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A consumer's guide

Angioplasty and bypass surgery

July 1996

National Health and Medical Research Council

NHMRC

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The strategic intent of the NHMRC is to work with others for the health of all Australians, by promoting informed debate on ethics and policy, providing knowledge based advice, fostering a high quality and internationally recognised research base, and applying research rigour to health issues.

National Health and Medical Research Council documents are prepared by panels of experts drawn from appropriate Australian academic, professional, community and government organisations. NHMRC is grateful to these people for the excellent work they do on its behalf. This work is usually performed on an honorary basis and in addition to their usual work commitments.

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Foreword

In recognition of the need for procedures which ensure effective clinical practices, and thereby improve health outcomes, the National Health and Medical Research Council has embarked on a national program to develop clinical practice guidelines. The objective of the guidelines is not only to assist practitioners to make decisions about appropriate health care for specific clinical circumstances, but also to assist consumers by providing them with comprehensive information about choices available in their treatment.

One of the basic premises of the guideline development process is that they should be based on the best available evidence. The adoption of a multidisciplinary approach which involves all stakeholders is a further key principle.

The procedural and surgical management of coronary heart disease was chosen as one of the first areas for guideline development. This is an appropriate choice, given the prevalence of coronary heart disease in the population, and the growing use of treatments such as bypass surgery and coronary angioplasty. I am confident that these guidelines will help to define more clearly the role of these interventions in the management of coronary heart disease, and will make a contribution to the improvement of both health outcomes and quality of care for people with the disease.

Richard Smallwood

Chairman, National Health and Medical Research Council

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Introduction

A consumer's guide – Angioplasty and bypass surgery is for people who have coronary heart disease and their families. Its purpose is to help people to become involved in making decisions about their treatment by giving information about two types of treatment for the disease. These treatments are **angioplasty** (percutaneous transluminal coronary angioplasty, or PTCA) and **bypass surgery** (coronary artery bypass grafting, or CABG).

This booklet aims to explain the part that bypass surgery and angioplasty play in the treatment of coronary heart disease, their likely benefits and possible risks, and how well they work in the short-term and the long-term. This information may help you when you discuss your treatment with your doctor. The booklet does not describe the treatments themselves in detail as there are many booklets and videos available in hospitals which do this. It aims to complement these materials and the information given to you by your doctor and other health carers.

A consumer's guide – Angioplasty and bypass surgery was written by the National Health and Medical Research Council (NHMRC) through its Standing Committee on Quality of Care and Health Outcomes (QCHOC).

The NHMRC is an independent body which advises the Australian public and federal and state governments on standards of individual and public health, and which supports research and projects to improve those standards.

A consumer's guide – Angioplasty and bypass surgery is part of the NHMRC's national program to improve the quality of health care and outcomes for people treated within the health system, through the development of evidence-based guidelines for doctors and other health professionals.

The NHMRC chose the treatment of coronary heart disease as one of the first topics for its national program because of the widespread and growing use of both bypass surgery and angioplasty, and the need to more clearly define their roles in treating coronary heart disease.

QCHOC established a working party with representatives from cardiology (heart medicine), heart surgery, health statistics, nursing, health economics, general practice and the consumer movement. The full list of representatives and the terms of reference of the working party are in Appendix 1.

The NHMRC wrote a fuller book, *Clinical practice guidelines for the procedural and surgical management of coronary heart disease*, which has been distributed to those involved in the management of people with coronary heart disease. *A consumer's guide – Angioplasty and bypass surgery* is a modified version of that book.

Both books are based on evidence that was current in mid-1995 for the best management of coronary heart disease, and aim to help doctors and patients with decisions about treatment. They are not intended to be 'rules' for treatment, but to be used along with clinical information and individual patient's needs and wishes. They will need regular updating, as this area changes rapidly.

If you would like more information than is contained in this booklet, or would like to check the references from which this information is drawn, you can get a copy of the full guidelines by contacting:

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1. A picture of coronary heart disease

What is coronary heart disease?

Coronary heart disease (also known as ischaemic heart disease) is a disease of the coronary arteries, which are the blood vessels supplying the heart with the blood and oxygen it needs to keep pumping. The underlying cause of coronary heart disease is *atherosclerosis*. This is a build up of fatty deposits in the inner lining of the coronary arteries. The build up can reduce and even block the flow of blood through these arteries, and decrease the amount of blood which reaches the heart muscle.

Narrowing of the arteries usually begins in adolescence and continues slowly over the years. It is often quite developed by middle-age.

How common is coronary heart disease?

Coronary heart disease is much less common in all age groups than it was 30 years ago. However, each year there are more than 20,000 heart attacks among people aged less than 65 years, and many more have other forms of coronary heart disease such as angina (chest pain that comes from the heart).

Coronary heart disease can occur at any age, but becomes more common as people get older. It is also more common among men than women in all but the oldest age groups.

Are there different forms of coronary heart disease?

Yes. The form of coronary heart disease depends on the amount of blockage in the coronary arteries. The three most common forms of coronary heart disease are:

- stable angina;
- unstable angina; and
- heart attack (myocardial infarction).

Angina

Angina is caused by a lack of oxygen in the heart muscle. It may occur when the heart has to work harder than usual. The symptoms (signs) of angina include pain or discomfort in the chest, arms, back, neck or jaw. This pain can be a tightness, severe crushing sensation, or even numbness in these areas.

In *stable angina*, the pain usually occurs during exertion or at times of upset or excitement. It tends to go away within a few minutes of resting.

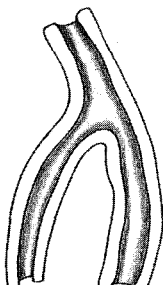
In *unstable angina* the pain is less predictable. It can come at any time, may become progressively severe so that it occurs at rest and may not go away so quickly. Unstable angina is more dangerous than stable angina because the risk of a heart attack is greater.

An episode of angina does not cause permanent damage to the heart.

Heart attack

In a heart attack (also called *myocardial infarction*), a narrowed coronary artery suddenly becomes blocked completely by a blood clot formed at a narrow point. This stops blood from reaching the part of the heart supplied by that artery. If the blood flow is not restored quickly, that part of the heart muscle begins to die. In most cases the chest pain of a heart attack does not disappear with rest or medication such as anginine tablets or spray, and needs to be treated as an emergency. The person should be taken straight to the nearest hospital in the quickest possible way – by ambulance if immediately available.

Diagram of a coronary artery



Normal artery



Formation of blockage



Blocked artery with clot

Source: National Heart Foundation

What causes coronary heart disease?

The exact cause is not known, but we do know about some things that increase the risk of coronary heart disease – the coronary ‘risk factors’. Some, such as a family history of heart disease, or diabetes, cannot be reduced or avoided. However, others can be prevented or treated. The three major risk factors for coronary heart disease are high blood cholesterol, high blood pressure and cigarette smoking. Two others are overweight and lack of exercise. Changing lifestyle to reduce these risk factors is even more important in people who have coronary heart disease (see page 25).

It is thought that changes in lifestyle and improvements in medical treatment have both contributed to the continuing fall in coronary heart disease death rates.

2. Tests for coronary heart disease

The degree to which coronary heart disease affects your life depends on how severe it is. All forms of coronary heart disease need to be assessed to determine the best treatment. Many people can reduce angina by modifying their lifestyles and by taking drugs as directed. However if pain is restricting your activities too much, becomes more severe and unpredictable, or you have had a heart attack, your doctor needs to assess how severe the blockages are and where they are. Then you can discuss the types of treatment available and which is right for you.

Two common tests

A number of different tests are used to assess how badly the coronary arteries are blocked. The most common tests are the **exercise stress test** and **cardiac catheterisation** (coronary angiography).

Exercise stress test

In this test you walk on a treadmill or ride on a stationary bicycle while the doctor observes you and uses an ECG (electrocardiogram) to measure the heart's electrical pattern. The test may include an injection of a substance that allows images of the blood flow through the heart to be taken. If you have coronary heart disease, you will probably develop your pain during the test. When this happens, the doctor will stop

the test. In an exercise test, there is a very small risk of an abnormal heart rhythm or heart attack developing.

Cardiac catheterisation

Cardiac catheterisation is a more involved test which gives information about where and how severe the blockages are. A thin tube (called a catheter) is put into an artery, usually in the groin but sometimes in the arm, and threaded up to the heart. A special dye is injected through the catheter. Using an x-ray (angiogram), the doctor can see the coronary arteries. The test generally takes less than 30 minutes, is not particularly painful, and has a very small risk of complications.

What do these tests show?

A stress test can show whether blockages in the coronary arteries are reducing the blood flow to the heart. The angiogram from the cardiac catheterisation shows how many blockages there are, where they are and their severity. If you are told you have one, two or three-vessel disease, it means that one, two or three of the major coronary vessels have a significant blockage.

By knowing the results of these tests, your medical history and type of chest pain, you and your doctor can discuss how serious your condition is and which treatments are available.

3. Treatment options

Aims of treatment

Treatment aims to restore normal blood flow through the coronary arteries to the heart or to rest the heart so that it needs less blood flow. Treatment should reduce symptoms such as chest pain and improve quality of life. There is no cure for coronary heart disease, and many people will need more than one treatment. However, treatments continue to develop and the outlook for people with the disease is improving all the time.

The treatment best for you will depend on the results of your tests, whether you are having chest pain or discomfort, and your preferences. Generally there are three options: medication, angioplasty and bypass surgery.

Medication

Most people with coronary heart disease are given one or more drugs to control symptoms or treat the disease. Some people have drugs alone, while others have drugs and another treatment such as angioplasty or bypass surgery. The following table lists the main drugs used for coronary heart disease, their aims and possible side effects.

Drug	Aim	Possible side effects
Aspirin	Helps to prevent blood clots which can block the coronary arteries and cause a heart attack.	Internal bleeding
Nitrates (eg Imdur, Transiderm nitro)	Open blood vessels, increase blood flow to the heart and take the load off the heart. Used to relieve the pain of angina; also lower blood pressure.	Headaches
Diuretics (eg Lasix, Chlotride, Moduretic)	Stimulate the kidneys to expel excess fluid from tissues; lower blood pressure.	Excessive fluid loss
Beta-blockers (eg Tenormin, Noten, Betaloc)	Decrease the amount of oxygen the heart needs and the amount of work it has to do; lower blood pressure.	Tiredness, worsening of asthma
ACE inhibitors (eg Capoten, Renitec)	Make it easier for the heart to pump; lower blood pressure.	Coughing
Calcium channel antagonists (eg Cardizem, Isoptin, Norvasc)	Increase blood flow to the heart; lower blood pressure.	Flushing, palpitations

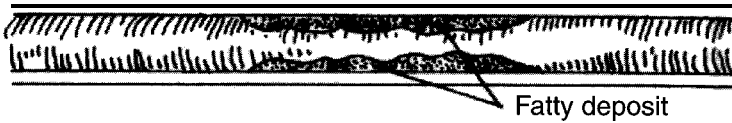
Thrombolytic drugs (eg Streptase, Actilyse)	Used early during a heart attack to dissolve blood clots.	Internal bleeding
Cholesterol-lowering drugs (eg Zocor, Lipex, Pravactol)	Used to lower cholesterol levels and stabilise narrowings in the coronary arteries.	Muscle pains

Medication Angioplasty

Since 1980 many thousands of Australians have had angioplasty. It has become one of the main treatments for coronary heart disease. Angioplasty is used to improve blood flow to the heart by opening up blockages in the coronary arteries with a special balloon.

Angioplasty is done during cardiac catheterisation (see page 5). The tube that is threaded up an artery to the heart via the groin or arm has a very small balloon near its tip. When the tip of this tube reaches the narrowing in the coronary artery, the balloon is inflated to expand the artery and allow the blood to flow more easily. The procedure takes one to two hours and usually requires a hospital stay of one to three days. Most people are able to go back to normal, moderate activities as soon as they go home, and can return to work within a week or so.

A narrowed or partially blocked coronary artery



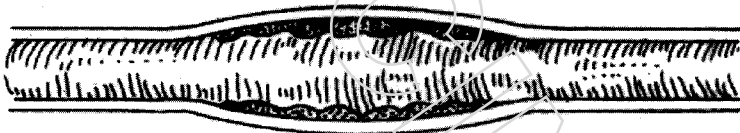
A coronary balloon dilation catheter with balloon deflated



A coronary balloon dilation catheter with balloon inflated



A coronary artery after successful angioplasty



Source: National Heart Foundation

What is angioplasty used to treat?

Angioplasty is most commonly used to treat stable or unstable angina. Most people who are treated with angioplasty have a partial blockage in one coronary artery. However with continuing improvements in technique and practice, angioplasty can now be used instead of drugs in people with mild angina, and instead of bypass surgery in people with blockages in more than one coronary artery. It also has an increasing role as an alternative to thrombolytic (clot-dissolving) drugs early in heart attack in a range of people including those who cannot be given these drugs.

What are the likely benefits?

In about nine patients out of ten the blockages in coronary arteries are successfully cleared during angioplasty. For people who have had successful angioplasty, benefits may include the relief of chest pain, a return to previous levels of activity, less need for drugs, and feeling less anxious about their health. A successful angioplasty can avoid or delay the need for bypass surgery.

What are the possible risks?

Complications during angioplasty are uncommon but need to be considered when you are thinking about your preferences for treatment. In a small number of people the artery may be damaged or may close completely during the procedure. This results in the need for emergency bypass surgery in about two patients in every 100, a heart attack in about one patient in 100 and death in hospital in about four patients in 1000. Because of the risk of complications, angioplasty ideally should be performed where there are facilities for bypass surgery nearby. You should ask your doctor about the risk of complications in your particular case, and whether you should stop taking your medication before the procedure.

Will the artery get blocked again?

In up to one in three people the narrowing in the coronary artery returns within six months of the procedure. If this happens, another angioplasty or bypass surgery will often be recommended. Reblocking of the arteries (called *restenosis*) may not be such a problem in the future because of new angioplasty techniques such as inserting *stents*. A stent is a metal device which is put into the coronary artery after the

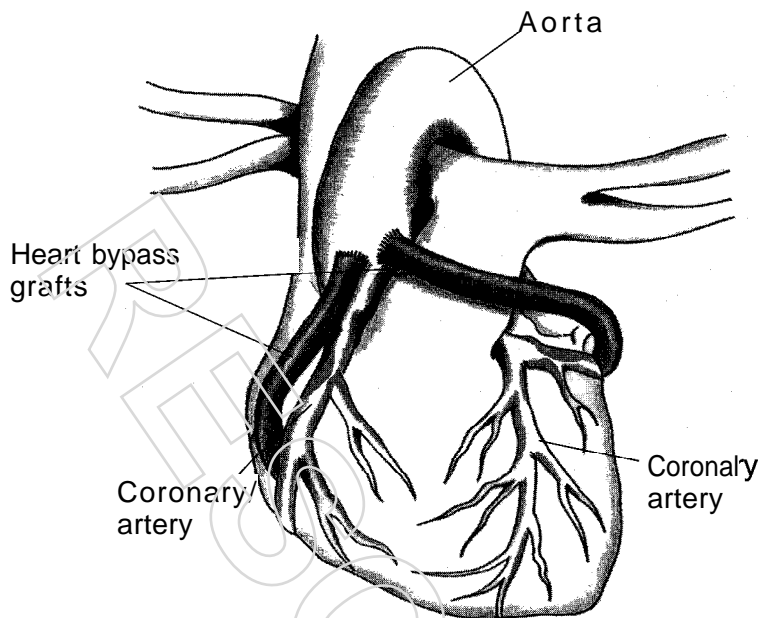
balloon has been inflated. It helps to keep the artery open and may prevent the blockage from returning.

Bypass surgery

Bypass surgery has been performed in Australia since 1969. About 13 000 bypass graft operations were carried out in 1993, and this number continues to rise each year.

During the operation, a piece of an artery is taken from the chest and/or a vein is taken from the leg. These are used to bypass the section of the coronary artery which is most blocked. One end of the graft is sewn onto the main artery leading from the heart (the aorta), and the other end is sewn onto the coronary artery beyond the blocked section. This restores the blood flow to all parts of the heart muscle.

Bypass surgery takes several hours under a general anaesthetic. It involves a short stay in an Intensive Care Unit (about 24 hours) and a stay in hospital of about a week. It takes a minimum of one to two months to recover fully from the operation.



Source: National Heart Foundation

You may also hear bypass surgery called CAGS, CABGS (pronounced cabbages), grafts, or a graft operation.

What is bypass surgery used to treat?

Bypass surgery is most commonly used to treat patients with more severe coronary heart disease, such as those with blockages in three coronary arteries, or blockages in the left main coronary artery. It is used to treat angina which has not improved with drugs, especially in people with severe blockages.

Where will the graft come from?

In most operations several grafts are attached. At the present time, in about nine out of every ten bypass operations at least one vein from the leg is used, and in about three-quarters of all bypass operations at least one artery from the chest is used. Arteries from the chest (called internal mammary arteries) are being used more and more, because they have been shown to remain unblocked longer than grafts made from veins taken from the leg (saphenous vein grafts). Sometimes other arteries or veins are used, for example an artery from the wrist area or a vein from the arm.

What are the likely benefits?

As with angioplasty, the improvement in blood flow to the heart should increase quality of life by relieving chest pain, reducing the need for medication, allowing greater levels of activity and reducing anxiety. There is a comparison of the benefits of angioplasty and bypass surgery on page 13.

The benefits of bypass surgery usually last a long time. Most people have no return of symptoms or other problems for at least five years.

In research studies, bypass surgery has been shown to improve survival in people with severe coronary heart disease. At five years after the operation, nine out of 10 people treated with bypass surgery were still alive compared with eight out of ten treated with medication alone. Depending on age and type of occupation, up to eight in every ten people who are not working at the time of their operation are back at work one year later.

After about five years, some people develop blockages in parts of the coronary arteries which have not been bypassed, or in the grafts themselves, and the risk of return of angina and of heart attack increases. These people may need an angioplasty or another bypass operation.

What are the possible risks?

Although bypass surgery is a major operation, complications are relatively few. Some possible risks are bleeding, wound infection, blood clots, stroke, failure of other organs such as the kidney, liver or lung, heart attack and death. Death within a month of the operation occurs in about two patients in 100 and heart attack after the operation also in about two patients in 100. In young patients, stroke occurs in less than five patients in 1000, but the risk increases with age. About eight patients in every 100 aged over 80 suffer a stroke during or after a bypass operation. All these risks depend on the particular situation, but in general they increase with age and with repeat bypass surgery. You should ask your doctor about the risk of complications in your particular case, and whether you should stop taking your medication before the operation.

Angioplasty or bypass surgery? What research has shown

Many people with coronary heart disease have medical treatment alone. In people who have angina that does not improve with drugs, the choice of angioplasty or bypass surgery can be clear. However, there are groups of people in whom either treatment would restore adequate blood flow to the heart.

Bypass surgery has been shown to relieve symptoms in people with all degrees of angina. It prolongs life in people with three-vessel disease or blockages in the left main artery. The more serious the disease, the greater the likelihood that bypass surgery will be the more effective treatment.

Angioplasty is effective in relieving angina and improving ability to exercise in people with stable angina who have partial blockages in one coronary artery. There is less evidence about how effective angioplasty is in the long-term compared with the other treatments, but research so far suggests that angioplasty gives greater relief from angina and a better capacity for exercise than medical treatment in people with stable angina, but it may cause more complications.

In people whose blockages are suitable for angioplasty, it seems to restore blood flow to the heart and lower the risk of death and heart attack as effectively as bypass surgery. The evidence shows that after angioplasty the risk of reblocking is higher and angina comes back more often so that significantly more angioplasty patients than bypass surgery patients need another angioplasty or bypass operation within a year. With standard balloon angioplasty up to one in three people need a repeat procedure within 12 months. However, recent research suggests that when stents are used reblocking of the arteries within six months occurs in fewer than one in 10 patients. The long-term effectiveness of stents is still being studied, but results so far look very promising, and the use of stents seems likely to reduce the need for further treatment.

The following table summarises the latest evidence and makes comments about the use of bypass surgery or angioplasty to treat different types of coronary heart disease. However, it is only a guide because each person's situation is different.

RECOMMENDED

Condition	Angioplasty	Bypass surgery
Widespread coronary artery narrowings	Usually only considered in certain patients such as those who cannot have bypass surgery.	Often improves survival, relieves angina and improves capacity for exercise better than tablets.
Unstable angina	Used when symptoms do not improve with drugs alone. Relieves angina. There is a higher risk of complications than in patients with stable angina.	Used when symptoms do not improve with drugs alone, and is sometimes more appropriate than angioplasty. Can improve survival and relieve angina.
Stable angina	Used in people who seek greater relief of symptoms or exercise capacity than they are able to get with medical treatment. Relieves angina earlier and more completely than drugs.	Used in people who seek greater relief of symptoms or exercise capacity than they are able to get with medical treatment. Relieves angina and improves exercise capacity; greatest benefit in people with more severe disease. The early risks are greater than with angioplasty, but the relief of angina is greater and further procedures needed less often.

Heart attack	Used as an alternative to drugs which dissolve blood clots. In certain groups of patients, it seems that angioplasty can better restore blood flow, with a reduced risk of death, further heart attack, stroke or angina in hospital.	Used rarely in the initial phase of a heart attack, usually when the heart's pumping is abnormal because of a problem which can usually be corrected by an operation.
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What does this mean for you?

As discussed in the comparison above, angioplasty and bypass surgery both restore the blood flow to heart muscle and you may have a choice between the two treatments.

When discussing your options with your doctor the following information might be useful.

Angioplasty

- angioplasty is a minor procedure, involving a short stay in hospital and reasonably rapid return to normal activities;
- in many patients angioplasty can delay or eliminate the need for bypass surgery;
- in a small number of people angioplasty does not work or causes complications, and emergency bypass surgery may be required; and
- if you have balloon angioplasty there is a one in three chance that your coronary arteries will become blocked again in the same place within a year and you will probably need another angioplasty or bypass surgery.

When stents are used, the chance of needing more treatment in the first year may be more like one in 10.

Bypass surgery

- is a major procedure requiring a longer hospital stay and much longer recuperation before return to normal activities and work;
- results in less need for another procedure in the first year after treatment than standard balloon angioplasty and is likely to provide greater relief of symptoms for a longer time; and
- after about five years some people develop blockages in other parts of the coronary arteries and may need an angioplasty or another bypass.

Getting the information you need

Broad guidelines can be developed for doctors on the best use of these treatments but individual treatment depends on many factors. You should make the actual decision, based on the doctor's recommendations, your understanding of the risks and benefits of the particular treatment and your own preferences.

In an emergency such as a heart attack, medical staff may not have time to explain fully what is happening to you and why. However, if you do have a choice of treatment, your doctor should give you the information you need to make a decision. If not, you can ask for it. If you have been told you have coronary heart disease and may need surgery, you will probably feel upset and fearful and you may not be able to

absorb all the information you need during one visit to your doctor. Here are some ways your doctor can help you:

- repeat important information during different visits;
- encourage you to give relevant details about your health and lifestyle;
- tell you all about the risks as well as the benefits of each treatment;
- encourage you to bring a family member or friend to consultations to help you understand what is happening and to ask questions you may not have thought of;
- use a model of the heart to help explain exactly what your condition is and what either treatment would aim to achieve in your particular case;
- in non-emergency situations give you enough time to consider your options before you consent to a particular treatment; and
- let you know where you can get more information.

Talking with the doctors, nurses and other healthcare professionals is an important part of your overall care.

Asking questions will help them to know what is important to you. In Appendix 2 there is a list of questions which you can use as a starting point.

What information do you need once the decision is made?

When you and your doctor have decided on the best treatment, you may want to know more about what will happen before, during and after the operation or angioplasty.

To complement the information your doctor gives you, you should be given booklets about angioplasty or bypass surgery. You may be able to visit the hospital where the procedure or operation will take place. At some hospitals you can watch a video which explains the procedures more fully. These resources may be produced by the hospital, National Heart Foundation, a heart support group or companies which manufacture the equipment used.

4. Living with coronary heart disease

Although both angioplasty and bypass surgery are effective in treating coronary heart disease, they are not cures. A number of things can be done to assist a successful recovery and to help limit further blockages from building up in the coronary arteries.

Recovery and rehabilitation

While you are still in hospital you will be encouraged to move around as soon as you feel able. Your doctor, nurses and others caring for you will talk to you about your recovery after a heart attack or after these procedures, and about how quickly you can get back into normal routines. Always remember to take drugs as directed and to keep follow-up appointments with your doctor.

After angioplasty or bypass surgery you may be referred to a heart rehabilitation program. These are usually run by the hospital or a community health centre, and last for about six weeks. In these programs a team of nurses, dietitians, physiotherapists, occupational therapists and social workers helps you to recover, exercise safely and learn how to live with coronary heart disease. During this time you can decide on ways in which you can change your lifestyle to reduce your risk of further problems.

You should take advantage of such a program if it is available to you. Heart rehabilitation programs help people recover better physically and psychologically, improve quality of life and lower the risk of more heart problems. The World Health Organisation and National Heart Foundation have both recommended that rehabilitation programs be available to all people after heart attack, bypass surgery and angioplasty.

Recovering from angioplasty

After angioplasty, most people will be able to resume normal, moderate activities when they leave hospital, and go back to work in about a week or so.

Recovering from bypass surgery

Bypass surgery is a major event in your life, and after the operation you will have to take things slowly for a while. For about the first two weeks, you will need a lot of help and support from family and friends. There may be some early swelling in your leg if a vein was removed, and your muscles may feel weak from under use during your time in hospital. Walking is the best exercise at this stage. Build up your exercise levels slowly, and try to get back into normal routines as soon as you feel able. You can probably resume activities such as sex, light exercise and driving within four weeks. Within about six to eight weeks of the operation you will probably be back at work.

Some other common, temporary problems early on are short-term memory loss and feeling tired, depressed and anxious. You should discuss with your family, friends, doctor and other health carers how you feel emotionally as well as

physically. Finding out as much as you can about your condition and how best to manage it can help you to feel more in control. As well, talking to someone who has had a similar operation can help you to realise that you can recover fully and feel much better than before the surgery, but it will take time. Joining a support group may help. Organisations such as Heart Support Australia (previously Australian Cardiacs Association) and Heartbeat have been set up by people who have coronary heart disease to help others with the disease (see Appendix 4).

How to help prevent more blocked arteries

Some people are more likely to develop blocked arteries than others. Many factors are involved. If the blockages do cause problems again, angioplasty and bypass surgery may be repeated. However, people with coronary heart disease can lower the risk of heart attack or the need for another angioplasty or bypass operation by modifying risk factors. As the risks increase with each repeat treatment, especially for bypass surgery, try to make your first operation your last by changing your lifestyle.

The best way to prevent more blockages from developing is to stop smoking, control blood pressure if it is high, eat a lower-fat diet, increase physical activity and keep to a healthy weight. Changing your lifestyle will benefit your heart within a few years. To keep the benefit you need to maintain the changes for life.

Your doctor will probably recommend that you take aspirin every day. Aspirin can prevent complications immediately

after angioplasty and bypass surgery, and significantly lower the risk of heart attack, stroke and death when taken long-term.

Who can help in the future?

As well as your own health care providers, community organisations can help people with coronary heart disease. The National Heart Foundation has information and programs about coronary heart disease and how to change your lifestyle. As mentioned above, there are also heart support groups in each State and Territory. Appendix 4 lists the addresses and phone numbers of a number of community organisations.

Appendix 1

Working party terms of reference and membership

Terms of reference

Undertake the development and implementation of clinical practice guidelines for the procedural and surgical management of coronary heart disease, following the procedures recommended by the Quality of Care and Health Outcomes Committee's draft first edition of *Guidelines for the Development and Implementation of Clinical Practice Guidelines*.

Provide advice on this process to the Quality of Care and Health Outcomes Committee.

Membership

Emeritus Professor John Hickie	Chairman (until December 1994)
Dr Andrew Tonkin	Chairman (from April 1995)
Dr Louis Bernstein	
Mr Peter Brady	
Mr Bruce Davis	
Ms Jill Hardwick	
Dr Brian Heber	
Ms Belle Mangan	
Dr Craig Martin	
Dr David Roder	(until July 1995)
Dr Ian Steven	
Dr Peter Valentine	
Secretariat:	Ms Jayne Ross
	Ms Elizabeth Hall
	Mr Bruce Edwards
Consultant editor:	Ms Elizabeth Hall

Appendix 2

Asking questions about coronary heart disease

Most of the information in this booklet is general. When you want specific information about your condition and treatment options, it can be hard to know where to start and what questions to ask. Below is a list of questions that you can use as a guide or starting point.

General:

Why do I have coronary heart disease?

How severe is my condition?

How will the disease affect my life?

I feel very anxious about my future. Is this normal?

What are the risk of the tests I might need?

Treatments:

Am I a candidate for medical treatment, angioplasty or bypass surgery?

What should I do about my tablets before the operation?

What are the risks of the angioplasty or bypass operation?

What are my chances of dying or having other problems during an angioplasty or bypass operation?

Will I need a blood transfusion?

If I have a bypass, what veins or arteries would make the best grafts in my case?

If I have a bypass, will the removal of veins from my legs affect the circulation of blood there?

How long will the angioplasty or operation take?

How long will it take me to recover after an angioplasty or bypass operation?

How long will I be in hospital?

How much will the angioplasty or bypass operation cost me and how much will be covered by insurance?

The future:

Will the chest pain go away?

What are the side effects of the medicines I will be taking?

What are my chances of having a heart attack?

Will the blockages in my coronary arteries come back?

Will I need surgery or angioplasty again in the future?

Will I have to take medicine for the rest of my life?

Will I be able to go back to work? If so, when?

When can I resume normal activities, including sexual intercourse and, driving?

What can I do to stop the disease getting worse?

Appendix 3

Glossary

Angina pectoris: The full medical term for angina. When the coronary arteries are narrowed and the heart has to work harder than normal, the heart muscle may not get enough blood. This can lead to chest pain, also called angina. Angina usually goes away with rest or medication, and it does not damage the heart. *See also stable angina and unstable angina.*

Angioplasty: a procedure for coronary heart disease. It is used to improve blood flow to the heart by opening blockages in the coronary arteries with a special balloon

Arrhythmia: irregular rhythm of the heartbeat.

Atherosclerosis: build up of fatty deposits in the inner lining of the coronary arteries.

Bypass surgery: a surgical treatment for coronary heart disease. A blood vessel from another part of the body is grafted to the heart to bypass the section of the coronary artery which is most blocked. Also called coronary artery bypass grafting (CABG).

Cardiac catheterisation: a test which shows how many coronary arteries are blocked, which arteries are affected and how severe the blockages are. A thin tube (called a catheter) is put into an artery, usually in the groin but sometimes in the arm, and threaded up to the heart. A special dye is injected

through the catheter. Using an x-ray (angiogram), the doctor can see the coronary arteries. Also called coronary angiography.

Cardiopulmonary bypass: a technique in which a pump is used to maintain blood flow around the body during a heart operation.

Congestive heart failure: also called heart failure. Failure of the heart to pump properly and maintain circulation of the blood around the body.

Coronary heart disease (CHD): also called ischaemic heart disease. It is caused by blockages in the coronary arteries, which are the blood vessels which supply the heart with blood and oxygen. The main forms of CHD are angina and heart attack.

Coronary stenosis: the medical term for the narrowing caused by a blockage in a coronary artery.

ECG (electrocardiogram): a test which measures the heart's electrical beating pattern.

Exercise capacity: the extent to which a person can exercise without getting chest pain.

Exercise stress test: a test which shows whether the blockages in the coronary arteries are affecting the way the heart works.

Heart attack: caused when a blood clot suddenly blocks a narrowed coronary artery, stopping blood from reaching the part of the heart supplied by that artery. If blood flow is not restored quickly, that part of the heart muscle begins to die.

Internal mammary artery: an artery in the chest commonly used as a bypass graft during bypass surgery.

Left main disease: blockage in the left main coronary artery.

Left ventricular function: the function of the main pumping chamber of the heart that receives blood from the left atrium and pumps it out to the body.

Myocardial infarction (MI): the medical term for a heart attack. Also called acute myocardial infarction (AMI).

Myocardium: the muscular wall of the heart.

Multivessel disease: where two or more coronary arteries have blockages.

Percutaneous transluminal coronary angioplasty (PTCA): the medical term for angioplasty.

Restenosis: the recurrence of blockages in coronary arteries.

Revascularisation: improving blood flow to the heart by bypassing or removing blockages in coronary arteries, as occurs when CABG or angioplasty is performed.

Saphenous vein: a blood vessel from the leg which is the most commonly used bypass graft during bypass surgery.

Severe coronary heart disease: blockages in three coronary arteries, or blockages in the left main coronary artery or left anterior descending artery.

Single vessel disease: where one coronary artery has a blockage.

Stable angina: occurs when the heart is working harder than usual, and the pain goes away within a few minutes of resting.

Stent: a metal device which can be put into the coronary artery after the angioplasty balloon has been inflated. It helps to keep the artery open and may prevent the blockage from returning.

Thrombolytic therapy: treatment with drugs that can break up blood clots and restore blood flow to the heart during a heart attack.

Unstable angina: angina is called unstable when chest pain occurs at rest, is more frequent or lasts longer.

Appendix 4

Support organisations

National Heart Foundation

New South Wales

343-349 Riley Street
Surry Hills NSW 2010
Phone: (02) 2115188

Tasmania

86 Hampden Road
Battery Point
Hobart TAS 7000
Phone: (002) 34 5330

Queensland

557 Gregory Terrace
Fortitude Valley QLD 4006
Phone: (07) 854 1696

Victoria

411 Ring Street
West Melbourne VIC 3003
Phone: (03) 9329 8511

South Australia

155-159 Hutt Street
Adelaide SA 5000
Phone: (08) 223 3144

Western Australia

334 Rokeby Road
Subiaco WA 6008
Phone: (09) 388 3343

ACT

1st Floor
64 Colbee Court
Phillip ACT 2606
Phone: (06) 282 5744

Northern Territory

3/6 Lindsay Street
Darwin NT 0800
Phone: (089) 81 1966

National Office

PO Box 2
Woden ACT 2606
Phone: (06) 282 2144

**Heart Support Australia (formerly
Australian Cardiacs Association)**

Has branches in each State and Territory. For more information contact the national office.

National Office
GPO Box 2650
Canberra
ACT 2601
Phone: (06) 285 2357

Heartbeat

Has branches in Victoria, South Australia and Tasmania.

Heartbeat Victoria

32 Vincent Street
Oak Park Vic 3046
Phone: (03) 9306 0741

Heartbeat Incorporated

PO Box 25
Elizabeth SA 5112
Phone: (08) 287 0237

Heartbeat Tasmania

1 Nubeena Street
Geilston Bay TAS 7015
Phone: (002) 437 298

RESCINDED

The National Health and Medical Research Council

The National Health and Medical Research Council (NHMRC) is a statutory authority within the portfolio of the Commonwealth Minister for Human Services and Health, established by the *National Health and Medical Research Council Act 1992*. The NHMRC advises the Australian community and Commonwealth, State and Territory Governments on standards of individual and public health, and supports research to improve those standards.

The NHMRC advises the Commonwealth Government on the funding of medical and public health research and training in Australia and supports many of the medical advances made by Australians.

The Council comprises nominees of Commonwealth, State and Territory health authorities, professional and scientific colleges and associations, unions, universities, business, consumer groups, welfare organisations, conservation groups and the Aboriginal and Torres Strait Islander Commission.

The Council meets twice a year to consider and make decisions on reports prepared by committees and working parties following wide consultation on the issue under consideration.

A regular publishing program ensures that Council's recommendations are widely available to governments, the community, scientific, industrial and educational groups.

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