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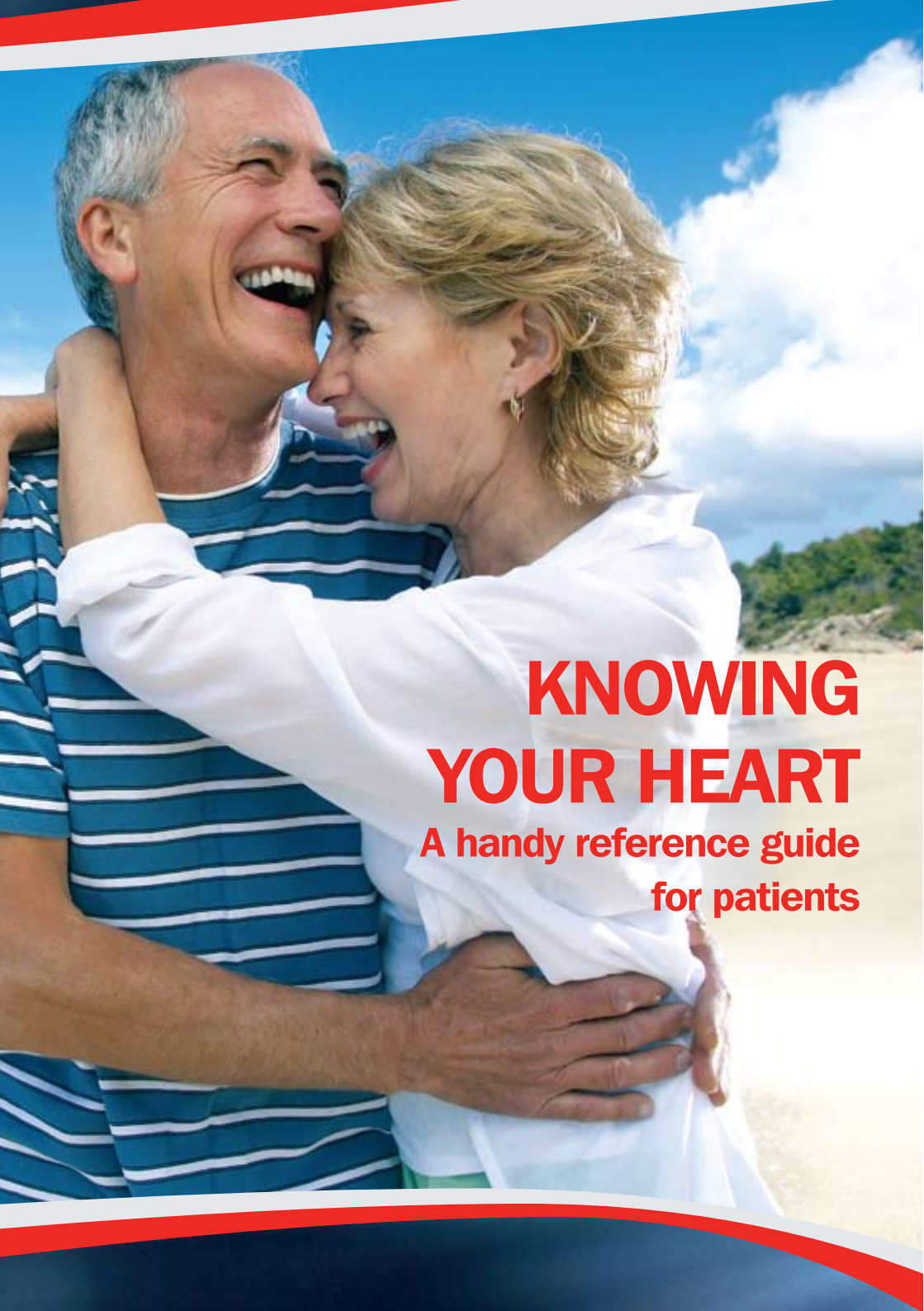

KNOWING YOUR HEART

A handy reference guide for patients

Deciphering the jargon

As you may already know, there are terms used in science and medicine that are not usually used in our day-to-day language.

A good example is the term ***cardiovascular (CV) disease***, which refers to a range of conditions that affect the heart (cardio) and blood vessels (vascular). Angina (chest pains), myocardial infarction (heart attack) hypertension (high blood pressure) and stroke are all examples of CV disease.

You have been given this booklet because your doctor has been speaking to you about your CV risk, as well as various aspects of CV disease. This booklet aims to explain some of the scientific terms your doctor may have already spoken to you about.

Keep in mind that this booklet is not meant to be an exhaustive guide of cardiovascular terminology.

If you require any further information, please speak to your doctor or healthcare professional.

COMMON TERMS YOU MIGHT HAVE HEARD

Heart attack	The heart needs a continuous supply of blood. When the arteries supplying blood to the heart are blocked, the heart muscles are starved of oxygen which can result in damage to the heart muscle and severe pain. This is known as a heart attack.[1] Symptoms may include pain in the chest (e.g. chest tightness, heaviness or intense pressure around the chest). This discomfort may also spread to the neck, throat, jaw, shoulders, back or arms. You may also have difficulty breathing and may feel like throwing up. Some people also break out in a cold sweat and may also feel light headed. A heart attack is a medical emergency. Call 000 if you think you, or someone you are with, is having a heart attack.
Angina	Angina is a similar pain to heart attack but less severe. Like a heart attack, it is caused by a lack of blood flow to the heart but is less severe and doesn't result in permanent damage.
Heart failure	Heart failure refers to the impairment of the ability of the heart to fill with or pump a sufficient amount of blood through the body. Blood may "pool" behind the heart and fluid may collect in the lungs and other body tissues (oedema) resulting in tiredness, shortness of breath and swelling in the legs or ankles. The most common causes of heart failure include heart disease, previous heart attack, high blood pressure, diabetes and cardiomyopathy (disease of the heart muscle).
Stroke	Stroke is the rapid loss of brain function due to a sudden disruption of blood supply to the brain. This can be due to: 1) ischaemia – blocked blood vessels; or 2) haemorrhage – bleeding in the brain. Stroke often occurs suddenly. If there is numbness or weakness of the face, arm or leg (especially on one side of the body) often accompanied by confusion and trouble speaking, you may be having a stroke.

Stroke (cont.)	People who have had a stroke may also have trouble seeing (with one or both eyes) and have trouble with balance and coordination. Stroke is a medical emergency and can cause permanent brain damage, complications and death if not quickly diagnosed and treated. If you, or someone you know, has one or more of the above symptoms, call 000 for immediate medical assistance.
Transient Ischaemic Attack (TIA)	TIA is sometimes referred to as a “mini stroke”, and is caused by a temporary cut in blood supply to the brain, due to the partial blockage of an artery. A TIA has similar symptoms to a stroke, but they are temporary and do not usually cause long-term brain damage. TIA is a warning that a future stroke may be about to happen. Urgent consultation with your doctor may help you reduce the chances of having a major stroke.
Deep Vein Thrombosis (DVT)	DVT describes the condition when blood clots in the deep veins of the body, like the leg. The clot may block a blood vessel and can cause potentially serious health effects. DVT can also occur when sitting for long periods of time in cramped spaces. This condition has been highlighted recently with airline travel and is often referred to in airline videos.
Peripheral Vascular Disease (PVD)	PVD refers to diseases of blood vessels outside the heart and brain. It’s often a narrowing of vessels that carry blood to the legs, arms, stomach or kidneys due to fatty deposit build up in the inner walls and can affect blood circulation. The most common symptoms include: pain, cramps or weakness in the leg; sores, wounds or ulcers that heal slowly or not at all; and changes in the colouration (blue) or temperature (cold) of the legs. Other symptoms may include toe nail problems or diminished hair on the legs or toes.

WHAT ARE THE RISKS?

The two main “expressions” healthcare professionals use to explain your risk of developing a disease or condition are **absolute risk** and **relative risk**.

Absolute risk refers to your chances of developing a certain disease over a certain period of time. Absolute risk could be expressed as a percentage (one in one hundred or 1%); or as a decimal (0.01 risk).

Relative risk is used to compare the risk in two different groups of people. All sorts of groups are compared to others in medical research to see if belonging to one group increases or decreases your chance of developing certain diseases.

For example, say the lifetime absolute risk of having a heart attack is two in a hundred in non-smokers and smoking increases the risk of heart disease by 50%. This means that the absolute risk of a heart attack is 3 in a hundred (or 3%) for smokers, and the relative risk compared to non-smokers is 1.5.

Risky business for your heart

A **risk factor** is a characteristic, condition or behaviour that increases the possibility of disease or injury. Your doctor may have explained to you that there are certain risk factors that can be changed (modifiable) and some that cannot be changed (unmodifiable). Some of these risk factors are listed in the tables on the next page.

Remember that the more of these risk factors you have, the greater your chances of developing cardiovascular disease.

RISK FACTORS YOU *CAN* CHANGE

High blood pressure	High blood pressure causes the heart to work harder. This may cause the heart muscles to "stiffen" over time and the heart can no longer work properly.
High cholesterol	Having high LDL ("bad") cholesterol can contribute to the build up of fatty deposits in blood vessels. This causes vessels to narrow and increases the risk of CV disease such as angina, heart attack and stroke.
Diabetes	Type II diabetes is one of the strongest CV risk factors that can be prevented. People with diabetes have the same high risk for heart attack, stroke or cardiovascular death as people who have already had a previous heart attack.
Obesity	Dropping those excess kilos can reduce absolute CV risk (i.e. having a heart attack, angina or stroke). Obesity is a more potent risk factor in women than in men; and in younger than older people.
Smoking	Relative risk of CV disease is consistently higher in both men and women smokers than in non-smokers. Women seem to be more sensitive to the harmful effects of cigarette smoking.
Inactive lifestyle	An inactive lifestyle is a risk factor for coronary heart disease. Regular, moderate-to-vigorous physical activity helps prevent cardiovascular disease.

...but I don't feel sick!

Many people who have high blood pressure, high cholesterol or diabetes do not feel unwell. Your doctor can check if you have developed any of these risk factors.

Remember that there are things you can do to control, change and treat these risk factors. Speak to your doctor or healthcare professional about modifying your risk factors.

RISK FACTORS YOU *CAN'T* CHANGE

Increasing age	As a consequence of getting older, we become more susceptible to CV disease. Unfortunately, youthful looks, face lifts and anti-ageing creams do not help slow this down.
Sex	Generally, men are at a greater risk of heart attack than women, and they have attacks earlier in life. However, after menopause a woman's risk of heart attacks quickly catches up to men. At older ages, women are more likely than men to die from heart attacks.
Family history	It has been shown that those who have first-degree family members with cardiovascular disease (e.g. heart attack, angina, heart failure, stroke) are more likely to develop cardiovascular disease themselves.
Ethnicity	There are certain populations that have an increased risk of heart disease. For example, the Aboriginal and Torres Strait Islander population has a higher risk of heart disease than the Caucasian population.

Since it is not possible to treat or change the unmodifiable risk factors, it makes it more important to manage those risk factors that can be changed.

PUTTING YOUR HEALTH TO THE TEST

From time to time, your doctor may perform any of the tests listed in the table below. These tests help paint a picture of your health. Your doctor can also make management and treatment decisions based on your test results.

Blood tests	
Blood tests are analyses performed on a blood sample, usually drawn using a syringe from your arm, or by pricking your fingertip.	
...for diabetes	**What is measured: Glucose** (sugar) Types of blood glucose tests: **Fasting:** measures sugar levels after fasting for 12-14 hours; those without diabetes will have normal fasting glucose levels **Random:** sugar levels checked at various times of the day; people without diabetes usually have a pretty constant random blood glucose level **Oral glucose tolerance test (OGTT):** a high sugar drink is given and blood levels are taken at 2 hours
...for cholesterol	**What is measured: Total cholesterol** (including low density lipoprotein, high density lipoprotein and triglycerides) The National Heart Foundation of Australia recommends that all adults over the age of 45 years have a blood cholesterol test at least 5 yearly. Those below 45 years old who have a high risk of heart disease should also have a regular cholesterol test.
Blood pressure tests	
Blood pressure is created by blood pumping through your arteries. It is usually measured as two numbers (e.g. 120/80) – the higher number is called a systolic pressure (caused by the heart contracting); the lower number is called the diastolic pressure (caused by the heart relaxing). Blood pressure is measured in millimetres of mercury (mmHg). The only way to find out if you have high blood pressure is to have your blood pressure checked.	
...with a sphygmomanometer (SFIG'mo-mah-NOM'eh-ter) **or an electronic blood pressure machine**	Blood pressure tests are quick and painless. A rubber cuff is wrapped around your upper arm and inflated. As air in the cuff is released, the person measuring the blood pressure listens with a stethoscope. Systolic pressure is the pressure of the blood flow when the heart beats (the pressure when the first sound is heard). Diastolic pressure is the pressure between heartbeats (the pressure when the last sound is heard). Electronic blood pressure machines use the same principles and are generally quite accurate.

Taking a closer look at your heart

If you have recently had a heart attack, you may have been admitted to hospital for a test called a **coronary angiogram**. A coronary angiogram is a special "x-ray photograph" of your heart (Figure 1).

An angiogram allows your doctor to look for abnormalities of your heart's muscles and valves. By injecting a special dye, your doctor can also see if any of the arteries in your heart are narrowed or blocked.

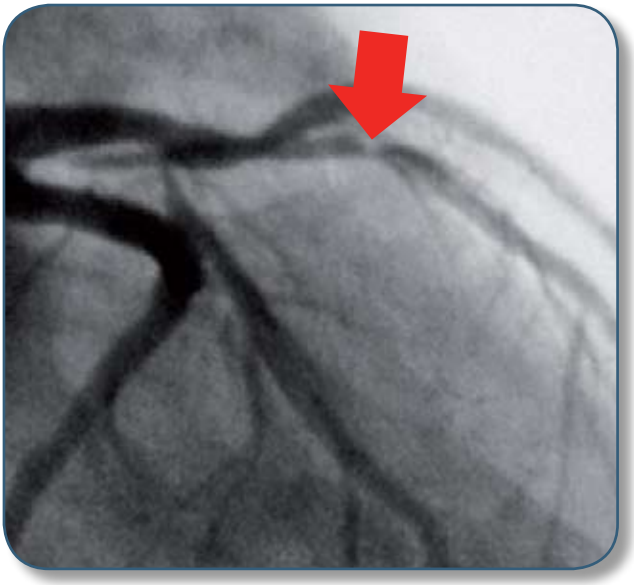

Figure 1: Coronary angiogram (arrow shows the place where there is narrowing of the heart's arteries)

Nothing to stress about

An exercise stress test helps your doctor find out how well your heart handles work. During a stress test, you will be asked to walk, and then run, while being hooked up to equipment to monitor your heart.

The test can show if the blood supply is reduced in the arteries that supply the heart. It also helps inform your doctor the types and levels of exercise appropriate for you.

PROCEDURES AFTER A HEART ATTACK

Keeping the arteries open

Coronary angioplasty (also known as Percutaneous Coronary Intervention, PCI) is the mechanical widening of a narrowed or totally obstructed blood vessel in the heart.

This non-surgical procedure involves the use of a thin, flexible tube (catheter) with a balloon on the end. The catheter is threaded to the blood vessel in the heart where the obstruction occurs. Then, the balloon is inflated to "push" open the blood vessels, restoring blood flow.

A small mesh tube called a **stent** may be inserted at the site to help keep the blood vessel open (Figure 2).

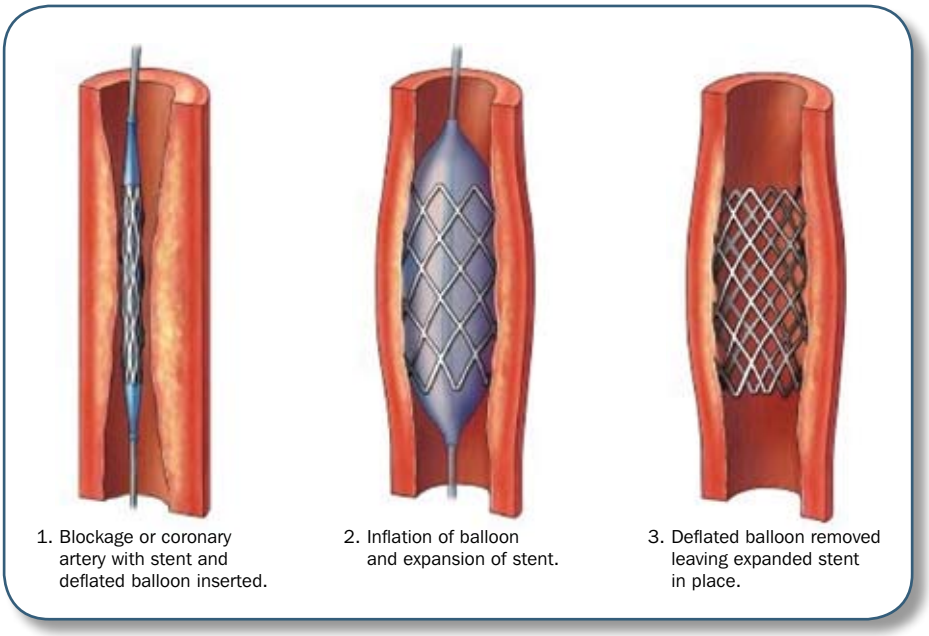

Figure 2: Coronary angioplasty and stenting

Going around the blockage

Coronary artery bypass graft surgery (CABG surgery) is more commonly known as a “heart bypass” or “bypass surgery.”

CABG surgery is not used for everyone with heart disease. Many patients can be treated using other methods, such as medicines and angioplasty. This procedure is only selected for those with significant narrowings and blockages of the heart arteries.

Blood vessels from other parts of the body (usually the forearm or the leg) are used to create new routes around narrowed and blocked blood vessels (Figure 3). This allows sufficient blood flow to deliver oxygen and nutrients to the heart muscle.

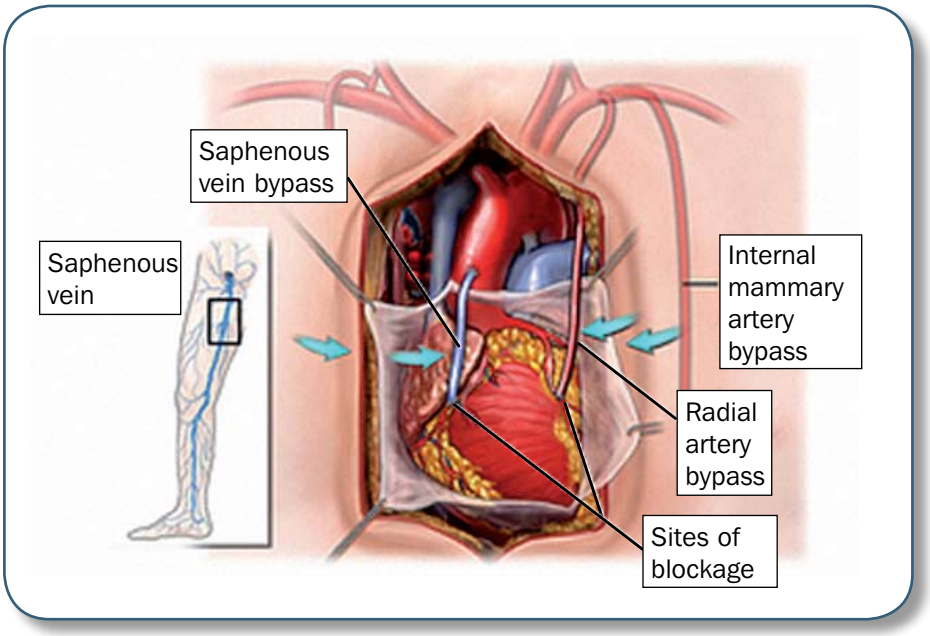

Figure 3: CABG surgery

CHANGE YOUR LIFESTYLE FOR LIFE

Increasing exercise and eating well will help prevent obesity. It will also lower your risk of developing high blood pressure, high cholesterol and diabetes. Remember that these are modifiable risk factors. Small changes to the way you eat, drink and move can make a big difference to your health.

Get physical

Being physically active is an important part of leading a healthy lifestyle. At any age, physical activity provides a range of health benefits. The good news is activity doesn't have to be vigorous – moderate activity, such as brisk walking, is great for your health. Thirty minutes a day is all it takes!

Healthy eating for healthy bodies

Healthy eating is all about enjoying a variety of foods from the different food groups. National Heart Foundation of Australia recommends choosing:

- mainly plant-based foods – vegetables, fruits, legumes and grain-based foods such as wholegrain or wholemeal bread
- moderate amounts of lean meats, skinless poultry, fish and reduced fat dairy products; and
- moderate amounts of polyunsaturated or monounsaturated oils and fats.

Try to also reduce the amount of salt in your diet. Most of the salt we eat comes from processed foods.

One or two standard alcoholic drinks per day may do you no harm (if you are reasonably healthy), but excessive drinking of alcohol increases your risk of high blood pressure, heart disease and stroke.

WHAT IF I NEED MEDICATION?

There are times when diet and lifestyle changes are not adequate to treat or manage your risk factors (such as high blood pressure, high cholesterol and diabetes). When this occurs, your doctor may prescribe medications to help lower your risk of cardiovascular disease.

Many people with high blood pressure, high cholesterol and diabetes do not experience any symptoms. You should persist with taking your medications, even though you do not feel ill.

Remember that most medications do not cure a condition – it is a management strategy to protect you against the long-term consequences of cardiovascular disease.

A ROUTINE, NOT A CHORE

Remembering to take your medications everyday need not seem like a chore. These tips may help you incorporate medication taking into your daily routine.

Simple as ABC

1. Set an **A**larm

This is a common and fairly effective way to remind yourself to take your medicine. Most mobile phones these days have an alarm function that allows you to set a “daily” alarm time. If you do not own a mobile phone, you might set your alarm clock to go off at a particular time each day for the same effect. As soon as the alarm goes off, immediately take your medications to reinforce the habit. Delaying can lead to repeated forgetfulness and defeat the purpose of having an alarm.

2. Associate medication taking with routines: **B**ed, **B**rush or **B**reakfast

Put the medication close to something you need to deal with on a daily basis. Incorporate it into your routine. If you take it every morning, make it a habit to do so as soon as you get out of bed. Some people stick their tablet box next to their mirror so that when they are brushing their teeth, they are reminded to also reach into the medicine cabinet. If your medication needs to be taken with a meal, placing it next to your cereal box will help you remember to take it with breakfast.

3. Start using a **C**alendar

Some people find it useful to use a paper calendar to note down when they have taken their medications. There are many free electronic calendars on the internet. Or you could use calendar software that may have come with your computer. Some of these allow you to add notes and automatically send you reminders via email or SMS.

- National Heart Foundation of Australia
  T: 1300 362 787
  W: www.heartfoundation.org.au

- Australian Atherosclerosis Society
  T: +61 3 9739 7697
  W: www.athero.org.au

- Australian Diabetes Society
  145 Macquarie Street
  SYDNEY NSW 2000
  T: +61 2 9256 5462
  W: www.racp.edu.au/ads

- Diabetes Australia
  5th floor, 39 London Circuit
  CANBERRA CITY ACT 2600
  Helpline: 1300 136 588
  T: +61 2 6232 3800
  E: admin@diabetesaustralia.com.au
  W: www.diabetesaustralia.com.au

- Kidney Health Australia
  GPO Box 9993
  MELBOURNE VIC 3100
  Kidney Health Infoline: 1800 682 531
  T: +61 3 9674 4300
  W: www.kidney.org.au

- Quitline
  T: 13 QUIT (7848)

Patient name: _____

Treating doctor: _____

Date	5-year absolute CV risk	Dr comment	Date of follow up

Date	BP	Cholesterol	Weight	Waist measurement

Recommended dietary modifications: _____

_____

_____

_____

Recommended lifestyle modifications: _____

_____

_____

_____