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***Acknowledgements:***

This booklet was developed by the team at Greater Dandenong Community Rehabilitation Service and edited by Catherine Lacey, Joannah Tozer and Glynis Cacavas. Revised by Catherine Lacey 2010.

***For citations:***

Lacey, CM, Tozer, JMJ, Cacavas, G. Cardiac Education Booklet, Southern Health, Clayton, 2010.

# CARDIAC DISCHARGE PLAN

Dandenong Hospital  
Phone: 95548135

Monash Medical Centre Clayton  
Phone: 95944570

## YOUR FOLLOW-UP DISCHARGE PLAN IS:

**Make an appointment with your local doctor, within the first week after discharge.**

Take with you the photocopy of your discharge letter, electrocardiograph and medications. Discuss any issues or concerns with your doctor at this time.

**Obtain a referral letter from your local doctor and take with you on your first appointment with your cardiologist.**

**Appointment with Cardiologist** .....

Take with you:  Your discharge letter  
 All of your current medications  
 A referral letter from your local doctor

**Exercise Stress test** .....

**Echocardiogram** .....

## Cardiac Rehabilitation Locations

## Program Times

- Dandenong**  
Greater Dandenong Community Rehabilitation Service  
135 David Street  
Dandenong  
Phone: 9554 8270  
Program times: Monday 9.30am - 11.45am  
or Thursday 1.00pm – 3.15pm
- Springvale**  
Greater Dandenong Community Rehabilitation Service  
55 Buckingham Avenue  
Springvale  
Phone: 8558 9158  
Program times Thursday 8.45am – 11.30am
- Clayton**  
Clayton Community Rehabilitation Centre  
1 Tarella Road  
Clayton  
Phone: 9594 7630  
Program times: Tuesday 11.00am – 2.00pm
- Monash Heart - Evening Program**  
Phone: 9594 4172 or 9594 4570  
Program times: Tuesday 7.00pm - 9.15pm
- Parkdale**  
Parkdale Community Rehabilitation Centre  
335 Nepean Highway  
Parkdale  
Phone: 8587 0170  
Program times: Wednesday 9.00am – 11.15am
- Pakenham**  
Cardinia-Casey Community Rehabilitation Service  
Princes Highway  
Pakenham  
Phone: 5941 0500  
Program times: Tuesday 9.00am – 12.00pm

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# INTRODUCTION

Southern Health welcomes you to our cardiac rehabilitation program and we look forward to your participation in this important phase of your rehabilitation.

Cardiac rehabilitation is a group program that combines education, support and exercise. Your family members, or close friends are encouraged to participate with you as our program is not only designed to provide you with meaningful exercise and self-confidence, but also to educate you, your family and close friends throughout your rehabilitation.

Through education and exercise our cardiac rehabilitation program aims to:

- 1. facilitate your recovery from a cardiac event**
- 2. help prevent your risk of further cardiac events**
- 3. provide psychosocial support to you and your family and friends**
- 4. facilitate your return to work and/or leisure activities.**

This booklet is a brief guide only. You will receive a more detailed guide in hospital on specific exercises, if you have had heart surgery. Additional information will also be given out during the education sessions of your cardiac rehabilitation program.

# YOUR HEART

Your heart is a muscle about the size of a large fist, which pumps blood around the body. The blood provides your body with oxygen and nourishment. Waste products and gases are picked up by the blood, which leave the body through your kidneys and lungs.

The heart requires its own oxygen rich blood supply in order to function. This occurs via the main coronary arteries which originate from the aorta and are located on the surface of the heart. These arteries then divide into smaller branches.

The heart has a right and a left side separated by a thick muscle wall. Each side has an upper chamber called an atrium and a lower chamber called a ventricle. The blood flow between the four chambers of the heart is controlled by heart valves.

Diagram 1.1 Coronary arteries (Texas Heart Institute, 2008)

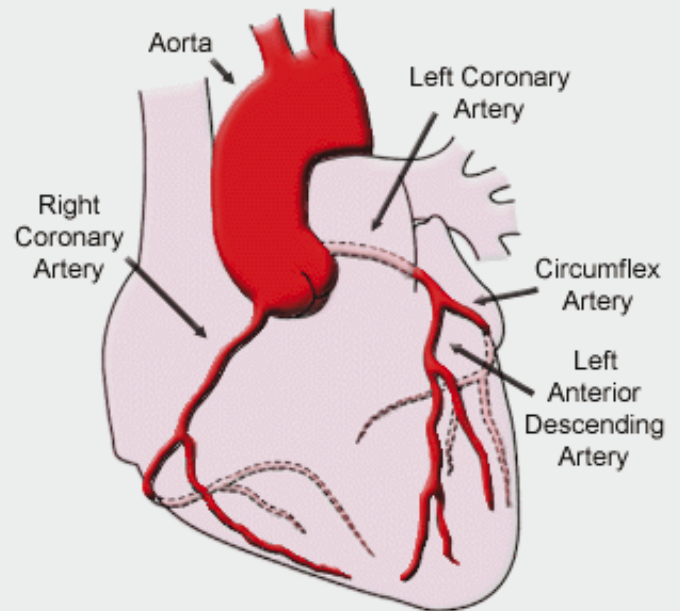
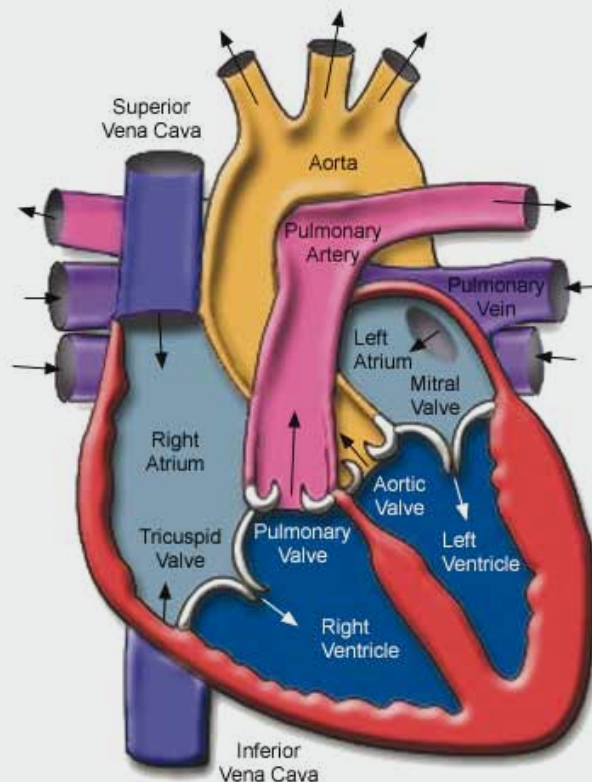


Diagram 1.2 A cross section of the chambers of the heart (Texas Heart Institute, 2008)



# ANGINA

## WHAT IS ANGINA AND WHAT CAUSES IT?

Angina is a condition which is caused by the gradual narrowing of one or more of the coronary arteries. Fatty plaques deposit within the artery walls causing a decreased blood supply and oxygen flow to the heart muscle. There is no permanent damage to the heart muscle with this condition.

### What are the symptoms?

It is important to remember that everyone's symptoms may be different.

Angina typically presents as a dull heavy discomfort or pain in the left side or centre of the chest. It may also be felt in the throat, jaw, neck, shoulders or one or both arms.

Angina may be described as:

- ♥ tightness
- ♥ squeezing
- ♥ heaviness
- ♥ pressure
- ♥ ache
- ♥ burning
- ♥ indigestion
- ♥ stabbing pain.

Additional symptoms can include:

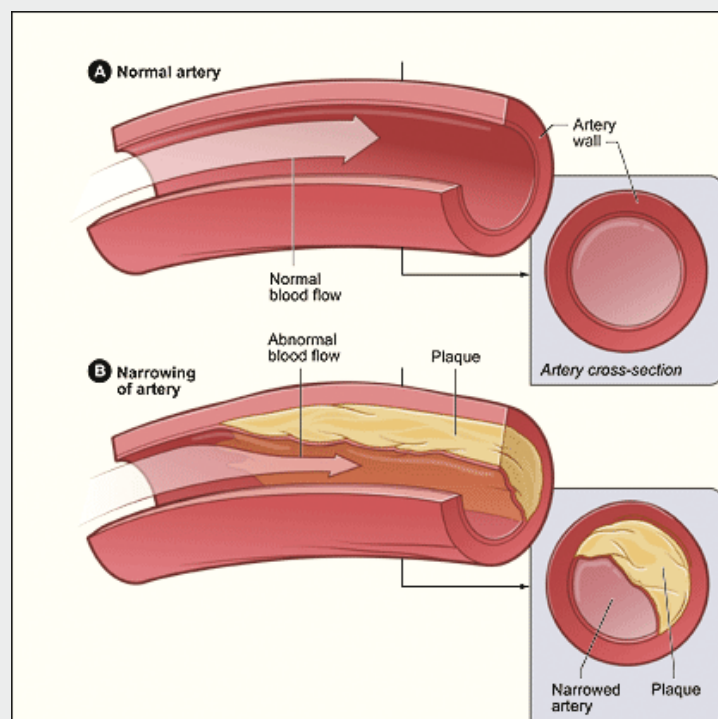
- ♥ shortness of breath
- ♥ sweating
- ♥ nausea
- ♥ tiredness.

### When does angina occur?

Angina often occurs when the heart has to work harder than usual, for example during exercise, emotional stress, sexual intercourse, in cold or extreme weather or after a heavy meal.

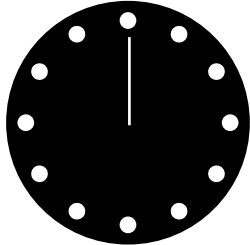
If angina begins to occur at rest or increases in frequency and severity, it may indicate that your coronary artery disease has progressed and you should see your cardiologist or general practitioner (GP).

Diagram 2.1 A normal artery and a narrowing artery  
(National Heart Lung and Blood Institute, Institute, 2008)



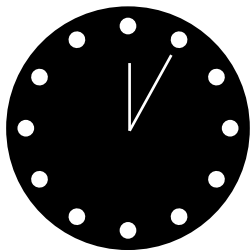
# ANGINA CONT.

## IF YOU EXPERIENCE SYMPTOMS OF ANGINA: IT IS IMPORTANT TO FOLLOW THESE STEPS:



- ♥ Stop what you are doing and sit down **AND REST**
- ♥ Place one Anginine tablet or one Nitrolingual spray under your tongue (if using it for the first time, only use half a tablet, you may experience mild headache, light headedness or flushing from medication).

**WAIT 5 MINUTES**



### **If Angina symptoms persist**

- ♥ Place a whole Anginine tablet **OR** one Nitrolingual spray under your tongue.

**WAIT 5 MINUTES**



### **If after ten minutes your symptoms persist or become worse:**

- ♥ Place a whole Anginine tablet or Nitrolingual spray under your tongue
- ♥ Dial 000 for the ambulance and ask for Mobile Intensive Care Ambulance (MICA)
- ♥ **Do not drive yourself or get friends or relatives to drive you to the hospital.**

### **While waiting for the ambulance:**

- ♥ If you are prescribed Aspirin take a whole aspirin dissolved in water
- ♥ Do not take Astrix and Cartia as they do not work fast enough
- ♥ Continue to take your anginine tablets or nitrolingual spray every five minutes.

**IT IS IMPORTANT TO GET TO HOSPITAL AS SOON AS POSSIBLE BUT  
DO NOT DRIVE YOURSELF OR GET SOMEONE ELSE TO DRIVE YOU.  
WAIT FOR AN AMBULANCE.**



# ANGINA CONT.

## ANGININE TABLETS AND/OR NITROLINGUAL SPRAY CARE

The Anginine tablet or the Nitrolingual spray work exactly the same way. It is personal preference as to which one you use. However you should carry which ever one you use **with you at all times**.

### Anginine tablets

- ♥ Once opened, Anginine tablets expire after three (3) months. Write on the bottle the date you opened it so you can keep track
- ♥ If unopened and stored correctly, Anginine tablets last until the expiry date on the bottle
- ♥ Anginine tablets are sensitive to light, heat and moisture, therefore need to be stored in a cool, dry place. **Do not carry them around in your pocket**
- ♥ Store them in the original bottle, or you can buy a specialized medicine container from the chemist
- ♥ You do not need a prescription for Anginine tablets; however they are cheaper to purchase from your chemist when you have a prescription
- ♥ If your mouth is dry the tablet will not dissolve, have a mouthful of water first
- ♥ Do not swallow, chew or suck the tablet, allow it to dissolve naturally.

### Nitrolingual spray (GTN spray)

- ♥ Once opened, the spray lasts until the expiry date on the bottle
- ♥ The spray can be carried in your pocket but it needs to be stored under 30°C
- ♥ Hold the bottle upright. When using a new bottle of GTN spray for the first time, press the nozzle five times or until an even spray comes out. If the spray has not been used recently press the nozzle until an even spray is seen
- ♥ You do not need a prescription for GTN spray; however they are cheaper to purchase from your chemist when you have a prescription



Anginine tablets or GTN spray should tingle or fizz under the tongue. If they do not, check the expiry date on the bottle. Throw out any bottle of Anginine tablets or GTN spray that is out of date as this will not be effective in treating your angina.

Keep a spare bottle of Anginine tablets or GTN spray in your medicine cabinet. The most common side effects from Anginine tablets or the GTN spray include,

- ♥ headache
- ♥ dizziness, feeling flushed and faint, therefore always sit or lie down prior to taking this medication.

# HEART ATTACK

## WHAT IS A HEART ATTACK AND WHAT CAUSES IT?

A Heart Attack occurs when a coronary artery is suddenly blocked by a blood clot. The area of the heart muscle supplied by that artery is **permanently** damaged because it has been starved of blood and oxygen. As in angina, fatty plaques build up slowly over many years narrowing the artery. In a heart attack, this fatty plaque can rupture, causing blood clots to form around the site and causing a blockage to the blood supply.

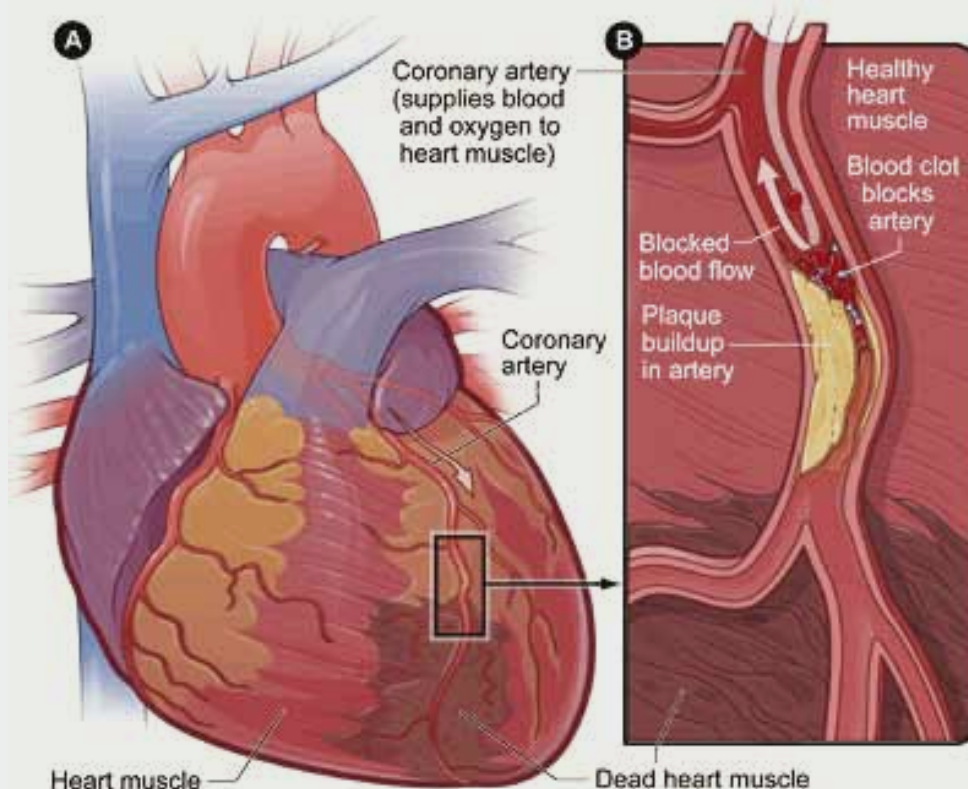
### What are the symptoms?

**Everyone will experience a heart attack differently:**

- ♥ Symptoms can be mild, moderate, or severe; they may begin slowly or come on very suddenly. Symptoms may be similar to those experienced with angina as previously described on page 7, but are usually worse
- ♥ Symptoms last longer than ten (10) minutes and often do not go away with the use of Anginine tablets or GTN spray. Follow the **angina management guidelines** as previously described on page 8, and **call an ambulance as soon as possible**.

Complications arising from a heart attack can include a change in the heart's electrical activity which can result in a cardiac arrest. This can be life threatening and is treated by ambulance officers, or within the hospital environment. The quicker the treatment is initiated the better the outcome.

Diagram 3.1 What happens when having a heart attack (National Heart Lung and Blood Institute, 2008)



# HEART ATTACK CONT.

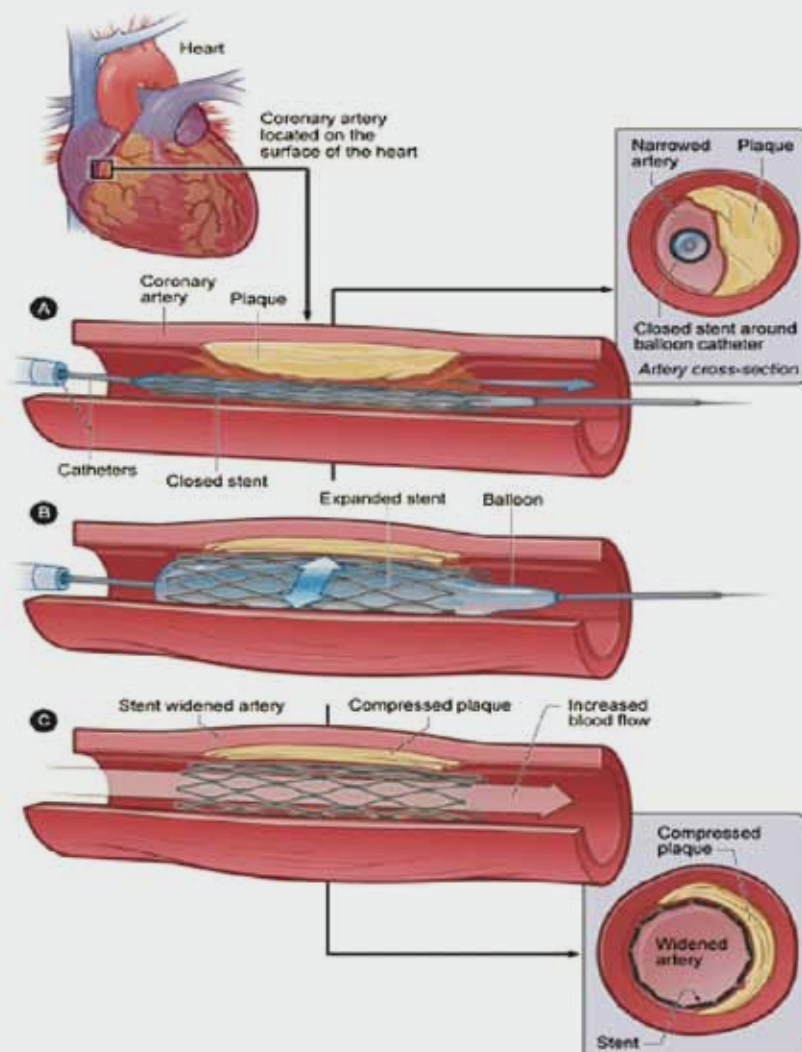
## TREATMENT FOR A HEART ATTACK

When having a heart attack, the sooner you call an ambulance and get to hospital, the sooner treatment can begin. If treatment is begun quickly, more heart muscle may be saved.

**1. Drugs:** Drugs that dissolve the clots blocking the coronary artery can be administered to people having a heart attack. If the artery is unblocked soon after the heart attack commences, the amount of heart muscle damage is greatly reduced.

**2. Stent:** A more common treatment is a procedure known as an angioplasty which includes the insertion of a stent. During a heart attack, a balloon catheter is inserted through an artery in the groin or arm and is passed up to the heart. The balloon is inflated within the blocked coronary artery, allowing for normal blood flow to resume to the heart muscle. A stent (an expandable metal tube) keeps the artery open. This procedure can significantly reduce the amount of damage to the heart muscle.

Diagram 3.2 Angioplasty and insertion of stent (National Heart Lung and Blood Institute, 2008)



# HEART ATTACK CONT.

**3. Medications:** following a heart attack, the medical staff will prescribe a range of cardiac medications. These medications:

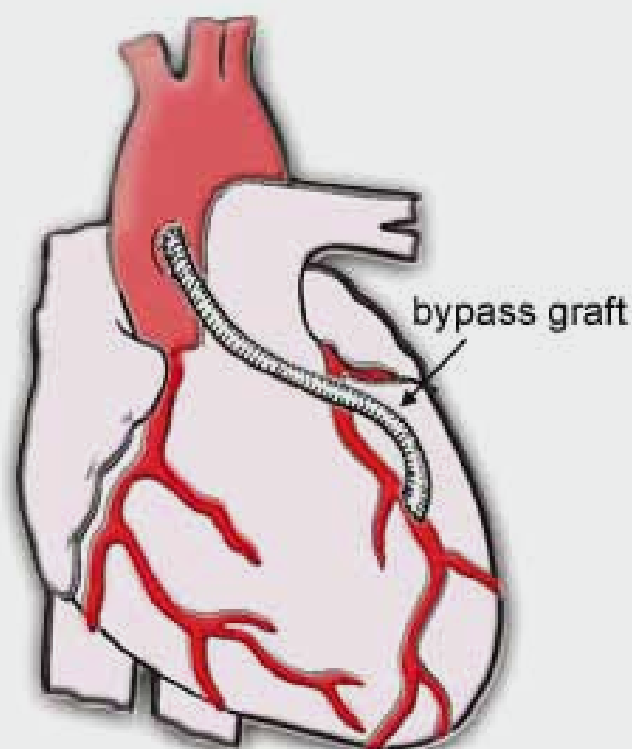
- ♥ thin the blood to prevent the development of further blood clots within the coronary arteries and/ or the stent
- ♥ prevent further build up of cholesterol in the blood vessels
- ♥ decrease the workload of the heart and allow the heart to pump more efficiently
- ♥ help prevent further angina and heart attacks enabling you to participate in activities you enjoy
- ♥ allow you to live longer.

For more information on medications please speak to the nurse or pharmacist.

**4. Coronary Artery Bypass Graft/s [CABGS]:** The angiogram detects the number and position of the narrowed coronary arteries. If these blockages cannot be opened by the angioplasty and stent procedure, or there are multiple blockages, it may be necessary to have cardiac surgery.

A small group of patients may require bypass surgery immediately following a heart attack; others may have surgery at a later date, or as an elective procedure. Cardiac surgery known as “bypass” surgery aims to re-direct the blood around the narrowed part of the artery to supply the heart muscle with a good blood flow. The blood vessels from the leg, arm or chest may be used for the “bypass” vessel grafts. Hospital stay is between five (5) and seven (7) days.

*Diagram 3.3 Coronary artery bypass grafts (Texas Heart Institute, 2008)*



# FOLLOWING CARDIAC SURGERY

Following cardiac surgery (either CABGS or valve surgery) you should have been given discharge information from your hospital. The following information is a brief guide only.

## WOUND SITES

The lump at the top of the suture line is quite normal. It can be numb, itchy and sensitive and this will decrease with time. If you notice any increasing tenderness, redness, swelling, discharge of pus or if the wound is hot to touch, it is important to contact your doctor or the hospital ward where you recovered following your surgery immediately. Wounds can be washed daily with a mild soap while healing, but avoid talcum powder and body creams until healing is complete (usually 3-4 weeks). Pat your chest dry after a shower, with a clean towel and leave the area open to air dry completely before getting dressed.

## CHEST WALL PAIN

You should not experience the same type of chest pain or discomfort like the angina you may have had before your operation. However, it is common to have chest wall pain or discomfort, which is usually related to the sternum (breastbone) and suture line healing. Following cardiac surgery, many people experience chest wall pain or discomfort for up to six (6) months, medications such as Panadol or Panadeine can help to control this.

Following heart surgery, the lining of the heart may become inflamed (pericarditis). You may experience pain which is worse on deep breathing and is relieved by sitting forward. If any of these symptoms occur, or your chest wall discomfort becomes suddenly worse, see your doctor as soon as possible.

## FATIGUE AND MOOD SWINGS

It is normal to feel very tired after having cardiac surgery and is part of 'normal' recovery. A day time sleep may be a good idea. After surgery you may also feel very teary or emotional. However, if this is ongoing or becoming worse you should talk to your doctor.

Emotional responses to a cardiac event will be discussed during the program. By making tasks more simple (which will be covered by the occupational therapist) and increasing your activity levels (as prescribed by the physiotherapist) you will gradually feel better.

Follow the post cardiac surgery activity guidelines you were given in hospital.

## SLEEPLESSNESS

Many people find it difficult to sleep, despite being tired. You may find relaxation training can be beneficial. Handouts on sleeping and relaxation techniques will be given to you by the occupational therapist.

If the sleeplessness is ongoing, it is important to see your doctor who may give you some alternatives to manage this.

# COMMON CARDIAC PROCEDURES

We have included a brief description of some of the more common tests you may need. MonashHeart has more detailed patient information pamphlets, which will be sent to you with your appointment. Other information about procedures such as, permanent pacemakers (PPM) and implantable cardiac defibrillators (ICD) is available from MonashHeart, your cardiologist, or [www.monashheart.org.au](http://www.monashheart.org.au).

## CORONARY ANGIOGRAM

A coronary angiogram is a diagnostic procedure that shows any blockages or narrowing of your coronary arteries. A local anaesthetic is injected into the groin and a thin catheter (tube) is then threaded into the femoral artery in the groin, up to the heart and into the coronary arteries. An x-ray visible dye is then injected into the catheter and pictures are taken of the coronary arteries. Heart pressures are also measured. The results of these tests will be discussed with your cardiologist and appropriate treatment recommended.

## CORONARY ANGIOPLASTY AND STENTS

An angioplasty is a similar procedure to an angiogram and is explained on page 11. It is used as a treatment for patients who have blocked or narrowed arteries. Sometimes, patients may have some chest discomfort following a stent insertion which may persist for a few weeks. It is often described as a gripping sensation and is fleeting in nature. These symptoms are different from normal anginal discomfort and no medical treatment is necessary. However if your symptoms of angina reoccur you must seek medical advice.

## CARDIAC CT SCAN (CT CORONARY ANGIOGRAM)

A cardiac CT scan is a diagnostic scan that takes high speed 3D images of the structures of the heart and can show how the heart is working. It can assess coronary arteries, bypass grafts, and previous stents. Before your scan you may need to receive a beta blocker, medication through a drip to slow your heart rate down. Slower heart rates allow for better pictures. This is a day procedure, and prior to the scan MonashHeart will send you instructions regarding this scan. Results of your CT scan will be sent to your local doctor and cardiologist.

## EXERCISE STRESS TEST

An exercise stress test is similar to the ECG test that you would have had done while in hospital, except the recording is made while exercising (walking on a treadmill or riding a stationary bike). This test increases the work done by the heart, and therefore can test the heart's response to physical stress; including detecting any electrical abnormalities and checking the amount of blood flowing to the heart muscle.

## ECHOCARDIOGRAM

The echocardiogram uses sound waves, called ultrasound, to obtain pictures of the heart valves, the four chambers of the heart and the heart muscle motion as it is beating. A technician moves a painless instrument, called a transducer (shaped like a microphone) across the chest which picks up sound waves made by the heart. These sound waves are changed by a computer into pictures that the cardiologist can view. This test is often performed while you are in hospital and is often repeated following a heart attack to assess the amount of damage done to the heart muscle.

# RISK FACTORS FOR HEART DISEASE

Heart disease is caused by a combination of risk factors. These can be divided into two groups:

## RISK FACTORS YOU CANNOT CHANGE (NON-MODIFIABLE)

### Family history

You are considered at greater risk for developing heart disease if a first degree relative (parent or sibling) has developed heart disease under the age of 60. If you have developed heart disease under the age of 60, your children now have a positive family history.

### Gender

More men than women develop heart disease. Women do develop heart disease, but this usually occurs after menopause.

### Age

The risk of heart disease increases as we get older. Men are more at risk once they are over 50, and for women over 60.

## RISK FACTORS YOU CAN CHANGE (MODIFIABLE)

### High blood pressure

The National Heart Foundation states blood pressure should be equal to/or less than 140/90 for those over 65, and equal to/or less than 130/85, for those under 65 or a diabetic. High blood pressure damages arteries, by attracting fatty plaque deposits that stick to the surface walls. Over time, high blood pressure can also lead to enlargement of the heart; as the heart has to work harder to pump blood through these hardened arteries.

### Blood pressure can be increased by:

- ♥ smoking
- ♥ being overweight
- ♥ high cholesterol
- ♥ high alcohol intake.



### Treatment of high blood pressure can include:

- ♥ stop smoking
- ♥ reduce fat and salt intake
- ♥ regular exercise
- ♥ maintaining a healthy weight range
- ♥ avoid excessive alcohol consumption
- ♥ reduce alcohol intake (it is recommended that men consume no more than two standard drinks per day and women one standard drink per day)
- ♥ taking prescribed blood pressure medication.

# RISK FACTORS FOR HEART DISEASE CONT.

## HIGH CHOLESTEROL

Raised blood cholesterol is one of the major risk factors for heart disease. Cholesterol is a type of fat found in the bloodstream. Cholesterol is produced naturally in the body by the liver and is needed for the function of all cells in the body. It is also found in all animal products such as meat, chicken, dairy and eggs.

### What is wrong with high blood cholesterol?

Too much cholesterol in the blood can cause fatty plaques to build up and harden in the arteries. These plaques narrow the arteries and make it harder for blood to flow through. The narrowing of coronary arteries may lead to angina and contribute to a heart attack.

### What causes high cholesterol?

It may be the combination of hereditary factors as well as eating foods high in saturated fats that cause cholesterol levels to become too high. Saturated fats are found in all animal products and in food containing palm and coconut oil (used in many processed and fried foods). For people with heart disease your **total cholesterol should be less than 4.0mmol/L**. You may need to take medication to reduce your cholesterol level. Your cholesterol and other blood fat levels will be monitored by your GP or cardiologist.

### What are trans fats?

Trans fats are fats which act like saturated fats and increase total blood cholesterol. Trans fats contribute to the build up of fatty plaques in the coronary arteries. They are found in many processed and fried foods and should be avoided.

### Blood fats are described in the table below.

Table 6.1 Blood fats (The Heart Foundation, 2008)

Type of Cholesterol Blood fats	Role	Recommended Target Levels	Your Levels
HIGH DENSITY LIPOPROTEIN (HDL)	Good cholesterol Helps protect the arteries from the development of fatty plaques. HDL returns excess cholesterol to the liver for removal.	Your HDL level should be greater than 1.0 mmol/l.	
LOW DENSITY LIPOPROTEIN (LDL)	Bad cholesterol made in the liver from saturated fats we eat which can cause the development of fatty plaques in the arteries.	Your LDL level should be less than 2.0 mmol/l	

Table 6.2 Other Blood Fats (The Heart Foundation, 2008)

Type of Cholesterol Blood fats	Role	Recommended Target Levels	Your Levels
TRIGLYCERIDES	Triglycerides are a fat which occurs naturally in the blood and are a major source of energy for the body. A high triglyceride level can also lead to the development of fatty plaques in the arteries.	Your triglyceride level should be less than 1.5 mmol/l.	



# RISK FACTORS FOR HEART DISEASE CONT.

## SMOKING

**Risk of a repeat cardiac event is 50% if a person continues to smoke.**

Smoking causes:

- ♥ narrowing of the coronary arteries
- ♥ elevated blood pressure
- ♥ damage to the lining of the arteries
- ♥ thickens the blood, makes it “stickier” and increases chances of clots
- ♥ abnormal heart rhythms
- ♥ other complications such as lung cancer, breathing difficulties and poor circulation.

For more information on quitting call **Quitline**, 131 848 or go to [www.quit.org.au](http://www.quit.org.au).

## DIABETES

Diabetes is a disease that is caused by a lack of insulin or the body’s inability to use its own insulin effectively. Insulin is the hormone responsible for allowing your body to use sugar for energy; it controls normal blood sugar levels in the body. If diabetes is poorly controlled, (i.e. blood sugar levels are high) this contributes to the plaque build-up in artery walls and can be linked to high blood pressure, high cholesterol and obesity.

There are two types of diabetes:

**Type 1 (previously known as insulin dependent)**

**Type 2 (previously known as non-insulin dependent).**

People with diabetes are at increased risk of developing heart disease, stroke and circulation problems. **It is a known fact that people who have diabetes and smoke are 20 times more likely to have a heart attack than a non-diabetic, non-smoker.**

Risk factor modification including weight control, regular exercise and a healthy, low fat diet is essential for good control of diabetes. For more information please speak to a dietitian, or to **Diabetes Australia**, Tel: 1300 136 588 or go to [www.diabetesaustralia.com.au](http://www.diabetesaustralia.com.au).

## WEIGHT

Being overweight or obese increases the risk of developing:

- ♥ heart failure
- ♥ high heart disease
- ♥ stroke
- ♥ diabetes
- ♥ blood pressure
- ♥ high cholesterol.

Central obesity (weight that is carried around your waist) is strongly linked to heart disease. Waist measurements should be less than 94 cm for men (Asian men <90 cm) and 80 cm for women.

# RISK FACTORS FOR HEART DISEASE CONT.

## PHYSICAL INACTIVITY

Lack of exercise or physical inactivity contributes to the development of heart disease and is associated with high blood pressure, high blood cholesterol and obesity. Regular exercise (The Heart Foundation recommends at least 30 minutes of moderate intensity exercise most days of the week) combined with other measures can help reduce heart disease.

Exercise has many benefits and positive effects, including:

- ♥ reducing the risk of coronary heart disease
- ♥ lowering blood pressure
- ♥ reducing cholesterol levels
- ♥ if diabetic, improved control of blood sugar levels
- ♥ weight control
- ♥ reducing stress and increasing feeling of wellbeing
- ♥ improving strength and posture.

## SOCIAL ISOLATION AND DEPRESSION

Social isolation and depression are now recognised as significant risk factors for heart disease. People, who are socially isolated for prolonged periods of time, often have fewer opportunities for enjoyment. As a result they may place less importance on their mental wellbeing and are at a higher risk of depression. Depression is an illness that can affect anyone at any time. However research shows that:

- ♥ it is more common among people with coronary heart disease
- ♥ it can increase the risk of further heart problems in people with coronary heart disease
- ♥ it is often under recognised and under treated
- ♥ it can be treated effectively.

Depression is not just a low mood or feeling sad, but an illness. People with depression generally feel sad, down or miserable **most** of the time; they find it hard to do normal activities and function from day to day. Depression has serious effects on physical, as well as mental health and is a common illness which affects up to one million Australians each year. A social worker will discuss depression, along with emotional reactions to a cardiac event, during your cardiac rehabilitation program. For more information please speak to your GP or cardiologist, social worker, or visit **Beyond Blue** ([www.beyondblue.org.au](http://www.beyondblue.org.au)).

### Tips to reduce the risk of depression and social isolation

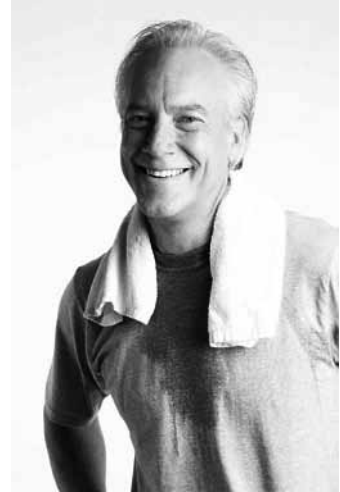
- ♥ increase social/ recreational activities eg take up a new hobby
- ♥ surround yourself with supportive people and try and make new friends
- ♥ be active every day eg. go for a walk, play lawn bowls
- ♥ get plenty of sleep
- ♥ try relaxation and/or meditation
- ♥ eat plenty of fruit and vegetables
- ♥ think of an activity you find relaxing and do this regularly eg fishing, reading
- ♥ reward yourself, plan a day out with friends.

# EXERCISE GUIDELINES

The Heart Foundation recommends you should progress to at least 30 minutes of moderate intensity exercise, on most, if not all, days of the week (150 mins per week minimum). You can divide the 30 mins of exercise into two lots of 15 mins or three lots of 10 mins.

## When you are exercising make sure you:

- ♥ carry your anginine or GTN spray at all times
- ♥ drink plenty of water
- ♥ wear suitable clothing and shoes
- ♥ warm up and cool down gently
- ♥ exercise at a moderate intensity (see page 20)
- ♥ choose something appropriate that you enjoy
- ♥ exercise at your own pace
- ♥ increase activity gradually.



## When exercising, make sure you don't:

- ♥ exercise straight after a heavy meal
- ♥ exercise when unwell
- ♥ exercise in extremes of temperature
- ♥ lift or push things that are very heavy
- ♥ be too competitive.



## Stop the activity and rest if you feel:

- ♥ chest pain
- ♥ faint
- ♥ excessive sweating or puffing
- ♥ clammy skin
- ♥ rapid or weak pulse
- ♥ abdominal pain
- ♥ nausea.



**IF SYMPTOMS PERSIST CONSULT YOUR DOCTOR**

# EXERCISE GUIDELINES CONT.

## YOUR WALKING PROGRAM

To get the benefits of walking it is important that you do it regularly (aim to do it on most days). Aim to exercise at a moderate intensity, unless advised not to by your doctor.

Moderate intensity is exercise that is neither too hard, nor too easy. Mild shortness of breath, sweating and increased heart rate is normal.

As your fitness improves, you can make your exercise harder by increasing the time or distance of your walk. Take hills and stairs gradually at first.

Make a note of how you feel after each days walk. If you find any one time or distance tires you out or causes discomfort do not increase the distance or time until you can do it without discomfort. You can review your program with the physiotherapist at any time during your rehabilitation.

Table 7.1 Guidelines for physical activity after heart attack and surgery (National Heart Foundation Australia, 2003)

Week	Time in Minutes	Approximate Distance (meters)	Times Daily	Pace
1	5-10	250	2	Stroll
2	10-15	500	2	Comfortable
3	15-20	1000	2	Comfortable
4	20-25	1500	1-2	Comfortable / brisk
5	25-30	1500	1-2	Comfortable / brisk
6	30	2000	1-2	Comfortable / brisk
7	30	2500+	1-2	Comfortable / brisk

### Points you need to remember

- ♥ If you develop chest pain, stop immediately and use your Anginine tablets or GTN spray. Rest until it disappears and then continue. If the pain is severe and not relieved by rest (10 mins) and your Anginine tablets or GTN spray call an ambulance
- ♥ If you are unable to talk comfortably when walking, you are working too hard
- ♥ When you begin to exercise it is advisable to walk with someone for the first few days; if available, carry a mobile phone with you
- ♥ Walk at a pace that you find comfortable. Start off and finish at a slower pace
- ♥ If you are extremely tired the day following a walk, you have exercised too hard
- ♥ You may walk at any time of the day except after heavy meals (wait for about an hour) and avoid extremes in temperature
- ♥ Combine your walk program with your everyday activities such as walking to the shops.

# EXERCISE DIARY


## Week Commencing :

	Activity	Distance and Time	Comments and BORG rating
Monday am			
pm			
Tuesday am			
pm			
Wednesday am			
pm			
Thursday am			
pm			
Friday am			
pm			
Saturday am			
pm			
Sunday am			
pm			

## The BORG perceived exertion scale

Perceived exertion is how hard you feel like your body is working. It is based on the physical sensations you experience during physical activity, including increased heart rate, increased respiration or breathing rate, increased sweating, and muscle fatigue.

6
7 Very very light
8
9 Very light (very easy)
10
11 Fairly light (Easy)
12
13 Somewhat hard (moderate)
14
15 Hard
16
17 Very hard
18
19 Very very hard (maximal)
20

 Aim to exercise at this level at home and at cardiac rehab

# EATING FOR A HEALTHY HEART

Healthy eating can help reduce high blood pressure, high cholesterol, excess body weight, and improve blood sugar levels for those with diabetes. These are risk factors that can contribute to heart disease. Healthy eating can help further reduce the risk of stroke, some cancers and the onset of diabetes.

**To enjoy a healthy diet and reduce your risk factors you need to:**

**1. Choose foods** that are low in fat, especially saturated fat; low in salt; include whole grains (whole grain breads and cereal, brown rice and wholemeal pasta); a wide range of colourful fruit and vegetables; and include fish 2-3 times per week.

**2. Adopt a healthier cooking style** such as; steaming, stir frying, microwave, roasting/baking, or grilling using canola or olive oil cooking spray, use non stick cookware where possible. When frying, use a cooking spray or a small amount of healthy oil such as olive, canola or other vegetable oil (not palm, coconut oil or animal fat). Make sure you trim the fat off meat and chicken before cooking. Substitute butter with margarine or avocado as a spread. Replace salt with other flavours such as garlic, herbs and spices.

**3. Learn to read nutritional labels on food packaging:** Use the 100g column for easiest comparison. **Fat** - look for the lowest fat content; saturated fat - this should be less than 10 per cent of the total fat content or less than 1 gram of fat. **Fibre** - look for the product with more fibre. **Carbohydrate** (this is the total of both sugar and starch) - look for products with much more carbohydrate than sugars alone. **Sodium** (salt) - look for no more than 120mg sodium per 100g of food or for cereals less than 400 mg per 100g. **Remember, ingredients are always listed from most to least in quantity.**

NOTE: 1

Example 2 Wheat Grain Crackers (30 GRAMS) Servings per pack: 33 Ingredients: whole grain wheat (97%), raw sugar, salt, malt extract, vitamins

	Per Serve	Per 100g
Energy (kJ)	444	1480
(Cal)	106	354
Protein (g)	3.6	12.0
Fat		
Total (g)	0.4	1.3
Saturated (g)	0.1	0.3
Cholesterol (mg)	0	0
Carbohydrate		
Total (g)	20	67
Sugars (g)	0.8	2.8
Dietary Fibre (g)	3.3	11
Sodium (mg)	84	280
Iron (mg)	3.0 (25%RDI)	10.0

# EATING PLAN

## A GUIDE TO A HEALTHY EATING

### Bread and Cereals

5 serves daily

**1 serve =**

1 slice grain bread  
6 bite size saladas  
½ large bread roll  
1 small bread roll  
4-5 crisp breads  
1 crumpet, whole meal  
½ cup cooked pasta  
½ cup of cooked noodles  
½ cup cooked rice  
¾ cup breakfast cereal  
2 WeetBix  
½ cup cooked porridge  
1/3 cup muesli.

### Vegetables

5 serves daily.

**1 serve =**

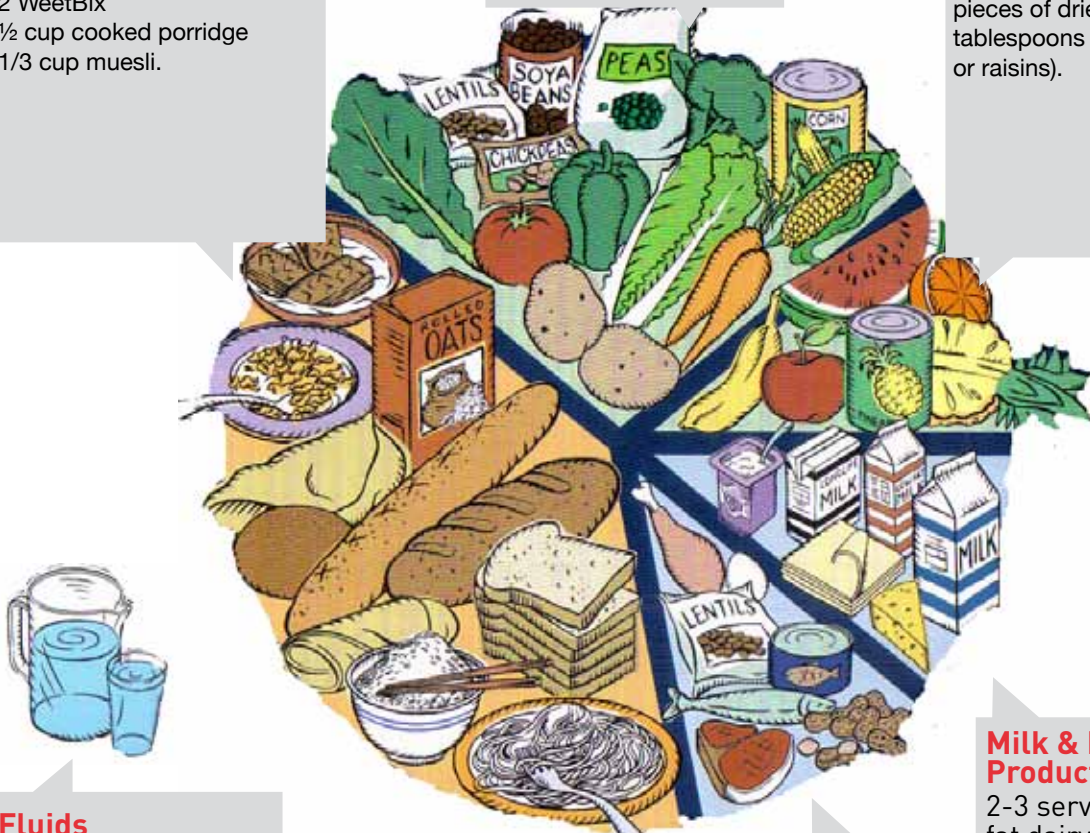
½ cup cooked vegetables or 1 small salad, or 1 bowl of vegetable soup. Try and include a wide range of coloured vegetables and dark green leafy vegetables (eg.cabbage, cauliflower, broccoli, spinach, carrots, peppers, and squash).

### Fruit

3 serves daily

**1 serve =**

1 piece medium sized fruit (apple, banana) or 2 pieces smaller fruit (apricots, plums, kiwi-fruit) or ¼ medium sized melon or 20 grapes or cherries or ½ cup of canned fruit or 1 cup berries or ½ cup of juice (once a day only) or 4 – 6 pieces of dried fruit (2 tablespoons of sultanas or raisins).



### Fluids

If you are **not** on a fluid restriction, it is important to have **at least** 6-8, 250 ml serves a day. EG water, tea, coffee, low joule drinks & jelly.

### Meat & Meat Alternatives

1-2 serves daily.

Include fish 2-3 times per week and lean red meat 3 times a week

**1 serve =**

65g – 100g cooked lean beef, lamb, poultry or fish, or ½ cup lean mince or 2 small or 1 large lamb chop, or 2 slices roast meat, or 2 eggs, or 2/3 cup cooked legumes e.g. Baked Beans, chick peas, lentils.

### Milk & Milk Products

2-3 serves of low fat dairy daily

**1 serve =**

1 glass milk (250 ml) or calcium fortified soy drink or 40g cheese or 2 cheese slices, or 200g low fat yoghurt (plain or fruit).

### Extras

0-1 serve daily only

**1 serve =**

1 medium piece of plain cake, or 1 small sweet bun or 5 lollies, or 2 sweet biscuits, or 1 packet (30g) of low salt chips, or 1 standard glass of alcohol, or 2 scoops of low fat ice cream or 1 heaped tablespoon of nuts.

# RETURNING TO ACTIVITY

When returning to your daily activities you need to remember that everyone is different and what may work for one person may not for another. This is due to difference with:

- ♥ severity of condition
- ♥ previous level of activity
- ♥ previous fitness level
- ♥ emotional state.

It is important that you listen to your body and identify what are your warning signs of over exertion:

- ♥ palpitations
- ♥ fatigue
- ♥ chest pain
- ♥ blurry vision
- ♥ sweating
- ♥ shortness of breath.

Once you are in tune with your body you will be able to start returning to activities without exhausting your body. When you use your energy wisely you can accomplish the tasks you have to do, and still have energy to do the activities that you like. The idea of saving energy and simplifying daily tasks is useful for anyone, particularly people with coronary heart disease.

When returning to normal activities it is important that you listen to your body. The table below guides you through returning to personal care, light domestic duties, some leisure activities, driving, sexual activity and work. When, you return to these activities will depend on the type of cardiac event that you have had.

Activity	Elective PCI (Stent)	Heart Attack with or with out STENT	CABGS, Valve Replacement or Other Cardiac Surgery
<b>Light domestic duties</b>	Commence gently	Commence slowly once mobile	Commence slowly once mobile
<b>Walking</b>	2 days after procedure	Commence slowly once mobile	Commence slowly once mobile
<b>Swimming</b>	1 week	3-4 weeks graded	Wounds must be healed (avoid breaststroke for 6 weeks)
<b>Golf</b>	1 week	4 weeks graded	Commence walking 4-6 weeks, putting/chipping only. No driving for 3 months
<b>Driving</b>	2 days	2 weeks advised by GP	4-6 weeks advised by GP
<b>Mowing Lawns</b>	1 week	4-6 weeks	10-12 weeks
<b>Sexual Activity</b>	No restriction	No restriction (see page on sexuality for more information)	6-8 weeks or as comfortable (see page 25 on sexual activity for more information)
<b>Work</b>	Sedentary 1 week Moderate 2 weeks	Sedentary 4 weeks Moderated 6 weeks Heavy 8-10 weeks	Sedentary 6-8 weeks Moderate 10-12 weeks Heavy 12-16 weeks
<b>Lifting</b>	No more than 2kg for 1st week. Avoid straining and squatting	Nor more then 2kg for 2 weeks then build up slowly.	No more than 5kg for 6 weeks post surgery, then build up slowly.



# SEXUAL ACTIVITY

The loss of confidence, or feelings of anxiety or depression may be experienced by some patients who have had a cardiac event such as a heart attack or cardiac surgery. This may affect many areas of life including sexual activity.

It can be normal for patients and their partners to be anxious about resuming sex, fearing it may bring on angina or a heart attack. However, sexual activity is normally not too strenuous and is suitable for most people. After a heart attack, increase sexual activity gradually and carefully as with all other exercise. The physical activity in most sexual intercourse is similar to walking up two flights of stairs. There are no restrictions on when to return to sexual intercourse after a heart attack.

After cardiac surgery extra caution is required until the breast bone heals. Therefore adopt a position that does not put weight on the arms or chest. It is recommended that you resume sexual activity approximately 6-8 weeks after cardiac surgery.

As you recover you can return to the same level of sexual activity as before your heart attack or surgery.

It is important to be aware of symptoms which would indicate that the heart is experiencing undue strain. These are:

- ♥ chest pain
- ♥ shortness of breath
- ♥ dizziness
- ♥ excessive tiredness.

**Should you experience any of these symptoms you should STOP immediately and rest!**

Anginine tablets may be used preventatively prior to sexual activity as you would use it prior to any other activity that causes angina. If you unexpectedly experience angina during or after sexual activity, stop and use anginine tablets as directed. If these symptoms persist with sexual activity discuss the situation with your doctor.

**Viagra** should be used with **caution** and only with approval from your doctor or cardiologist. If you experience Angina after using Viagra you should **STOP** immediately and rest – you **CANNOT** use your Anginine tablets or GTN spray due to the side effects that can occur with the combination of these drugs. If your pain continues for longer than ten (10) minutes call an ambulance and explain to the operator that you are experiencing pain and have recently taken Viagra.

# STRESS

Stress is a common cause of ill health in our society. Stress and tension have been linked to numerous conditions including heart disease, high blood pressure, irritable bowel syndrome, ulcers, anxiety disorders, sleep disturbances and substance abuse. Being under mild stress is a normal energising state which enables us to do the things we need to do and lets us function effectively. However, this level is different for each person, so it is important for you to understand how stress affects you personally.

## THE STRESS REACTION

The stress reaction results from an outpouring of adrenaline (a stimulant hormone) into the blood stream. As with other stress hormones, this produces a number of changes in the body, which are intended to be protective. These changes include increased heart rate and blood pressure, faster breathing, tensing of muscles, increased mental alertness and increased blood flow to the brain, heart and muscles, and less blood to the skin, digestive tract, kidneys and liver. In addition, there is an increase in blood sugar, fats and cholesterol and a rise in platelets and blood clotting factors. All of these changes are normal and not harmful to us in the short term.

## WHEN DOES STRESS BECOME A PROBLEM?

The changes of acute stress are no longer valuable when stress becomes chronic and the bodily changes begin to cause problems in themselves (such as chronic high blood pressure).

## WHAT ARE THE COMMON SYMPTOMS OF STRESS?

There are four main categories of symptoms of stress. They include:

**Physical:** fatigue, headache, sleeplessness, muscle aches/stiffness (especially neck, shoulders and the lower back), heart palpitations, chest pains, abdominal cramps, nausea, trembling, cold extremities, flushing or sweating and frequent colds.

**Mental:** decrease in concentration and memory, indecisiveness, mind racing or going blank, confusion, loss of sense of humour.

**Emotional:** anxiety, nervousness, depression, anger, frustration, worry, fear, irritability, impatience, short temper.

**Behavioural:** pacing, fidgeting, nervous habits (nail-biting, foot-tapping) changes in appetite, an increase in alcohol and smoking, crying, yelling.

# STRESS CONT.

## MANAGING STRESS

Effective stress management means finding your own manageable stress level, where the body and mind function best. This varies considerably with every person and also depends on the task or situation. The body has to have enough stress for motivation and stimulation, but not too much so that you develop signs of chronic stress.

We are all individuals, so it is important therefore to learn to recognise your own stress reaction symptoms and develop ways to reduce the impact on your mind and body.

This will help prevent stress becoming chronic and having a negative impact on your health.

### Quick stress busters

- ♥ have a positive attitude
- ♥ create balance between home, work, health and fun
- ♥ know what you can and can not control
- ♥ limit your worries
- ♥ practice relaxation, breathing techniques and/or massage
- ♥ make time to 'talk it out'
- ♥ laughter.

## GOAL SETTING

Following a cardiac event it is important to consider ways of preventing further events. It is useful to identify how individual risk factors contributed to the event and make appropriate changes.

Making any changes in your lifestyle can be extremely difficult and stressful. Setting some recovery goals can make this process easier.

One strategy is to set SMART goals. Setting SMART goals will help you form a new habit or change an existing one and make a positive change in your life. To avoid feeling overwhelmed you need to prioritise the changes that are important to you.

**S - small and specific**

**M - measurable**

**A - achievable**

**R - realistic**

**T - time framed**

This strategy is further explored in the cardiac rehabilitation program.

# CARDIAC REHABILITATION RESOURCES

## GENERAL HEART RESOURCES

### MonashHeart

- ♥ Phone 1300MHEART  
[www.monashheart.org.au](http://www.monashheart.org.au)

### Heart Foundation (Victoria branch)

- ♥ Heartline Phone:1300 36 27 87  
[www.heartfoundation.com.au](http://www.heartfoundation.com.au)

### Heart Support Australia

- ♥ Phone: 9874 4293 or 0417 396 136  
[www.heartnet.org.au](http://www.heartnet.org.au)

## RESOURCES FOR NUTRITION

### Dieticians Association of Australia

- ♥ Phone:1800 81 29 42  
[www.daa.asn.au](http://www.daa.asn.au)

### Cookbooks available from the National Heart Foundation

- ♥ **Cooking for a few**
- ♥ **Deliciously healthy cookbook**
- ♥ **Real food**  
[www.heartfoundation.com.au](http://www.heartfoundation.com.au)

### Other cookbooks

- ♥ **Simply Too Good to be True 1**  
ISBN 064634817-5
- ♥ **Simply Too Good to be True 2**  
ISBN 095771610-9
- ♥ **Simply Too Good to be True 3**  
ISBN 095771611-7
- ♥ **Simply Too Good to be True 4**  
ISBN 09571613-3
- ♥ **Simply Too Good to be True 5**  
ISBN 095771616-8
- ♥ **Low-Fat food for Life**  
ISBN 186396292-1
- ♥ **Slim – low fat eating for life**  
ISBN 186394403-7
- ♥ **The diabetic cookbook**  
ISBN 186396616-1

### Diabetes Australia

- ♥ Phone: 1300 136 588  
[www.diabetesaustralia.com.au](http://www.diabetesaustralia.com.au)

# CARDIAC REHABILITATION RESOURCES CONT.

## RESOURCES FOR LIFESTYLE CHANGE

### Beyond Blue

♥ [www.beyondblue.org.au](http://www.beyondblue.org.au)

### Lifeline

♥ Crisis telephone counselling (Depression)

Phone: 1300 13 11 14

### Quitline

♥ Telephone information and counselling service for people wanting to or currently quitting smoking

Phone: 131 848

[www.quit.org.au](http://www.quit.org.au)

### Care Ring

♥ Crisis telephone counselling

Phone: 13 61 69

### Direct line

♥ Telephone counselling for drug and alcohol related issues

Phone: 1800 888 236

### Gamblers Help

♥ Telephone counselling for gamblers or anyone affected by their behaviour

Phone: 1800 156 789

### Women's Information Referral Exchange

♥ Telephone support, information and referral service for women

Phone: 1300 134 130

### The Heart Mind Connection

♥ Windsor Ting and Gregory Fricchione

ISBN 007139026-X

## REFERENCE BOOKS

♥ **Heart Health at your Fingertips**

By Dr G Jackson and Dr A Goble

ISBN 007471092-3

♥ **Take Heart**

Jill Howard and Belinda Morieson with Andrea McCance

IBSN 1-85471-897-5

♥ **Strong Women Stay Young**

Miriam E Nelson with Sarah Wernick

IBSN 0-7344-0123-x

## RESOURCES FOR ACTIVITY

### Go For Your Life

- ♥ Online directory of activity options in your local areas  
[www.goforyourlife.vic.gov.au](http://www.goforyourlife.vic.gov.au)  
Info line: 1300 73 98 99

### City of Greater Dandenong

- ♥ Information on bike paths, facilities and clubs in our local area.  
[www.greaterdandenong.com](http://www.greaterdandenong.com)  
Phone: 9239 5100

### City of Casey

- ♥ Information on bike paths, facilities and clubs in our local area.  
[www.casey.vic.gov.au](http://www.casey.vic.gov.au)  
Phone: 9705 5200

### City of Cardinia

- ♥ Information on bike paths, facilities and clubs in our local area  
[www.cardinia.vic.gov.au](http://www.cardinia.vic.gov.au)  
Phone: 1300 787 624

### City of Monash

- ♥ Information on bike paths, facilities and clubs in our local area.  
[www.monash.vic.gov.au](http://www.monash.vic.gov.au)  
Phone: 9518 3555

### City of Kingston

- ♥ Information on bike paths, facilities and clubs in our local area.  
[www.kingston.vic.gov.au](http://www.kingston.vic.gov.au)

### Heart Foundation Walking Groups

- ♥ Phone: 1300 362 787  
[www.heartfoundation.com.au](http://www.heartfoundation.com.au)
- ♥ Walk off Weight  
By Andrew Cate  
ISBN 9780733320460

# AKNOWLEDGEMENTS

- ♥ Best Practice Guide lines for Cardiac Rehabilitation and Secondary Prevention  
Alan J Goble, MD, FRCP, FRACP and Marian UC Worcester, PhD, MA
  
- ♥ Reducing Risk in Heart Disease 2007, The Heart Foundation.
  
- ♥ Recommended Framework for Cardiac Rehabilitation 2004, The Heart Foundation
  
- ♥ MonashHeart
  
- ♥ Guide to a Healthy Heart Compiled by Cardiac Rehabilitation Coordinators 2005  
Monash Medical Centre, Clayton
  
- ♥ Cardiac Rehabilitation Information Booklet  
Box Hill Hospital, Box Hill
  
- ♥ Illustrations in this booklet are supplied by the:
  - Texas Heart Institute <http://www.texasheartinstitute.org>
  - National Heart Lung and Blood Institute (USA) <http://www.nhlbi.nih.gov>



OUR VALUES: integrity, compassion,  
accountability, respect, excellence

[www.southernhealth.org.au](http://www.southernhealth.org.au)