacement-therapy-hrt/

https://www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/women/menopause-and-your-heart

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

Lifestyle

Returning to work will depend on the nature of your work but generally people will have 4-12 weeks off work.

The amount of time that you will need to have off work will depend on:

- the type of heart condition you had.
- if you had any complications during your recovery.
- the nature and type of job you do.

As a general guide:

- four to six weeks off for light work.
- eight to twelve weeks off for heavy work.
- to avoid being over tired, it may be helpful to return initially on a part time or on a reduced workload which can be built up over several weeks.
- most people return to their previous employment.

Your GP can help guide you as to when you may be able to return to work.

Holidays

Short breaks away can be beneficial and may help to build you and your family's confidence. Following a heart attack without any complications you can usually travel by air with two or three weeks. However, if you do have complications, such as symptoms of unstable angina it may be longer before you can fly. If you travel abroad, always ensure you take adequate medication supplies with you and keep them in your hand luggage. It is also useful to keep a list of all your medications and doses with you at all times. Please check with your GP regarding vaccinations.

Holiday insurance

Reasonably priced holiday insurance can be difficult to find following a cardiac event, you may need to shop around. It is essential that you declare all your health conditions as not mentioning them can result in your insurance being invalid. The British heart foundation provides information regarding holiday insurance and can be found at:

www.bhf.org.uk or via their helpline on 03003303311.

Flying, the current Civil Aviation Authority regulations **contraindications for flying** (cannot fly) with cardiovascular disease are as follows;

- uncomplicated stent placement/angioplasty within 5 days (individual assessment needed after that time to ensure fitness and stability).
- uncomplicated heart attack within seven days.
- coronary artery bypass graft surgery (CABG) within ten days.
- uncontrolled heart rhythm.
- severe symptomatic valve disease.
- uncontrolled heart failure.
- uncontrolled high blood pressure.
- patients with implantable cardiac defibrillators or pacemakers can fly once they are medically stable.

Top tips when flying

- Move around in your seat and in the cabin as much as possible.
- Exercise your calf muscles by circulating your ankles.
- Only drink water, non-caffeinated soft drinks or juices.
- Avoid caffeine and alcohol before and during the flight.
- Take only short naps.
- Do not take sleeping pills.
- Ask your GP or a pharmacist about the need to wear compression stockings.

PART 02 WEEK 2 LIFESTYLE & WELL-BEING

Cardiac rehab log week 2

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Walking Time/ distance							
Stress bucket scale							
hours of sleep							

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 02

WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

CHAPTER SIX

Week 3 - Physical activity and exercise

Physical activity and exercise	64
How to monitor your exercise	68
If you feel unwell whilst exercising	69
Walking	70
Resistance training	70
Structure of exercise sessions	72
How to progress your exercise	73
Returning to exercise and sports	74
Cardiac rehab log week 3	75

PART 02 WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

You are now three weeks into your cardiac rehab programme and you should be beginning to feel better.

This week you will also be :

- Continuing to build up your walking and exercise.
- Remembering to think about your stress levels and use the relaxation resources.
- Completing your cardiac rehab log so that you can track your progress.
- Learning about physical activity and exercise.

Physical activity and exercise

Being physically inactive is one of the main causes of coronary heart disease. Although, lack of physical activity, is a risk factor in its own right, it also influences other risk factors, such as obesity, diabetes, high blood pressure, and increased cholesterol levels. Regular physical activity and exercise can reduce your future risk of cardiac events.

Your heart is a muscle, and like all other muscles, requires a moderate amount of physical activity to keep strong. To benefit your health, you need to do aerobic exercise as well as appropriate strengthening exercises.

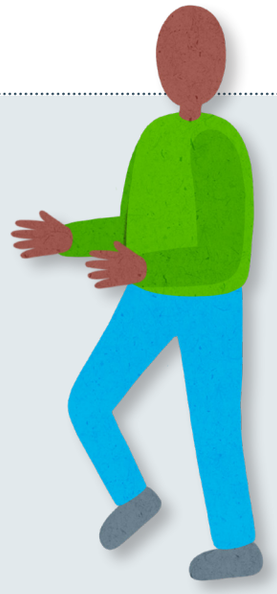
Aerobic exercises are repetitive, rhythmic movements which use large muscle groups (legs, arms and shoulders). Aerobic exercise makes the heart and lungs work harder and includes brisk walking, jogging, cycling and swimming.

This type of exercise can help you develop stamina and use more calories. Having an active job is not the same as exercising regularly, there is a difference between physical activity and exercise, but both have health benefits. We will look at both physical activity and exercise.

Physical activity is bodily movement which requires your skeletal muscles to work and use energy to move your body. Any movement of your body requiring energy is considered physical activity like hoovering, walking to the shops.

Exercise is considered planned, structured and purposeful physical activity. Not all physical activity is exercise. The goal of exercise is to increase physical fitness like jogging, swimming and playing golf.

Benefits of regular exercise include



- Helps your heart and lungs work more efficiently.
- Improves circulation.
- Protects against heart disease.
- Helps to control your weight, especially when combined with a healthy, balanced diet.
- Increases your self-confidence and sense of wellbeing.
- Reduces stress and frustration.
- You relax, aids tension release and you sleep better.
- Your energy levels improve.
- Lowers your blood pressure.
- Improve the efficiency of your muscles.
- Increase the level of 'good' cholesterol (HDL).
- Helps the management of diabetes (or reduce the risk of developing diabetes).
- Improves your quality of life and help you to maintain an independent life.
- Helps you feel better about yourself by increasing self-confidence and a sense of wellbeing.
- Helps you to return to work earlier.

Physical activity guidelines

Adults should get at least 150 minutes (2 ½ hours) of moderate intensity or 75 minutes of vigorous intensity aerobic exercise every week. This can be broken into smaller chunks, such as walking 30 minutes a day (or even smaller for instance three 10 minute walks a day) for five days a week.

Adults should do resistance training for each major muscle group on at least two non-consecutive days per week.

To begin with, do not aim to reach the recommended physical activity guidelines. Instead, you should aim to increase your physical activity and exercise levels gradually so that with time (weeks or months depending on your starting level of fitness) you are doing the recommended level of physical activity.

PART 02

WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

How much physical activity should you do?

This can also be achieved by 75 minutes of vigorous activity across the week or mixture of moderate and vigorous.

All adults should undertake muscle strengthening activity, such as,

exercising with weights | Yoga | or carrying heavy shopping

at least 2 days a week

Minimise the amount of time spent sedentary (sitting) for extended periods

The FITT principle

The FITT principle is a way of forming an exercise plan, it stands for:

- **Frequency** is how often you exercise, avoid exercising too much.
- **Intensity** refers to how hard you exercise. Aim for a moderate intensity exercise, which means you may be slightly short of breath on exertion and feel warmer but should always be able to walk and talk.
- **Time** is how long you exercise for. Over time, you should aim for 150 minutes of moderate intensity activity each week, for example five times for 30 minutes. If 30 minutes in one go sounds too much, split the exercise session into three 10 minutes or two 15 minute slots.
- **Type** indicates the sort of exercise including aerobic exercises, flexibility and strength training.

How can I exercise safely?

- Wear comfortable clothes that are loose fitting and well-fitting footwear.
- Avoid caffeine and heavy meals two hours before exercise as this puts extra strain on the heart. A small snack is usually okay, but if you have diabetes, your dietary needs will be individual and you should follow your own regime.
- When starting any new exercise it is important to start very slowly and gradually progress.
- Listen to your body and make sure you can talk comfortably whilst exercising – if you can't, ease off.
- Don't exercise if you feel unwell or very tired.
- If you are unwell with a virus, cold, tummy bug or if you are taking antibiotics please do not attempt strenuous exercise.
- We recommend that you wait at least 2 days after the symptoms have disappeared before recommencing anything more than light physical activity.
- Avoid exercising in very cold or very hot weather.
- Stop exercising if you experience any chest pain, palpitations or light headedness.
- Have your GTN spray or tablets handy (if you have been prescribed them).

If you feel any angina symptoms during Physical Activity or Exercise you need to: Stop, Sit down, Rest. If the symptoms do not relieve immediately take your GTN as you have been advised, if you have one. (see GTN protocol on page 167), if symptoms do not resolve call 999.

PART 02 WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

How to monitor your exercise?

Rate of perceived exertion (RPE) scale rates how you feel during exercise, there is no right or wrong answer. To use the RPE scale, choose a number that reflects how your breathing, muscles and energy levels feel whilst you are exercising, use the table below as a guide. It can take practice to rate the intensity of your exercise but it will become your guide to indicate if you are working at the right intensity. An exertion between 13 (somewhat hard) and 15 (hard) is a good range whilst exercising. You should slow down if you are above 15 or aim to work harder if you are feeling well and below 13.

20 Point Borg Scale

RPE
Rate of Perceived Exertion

POINT	EFFORT	DESCRIPTION	% OF MAXIMUM HEART RATE	√
6	No Exertion	Little to no movement	20%	
7	Extremely Light	Able to maintain pace	30%	
8			40%	
9	Very Light	Comfortable and breathing harder	50%	
10			55%	
11	Light	Minimal sweating, can talk easily	60%	
12			65%	
13	Somewhat Hard	Slight breathlessness, can talk	70%	
14		Increased sweating, still able to hold conversation but with difficulty	75%	
15	Hard	Sweating, able to push and still maintain proper form	80%	
16			85%	
17	Very Hard	Can keep a fast pace for a short time period	90%	
18			95%	
19	Extremely Hard	Difficulty breathing, near muscle exhaustion	100%	
20	Maximally Hard	STOP exercising, total exhaustion		

(Reference, Professor G Borg, 1970,1998 and 2017)

Try to assess your feeling of exertion as honestly as possible and slow down if:

- Your breathing is uncomfortable.
- You're feeling very tired and are sweating a lot.
- Your rate of perceived exertion is above 15.
- If you are unable to speak in full sentences.

When exercising, it is normal to feel:

- Slightly sweaty.
- A little warm.
- Increased breathing but still able to talk.
- Your heart beat feels a bit faster.

Before you start exercising make sure:

- You are wearing loose, comfortable clothing and sensible footwear.
- The room temperature is comfortable – open a window if it is warm.
- You have a drink close to hand – if you're on a fluid restriction, seek advice from the cardiac rehab team.
- If you usually carry a GTN spray, keep it with you when exercising.

If you feel unwell when you are exercising

Listen to your body and stop exercising immediately if you experience any of the following:

- pains or tightness in the chest
- palpitations
- excessive shortness of breath
- feeling dizzy or faint
- pain, swelling or stiffness in joints
- excessive sweating
- sickness/nausea

Sit down and allow yourself time to recover.

If you are having issues with chest pain, if this does not resolve within a few minutes after stopping exercise then follow the GTN protocol on page 167.

If issues such as palpitations, excessive shortness of breath, feeling dizzy or faint are not resolving within 15 minutes of resting **ring 111 for further guidance**. If your symptoms are severe and you are in **obvious distress, call 999**. Please do not contact the cardiac rehab team for advice when you are acutely unwell – always use 111 or 999.

PART 02 WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

Walking

Walking is a great form of exercise, and you should be continuing to gradually build up to 150 minutes every week. You can build up the number of ten-minute sessions you do each day once you're a bit more used to it. One way of reaching 150 minutes (2.5 hours) a week is being active for 30 minutes at least five days a week.

The NHS has a free walking app called **"Active 10"**. Active 10 tracks your steps, helps you set goals and encourages you to walk at a brisk pace as well as giving you feedback. For more information regarding the Action 10 app visit;
https://www.nhs.uk/better-health/get-active/

Resistance training

Resistance training is also known as weight training, strength training and muscular training. Strength training uses your body weight or equipment (like dumbbells and resistance bands) to build muscle mass, strength and endurance (your muscles ability to sustain exercise for a period of time). Training to increase muscular endurance usually involves high reps using light weights, body weight or equipment to reach your goals, for example:

- **Body weight -** using your own body weight and the force of gravity to perform various movements (like squats, sit to stand).
- **Free weights** - such as dumbbells, barbells, kettlebells or objects you have around the house such as tinned food.
- **Resistance bands/loops band** - rubber bands that provide resistance when stretched.
- **Weight machines** - with adjustable weights or hydraulics attached to provide resistance and stress to the muscles.

Benefits of resistance training

- **Makes you stronger** - Allowing you to perform daily tasks much easier like carrying heavy groceries.
- **Burns calories efficiently** - building muscle increases your metabolic rate so you will burn more calories at rest, this can help you reach and maintain a healthy weight as well as help control your blood sugar levels.

- **Improves your heart health** - regular strength training can reduce your blood pressure, lower total and LDL (bad) cholesterol and improve your blood circulation by strengthening the heart and blood vessels.
- **Reduces your risk of falls**.

It is recommended during strength training you should:

- Have a good posture.
- Move at a controlled slow to moderate speed.
- Alternate between lower and upper body work to allow your muscles to rest between.
- Avoid holding your breath when you are lifting weights as this puts strain on your heart. If you are holding your breath it is a sign that the weight is too heavy.
- Use low weights and increase the number or repetitions you do.
- You should start by aiming to do 1 set of between 10 to 15 repetitions (reps) for each muscle group. If you are unable to do 10 reps then the weight is too heavy.

You can progress your strengthening exercises by increasing:

- the number of sets
- the weight
- the number of reps

The Association of Chartered Physiotherapists in Cardiovascular Rehabilitation (ACPICR) have a leaflet for strength training which can be found by visiting;

https://www.acpicr.com/data/Page_Downloads/3568ACPICRstrengthtraining2ppA4leaflet[6971].pdf

PART 02 WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

Structure of exercise sessions

It is very important that each session of exercise is preceded by a warm up and concluded with a cool down and includes some stretches. Your exercise should be structured as follows;

• Warm up • Stretches • Conditioning phase • Cool down • Stretches •

The warm up should last 15 minutes, start gently and then gradually quicken the pace, mobilising the whole body. A warm up should raise your heart rate slightly. You should still feel very comfortable and have lots of energy. An example of a warm up could be a walk, this would involve walking slowly then after five minutes, slightly increasing your pace. Then after 10 minutes if you feel able to, increase your pace a little more. Remember your perceived exertion scale and to go at a pace you can talk comfortably.

Benefits of a warm up and stretches include:

- Easing the body into exercise
- Preparing the heart and lungs for the exercise by gradually increasing the body temperature and the blood flow to the heart and working muscles
- Preventing muscle soreness and injury

At some point during your warm up, it is important to include stretches.

Stretches should be done as part of the warm up and again after the cool down. You should feel a gentle stretch but not pain. Do not bounce as you reach the end of a stretch. Hold the stretch for at least 10 seconds, release, relax, and repeat on the other side. Discuss any problems with the cardiac rehab team.

Conditioning phase is the main part of the exercise programme. It helps to improve your heart's efficiency and strengthen your muscles.

The cool down should last 10 minutes and is when the exercise level is gradually reduced so that your heart rate and blood pressure return to normal.

How to progress your exercise

Start slowly and gradually build up the exercise as you feel able to. It may be that, initially, you do the exercise every other day, and then if you feel fine you can gradually increase the amount you do. As you get fitter and stronger, exercise becomes easier so you need to increase what you do to keep improving. To increase your exercise, you should follow the FITT principle for example:

Frequency - walk more often	**Time - walk for longer**
Intensity - walk a little faster	**Type - aerobic exercises**

You should only change one of the FITT principles at a time, it is best to increase the time you exercise first, then increase the frequency and lastly increase the intensity, this will be over a period of weeks or months. Aiming to increase your exercise by 10 percent each week has been shown to be effective and sustainable for instance if you go for a 20 minute walk the following week you could progress this to 22 minutes walking and so.

If you take a break from exercising, for example if you have a cold or flu, make sure you return to exercising at a reduced level and gradually build up your intensity and duration again.

Tips to build daily physical activity and exercise into your lifestyle

Stand more and sit less, walk around during adverts or get a standing desk at work.
Limit screen time throughout the day.
Make exercise a habit- make time to exercise regularly.
Take the stairs rather than the lift or escalator.
Go to the toilet on a different floor.
Park the car further away and walk or even better leave the car at home if possible.
Walk and leave the car at home.
Choose activities that you enjoy- you are more likely to continue them.
Join a class, walking group or just meet up with a friend and go for a walk.
Involve friends and family.
Set yourself weekly goals to help you increase activities. Speak to your cardiac rehabilitation team for more advice on goal setting.
Do heel raises, squats or other exercises whilst brushing your teeth, standing in a queue or waiting of the kettle to boil.

PART 02 WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

For more information

On physical activity and exercise see the UHBW cardiac rehab page for educational talks and exercise videos -

https://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/exercise-prescription/

There is also a chair and standing exercise programme in chapter ten of this guide.

The cardiac rehab log is a way for you to chart and track your exercise routine. Follow your programme and make it a regular part of your weekly routine.

Returning to exercise and sports

If you are wanting to start or recommence an activity or exercise such as heavy gardening, golf, racquet sports, fishing, football, horse-riding and cycling on a road, please discuss this with the cardiac rehab team who will be able to assess you and give you appropriate advice. Remember to start slowly and build up for instance, visiting the driving range then starting with a few holes of golf and building up to a full round.

It is also advisable to get used to exercising on dryland before starting swimming. If you have been diagnosed with heart failure discuss swimming or exercising in water with your doctor the cardiac rehab team as it may not be suitable for you.

For more information visit the Association of Chartered Physiotherapists in Cardiovascular Rehabilitation website:

www.acpicr.com

Physical activity and exercise plan

What activity/exercise am I currently doing?

- ……
- ……
- ……

My SMART (specific, measurable, attainable, realistic and timed) goal is

- ……
- ……
- ……
- ……

What help and support can I get?

- ……
- ……

How can I reach my goal?

- ……
- ……

What's going to get in the way of making these changes?

- ……
- ……

What will I do about that?

- ……
- ……

How confident do I feel that I can make the changes?

1 2 3 4 5 6 7 8 9 10

1-Not confident 10-very confident

Review date:……

PART 02 WEEK 3 PHYSICAL ACTIVITY AND EXERCISE

Cardiac Rehab Log week 3

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
Walking distance/ time							
Exercise/ activity: **Time:** **RPE:**							
Stress bucket (scale 1-10)							
Hours of sleep							

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 02

WEEK 4 HEALTHY EATING

CHAPTER SEVEN

Week 4 - healthy eating

Healthy eating- steps towards a Mediterranean diet	81
Healthy food ideas	92
Alcohol	94
Cholesterol	95
Action plan for healthy eating and drinking	97
Action plan for high cholesterol	98
Cardiac rehab log week 4	99

PART 02 WEEK 4 HEALTHY EATING

You are now 4 weeks into your cardiac rehab programme and you should be beginning to feel better. If you feel that you are not progressing at the rate you should be, please discuss this with a medical professional.

Exercise You can start the home exercise programme on page 129 for standing and page 133 for seated options. If you would prefer you can follow Cardiac rehab exercise videos;

https://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/exercise-prescription/

This week you will also be;

- Continuing to build up your walking and exercise.
- Remember to think about your stress levels and use the relaxation resources.
- Completing your cardiac rehab log so that you can track your progress.
- Learning about a healthy eating, alcohol and cholesterol.

Healthy eating

A long-term healthy diet can help you to achieve and maintain a healthy weight and control your blood pressure as well as cholesterol, this reduces your risk of heart disease. Healthy eating can also help you feel better. Food should be enjoyable and varied; you can enjoy treats in moderation, but try to stick to a healthy diet most of the time. The Mediterranean diet is beneficial, for the heart health, reducing the risk of cardiovascular disease by 25%.

Steps towards a Mediterranean diet

- **Aim to include 5 or more portions of a variety of fruit and vegetables each day.**
- **Choose wholegrain carbohydrates where possible to help increase fibre intake.**
- **Choose low fat milk & dairy foods.**
- **Have sources of protein with each meal.**
- **Reduce the amount of food and drinks high in fat and/or sugar consumed.**
- **Replace saturated fat with unsaturated fat.**
- **Avoid adding salt to foods and consuming high salt foods.**
- **Avoid eating too many processed foods as they are often high in fats, sugar and salt.**
- **To help you maintain a healthy diet, you should eat regularly throughout the day.**
- **Eat less red and processed meat.**
- **Include fish in the diet-aim for one portion of white fish and one portion of oily fish each week.**
- **Cut down on sugar, sweet foods and sugary drinks.**
- **Keep alcohol consumption to a minimum.**
- **Snack on modest servings of unsalted nuts.**

This may seem like a daunting task but we will break this down and you can make small changes and build up gradually

PART 02 WEEK 4 HEALTHY EATING

Fats and oils are an important part of the diet; they are a source of energy, carry fat soluble vitamins (A,D,E and K) and are involved in brain function. Some fatty acids are considered "essential" as they cannot be made in the body, and need to come from dietary sources. The type and amount of fat we eat is important. Eating too much fat, or the wrong type of fats can increase cholesterol levels and the risk of developing cardiovascular disease. Most fat sources contain a combination of different types of fats. The fat which is in the highest proportion characterises the fat or food.

There are three main types of fats which are described in the table below.

Type of fat	
Saturated Fat	• Saturated fats are unhealthy fats. They can increase 'bad' cholesterol levels in the blood. • It is found in full-fat dairy products, processed and fatty meat and meat products such as burgers and sausages, butter and lard, as well as cakes, pastries and biscuits. • **Saturated fats should be minimised wherever possible and replaced with unsaturated fats.**
Unsaturated Fat	• This is the healthiest form of fat and is found in plant foods and can help reduce "bad cholesterol and increase "good cholesterol". There are different types of unsaturated fats. • **Monounsaturated fats** can be found in vegetable oils and spreads (like olive or rapeseed oil), avocados and nuts (like almonds, cashews, hazelnuts, peanuts and pistachios). • **Polyunsaturated fats** can be found in vegetable oils (like soya, corn and sunflower), nuts and seeds (likewalnuts, pine nuts, sesame seeds and sunflower seeds. • Omega 3 is a polyunsaturated fat which can be found in oily fish like salmon and mackerel.

Swapping foods high in saturated fat with alternatives that are higher in unsaturated fats, as well as eating less fat together will help towards a healthy diet, see table below for suggestions. If you are trying to lose weight use all fats sparingly as they are all equally high in calories.

Avoid	Occasionally	Best choice
Butter, lard, suet, dripping, margarine, ghee, vegetable ghee, coconut and palm oils, partially hydrogenated vegetable oil.		Spreads made from plant vegetable oils (like olive or sunflower spreads), plant based oils (like olive, rapeseed, sunflower, soya, corn or nut oil)
Salad with oily dressings or mayonnaise (like Caesar or thousand island), salad cream.	Salad dressing with a little olive or vegetable oil, reduced fat mayonnaise or salad cream.	All types of vegetables, avocados, salad with fat free dressings (like balsamic vinegar or lemon juice)
Fried foods (like samosas, bhajis, dumplings, Jamaican patties, chips, battered fish)		Roast casseroled, baked or steamed foods with minimal unsaturated fats added.
Full fat cheeses (like stilton, mascarpone, cheddar, gouda, parmesan, cream cheeses)	Modest portions of medium fat cheese (like reduced fat cheddar, edam, cheese spread labelled as light or reduced fat, camembert, brie, mozzarella, feta)	Low fat and reduced fat cheese (like cottage cheese, quark, ricotta, extra light cheese spread.
Full fat dairy foods (like full cream milk, full fat yoghurts, ice-cream, condensed milk, cream, crème fraiche)	Lower fat dairy foods (like semi-skimmed milk, low fat yoghurt, reduced fat ice-cream, sorbet, frozen yoghurt, half fat cream oat or soya cram, half fat crème fraiche)	Very low fat dairy and alternatives (like skimmed milk, fat free yoghurts or Greek yoghurt, or soya alternatives to yoghurt)
Quiches, scotch eggs, cheese omelette.	Fried eggs and omelettes (using a small amount of unsaturated fat based cooking fat)	Boiled or poached eggs, scrambled eggs made with low fat milk.
Fish in batter, fried fish, fish or shellfish in a creamy/cheesy sauce, trarmasasalta.	Fish cakes, fish in crumbs cooked without added fat including added fat including fish fingers.	Grilled, baked or poached fish, white oily fish and shellfish (like mackerel or sardines)

Table continued on next page...

Avoid	Occasionally	Best choice
Fatty meats and cuts of meat, processed meats or foods (like belly pork, lamb, duck, goose, sausages, burgers, pate, meat pies, pasties, sausage rolls, bacon, luncheon meats, black puddings, faggots, salami or other cured meats, pizza with cheese and meats.	Lean bacon, low fat versions of sausages and burgers, vegetarian sausages and burgers.	Lean pork, ham, lamb, beef, extra lean mince (less than 5%), cuts of meat without visible fat or skin, veal, rabbit, game, ostrich. Meat alternatives including pulses, soya products, Quorn products. (*Be cautious when choosing meat substitutes like soya burgers and soya sausages, as while these are high-quality protein sources, they can be high in salt and fat so you should have them in moderation). Homemade pizza with vegetable toppings.
Chips, mashed potato with added fat (like cream, butter), roast potatoes made with saturated fats, fried rice.	Oven chips, roast potatoes cooked with small amount of unsaturated oils.	Boiled, baked or mashed potatoes, potato wedges, pasta or rice (with minimal amount of unsaturated fat based oils or spread added).
Crisps, Bombay mix, chocolate, toffee, fudge, sweetmeats (like jalebi or halva).	Homemade puddings (made using unsaturated fats and less sugar) such as carrot cake, muffins, cereal bars, fruit loaves, and fruit based puddings like crumble.	Fresh tinned and dried fruits, skimmed milk puddings, low fat custard and yoghurts, jelly (be aware that some of these items may be higher in sugar- read the food labels).
Bread, croissants, waffles, most biscuits, cakes, doughnuts, pastries.	Current buns, scones, malt loaf, homemade cakes, teacakes, plain biscuits (like garibaldi, rich tea, fig roll).	Wholegrain bread (like granary, seeded breads), chapattis, wholegrain crispbreads, wholegrain cereals (like muesli, porridge, special K, Weetabix, crumpets, pitta bread, rye bread.

Tips for healthy eating

Bake or grill your food, avoid frying it.

Steam or oven roast vegetables.

Remove skin from meat and trim all fat away before cooking.

Avoid processed foods.

Aim for at least one to two portions of fish per week, one of which should be oily, such as mackerel, salmon, pilchards or sardines. This may be beneficial for your heart.

Avoid adding salt at the table and try using different herbs and spices to flavour your foods.

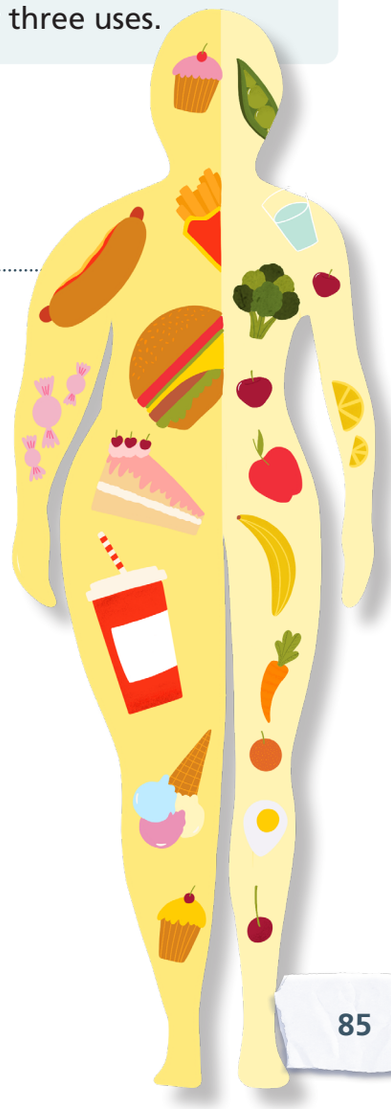
Use monounsaturated or polyunsaturated oils and spreads for cooking. These include olive and vegetable oils and spreads.

Cooking oils labelled 'high in polyunsaturated fat' become saturated the more you heat them. Oil used for cooking should be discarded after three uses.

Balancing act

To help get the balance right we need to ensure meals and snacks are mostly;

- Based on the 2 larger food groups (carbohydrate and protein)
- Fruit and vegetables
- Include starchy foods, wholegrains and soluble fibre
- Include moderate amounts of non-dairy protein sources such as meat, fish, eggs and beans
- Include low fat dairy and alternatives
- Foods high in fat, especially saturated fats, are kept to a minimum, but small amounts of heart healthy fats are included
- Only small amounts of salt and sugar are eaten



PART 02 WEEK 4 HEALTHY EATING

Meals should be based around high fibre starchy foods, as these provide energy and B vitamins needed to help use this energy. Consuming a high fibre diet can lower cholesterol levels, reduce risk of cardiovascular disease and type 2 diabetes, help constipation, and protect against bowel cancer. Dietary fibre is found in all plant based foods (fruit and vegetables) and many starchy foods contain fibre.

Studies have shown having at least three portions of wholegrains per day can lower the risk of heart disease. Wholegrain products are less processed and include the fibres rich outer shell as well as the "germ" of the grain. Wholegrains also provide B vitamins, vitamin E, minerals and heart healthy fats.

Aim for three portions of wholegrains per day. A portion is equal to:

- One slice wholegrain bread (like wholemeal or granary)
- One bowl of wholegrain cereal
- ½ cup cooked wholegrain (like brown rice, quinoa, oats, barley, millet)
- ½ cup whole wheat pasta
- Five wholegrain crackers
- Three cups air popped popcorn
- One (six inch) whole wheat tortilla

Soluble and insoluble fibres are different types of fibre in food. Soluble fibre refers to things like pectin's and beta glucans, found in fruit, vegetables and oats. Insoluble fibre includes cellulose, the structural part of the plant, wholegrains and nuts are a good source.

Soluble fibre can help lower blood cholesterol levels by interfering with the absorption of dietary cholesterol. Consuming soluble fibre every day can reduce LDL "bad cholesterol" levels. Soluble fibre sources include:

Oats and barley **Fruit and vegetables**

Beans and pulses including baked beans

Reduced salt and sugar varieties and lentils

Nuts and seeds (chose unsalted varieties)

Increase fibre in your diet gradually and make sure you drink plenty of fluids as your intake of fibre rich foods increases. This should minimise symptoms like gas, bloating, and diarrhoea, which some experience.

Fruit and vegetables contain a wide variety of important nutrients including fibre, vitamins and minerals, and antioxidants that can help reduce risk of heart disease, Eating a wide range of fruit and vegetables can also help weight management, as they can help fill you up whilst being low in calories. Aim to eat at least five portions of fruit and vegetables a day. A portion is:

- Piece of fruit that you could hold in your hand (like one apple, two plums, 10 to 12 grapes or berries)
- Small bowl of salad
- Two or three tablespoons of cooked vegetables or stewed fruit
- 150ml glass of fruit (can only count as one of your five portions)

Fruit and vegetables can be fresh, frozen, tinned or dried, however, try to avoid those with added sugars or in syrups. Buying seasonal fruit and vegetables will be better value for money and may be fresher. Potatoes are starchy foods and do not count as a vegetable portion.

Meat, fish, eggs, beans and other non-dairy sources of protein. Aim to have 2 - 3 portions of protein each day. Try to include more beans and pulses such as lentils and peas (plant-based protein sources) in the diet as well as 2 portions of fish (one of which is oily) per week. Tofu and tempeh are also good plant-based protein sources. A portion of cooked meat is about the size of a deck of cards and a portion of cooked or tinned fish is about the size of the palm of your hand, (140g).

Plant sterols/stanols are natural substances found in small amounts in nuts, seeds, grains and vegetable oils. Even though only small amounts of our body cholesterol is absorbed from our diets, plants, sterols/stanols help lower LDL "bad cholesterol" levels by reducing absorption of dietary cholesterol. Evidence suggests that eating 2g of plant sterols/stanols can reduce "bad cholesterol" by up to 10 per cent. There is no extra benefit in taking more than 3g per day, and going over this could decrease absorption of important soluble vitamins.

PART 02 WEEK 4 HEALTHY EATING

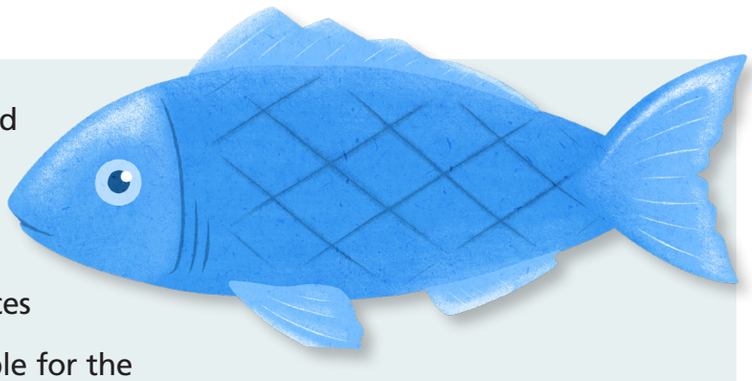
It is difficult to obtain the recommended dose of sterols/stanols from diet alone and so fortified foods are available. It is important to take these fortified foods consistently, and with meals in order for them to work properly, as they compete for absorption in the gut. You typically need one to three portions of fortified foods per day to achieve the recommended 1.5 to 3g sterols/stanols per day. Check labels of the products you choose to make sure you are eating enough active products. You may only need one fortified yoghurt or mini drink (which can be more practical and economical, unless the following foods/ drinks are already part of your diet), or two to three portions of fortified spreads (two teaspoons), milk (250ml glass), or cereal bar.

Note: If you are taking Ezetimbe it is not recommended to use foods fortified with plant sterols/stanols, as they both work in a similar way and is unlikely to have an additional effect on cholesterol levels.

Oily fish contains a group of unsaturated fats known as omega- 3 oils. Eating foods rich in omega- 3 oils has been shown to help regulate heartbeat, healthy arteries, lower blood pressure and prevent blood clots. Some of these fats cannot be produced by our bodies, so it is important to include foods which contain these fats in our diets.

Aim to have two portions of fish per week (one of which should be oily) a portion is approximately 140g or a small fillet. Oily fish includes pilchards, sardines, trout, kipper, salmon, mackerel and herring. Pregnant or breastfeeding women should limit their intake of oily fish to no more than 2 portions a week.

Fish can be tinned in oil, brine or tomato sauce, fresh, frozen or smoked. If having tinned fish try to opt for varieties tinned in water rather than oil or brine as these preservatives add extra calories and salt. Fish that is steamed, baked or grilled is a better choice than fried fish also.



Omega 3 also comes from nuts and seeds, vegetable oils, soya and soya products, and from dark green leafy vegetables. However, vegetable sources of omega-3 are not as readily available for the body to use. There are currently no recommendations on the amount of vegetable sources of omega-3 a person would need to consume to get the same benefits observed from a diet rich in oily fish.

Sugar is found naturally in many foods; including dairy and fruit, however these foods also give us important vitamins, minerals and fibre therefore you do not need to cut down on these. "Free sugars" are those added to processed foods such as cakes, sweets, cereals, fizzy drinks and some yoghurts as well as those found naturally in syrups and fruit juices; this sugar is harmful to your health.

A high intake of free sugar can contribute to being overweight/weight gain, tooth decay and increase triglyceride levels, a type of fat associated with coronary heart disease. Aim to eat less than 30g of free sugars per day, reading food labels and avoiding products with a red sugar content will help.

PART 02

WEEK 4 HEALTHY EATING

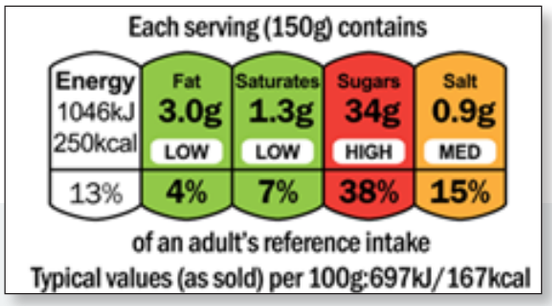
Top tips to reduce free sugar

- Swap sugary fizzy drinks and juice drinks; choose water or no added sugar squash.
- If you like fizzy drinks, try no added sugar squash with sparkling water or sugar free/diet options. Avoid flavoured coffee or water, which may have added sugar.
- Don't add sugar to drinks or cereal; gradually reduce the amount until you can cut it out altogether. Alternatively, try a sweetener like Sweetex, Hermestas, Splenda or Canderel. They come in tablet or powder form.
- Reduce the amount of high sugar snacks you eat, such as cakes, biscuits and chocolate. Try to cut them out as much as possible or save them for occasional treats. If you do want snacks, foods such as currant buns, plain scones, wholegrain crackers, oatcakes, plain popcorn or a handful of plain nuts are better choices.
- Aim to eat more whole fruits rather than flavoured products. For example swap fruit flavoured yoghurt for plain yoghurt with added berries, swap flavoured porridge sachets for plain porridge with added fruit, or swap a glass of orange juice for a fruit salad.
- Choose wholegrain breakfast cereals, but not those coated with sugar or honey.
- Be aware of hidden sugar in processed foods such as soups, baked beans and jars of pasta sauce, and condiments such as tomato ketchup and barbecue sauce. Check nutrition labels (traffic light labels) to help you choose foods with less added sugar and choose low sugar varieties where possible, or try to swap for homemade sauces, soups and dressings.

Salt the recommendation is that adults should have less than 6g salt per day (about one teaspoon). Most of us consume too much salt, as 75% of the salt we eat is already added to foods. Too much salt can increase your blood pressure so it is important to try to lower your intake of salt.

Top tips for cutting down on salt

- Use less salt in cooking and at the table. Instead use pepper, herbs, spices, lemon juice and garlic.
- Up to 80% of salt is hidden in food so check food labels look for green label for low salt/sodium options.
- Cutting back on salty foods such as bacon, cheese, stock cubes, convenience meal sauces, tinned and packet soups, crisps, condiments and foods canned in brine.
- Monitor sodium levels in ingredients like fish sauce and soy sauce, as well as raising agents like bicarbonate of soda.
- Gradually reduce your salt intake to get used to the changes in taste; it takes about three weeks for your taste buds to become more sensitive.
- Avoid using low sodium salt alternatives as they do not help you adjust your taste to less salty foods and may not be suitable for some people. For instance, people with heart failure or kidney problems.
- Avoid stimulant and/or energy drinks.



Food labels will help you choose food that will keep your heart healthy. Manufacturers provide a quick guide to nutritional information using a traffic light system with high foods being red, medium is amber and low is green. Ingredients are also listed in order of greatest quantity first which gives you more information about added sugar and fat. The table below from the British heart foundation provides guidance on nutrient levels, and above is an example of a traffic light label.

all measures	Low (Green)	Medium (Amber)	High (Red)
Fat	3G or less	3.1-17.5g	more than 17.5g
Saturates	1.5g or less	1.6-5g	more than 5g
Salt	0.30g or less	0.31-1.5g	more than 1.5g
Sugars	5g or less	5.1-22.5g	more than 22.5g

NHS Food scanner app is a free app which enables you to scan your foods and a glance see if the product is high, medium or low in salt, sugar and fat. The app may also suggest healthier alternatives, for more information visit; **https://www.nhs.uk/healthier-families/food-facts/nhs-food-scanner-app/**

PART 02 WEEK 4 HEALTHY EATING

Heart healthy food ideas

	Ideas
Breakfast	Weetabix, shredded wheat, branflakes, puffed wheat, porridge or other cereal with low fat milk
	Dried or fresh fruit (prunes, figs, banana) with low fat yoghurt
	Kipper or sardines on toast
	Boiled or poached egg on toast
	Toast with olive oil/sunflower/vegetable based spread topped with avocado/peanut butter
Light meal	Bowl of soup (no "cream of") with wholemeal bread
	Whole-wheat sandwich, roll, crispbread or crackers with salad and low fat filling e.g. low fat cream cheese, chicken, turkey, reduced fat humus, avocado, tinned salmon or tuna
	Chicken, salmon, or bean salad with low fat dressing or fresh lemon juice
Main meal	Chicken, turkey, lean meat and pulses in stews and casseroles with plenty of vegetables
	Fish pie with sweet potato topping and a side of vegetables
	Lean mince or vegetable chilli and rice with kidney beans cottage/sheppard's pie made with lean mince and served with vegetables
	Vegetable curry with chickpeas or lentils and a whole-wheat chapatti
	Ratatouille with pasta and a small portion of low fat cheese

	Ideas	
Dessert	Baked, stewed or tinned fruit juice	
	Fruit jelly	
	Fresh fruit or fruit salad	
	Bread pudding, summer pudding (made with wholegrain bread)	
	Low fat tinned rice or custard	
	Low fat ice-cream/sorbet	
	Low fat yoghurt/fromage frais/frozen yoghurt	
Snacks	Fresh fruit	Water biscuits
	Raw vegetables	Plain biscuits
	Whole-wheat scone	Rice cakes
	Oatcakes	Unsalted nuts/seeds
	Malt loaf	Plain popcorn
	Tea-cake	Breadstick and humus

For more guidance on how to achieve a healthy and balanced diet, you can refer to the Eatwell Guide by scanning the QR codes or visiting the links below.

Culturally Adapted Eatwell Guide

https://traded.enfield.gov.uk/public-assets/attach/4853/Culturally-adapted-Eatwell-Guides-HHASC661.pdf

The Eatwell Guide

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/528193/Eatwell_guide_colour.pdf

The Plant-Based Eatwell Guide

https://plantbasedhealthprofessionals.com/wp-content/uploads/Plant-Basted-Eatwell-Guide-A4.pdf

PART 02

WEEK 4 HEALTHY EATING

Alcohol

The current guidelines on alcohol intake in the UK recommend no more than 14 units of alcohol per week. If you drink alcohol, you should try to drink less than this limit and ideally cut down as much as possible. You should also try to spread your intake over 3 days or more and it is important to have at least two alcohol-free days each week.

Cutting down on alcohol can help to lower cholesterol levels, improve your heart health and help prevent heart disease in other ways too, including by helping to look after your liver, blood pressure and weight.

Alcohol can raise cholesterol levels because when it is broken down in the body, it is rebuilt into triglycerides in the liver. Triglycerides are a type of cholesterol and high levels of this in the blood can lead to heart disease, therefore cutting down alcohol intake can help reduce cholesterol levels and the risk to heart health. Alcohol is also high in calories so cutting down can help with weight management.

Units (Be aware of % volume – ABV)

One small glass (125ml ABV 12%) of wine is 1.25 units

One can of lager/beer/cider (330ml, ABV 5%) is 1.7 units

One small (25ml, ABV 40%) shot of spirits is 1 unit

You can find a unit calculator to help you calculate your alcohol units, this can be found by following the link or scanning the QR code below.

https://alcoholchange.org.uk/alcohol-facts/interactive-tools/unit-calculator

For further information regarding alcohol use, see you GP to find support in your area or use some of the links below.

Alcoholics Anonymous 0800 9177 650

Drinkline 0300 123 1110 www.drinkaware.co.uk

Your action plan to help you plan and set your healthy eating and drinking goals can be found on page 97.

Understanding fats in the body

Cholesterol and triglycerides are fats present in the body that carry out important roles and function. However, having too much of these fats can be harmful, causing damage to the heart and blood vessels and increasing risk of developing cardiovascular disease.

Cholesterol is made in our liver from the saturated fat in our diet. It comes directly from certain foods. Cholesterol is a building block for cells, used to make some hormones and is broken down to bile which helps aid digestion.

Triglycerides are fats found in the food, which are made in the liver and provide energy for our muscles and organs which helps keep our body warm. They are an energy source but a high amount of triglycerides increase your risk of heart disease.

Cholesterol and triglycerides are packed into molecules called lipoproteins as they can be transported around the body. The two main lipoproteins that transport cholesterol are LDL-cholesterol and HDL-cholesterol.

LDL- cholesterol carries the majority of cholesterol in our body from the liver to the cells where it is needed. When there is too much cholesterol in our body, LDL deposits the excess in the arteries where it causes damage, affecting the heart and circulation. LDL is sometimes referred to as "bad cholesterol.

HDL- cholesterol transports excess cholesterol back to the liver for disposal and recycling. HDL works by mopping up excess cholesterol from areas where it can cause damage. Because of this, HDL is sometimes referred as "good cholesterol".

Your cholesterol level can be checked by a simple blood test. People with cardiac disease should aim for:

Total cholesterol - less than 4mmol/l or a 25% reduction, whatever is greater.

LDL cholesterol - less than 1.8 mmol/L or in some cases below 1.4mmol/L (the medical team will let you know what you should be aiming for)

HDL (good) cholesterol - greater than 1.0mmol/l (men) or 1.4 mmol/l (women).

Triglycerides less then.7mmol/l (fasting) or less than 2.3mmol/l (non fasting).

You can improve your cholesterol levels by:

- Stopping smoking.
- Eating a diet low in saturated fat.
- Taking regular exercise.
- Ensuring your alcohol intake doesn't exceed recommended levels.
- Taking medication known as 'statins'.
- **IF** you have an inherited form of high cholesterol called familial hypercholesterolemia (FH), restriction of dietary cholesterol is recommended.

Please speak with a medical professional if you are not sure. Most people are able to reach the recommended targets with a combination of medication and lifestyle changes. In some instances, it may be necessary to refer you to a specialist for other investigations and advice. Your cholesterol action plan can be found on page 98.

Further information

Heart UK
https://www.heartuk.org.uk/

British dietetic Association Heart health food facts
https://www.bda.uk.com

NHS choices website
www.nhs.uk/livewell/alcohol/pages/alcoholsupport.aspx

Action plan for healthy eating and drinking

Date.....

What can affect this?

- Eating more fruit and vegetables (x5 portions or more per day).
- Reduce saturated fats and replace with unsaturated fats.
- Eating less added sugar and reduce salt intake <6grams per day.
- Eat more high fibre food especially those high in soluble fibre.
- Have less alcohol- to drink less than 14 units per week (2 units per day) and aim to have 2 alcohol free days a week.

My SMART (Specific, Measurable, Attainable, Realistic & Timed goal is (you might focus on one to begin with)

- .....
- .....

What help and support can I get?

- .....
- .....

How can I reach my goal?

- .....
- .....

What's going to get in the way of making these changes?

- .....
- .....

What will I do about that?

- .....
- .....

How confident do I feel that I can make the changes?

1 2 3 4 5 6 7 8 9 10

1-Not confident 10-very confident

Review date:.....

PART 02

WEEK 4 HEALTHY EATING

Action plan for high cholesterol

What can affect this?

- Stop smoking- cigarettes stops HDL (good cholesterol) from transporting non-HDL (bad cholesterol) to the liver, causing arteries to narrow.
- Reduce saturated fats and replace with unsaturated fats.
- Do regular physical activity or exercise.
- Eat more high fibre food especially those high in soluble fibre.
- Take medication (statins).

My SMART (Specific, Measurable, Attainable, Realistic & Timed goal is
(you might focus on one to begin with)

- .....
- .....

What help and support can I get?

- .....
- .....

How can I reach my goal?

- .....
- .....

What's going to get in the way of making these changes?

- .....
- .....

What will I do about that?

- .....
- .....

How confident do I feel that I can make the changes?

1 2 3 4 5 6 7 8 9 10

1-Not confident 10-very confident Review date:.....

Cardiac rehab log week 4

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							

PART 02 WEEK 4 HEALTHY EATING

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Walking distance/ time:							
Exercise/ Activity: Time: RPE:							
Stress bucket scale (1-10)							
Hours of sleep							

My goal for the week;

……

……

……

What went well this week?

……

……

……

What I will do differently next week?

……

……

……

Any questions?

……

……

……

PART 02

WEEK 5 DIABETES AND BLOOD PRESSURE

CHAPTER EIGHT

Week 5 - Diabetes and blood pressure

Diabetes	104
High blood pressure	105
Action plan for high blood pressure	106
Cardiac rehab log week 5	107

PART 02 WEEK 5 DIABETES AND BLOOD PRESSURE

This is now week 5 of your cardiac rehab programme and you should be beginning to feel better. If you feel that you are not progressing at the rate you should be, please discuss this with a medical professional.

This week you will also be :

- Continuing to build up your walking and exercise.
- Remember to think about your stress levels and use the relaxation resources.
- Completing your cardiac rehab log so that you can track your progress.
- Learning about Diabetes, High Blood pressure and how to reduce it.

Diabetes

Diabetes is a condition where the level of sugar in your blood (blood glucose) is too high because your body is unable to use it properly. **If you do not have diabetes please turn to page 105.**

There are two types of diabetes:

Type 1 – occurs when the person does not produce any insulin or the insulin you make doesn't work properly (insulin resistance).

Type 2 – occurs when the person does not produce enough insulin, or their cells lose the ability to use insulin. This causes problems with organs such as the eyes, kidneys and can lead to coronary artery disease, strokes and poor circulation to the feet and legs. This is a more common form of diabetes and tends to develop gradually after the age of forty. It is closely linked to obesity and lack of physical activity.

Diabetes and the heart

- High glucose levels in the blood affect the walls of the arteries, making them more likely to develop atheroma (fatty build up).
- People with type-2 diabetes often have higher triglyceride levels and lower levels of HDL cholesterol.
- People with diabetes are more likely to have high blood pressure.

Diabetes can:

- Affect the heart muscle making it less efficient.
- Affect the nerves to the heart, so that symptoms of angina may not be felt in the usual way. This leads to delay and difficulties in diagnosing angina and heart attacks.
- Increase the damage done by smoking, high blood pressure and high cholesterol.

When you were admitted to hospital at the time of your cardiac event your blood will have been tested for raised glucose levels due to the strong association between heart disease and diabetes.

If you are started on insulin after your admission to hospital a Diabetic Specialist Nurse will see you to give you further information and support. The diabetic team will then see you three months after discharge to discuss future treatment options. It does not necessarily mean you will remain on insulin injections - you may be able to revert to taking tablets or follow dietary advice.

If you are diabetic it is important that you keep good control of your blood sugars, blood pressure and cholesterol. This can be hard but this guide will help you. If you are concerned about your diabetes speak to your practice nurse, GP or diabetes specialist.

For more information visit Diabetes UK website: https://www.diabetes.co.uk/
Tel: 0345 1232399
Email:helpline@diabetes.org.uk

High blood pressure (Hypertension)

A certain amount of pressure is necessary to keep the blood flowing around your arteries, this is known as blood pressure. Blood pressure changes constantly throughout the day, in response to what you do.

Blood pressure is recorded as two numbers. The higher number is the blood pressure in your arteries when your heart is beating and the bottom figure is the pressure when your heart is resting between beats.

High blood pressure, or hypertension, develops if the walls of the arteries lose their natural elasticity and become too rigid or if blood vessels become narrowed, causing the heart to work harder.

What should blood pressure be? The most recent evidence suggests that it is important to aim to keep your blood pressure under 140/90. If you have diabetes or kidney disease this reduces to 130/80.

You can help reduce your blood pressure by :

- Stop smoking
- Lose weight if you are overweight
- Reduce your salt intake
- Keep physically active
- Keep alcohol intake within recommended limits
- Learn to manage stress
- Take medication as prescribed

Lifestyle changes are still important even if you are on prescribed medication for your BP.

PART 02

WEEK 5 DIABETES AND BLOOD PRESSURE

Action plan for high cholesterol

What can affect this?

- Stop smoking.
- Do regular physical activity or exercise.
- Eat a healthy diet, reduce saturated fats and replace with unsaturated fats, limit salt intake and drink alcohol in moderation.
- Manage stress.
- Take medication.
- Losing weight and reducing your waist circumference.

My SMART (specific, measurable, attainable, realistic and timed) goal is :

- .....
- .....

What help and support can I get?

- .....
- .....

How can I reach my goal?

- .....
- .....

What's going to get in the way of making these changes?

- .....
- .....

What will I do about that?

- .....
- .....

How confident do I feel that I can make the changes?

1 2 3 4 5 6 7 8 9 10

1-Not confident 10-very confident Review date:.....

Cardiac rehab log week 5

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

PART 02

WEEK 5 DIABETES AND BLOOD PRESSURE

My weight:

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART
02

WEEK 6
MY MAINTENANCE PLAN

CHAPTER NINE

Week 6 - My maintenance plan

Your weight	112
Sports and exercise	113
Phase IV cardiac rehabilitation	114
Oral hygiene and medical conditions	114
My action plan to loose weight	116
Cardiac rehab log week 6	117

PART 02

WEEK 6
MY MAINTENANCE PLAN

Congratulations on getting to the last week of your cardiac rehab programme.
This week and every week going forward you should;

- Keep up your physical activity and exercise.
- Complete your cardiac rehab logs.
- Remember to think about your stress levels and use the relaxation resources.

This week you will be learning about the risks of being overweight and top tips for weight loss. We will also discuss how to maintain your lifestyle changes and progress exercises and activities.

Your weight

Being overweight or obese means your heart has to work harder to carry the extra weight. Being overweight is also associated with heart disease, high cholesterol, high blood pressure and type 2 diabetes, so by reducing your weight even by a modest amount, you may also reduce these other risk factors. Being a healthy weight for your height can help to reduce your risk of heart disease as well as other diseases.

Calculating your Body Mass Index (BMI) can help give you an indication of whether you are underweight, healthy weight, or overweight for your height. You can calculate your BMI using the BMI calculator found **https://www.nhs.uk/live-well/healthy-weight/bmi-calculator/**

A BMI between 18.5 kg/m2 and 24.9kg/m2 indicates that you are a healthy weight for your height. It's important to be aware the BMI is just an indication and can be used alongside other measures to assess how much body fat a person carries.

Keep a note of your waist measurement. Sometimes when you exercise, as your excess fat reduces, your muscles develop. This can result in small weight change but a noticeable change in body shape.

My height is:.....

My weight is: .....

My BMI is:.....

My waist measurement is: .....

If you are unsure about your ideal weight, please ask your cardiac rehabilitation professional.

Losing weight is not always easy and it is more sustainable to lose weight gradually by ½ to 1kg (1 to 2lbs) a week rather than rapid weight loss. The best way to lose weight is by changing your diet and gradually increasing your physical activity. It is a good idea to keep a food diary using the cardiac rehab log for a week to see exactly what you do eat. You can then plan the changes that you do want to make. Remember to set realistic goals. Eating more calories than you need over time is likely to cause weight gain, so try to focus on consuming an overall healthy balanced diet to achieve and maintain a healthy weight, rather than cutting out one particular food group or focusing on one nutrient such as fat or sugar. It can be really helpful to get support of family and friends. It's also worth seeking advice from a health care professional. You can ask your GP to refer you to a dietitian.

The NHS has developed a free app to help with weight loss, more information can be found about the app by visiting;

https://www.nhs.uk/better-health/lose-weight/

For more information on diet

www.nhs.uk/live-well/eat-well/

The action plan to assist you with any weight loss goals can be found on page 116.

Sports and exercise

To preserve the benefits of exercise, you need to make exercise a habit of a lifetime! Most people find exercising on a regular basis during the first few weeks after an MI/PCI/DEB an easy habit to keep to. When you recover your life may become busier as you return to your usual routines making it harder to find time for exercise. Try and make exercise part of your daily routine like walking to the paper shop, using the stairs instead of the lift or setting your alarm clock earlier. Regularly assess the amount of exercise you are doing and think of ways to make sure you are getting enough, it will help both your physical and mental health.

If you have been diagnosed with heart failure discuss swimming or exercising in water with your doctor the CR team as it may not be suitable for you.

PART 02

WEEK 6
MY MAINTENANCE PLAN

If you would like advice about returning to a particular activity or sport please ask to speak to one of the cardiac rehabilitation team who will be able to discuss this with you in more detail or alternatively visit the Association of Chartered Physiotherapists in Cardiovascular Rehabilitation website: https://www.acpicr.com

Couch to 5k is a free NHS app which is a running programme for absolute beginners, it can also be a useful tool for returning to running after a cardiac event. Please discuss the appropriateness of the app with a health professional before using it. For more information please visit;
https://www.nhs.uk/better-health/get-active/

Phase IV Cardiac Rehabilitation

(also known as maintenance stage) is run in the community (usually a leisure centre) for cardiac patients who have completed cardiac rehabilitation programme at hospital. The phase IV cardiac rehab groups can help you continue with your lifestyle changes. The cardiac rehabilitation team or your GP will be able to refer you to phase IV programme.

Oral hygiene and medical conditions

Keeping your medical and dental problems under control will help with your general health and will also help reduce your risk factors and chances of having problems with your heart in the future.

Oral Hygiene - there is a link between oral health and heart disease. If you have gum disease in moderate or advanced stage you are at a higher risk of heart disease. Bacteria can spread from your mouth through your bloodstream to the heart. This can cause inflammation and can contribute to atherosclerosis (furring up of the blood vessels).

Signs and symptoms of gum disease include;

- Red, swollen and sore gums.
- Gums bleed and look like they are pulling away from your teeth.
- You notice a bad taste in your mouth and your breathe may smell.
- You may have loose teeth.

Good oral hygiene and regular dental check-ups help to prevent gum disease.
You should brush your teeth twice a day with a soft tooth brush.
For more information visit the British Heart Foundation website **https://www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/oral-health**

Diabetes - maintain your blood sugar levels within normal limits as much as possible (between 4 and 7 mmols/l before meals). Each individual's target range should be agreed by their doctor or diabetic specialist.

High blood pressure - have your blood pressure checked regularly. If you know you have high blood pressure ask for a check every six months with your practice nurse. Aim to keep your blood pressure under 140/90 or 130/80 if you are diabetic.

High cholesterol - aim to keep your cholesterol below 4.0 mmols/l. Ask your GP to check your cholesterol four months after your heart attack.

Your GP should offer you a healthy heart check at least once a year. Your blood pressure, cholesterol and risks will be monitored at these appointments.

If you have a family history of heart disease or diabetes, encouraging your family to live a healthy lifestyle will help protect them. Discuss screening for diabetes, high blood pressure or cholesterol testing for you and your family with your GP or practice nurse.

Points to remember

- **Do not smoke.**
- **Take regular exercise.**
- **Eat a healthy diet.**
- **Lose weight if you need to.**
- **Drink alcohol in moderation.**
- **Include relaxation in your daily life.**
- **Review your progress regularly by looking at your cardiac rehab logs.**
- **Once you have reached your goals, think about some new ones.**

Take your tablets as prescribed, for instance, if you stop taking tablets for high blood pressure this can cause a rapid rise in blood pressure.

PART 02

WEEK 6
MY MAINTENANCE PLAN

Action plan to lose weight

Date:

What can affect this?

- Reduce saturated fats and replace with unsaturated fats.
- Eat more high fibre food especially those high in soluble fibre.
- Reduce portion size and added sugars.
- Do regular physical activity or exercise.

My SMART (Specific, Measurable, Attainable, Realistic & Timed goal is (you might focus on one to begin with)

- ……
- ……

What help and support can I get?

- ……
- ……

How can I reach my goal?

- ……
- ……

What's going to get in the way of making these changes?

- ……
- ……

What will I do about that?

- ……
- ……

How confident do I feel that I can make the changes?

1 2 3 4 5 6 7 8 9 10

1-Not confident 10-very confident

Review date:……

Cardiac rehab log week 6

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

PART 02

WEEK 6
MY MAINTENANCE PLAN

My weight:

My goal for the week

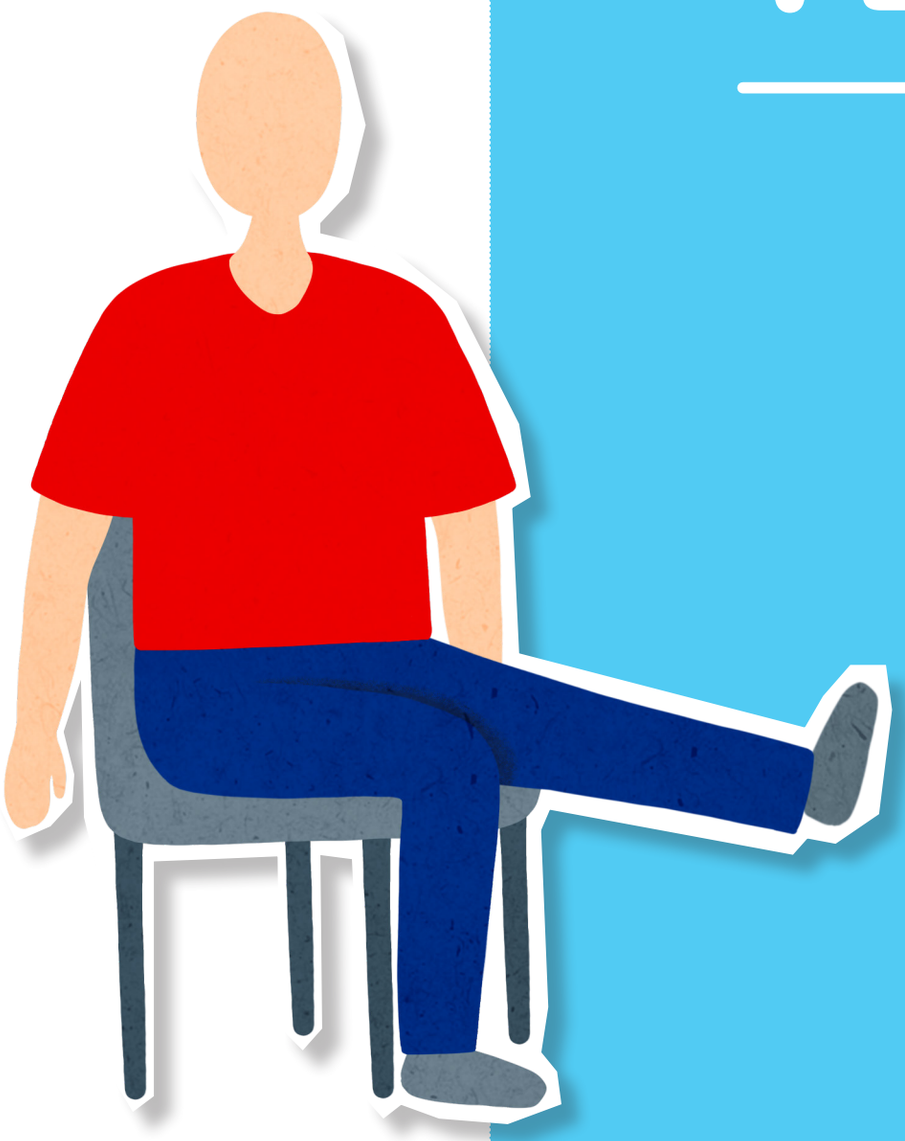
What went well this week?

What I will do differently next week?

Any questions?

PART 03 USEFUL INFORMATION

CHAPTER TEN



Useful Information

Medication	122
Glossary of terms	128
Standing exercise programme	129
Seated exercise programme	133
Additional cardiac rehab logs	140
Behaviour change diary	162
Useful contacts	164
How to use your GTN	167

PART 03 USEFUL INFORMATION

In this section of the guide you will find

- Information about cardiac medications.
- A glossary of terms.
- The standing and seated exercise programme.
- The behaviour change diary.
- The Cardiac rehab logs.
- Useful contacts.

Medication

The heart medications prescribed by your doctor, are a positive part of your treatment that will, in the short-term, aid recovery and in the long-term protect you by reducing the risk of a further heart attack.

Taking your heart tablets regularly as prescribed is crucial for your long-term heart health. Read the leaflets provided with your medication for further advice.

If you have any concerns please consult your GP or pharmacist.

There are 4 main cardiac medication groups:

Anti-platelets - such as Aspirin, Ticagrelor or Clopidogrel

Beta-blockers - such as Bisoprolol or Atenolol

Statins – such as Atorvastatin, Simvastatin or Rosuvastatin

ACE-Inhibitors – such as Ramipril, Perindopril or Lisinopril

They may be used on their own or in a combination with each other. The main reasons for taking these drugs are to:

- Improve the heart's circulation.
- Reduce the workload of the heart.
- Reduce the risk of a further heart attack.
- Prevent angina.
- Help you lead a longer life.

Secondary prevention medications at a glance

	Reduce risk	Treat risk factors	Treat angina	Improve heart as a pump	Control heart rate/rhythm
Anti-platelets	Yes				
Beta-blockers	Yes	Blood pressure	Yes	Yes	Yes
ACE inhibitors	Yes	Blood pressure		Yes	
Statins	Yes	Cholesterol			

Anti - platelets

Anti-platelets include Aspirin, Clopidogrel, Prasugrel and Ticagrelor and work by making your blood less sticky meaning blood clots can't form as well. Aspirin helps to prevent a future heart attack or episodes of angina and is usually taken for life.

Ticagrelor, Prasugrel and Clopidogrel work slightly differently to aspirin but are additionally important in preventing clots in your arteries where stents may have been placed, and also in preventing a future heart attack.

Your second anti-platelet will only be needed for a certain period of time, which is usually 12 months.

You are taking (name of anti-platelets).....

You do not need to be taking medication from all of the groups. The doctors will decide which medication will benefit you the most depending on your diagnosis. It is very important to take the tablets regularly as prescribed and not to stop taking them unless the cardiologist tells you to. Please see the patient information leaflet inside your medication packet for a full list of the side effects.

Anti-platelets	Possible side effects	Tips
Aspirin	• Bruising • Bleeding* (like nose bleeds) • Stomach irritation	Take with or after food
Ticagrelor	• Bruising • Bleeding* (like nose bleeds) • Shortness of breath, please discuss this with your doctor	Usually continued for 12 months. You will need to take one tablet twice a day like one in the morning and one in the evening, and it can be taken with or without food
Clopidogrel/ Prasugrel	• Bleeding* or bruising • Possible abdominal discomfort	

* Seek medical attention immediately if severe bleeding.

You may have been prescribed a medication to help protect your stomach from the side effects of aspirin and related anti-platelets. An example of this is lansoprazole. This helps to reduce acid reflux which may be associated with these medicines.

Beta blockers

Betablockers slow down the heart rate and helps protect your heart from further damage. This needs to be taken every day as prescribed. It is important not to stop taking your beta blocker suddenly, so please consult your GP first if you have any problems with it.

If you are asthmatic and on a beta blocker this would have been introduced carefully to make sure it is appropriate for you. If you notice that since starting a beta blocker your breathing has been affected, please consult your GP.

If you are diabetic and take medicines for this (including insulin), beta blockers can sometimes mask the signals and signs of having a hypoglycaemic attack (low blood sugar level).

Therefore please monitor your blood sugars regularly if you would normally experience signs of having low blood sugar levels.

Possible side effects of beta blockers include:

- Cold hands and feet
- Tiredness
- Weight gain
- Impotence/sexual dysfunction
- Nightmares

Not all beta blockers cause the same side effects, so you may be able to switch to a different beta blocker if you experience any problems. Please discuss any concerns with your doctor.

You are taking (name of beta blocker).....

ACE inhibitors

Trandolapril • Lisinopril • Ramipril • Enalapril • Perindopril

This medication prevents a hormone/protein in the blood from narrowing your arteries. It helps to lower blood pressure, can be used to treat heart failure (weak heart) and can be used to help the heart to recover after a heart attack. It needs to be taken every day as prescribed.

Your doctor will do a blood test to check your kidney function shortly after starting this, to make sure you are on appropriate treatment.

Possible side effects include

- Persistent dry cough
- Low blood pressure, giddiness
- Rash

If you experience side effects which cannot be tolerated, please consult your GP. An alternative related medication may be an option for you.

You are taking (name of ACE I).....

PART 03 USEFUL INFORMATION

Cholesterol lowering medication

Statins act by reducing the amount of cholesterol that the body manufactures but are only effective when combined with a healthy, low fat diet.

- This needs to be taken every day as prescribed.
- Even if your cholesterol level is acceptable, being on a statin will further help to protect you from a heart attack or cardiac event in the future.
- It is recommended that simvastatin and pravastatin are taken at night.
- Atorvastatin and Rosuvastatin can be taken any time.
- Grapefruit must be avoided if taking simvastatin.

Possible side effects

- Muscle aches/weakness - can be temporary. If severe or unexplained consult your doctor immediately
- Upset stomach
- Insomnia

Your GP will check your liver function via a blood test shortly after starting statins. If you experience side effects please consult your GP and you might be given an alternative statin.

You are taking (name).....

Other tablets

Diuretics are also known as 'water tablets' for example furosemide, which get rid of any excess fluid that your body has accumulated after a cardiac event. It is best taken earlier in the day to avoid disturbing sleep at night. This is sometimes short term, and sometimes long-term depending on what the medical team have decided for you as an individual.

Your GP will do a blood test to check your kidney function shortly after starting this, to make sure you are on appropriate treatment.

Eplerenone helps if you have a weakened heart muscle (heart failure) and it also helps reduce your blood pressure. This needs to be taken every day as prescribed.

Your GP will a blood test to check your kidney function shortly after starting this, to make sure you are on appropriate treatment.

Warfarin or newer oral anticoagulants like Apixaban, Rivaroxaban -these medications thin the blood and can be prescribed for different reasons. One of the most common reasons for being on a blood thinner is for the management of atrial fibrillation (AF), which is an irregular heart rhythm. There is a risk of stroke associated with AF, which is why taking a blood thinner is important to reduce this risk. After a heart attack, if you require a blood thinner for AF in combination with antiplatelets then an appropriate timeframe for taking these medications together will be stated and made clear for you and your GP. You will be informed of how to take your blood thinner before discharge, and it will be labelled clearly with directions for how to take it. Please note, if you are on warfarin then you will be told what dose to take according to a regular blood test called an INR, and so it is important to attend this test. If you are on one of the other blood thinners like Apixaban or Rivaroxaban, then you do not require to attend an INR test.

GTN (Glyceryl Trinitrate) - tablets or spray. GTN helps with angina; you should always carry your tablets or spray with you. Angina occurs when an area of the heart muscle doesn't get enough blood and oxygen. GTN widens the blood vessels and allows the affected heart muscle to obtain more blood and oxygen. The GTN will start acting within a few seconds and the symptoms should go away within a few minutes. See Page for directions on how to use your GTN spray.

Your other tablets: .....
.....
.....

Any side effects that you experience from any medications should be discussed with your doctor or pharmacist.

Do not stop taking any of your medication unless you are advised to do so by your doctor or pharmacist.

If you have to pay for your prescriptions you may want to get a pre-payment certificate. Please see the NHS choices website

http://www.nhs.uk/NHSEngland/Healthcosts/Pages/PPC.aspx

for more information.

PART 03 USEFUL INFORMATION

Glossary of terms

Acute Coronary Symptoms

is a term that refers to unstable angina and heart attack.

Blood tests

are taken to record the level of Troponin T in the blood. Troponin T is an enzyme that is released into the blood when the heart is damaged.

Cardiac Magnetic Resonance Imaging (MRI) scan

is a non-invasive test that uses magnetic and radio waves from the MRI machine to create clear pictures of your heart, this shows your hearts structure in detail. You will be asked to lie still and you will move inside a tunnel shaped scanner, you may be in the scanner for up to an hour. The test is pain free.

Echocardiogram (ECHO)

is an ultrasound scan of the heart to assess how well your heart is pumping.

Electrocardiogram (ECG)

records the rhythms and electrical activity of your heart.

Exercise Tolerance Test (ETT)

is an ECG that records the electrical activity of your heart whilst you are exercising.

Exercise programme

Structure of session • warm up • stretches • circuit • cool down • stretches

The first week you do the programme, complete it just once. Over time, you can build up to doing the programme three to five times a week. Continue with your weekly activities, but incorporate this exercise circuit and make it part of your weekly routine. Please make sure that you read this chapter before starting the exercise programme.

You can follow the exercises in this guide; alternatively visit the UHBW cardiac rehab web page for exercise video's including chair and standing exercise programmes: https://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/exercise-prescription/

During the exercise programme you should:

- Keep your feet moving gently while doing any arm exercises.
- Remember to breathe when exercising – often people hold their breath without realising.
- If you have a GTN spray please have it close to hand and if needed during the exercise session, use as prescribed after the exercise programme.

Standing exercise programme

(For chair based programme see page 133. If you would prefer to exercise video please visit the UHBW cardiac rehab page at https://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/exercise-prescription/

Warm up should last 15 minutes and gradually increase by mobilising the whole body. For example a warm up could include a walk slowly at first in your local area. After five minutes, speed up the pace slightly. After 10 minutes (but only if you feel able to), start to gradually increase the pace a little bit more.

Remember your RPE scale on page 68 and don't overdo it. It is very important that each session of exercise is preceded by a warm up and concluded with a cool down.

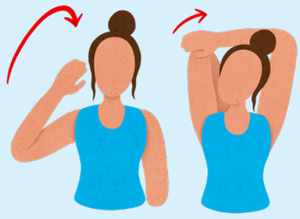
You should be back in the house after 15 minutes ready for the main exercises. Make the walk fun – walk with your partner, your dog etc. Remember this is just your warm up. Start gently and gradually quicken the pace. At some point during your warm up, do the stretches as outlined below. A warm up should raise your heart rate slightly. You should still feel very comfortable and have lots of energy.

PART 03 USEFUL INFORMATION

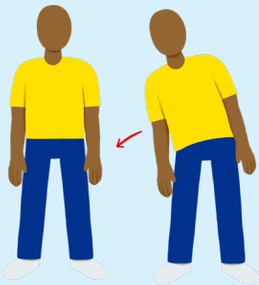
Stretches

Walk on the spot in between each stretch. When you are stretching you should feel a gentle stretch, not pain. Do not bounce as you stretch. Hold the stretch for at least 10 seconds during the warm up and then hold for 30 seconds during the cool down.

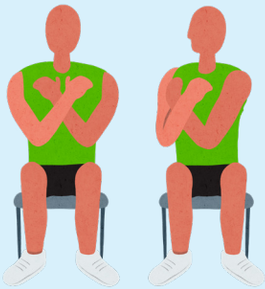
1. Tricep stretch - Bend and lift one arm. Hold your elbow with the other hand and ease back until you feel a slight stretch at the back of your upper arm. Repeat on the other side. NB. Avoid this stretch if you have a pacemaker or implantable cardioverter defibrillator (ICD).



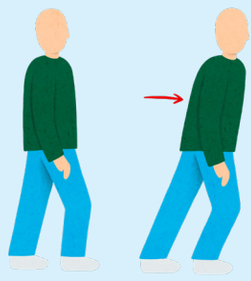
2. Obliques (side of trunk) - Stand with your feet shoulder-width apart and your hands down by your side. Bend sideways at the waist until you feel a stretch (taking care not to lean forwards or backwards). Do not bounce. Repeat on other side.



3. Trunk rotation - Sit on a chair and clasp your arms on your chest. Turn your shoulders around to one side. Come back to the centre. Repeat on other side. NB. Please take care if you have had a recent hip replacement.

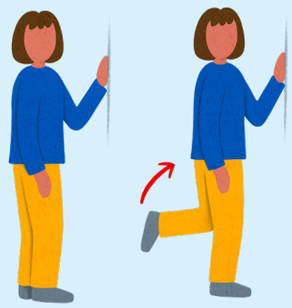


4. Calf stretch - Stand with your feet hip-width apart and take a step forward. Hold onto a support. Bend your front leg and keep your back leg straight, while keeping your heel on the floor. You will feel a stretch in your calf. Change leg and repeat.



5. Hamstring stretch - Take a step forward with your right leg. Bend your left leg as if you are about to sit down, keeping your right leg straight. You will feel a stretch in the back of your right leg. Place your hands on the bent leg. Stick your bottom out and keep your chin up. Change leg and repeat.

6. Quadriceps stretch holding onto a wall for support, reach down and hold onto your trouser leg. Slowly pull your heel up toward your bottom and hold it there. Keep your knees together. Repeat with the other leg.

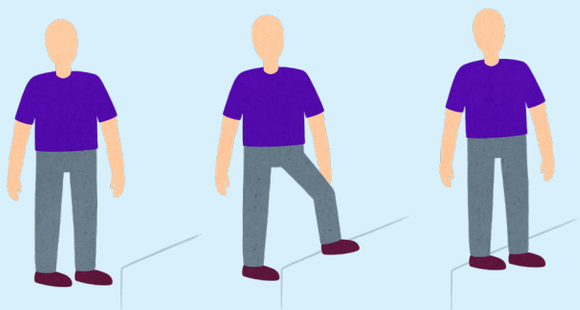


Stretches should not be painful. Never force a stretch. If you have any balance problems, speak to the cardiac rehabilitation team, as the exercises can be modified. You are now ready for the exercise circuit.

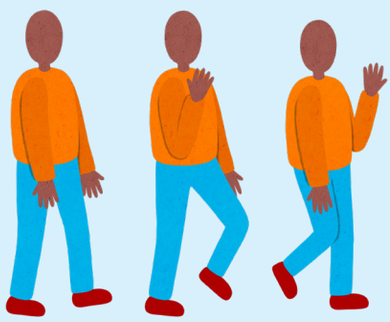
Conditioning phase / exercise circuit

Try to keep your arm and leg movements steady, as this will help avoid muscle and joint strain. Do each exercise for the duration of time indicated. If you have any problems, ask the cardiac rehab team.

1. Steps ups - Stand in front of a step or stair. Step up and down with one leg leading, and then repeat with the other leg leading. Repeat for 60 seconds.



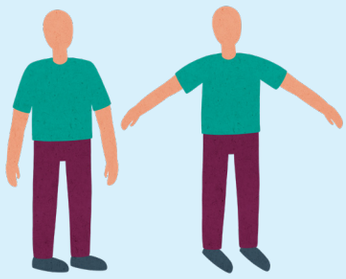
2. Bicep curls - While walking on the spot, have the palms of both hands facing upwards. Bend alternate arms keeping the elbow in fixed position at side of the body. To progress, hold a tin can in each hand. Repeat for 60 seconds.



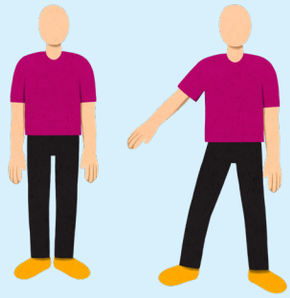
3. Sit to stand - Start by sitting in a chair, with your arms at your side, bend slightly forward and stand upslowly. Lower yourself back into your seat slowly. Try to keep your knees in line with your heels. To progress, raise your hands up to shoulder level. Repeat for 60 seconds.

PART 03 USEFUL INFORMATION

4. Heel raises - Push up and down on your toes, keeping legs as straight as possible. Hold onto a support if needed. To progress, try lifting your arms out sideways if you are able to. Repeat for 60 seconds.

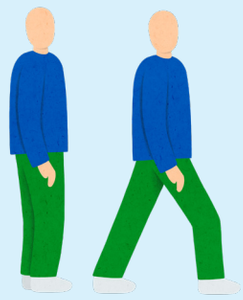


5. Side steps - Stand with your legs together and your arms by your side. Take your right arm and right leg out sideways, and then return to the centre. Repeat on the left side. Repeat for 60 seconds.



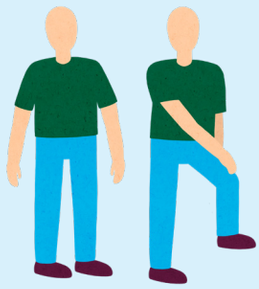
6. Arm raises - Place your hands in front of your body. Bend your arms at the elbows and lift your hands up to chest height. Lower and repeat. Your wrists must remain below elbow height. Keep your feet moving. Repeat for 60 seconds.

7. Lunges - Stand upright with your arms by your side. Take a larger than normal step forward with your right leg. Move back to the starting position and repeat by stepping forward with other leg. Hold onto a support if necessary. Make sure your knee doesn't go beyond the front of your toes. Repeat for 60 seconds.



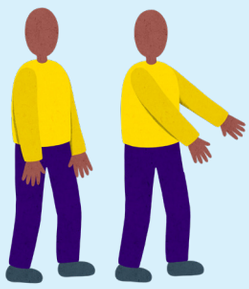
8. Lateral arm raises - Stand upright with tin cans in both hands. Lift one hand up in front of you and then bring it back down to your side. Do not bend at the elbow or lift the can higher than your shoulders. Repeat with the other arm. Keep your feet moving by walking on the spot. Repeat for 60 seconds.

9. Knee raises - Start in an upright standing position. Raise your right knee and touch it with your left hand. Return to the starting position. Repeat with your left knee and right hand. Repeat for 60 seconds.



10. Squats - Stand with your feet wide apart, toes pointing slightly outwards and bend your knees (keep your knees and toes in line). Then straighten your legs. Keep your back straight and bottom tucked in. Repeat for 60 seconds.

11. Arm swings - Stand with your knees slightly bent and your back straight. Swing your arms from left to right. Keep your head steady to maintain your balance. Repeat for 60 seconds.



Once you have completed the exercise circuit, think about your rate of perceived exertion (on page 68). An exertion level between 11 and 14 is a good range of exercise for most people. If you feel fine, can talk in sentences and your RPE is below 15, you may repeat the circuit one more time. Once you have completed the circuit once or twice, you must finish with the cool down exercises.

The cool down is when the exercise level is gradually reduced so that your heart rate and blood pressure return to normal and should last about 10 minutes. Repeat the stretches on page 130.

You have now completed the exercise session, well done! Remember to complete your cardiac rehab log.

Seated exercise programme

(for those who feel less confident doing exercises standing). If you would prefer to use an exercise video please visit the UHBW cardiac rehab page at https://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/exercise-prescription/

You will need a strong, sturdy chair, preferably with arm rests and plenty of space. When you are sitting in the chair, your thighs should be parallel with the floor.

PART 03 USEFUL INFORMATION

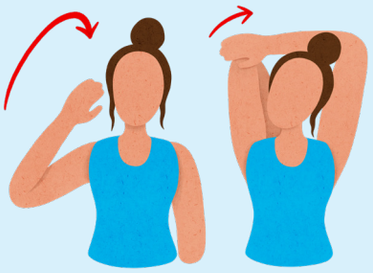
Warm up

Go for a short walk (approximately 10 minutes) at the start of your warm up. Walk at a gentle pace you feel happy with. If you are unable to go for a walk, stand with a chair in front and walk gently on the spot, or march your knees while sitting in the chair. Start slowly and gradually build up your pace. Once you return from your walk, take your position in your chair to complete the warm up as outlined below: Sitting upright on a chair, start gently marching your legs. A warm up should raise your heart rate slightly. You should still feel very comfortable and have lots of energy.

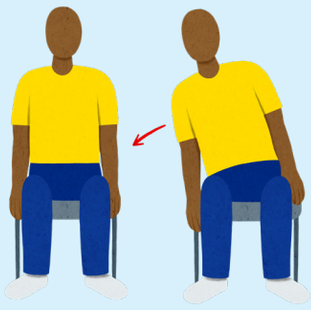
Stretches

Continue marching in **between** each stretch. When stretching you should feel a gentle stretch, not pain. Do not bounce as you stretch. Hold the stretch for at least 10 seconds, during the warm up and then 30 seconds during the cool down, then release.

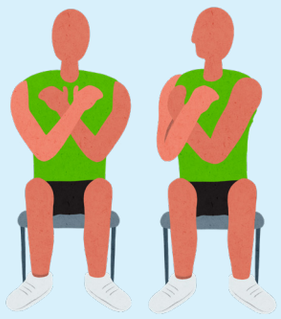
1. Tricep stretch - Bend and lift one arm up and reach down between your shoulder blades. Hold your elbow with the other hand and ease back until you feel a slight stretch at the back of your arm. Hold the stretch and then repeat on the other arm. Please do not do this stretch if you have a pacemaker, ICD or had recent cardiac surgery.



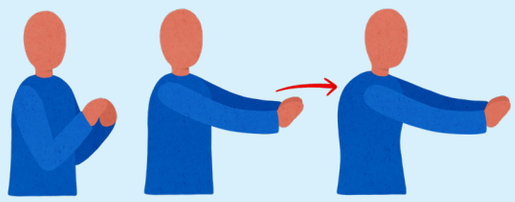
2. Obliques (side of trunk) - With your hands down by your side, bend sideways at the waist until you feel a stretch (taking care not to lean forwards or backwards). Hold the stretch and then repeat on the other side.



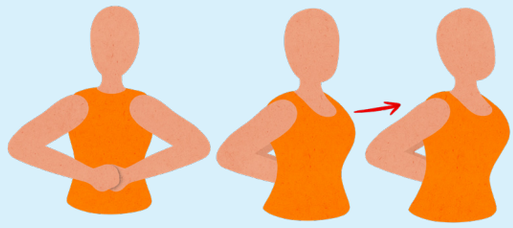
3. Trunk rotations - Cross your arms over your chest and turn your shoulders around to one side. Hold the stretch and then come back to the centre. Repeat on the other side. Take care with trunk rotations if you have had a hip replacement.



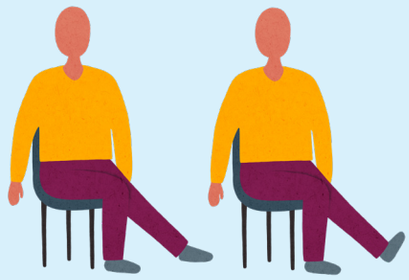
4. Back stretch - Clasp hands together in front of you and straighten your arms. Hunch your back to feel a stretch at the top of your back. Hold the stretch for 10 seconds.



5. Chest stretch - Place your hands in the small of your back and push your chest forwards. Hold the stretch and then relax. Take care with this exercise if you have had cardiac surgery, and only do if it feels comfortable.



6. Calf stretch - Straighten your leg out in front of your body. Move your toes towards your shin, feeling a stretch in your calf. Hold the stretch and then repeat on the other side.



7. Hamstring stretch - Move your buttocks to the edge of the chair. Straighten your leg out in front of your body. Keep your heels on the floor, with your toes pointing towards the ceiling. Keeping your leg straight, lean forwards from your hips. You should feel a stretch down the back of your leg. Hold the stretch and then repeat on the other side.

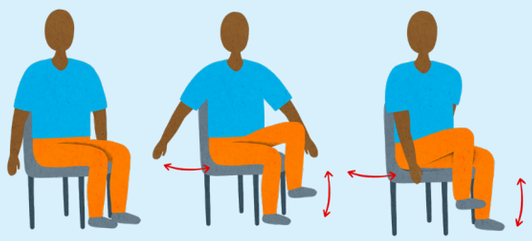
You are now ready for the exercise circuit.

PART 03 USEFUL INFORMATION

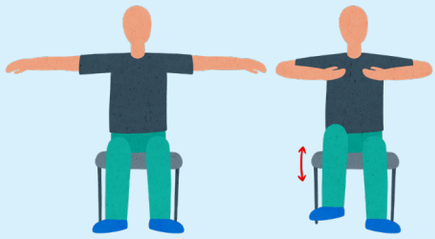
Conditioning phase/exercise circuit

Try and keep your feet moving while doing the exercises in this section and try to keep your arm and leg movements steady, as this will help avoid muscle and joint strain. Start gently at first – for example, do six repetitions – and over time gradually build up to 10 or 12 repetitions per minute if you feel able to.

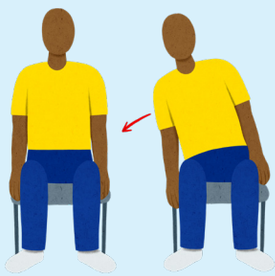
1. High knees - Sitting up tall, march your legs alternately, lifting your knees high and swinging your arms down by your side.



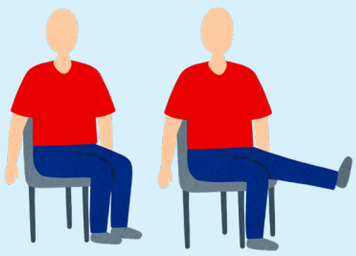
2. Lateral arm raises - Extend both hands out to the side at shoulder height, and then bring your hands back to your chest. Next, extend both hands forward in front of you, then bring your hands back to your chest, and repeat the exercise. Continue gently marching your legs during this exercise.



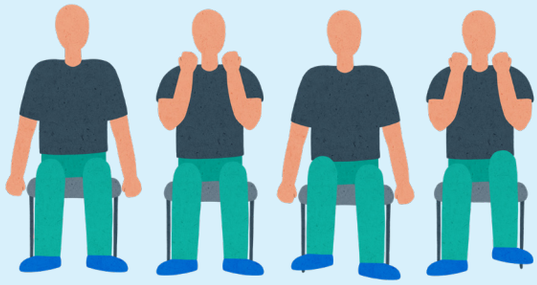
3. Lateral trunk bends - Sitting up tall with your arms down by your side, bend sideways at the waist (taking care not to lean forwards or backwards), then continue to bend from side to side.



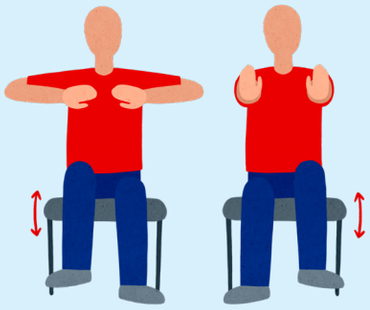
7. Leg rises - Straighten one leg out in front of you so your foot is off the floor, place your foot back on the floor then repeat with the other side.



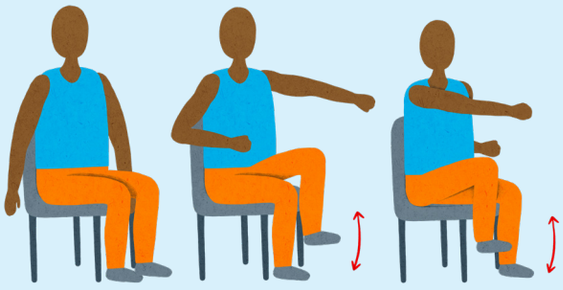
8. Chin lifts - Take your fists up to chin height and lower back down and repeat while doing some heel lifts. Over time, progress to using small weights in both hands, for example, tins of beans.



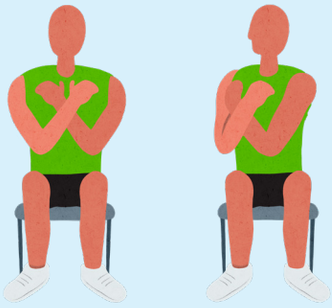
9. Arm press - Gently marching your legs, move your arms forwards, then backwards towards your chest.



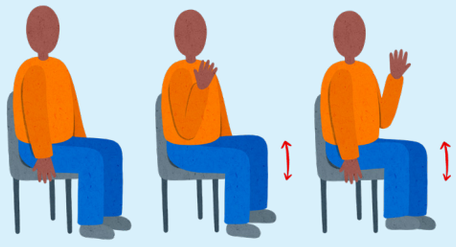
10. Marching - Gently, marching your knees up and down, whilst punching your arms one at a time in front of your body.



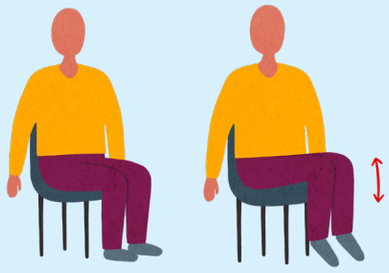
11. Trunk rotations - Sitting up tall, cross your arms across your body. Twist slowly at your waist to one side, back to the centre then to the opposite side.



12. Arm raises - Alternately move each hand up towards your shoulder, keeping your elbows by your side. Continue gentle marching. Over time, progress to using small weights in both hands, for example tins of beans.

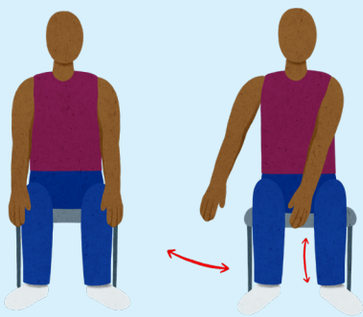


13. Toe taps - Keeping your knees together, move both feet up onto tiptoes then back to flat on the floor.

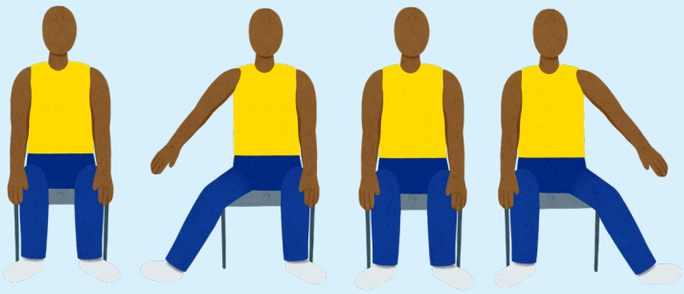


PART 03 USEFUL INFORMATION

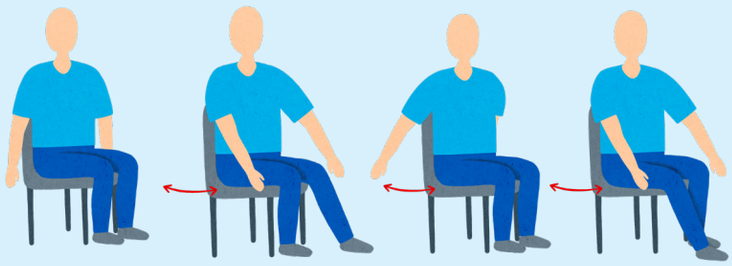
14. Arm swings - Move your buttocks to the edge of the chair. Gently swing your arms to the right, back to the middle and then to the left, back to the middle and then repeat. Lift your heels up and down together if you are able to.



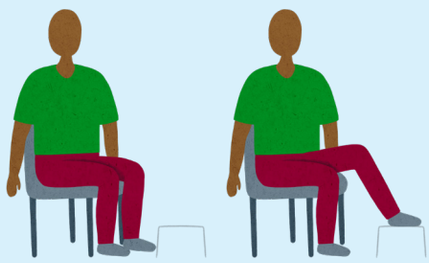
15. Half star jumps sitting - move your right arm and leg out to the side, then bring them back to the middle. Repeat on the left side and continue repeating from side to side.



16. Toe taps - Tap your feet alternately out in front of you and gently swing your arms forward and back at the same time.



17. Foot raises - Place a small stool or step approximately a foot away from the chair, in front of your feet. Move one foot onto the step, then lower the foot back to the floor, and repeat on the other side. Lean slightly forward to avoid tipping the chair backwards.



18. Hand claps - Clap your hands in front of your body at chest height, then stretch your arms forward and clap, and then repeat. Continue gentle marching.

Once you have completed the circuit, think about your RPE. Your score should be no higher than 15 (somewhat hard) while doing the circuit. When you first start the exercise programme, just complete the warm up, one circuit and then the cool down. Overtime you can build up to completing a warm up, 2 circuits and a cool down as you feel able. If you feel fine, you can talk in sentences and your RPE is 15 or below, you may repeat the circuit a second time.

Cool down

A cool down lessens the risk of low blood pressure and irregular heartbeats after exercise and should last between five to 10 minutes. Walk gently on the spot, either seated on a chair or standing with a chair in front for support. While seated, roll your shoulders backwards and then forwards while doing gentle heel lifts. Repeat the stretches.

Once the stretches have been completed, the exercise session is finished.
Remember to complete your cardiac rehab log.

PART 03 USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03

USEFUL INFORMATION

Cardiac Rehab Log

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast							
Lunch							
Dinner							
Snacks							
No. fruit & veg							
Portions of fish							
Snacks							
Alcohol units/ measures							
Walking distance/ time:							
Exercise/ activity : Time : RPE :							
Stress bucket (1-10)							
Hrs of sleep							

My weight

My goal for the week

What went well this week?

What I will do differently next week?

Any questions?

PART 03 USEFUL INFORMATION

Behaviour Change Diary

Example	Trigger (what happened to cause the behaviour?)	Behaviour (the thing you want to change)	Consequences (how you felt afterwards?)	Next time (you are triggered, what healthier treatment could you try?)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

PART 03 USEFUL INFORMATION

Cardiology day case area Monday to Friday 8am to 8pm Telephone
0117 342 6538 / 5939

Ward C705
0117 342 6551 / 6651

Ward C805
0117 342 6553 / 6653

Coronary care unit
0117 342 6527 / 6528

Bristol Royal Infirmary switchboard
0117 923 0000

Patient support and complaints team
0117 342 1050

UHBW cardiac rehab team Bristol Heart Institute Team
0117 342 6601
Please leave clear name and number on voicemail or **email CardiacRehab@uhbw.nhs.uk**

UHBW cardiac rehab web page
https://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-heart-institute-clinical-services/cardiac-rehabilitation/

You can search for your local service on **www.cardiac-rehabilitation.net**

North Bristol Team (Southmead) 0117 414 0040

Cheltenham & Gloucester 0300 421 1212

Swindon 0179 364 6 218

Bath 0122 582 5028

Wells 0174 983 6500

Taunton 0182 334 2064

Yeovil 0193 538 4605

University Hospitals Bristol and Weston Patient Support and Complaints Team
Telephone: 0117 342 1050

Addiction Recovery Agency
Telephone: 0117 930 0282 **Web:** https://www.recovery4all.co.uk

Age UK can provide support for older people following discharge from hospital. Telephone: 0145 242 2660 **Web:** www.ageuk.org.uk

Alcohol Concern (Drinkline) Telephone: 0800 917 8282

British dietetic Association Heart health food facts
https://www.bda.uk.com/foodfacts/hearthealth.pdf

British Heart Foundation Address:
Greater London House 180 Hampstead Road London NW1 7AW
Telephone: 0300 330 3311 (Heart helpline) **Web:** www.bhf.org.uk

Carers Support
Telephone: 0300 012 0120 **Web:** www.alliancehomes.org.uk

Change 4 life Web
www.nhs.uk/change4life

Diabetes UK
Telephone: 0345 123 2399 **Web:** www.diabetes.org.uk

Food standards Agency
Telephone: 0300 332 1000 **Web:** www.food.gov.uk **email:** helpline@food.gov.uk

Heart UK (Cholesterol charity)
Telephone: 0345 450 5988 **Email:** ask@heartuk.org.uk **Web:** www.heartuk.org.uk

MIND
Telephone: 0300 123 3393 **Bristol:** 0117 980 0370 **Web:** www.mind.org.uk

NHS Prescription Pre-payment Certificate (PPC)
Telephone advice or order line: 0300 330 1341

PART 03 USEFUL INFORMATION

NHS choices/live well service
Web: www.nhs.uk/livewell

NHS Smoking Helpline
Telephone: 0800 022 4332 **Web:** www.smokefree.nhs.uk

Relate
Telephone: 0300 100 1234 **Web:** www.relate.org.uk

Stroke Association
Telephone 0303 303 3100 Web: www.stroke.org.uk

The Sexual Advice Association
Helpline: 0207 486 7262 **Web**: https://sexualadvice.co.uk

Let's talk service Offer information, guidance and therapy during times when you feel stressed, anxious or depressed.
Telephone: 0800 073 2200 9am - 5pm Monday to Friday.

Walking for health find a local walking scheme and request to join at
web: www.walkingforhealth.org.uk

How to use your GTN (glyceryl trinitrate)

If you have been given a spray called GTN (glyceryl trinitrate) you should carry this with you at all times. GTN helps to relax the blood vessels, allowing more oxygen through to the heart muscle. It is used to relieve the symptoms of angina. It is very important that you take it as directed.

If you think you are experiencing symptoms of angina,

STOP what you are doing, sit down and take some slow deep breaths.

If the pain or discomfort does not ease in one to two minutes, use the GTN spray:

Take one to two sprays under the tongue (it is absorbed quickly this way, but it is important that you close your mouth afterwards)

Wait five minutes

If the symptoms remain, take another one to two sprays under the tongue

Wait five minutes

If you still have pain or discomfort after 15 minutes try to stay calm and dial 999 immediately

Potential side effects of GTN include:

- Headache
- Dizziness
- Facial flushing

Try to sit down somewhere before using as it may make you feel light headed.

Thank you to the MDT at the BHI who contributed to this cardiac rehab guide. Thank you also to the Cardiac Rehab team at Gloucester Hospital NHS Foundation Trust for the use of all their “action plans”.

Also with thanks to Caroline Evans (Specialist Cardiac Physiotherapist), for leading on this project and making it possible and to Lucy Wilmer, Sidrah Choudhry and Ché Dedames from the UHBW Medical Illustration Department for the illustration and design.

NHS
University Hospitals
Bristol and Weston
NHS Foundation Trust