St George's Healthcare NHS
NHS Trust

Continuing Cardiac Care

Programme Booklet

Name……

Important

Please bring this \booklet with you to every session

Your cardiac rehabilitation programme timetable

Venue……..

Day……..Time…….

Start date……

Your cardiac rehabilitation appointments will be for **six to eight** consecutive weeks from your start date (depending on your progress).

Your finish date is……..

Please arrive at your venue on time to allow for a pre-exercise assessment and review with your cardiac rehabilitation team.

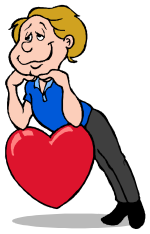
Exercise

Your exercise sessions will last for up to 60 minutes

You will need to stay for 15-20 minutes after the exercise session has finished for observation to ensure your safety and well being.

Relaxation

Your relaxation sessions take place for 15 to 20 minutes following the exercise session (the observation period)



Education

Your cardiac rehabilitation team at your venue will give you the timetable for your education sessions

Topics include:

- How the heart works
- Risk factors for the heart
- Medicines for the heart
- Stress and the heart
- Exercise and the heart
- Healthy eating for the heart

Venue Telephone Numbers

St. Georges Hospital	020 8725 1396
Queen Mary's Hospital	020 8487 6022
Balham Leisure Centre	020 8812 5459
Wandle Leisure Centre	020 8812 5459

Information about Cardiac Rehabilitation

This booklet is for people who are due to start a cardiac rehabilitation programme. It gives information about what cardiac rehabilitation is and how it can help you improve the health of your heart.

Cardiac rehabilitation is designed to help you get back to as full a life as possible after a cardiac event such as a heart attack, angioplasty, heart surgery or other heart condition.

The aims of cardiac rehabilitation are:-

- to help you protect your heart in the future;
- to provide you with information and support in making lifestyle changes that will improve some of your risk factors for heart disease;
- to increase your fitness, confidence and sense of well being,
- to give you regular contact with specialist staff who can assist with questions or concerns you may have about your recovery.

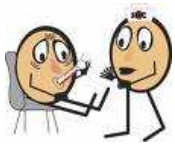
Now you have decided to participate in the cardiac rehabilitation programme please read the following information carefully.

Please arrive for your sessions on time.

If you arrive late you will not be able to join the exercise session.

Please **do not** attend your exercise sessions if:

- you are, or have been unwell 48 hours before your session with any infection (for example coughs, colds, flu, high temperature, stomach problems);
- you have a physical injury, for example, a back injury which will be made worse by exercise; or
- you have a known medical problem such as arthritis, asthma or bronchitis which gets worse.



Please contact your rehabilitation team on the telephone number provided on **page 3** if you are **unsure whether you should attend** or you are **unable** to attend your scheduled exercise/relaxation session.

Please ensure you leave a message if no one is available to take your call.

If you do not attend your appointments for the exercise/relaxation sessions on two occasions and do not tell us you are unable to attend, we will have to cancel your place.

Guidelines for the exercise and relaxation sessions

What you should wear:-

- loose comfortable clothes (for example jogging bottoms and a t-shirt)
- well fitting, flat, rubber soled shoes (for example trainers)
- Jeans should not be worn.

Changing and showering facilities are available should you require them. You will need to bring your own toiletries and towel.

You may find it useful to bring a small towel and bottle of water to each exercise session. Cold water is available at most venues.

A few dos and don'ts to ensure your safety during the sessions!

- Please do not carry items in your pockets when you are exercising.
- Please do not chew gum during the exercise/relaxation session.
- Please switch off your mobile phone.
- Please make sure you eat before exercising but nothing heavy for two hours before the exercise session! You may need to think about having a late breakfast or early lunch depending on when your exercise sessions start.
- Please tell the nursing staff of any changes to your medication or dosages.

If you have diabetes:

- If you are taking any medication for diabetes (tablets or insulin) it is important to make sure you have eaten before exercising. You are at more risk of having low blood sugar levels during or after exercise.
- Please check your blood sugar before starting to exercise.,
- Please bring a snack or sugary drink with you in case your blood sugar level is low during the session.
- Please tell the staff if you have had any recent hypoglycaemic (low blood sugar) episodes.

If you have any questions or concerns please feel free to discuss these with the rehabilitation staff.

Alternatively a 'comments' book is available at some venues and we would appreciate your comments and/or suggestions on the cardiac rehabilitation service.

And lastly……..Have fun!

Relaxation and Stress Management

For further information and advice please attend the stress management health education session.
Please ask at your venue for the dates for this session.

The relaxation session takes place each week after the exercise session. It is an important part of the cardiac rehabilitation programme and is beneficial to the health of your heart and general well being.

The aim of the **relaxation** session is to encourage the **'relaxation response'**, which is the state of relaxation that occurs when you are at rest.

This is a stress management technique aimed at lowering the physical, emotional and behavioural symptoms of stress.

Stress can be explained as the 'fight or flight' response. When we are faced with threat or danger the nervous system is activated. In order to allow an individual to deal with a stressful situation more effectively the following physical effects may occur:-

- a release of adrenaline into the blood stream;
- an increase of the heart rate and blood pressure (increasing the work of the heart);
- breathing becomes faster and more shallow;
- energy and blood flow is diverted to the most important systems of the body (for example the heart and brain) at the expense of others (for example the digestive system).

Stress may not only affect **physical** health but can cause **psychological** and **emotional** problems, for example:-

- forgetfulness,
- difficulty with concentrating and making decisions,
- anger or rapid mood changes,
- anxiety and depression.

It is important to remember that all **three** areas interact and affect each other. This can affect your whole personality and your quality of life.

Many people now have increasingly complicated lifestyles. This can lead to increased stress levels due to every day events rather than an actual physical threat. For example, being delayed when late for work or an appointment may activate our threat (stress) response. This response is difficult to 'switch off' for some people and may cause permanently higher stress levels.

It is important to realise that relaxation is a skill that can be learnt. You need to be aware it will not happen immediately and does take regular practice to be fully effective.

Relaxation is essentially about re-programming certain areas of the body. Teaching the muscles and the mind to relax has a beneficial effect on the heart which responds automatically to the stress response.

Relaxation has been shown to have benefits to the heart by:

- reducing heart rate and blood pressure;
- reducing breathing rate and improve oxygen intake.

It will also help to reduce stress levels and to assist in maintaining a happy balance between health and stimulation in daily life.

It is important that you are able to acknowledge stress in your every day life in order to apply your relaxation techniques. To help with this use the following stages:-

- identify the situations in which you are prone to stress/tension;
- identify feelings of tension present in these situations for example anger, fear, anxiety; and
- apply the relevant relaxation techniques.

A variety of relaxation scripts will be used during your sessions and you may find some more enjoyable than others.

By the end of your rehabilitation programme you should be able to:

- understand and use a variety of relaxation and breathing methods;
- be aware of the difference between tension and relaxation in your bodies;
- know the benefits of relaxation; and
- select relaxation methods which are most beneficial to you.

Long term this can provide a very enjoyable and valuable stress management tool. You may find relaxation methods can be enhanced when used in combination with other approaches for example:-

- assertiveness training,
- massage
- counselling.

Relaxation CD's are available to purchase for a cost of £5.00 from the rehabilitation team if you would like to continue the sessions at home.

Eating the Healthy Way

For further information and advice please attend the diet health education session.

Please ask at your venue for the dates for this session.

Eating the right type of foods can help to keep your heart healthy. It is important to eat more oily fish, fruits and vegetables and to cut down on saturated fats.

Oily fish

Oily fish contains fats known as omega 3 fatty acids. These help to keep your heart beating regularly prevent clotting and help to lower your triglycerides (one of the fats in the body).
Have one to two portions per week (a portion is 100g or 4oz).

Oily fish include: mackerel, herring, trout, fresh tuna, sardines, pilchards and salmon.
To increase the amount you eat you could try:

- having a kipper for breakfast instead of a fry up;
- having pilchards or sardines on toast as a snack meal;
- having tinned salmon salad sandwiches.

If you can not eat oily fish you could use a fish body oil supplement (not a fish liver oil).

Fruits and Vegetables

- Aim to have at least **five** portions every day.
- You can use fresh, frozen or tinned varieties.
- These are naturally low in fat and high in fibre.
- They are also good source of antioxidants which can protect against heart disease.

One portion is:

- one apple/pear;
- two satsumas or plums;
- a handful of grapes or berries;
- a 150ml glass of fruit juice;
- a small side salad;
- two tablespoons of cooked vegetables;

Not keen on fruits and vegetables? Try to:

- include vegetables in dishes, such as stews and pasta;
- add salad vegetables to sandwiches;
- add fruit to jelly, yoghurt or cereal.

Fats

We all need a certain amount of fats, but not all fats are good.
Some fats like oily fish are helpful for your heart. Other fats like saturated fats found in full fat dairy products, pies, biscuits and fatty meat products are harmful.

In cooking use:

- rapeseed oil - it is a good source of monounsaturated fats, omega 3 fatty acids.
- olive oil is also a good source of monounsaturated fats.
- only **small** amounts due to the calorie content of the oil.

Try to use an olive based spread instead of butter.

Cut back on saturated fats by:

- cutting fat off meat or chicken;
- eating more white meats or fish, eating red meat no more than twice a week;
- using semi skimmed or skimmed milk;
- cutting back on full fat cheese;
- eating less cakes biscuits and crisps.

Alcohol.

Alcohol can be part of a healthy eating pattern but too much can be harmful for your heart.
Men are recommended to have no more than **three-four** units per day, up to a maximum of **21** units per week.
Women are recommended to have no more than **two-three** units per day, up to a maximum of **14** units per week

Standard unit measures include:

- 1 glass of 12% abv wine (125mls) = 1.5 units
- 25mls 40% abv spirits = 1 unit
- 1 pint standard strength 3.5% abv beer = 2 units
- 1 bottle alcopops = 1.5 units **(abv means alcohol by volume)**

Remember:

- the higher the alcohol percentage volume the higher the units!
- a large pub measure of wine is 250mls (three units)
- drinks taken at home are usually larger than you would have in a pub.

Weight and Waist

A bulging waistline is not good for your heart. If you are overweight, particularly if you put weight on round your waist it is important to lose a few inches.

Tips on reducing your weight:

- cutting back on foods that are high in fat and sugar;
- avoiding snacking between meals,
- cutting back on portion sizes (use a smaller plate and avoid second helpings),
- reducing your alcohol intake.

Exercising to benefit your heart

For further information and advice please attend the exercise health education session.
Please ask at your venue for the dates for this session.

Regular exercise is an important part of keeping your heart healthy and reducing the risk of further heart problems in the future.
It will also help you to stay much more active for much longer in later life, for example helping to reduce the risk of weakness of the muscles and bones which can lead to falls.

To benefit your heart think about the following:

Frequency	you should aim for **five sessions** a week of aerobic exercise;
Intensity	you should aim for an effort level of **'somewhat hard'** on the Borg Scale (12-14) or a moderate intensity level (the **Borg Scale** is explained in more detail over the page);
Time	you should aim for **20 to 30 minutes** of continuous exercise at the 'somewhat hard' intensity level. You should add your warm-up and cool-down time to this; and
Type	you should aim to participate in activities that use the large muscle groups, especially the leg muscles, in rhythmical, continuous movements (for example brisk walking, cycling, dancing), these give the greatest benefit to the heart.

This is known as the FITT principle.

If you are unable to exercise for 20 to 30 minutes continuously you can divide this into shorter periods of exercise such as 10 to 15 minutes.

Activity should add up to at least:-

- **150** minutes of **moderate** intensity exercise per week (of 10minutes or more) or
- **75** minutes of **vigorous** intensity activity per week or
- Combinations of moderate and vigorous activity or
- 10,000 steps per day

Remember any exercise is better than none but using the FITT principle to guide you will give you the most benefit for your heart.

Tips for exercising:

1. Choose an activity that is fun and not exhausting. Try and add variety to your exercise regime.
2. Wear comfortable, properly fitted footwear and loose clothing.
3. Use music to keep you motivated and entertained.
4. Join in with others.
5. Do not overdo it. Start low and build up your level of activity gradually.
6. Keep a record of your activity and reward yourself at special milestones.

About the cardiac rehabilitation exercise sessions.

The cardiac rehabilitation exercise sessions are designed to help you gain the skills and confidence to use these principles when exercising at home.

You will attend a cardiac rehabilitation exercise session each week. You will also be encouraged and advised to participate in some form of exercise at home on most days of the week (see the **exercise diary pages 17-21**)

The nurse will check your blood pressure and heart rate before each exercise session to give us a reading to compare at the end of the session and to ensure it is safe for you to exercise.

Warm Up (15 minutes).
It is important before any exercise that you prepare the body by doing a warm up session. This reduces the stress on the heart and muscles by slowly increasing your breathing, circulation (pulse rate and blood pressure) and body temperature through moving your large muscle groups (legs and arms) and joints. This will also help improve flexibility and reduce muscle soreness.

Conditioning (the exercise circuit in the rehabilitation class).
This follows the warm up. This should last 20 to 30 minutes. You should aim to maintain a consistent pace and awareness of your **Borg level** throughout. During the exercise circuit, the benefits of exercise are gained and calories are burned. It is important that you monitor how hard you are exercising (check your pulse rate and borg scale). Do not overdo it.

Cool Down (10 minutes).
The last part of your exercise session allows the body to gradually recover. It includes movement of a lower effort level and gentle stretches of the large muscle groups. Your heart rate and blood pressure should return to its normal (resting) level.

You should not stop exercising suddenly as this may cause you to feel dizzy, lightheaded or have heart palpitations (fluttering in the chest). The nurse or physio will check your heart rate at the end of the cool down to check whether your heart has recovered from the exercise. Ideally within 10 to 20 beats of your normal (resting) heart rate.

Training Heart Rate.
This gives you an indication of what your heart rate should be during exercise (the conditioning phase). There are different ways to calculate this but an easy way to do this is to calculate 60-75 percent of your maximum heart rate (based on your age). This level of exercise gives you maximum benefits for your heart and fat burning (weight loss) from your cardiovascular exercise.
Your pulse will be checked during the exercise circuit to monitor your heart rate and ideally you will be within 10 beats of your target heart rate (over or under).

Beta blockers can slow your heart rate so no matter how hard you are pushing yourself, you may never be able to reach the heart rate you are aiming for. In this case it is very important to measure your **Borg scale** to make sure you exercise at the right level.

The cardiac rehabilitation exercise programme is designed so that it can be tailored to meet your individual needs. There are several exercise stations:-

- some are **cardiovascular** (heart and lung) exercises and

- some are **active recovery** exercises using weights.

(These are shown in more detail on pages 14 and 15)

Cardiovascular exercises are designed for you to use your big muscle groups to increase your circulation and your heart rate.
During **active recovery** exercises you work at a lighter level so you can get your breath back while keeping your muscles warm and your heart rate up.

On your first session you will do an equal amount of the cardiovascular exercises and active recovery exercises. As your fitness level improves and you will do more of the cardiovascular exercises and less of the active recovery exercises. The cardiac rehabilitation staff will assess your recovery from exercise (heart rate) and borg scale each week and tell you when you should increase your cardiovascular exercises.

The Borg Scale

While exercising it is important to rate your perception (feeling) of exertion or effort. This means how heavy or hard the exercise feels to you.

The perception of exertion depends mainly on the strain and fatigue (tiredness) in your muscles and on your feelings of breathlessness.

See the scale on the opposite page titled the '**The Borg Scale'**

You will benefit from using this scale to measure your perception of exertion while exercising.

The scale is measured from 6 to 20, where 6 means "no exertion at all" and 20 means "maximal exertion".

There are some examples below to help you measure where you are on the scale when exercising.

9 corresponds to "**very light**" exercise. For example walking slowly at your own pace for some minutes.

13 corresponds to "**somewhat hard**" exercise. For example your breathing rate will be faster and deeper, but you should still be able to talk quite easily, you may feel warmer or even sweat slightly.

17 corresponds to "**very hard**" and is very strenuous exercise. You could go on but you really have to push yourself. It feels heavy and you are very tired.

The aim of the exercise session is for you to exercise at a level that feels "**somewhat hard**" which is 12-14 on the Borg Scale.

We will ask you during, and at the end of the exercise session what you felt your Borg Scale was **during** the exercise session.

You should remember it is your own level of effort and exertion that is important and not how it compares to other people.

The Borg Scale

6	
7	**very very light**
8	
9	**very light**
10	
11	**fairly light**
12	
13	**somewhat hard**
14	
15	**hard**
16	
17	**very hard**
18	
19	**very very hard**
20	

What happens after the cardiac rehabilitation programme?

When you finish your rehabilitation programme it is important for you to continue exercising regularly. There are lots of ways to do this. Think about whether you wish to continue with group sessions at a leisure or community centre, join a gym or continue with your own exercise plan.
The cardiac rehabilitation staff will discuss this with you towards the end of your programme.
There is also lots of information on the notice boards and the table in the seating area for you to look through to get some ideas.

Some Cardiac Rehabilitation Cardiovascular Exercises

Exercise 1 – Stepping Back

Stand up straight. Start with both feet together and your arms at your side. Step back with one leg and then bring your feet back together. Step back with your other leg then bring feet back together. Continue stepping back with alternate legs for one minute.

Increase your effort level by:-

- taking bigger steps and moving faster;
- lifting arms out in front to waist height and then back down again each time you step; or
- lifting arms out in front to shoulder height and then back down again each time you step.

Exercise 2 – Knee Lifts

Lift alternate legs as shown in the picture with your hands on your waist. Lift your thighs so they are parallel with the floor. Continue for one minute.

Increase your effort level by:-

- moving your legs faster;
- holding your hands at waist height and lift your knees to your hands; or
- lifting your knees and combine this with a pull-down action of both your arms from shoulder height.

Exercise 3 – Side Stepping

Stand up straight. Start with both your feet together and your arms at your side. Step one leg out to the side and then bring your feet back together. Repeat with the opposite leg. Continue stepping to the side with alternate legs for one minute.

Increase your effort level by:-

- taking wider steps and moving faster;
- lifting your arms out to the side to waist height and then back down again each time you step; or
- lifting your arms out to the side to shoulder height and then back down again each time you step.

Exercise 4 – Step Ups

Start with both of your feet on the floor. Put one foot onto the step followed by the other foot (so both feet are on the step) with both arms by the side, then step back down off the stepper one foot at a time. Continue for one minute.

Increase your effort level by:-

- stepping up and down more quickly;
- lifting your arms to waist height each time you step; or
- lifting your arms to shoulder height each time you step.

Exercise 5 – Ham String Curls

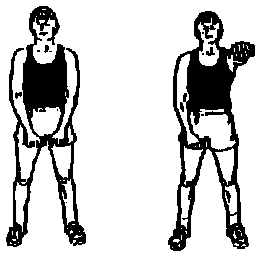
Start with your feet shoulder width apart and arms at your side. Bend your knee to 90 degrees then bring your foot back to starting position. Repeat with alternate leg. Continue for one minute.

Increase your effort level by:-

- stepping faster and with wider steps;
- moving both arms into bicep curls to waist height as you step; or
- moving both arms into bicep curls to shoulder height as you step.

Some Active Recovery Exercises – (Using weights)

Front Arm Raise

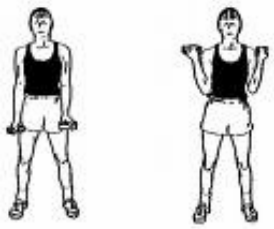


March slowly and gently on the spot.
Hold the weights in both of your hands resting on your thighs.
Slowly raise one arm in front of you until at shoulder height
Repeat with alternate arm (or raise both arms together) and continue for one to two minutes.

Upright Row

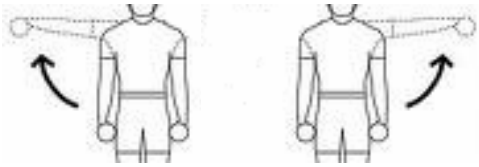
March slowly and gently on the spot.
Hold the weights in both of your hands at the top and centre of the chest with your elbows up and pointing out as in picture.
Move your hands slowly down to your waist then bring back to your upper chest.
Repeat for one to two minutes.

Bicep (arm) Curls



March slowly and gently on the spot.
Hold the weights in both of your hands and stand with arms at your side and your palms upwards.
Keep your arms tucked into the side and slowly bend both elbows up to your chest and then lower back to the starting position.
Repeat for one to two minutes.

Lateral (side) Arm Raise



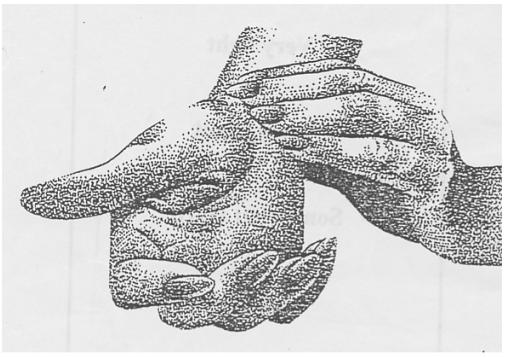
March slowly and gently on the spot.
Hold the weights in both of your hands and stand with your arms at your side. Keeping your arm straight slowly raise one arm out to the side, to shoulder height then return to your side.
Repeat with alternate arm and continue for one to two minutes.

Checking your heart rate by taking your pulse

During the exercise session we will ask you to try and check your own heart rate by feeling your pulse, both during and after the exercise session. It is important for you to learn how to do this in order for you to measure your response to exercise, for example; are you working too hard or do you need to increase your effort level?

You can check your heart rate by feeling your pulse in either your wrist or neck.

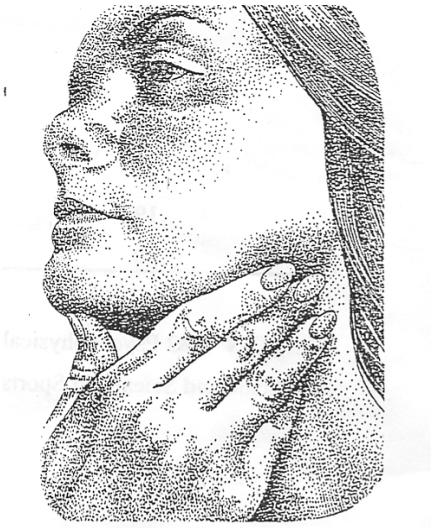
The Wrist



Place two or three finger tips on the outer part of the wrist near to the base of your thumb. Now apply slight pressure until you can feel a pulsing sensation. This is your pulse. You may need to move your finger tips slightly until you find the correct spot. If you still have trouble it may be that you are pressing too hard or too lightly.

The Neck

Place three or four fingers flat on your neck just under your jaw line and to the side of the neck. Again, by applying slight pressure you should feel a pulsing sensation. Remember, try not to press too hard or too lightly.



Once you have found your pulse you need to calculate your heart rate. Whilst looking at the second hand on your watch or a clock count how many times you feel the pulse in 15 seconds, now multiply the number of pulses by four. This is your pulse rate per minute. It may seem impossible to start with but with practice it will get easier **so keep practicing!**

There is a chart on the door to help with the heart rate calculation over one minute if you need it.

Date	Intensity	Time	Type of exercise	Comments

Your exercise data

Training Heart Rate Range: **Beta Blocked: Y or N**

Date	Pre Exercise Heart rate	Blood Pressure	Exercise Heart rate	Post Exercise Heart rate	Exercise Level	Borg score	Comments