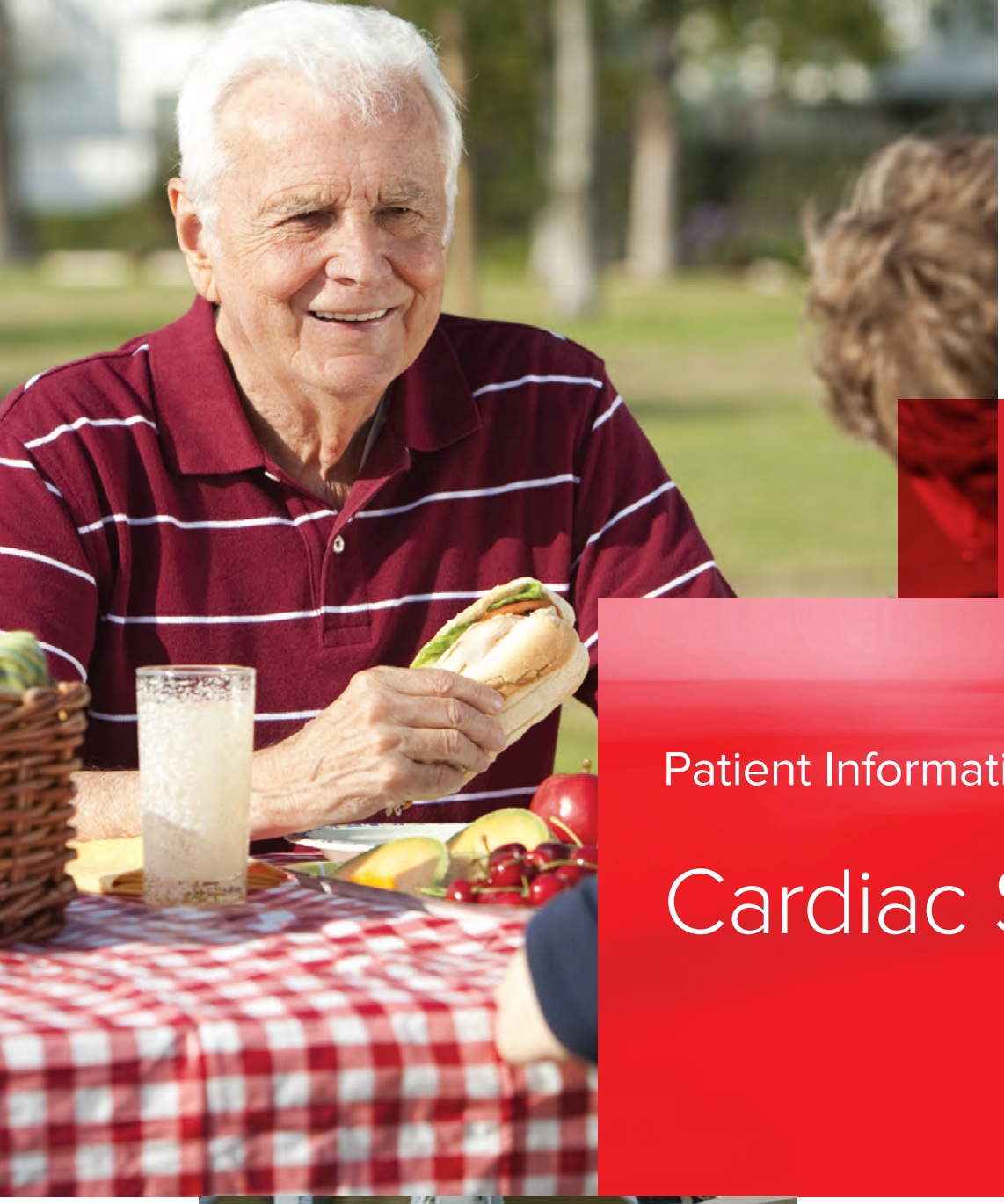


Patient Information

Cardiac Surgery

sunshinecoastuniversityprivate.com.au

Sunshine Coast University Private Hospital
Part of Ramsay Health Care

Welcome to the Sunshine Coast University Private Hospital. This booklet provides you and your family with information to make your hospital stay and recovery at home as easy as possible.

Please feel free to discuss any concerns with your nurse or doctor.

As every person is different, you may find that the information in this book varies from your doctor's advice. If so, always follow the instructions given by your doctor and ask if you are unsure.

Keep this book with you in hospital, and make sure you have it when you go home. You will usually be in hospital for 5–7 days after your operation. If you are well enough and have support at home, you may be discharged directly to home. You will need to have someone stay with you for the first week after your discharge.

Contents

About the hospital

Sunshine Coast University Private Hospital provides an exceptional level of care with a highly skilled and professional health care team, state-of-the-art equipment and the latest technology. Our team of doctors are all experts in their field and are at the forefront of cardiac surgery and cardiology in Australia. You and your family can have confidence that as a patient at Sunshine Coast University Private Hospital you are getting the very best of care.

Admission time

Admission time is usually on the afternoon prior to surgery or as requested by your surgeon. An estimated time of your surgery will be given to you on admission.

Visiting hours (11.00am – 1.00pm & 3.00pm – 8.00pm)

Visiting hours are kept as flexible as possible to suit you and your family. There is a rest period between 1.00pm and 3.00pm. You are welcome to use the lounge room on level one.

In the Intensive Care Unit (ICU), visiting is restricted to two family members at a time.

Please ask friends to contact your family for information rather than ring intensive care directly.

Valuables

Valuables are your own responsibility, and we therefore advise that they be left at home or given to your family. When you are in intensive care you will only need your toiletries, dentures, reading glasses, walking aids, hearing aids and medications.

Bring all of your medications IN THEIR ORIGINAL CONTAINERS with you when you are admitted to hospital.

Car parking

There is a range of parking options in close proximity to the hospital. Please note that none of these are owned or operated by Ramsay Healthcare:

Oceanside Car Park

- Oceanside Care Park, operated by Secure Parking is located off Eccles Boulevard (enter via Bright Place).
- Open 24 hours a day, 7 days a week it offers a reduced rate when booked on line. Visit www.secureparking.com.au for further information or call 1300 727 483

Point Parking

- Onsite parking is available in the undercover multistorey car park adjacent to the hospital or in the outside car park at the northern end of the hospital. Parking is open 24 hours a day, 7 days a week. Access is single entry and excludes any credit card surcharge and charges may change over time. Costs are displayed at the entry and at pay booths.
- Visit www.sunshinecoastuniversityprivate.com.au or call 1300 551 131 for further information.

Refreshments

There is a cold drink machine on ground floor. Remedy coffee shop is open 6 days per week with numerous other options in walking distance available transport per week.

Waiting areas

The waiting area, while your relative is in surgery, is the patient lounge on level one. Other options include the sitting areas on the Ground Level near the Coffee Shop.

Toilets

Visitor toilets are located on each level one and on the ground floor.

Internet access

A computer/internet system is available in the Ground Floor Lounge.

Alternatively, you can connect to patient wifi using your own computer after purchasing a wifi/card from reception.

Hospital Chaplain

A visit by a local Chaplain can be arranged on request. However, it is preferable to inform the ward prior to admission if a visit from the Chaplain is required on the night before surgery.

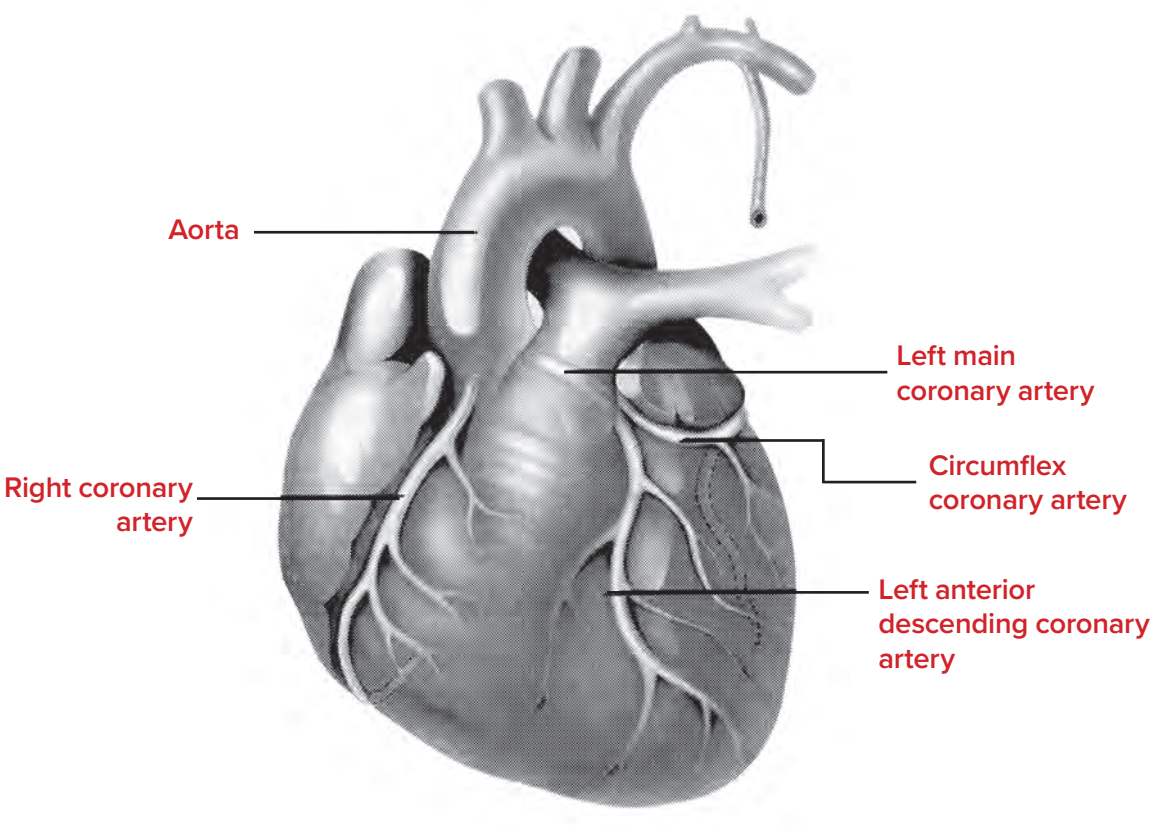
Cardiac rehabilitation

Sunshine Coast University Private Hospital will arrange cardiac rehabilitation at a suitable facility.

Why do you need coronary artery bypass surgery?

The heart

Your heart is a muscular pump. The function of the heart is to pump blood, containing oxygen, to your body. The heart muscle receives an oxygen-rich blood supply through the coronary arteries. The coronary arteries sit on the outside surface of the heart.



Coronary heart disease

Over many years, lifestyle and hereditary factors cause damage to the coronary arteries. Fatty plaques build up within their walls and they become narrowed. The narrowed coronary artery restricts the flow of blood and oxygen to the heart muscle. Eventually, the heart's oxygen demand outweighs the oxygen supply. Angina occurs when the heart muscle is not getting enough oxygen. Angina is most commonly felt in the centre of the chest and may present as a pressure, tightening or burning sensation, rather than actual 'pain'. It varies greatly, however, and you may get other sensations such as shortness of breath, aching in the jaw or arms or tightness in the throat.

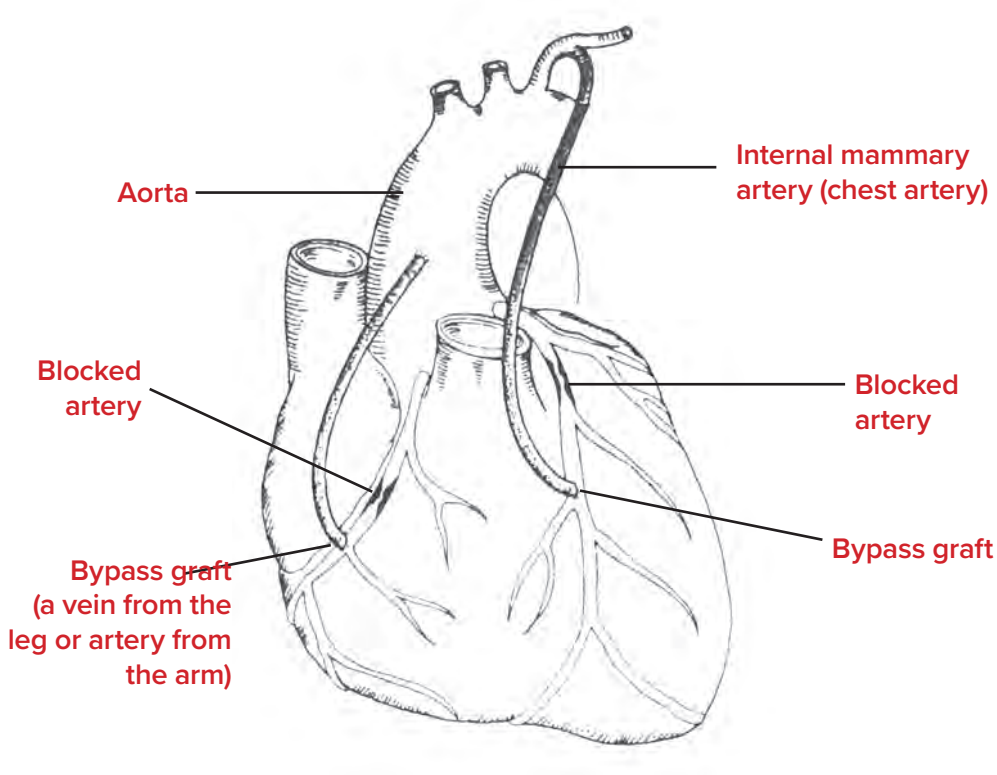
It is important that you inform your nurse immediately if you have angina before your operation.

Coronary artery bypass graft surgery

Coronary artery bypass graft surgery is an operation to improve blood supply to the heart muscle below a narrowing in the coronary artery. The aim is to increase the blood and oxygen supply to the heart muscle to relieve angina and reduce the risk of a heart attack.

The operation takes approximately 4 hours. During the operation, the breastbone is cut to allow access to the heart. Blood vessels from your body are used to form a bridge over the narrowed coronary artery. The blood vessels used may be a vein from your leg or an artery from your chest or arm. One end of the blood vessel is joined to the coronary artery just past the narrowing, and the other end is either left attached to the chest or is attached to the large blood vessel that leaves the heart (the aorta). A new blood supply is now available to the heart muscle below the narrowing. The fatty plaque causing the narrowing is NOT removed.

When the surgery is complete, the breastbone is held together with wire or suture material and you are transferred to the Intensive Care Unit.



Coronary artery bypass graft surgery using cardiopulmonary bypass

While the blood vessels are being attached to the coronary arteries, a heart-lung bypass machine is used to deliver oxygen rich blood to your body. The blood flow is bypassed from the heart and the lung through a machine and then delivered to the body. Diverting the blood away from the heart allows the heart to be stopped. This facilitates good access to all arteries on the heart.

Off pump coronary artery bypass surgery

Off pump coronary artery bypass surgery is performed while the heart is beating and without using the heart lung machine. Your surgeon will advise whether this is the best approach for your bypass surgery. Access to the heart is also through a cut in the breastbone (sternum).

Valvular heart disease

Within the heart, there are four one-way valves. The valves keep blood flowing in the right direction through the heart and then to either the lungs or to the body.

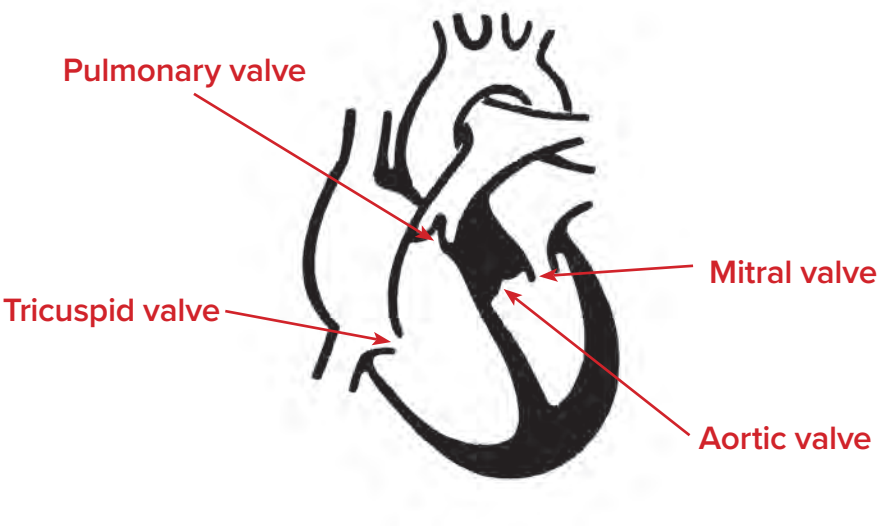
The four valves

Tricuspid valve: Right side of the heart between the right atrium and the right ventricle

Pulmonary valve: Right side of heart between the right ventricle and the artery that takes blood to the lungs (pulmonary artery)

Mitral valve: Left side of the heart between the left atrium and the left ventricle

Aortic valve: Left side of the heart between the left ventricle and the artery that takes blood away from the heart towards the body (aorta)



These valves can become loose and floppy or tight and narrowed. Sometimes there may have been a defect in the valves since birth. Valvular heart disease can cause symptoms such as angina, shortness of breath and dizziness.

Stenosis

Means a narrowing or stiffness of the heart valve. This restricts blood flow through the valve.

Regurgitation or incompetence

Means the heart valve cusps or leaflets do not close completely. This allows blood to leak or flow back through the heart valve.

Normal valve open | Normal valve closed

Valve that does not open wide enough | Leaky valve

Causes of valve impairment:

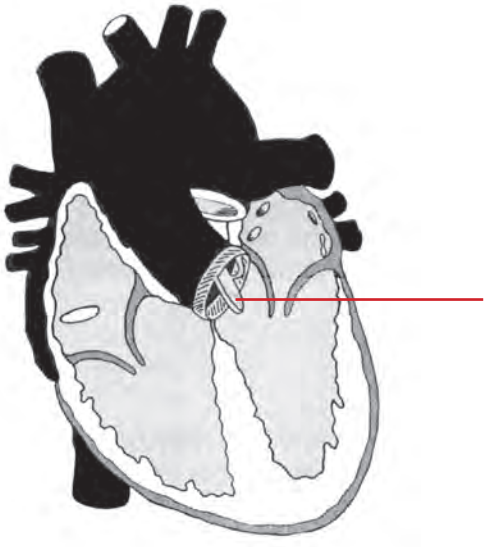
- The valve cusps or leaflets become stretched
- The annulus – where the valve attaches to the heart becomes weak and stretched
- The valve leaflets are fused together
- The valve leaflets are thickened and calcified
- A congenital defect
- Damage to the valve due to rheumatic fever
- An infection of the heart valves (endocarditis)

Valve surgery

Valve surgery involves replacing or repairing one or more of your valves. The operation takes approximately 5 hours.

During the operation, the breastbone (sternum) is cut to allow access to the heart. A heart-lung "bypass" machine is required. The blood flow is bypassed from the heart and lung through a machine and then delivered to the body. Diverting the blood away from the heart allows the heart to be stopped. The affected valve is then replaced or repaired.

When the surgery is complete, the breastbone is wired or taped together and you are transferred to the Intensive Care Unit.



An example of a mechanical valve

Repair of a heart valve

If possible, your surgeon may repair your heart valve. Valve repair may involve:

- Removing excess tissue from the cusps or leaflets to modify the valve and allow the leaflets to close
- Inserting a ring or band to tighten the annulus
- Separating leaflets where they are fused together

Types of artificial/prosthetic valves for heart valve replacement

If a valve cannot be repaired, it has to be removed and replaced with a prosthetic valve. Two types of artificial (prosthetic) valves can be used. One is a purely mechanical device made of metal or a similar substance. The other is a valve consisting of animal tissue, ie a pig's aortic valve, or a valve formed out of a cow's pericardium (the sac surrounding the heart). The valve is processed to reduce the risk of rejection. A human heart valve may also be used as a tissue valve.

The main difference between artificial valves is that mechanical metallic valves last much longer than tissue valves, but have a higher likelihood of promoting small blood clots. Although this likelihood is very slight, it does influence the decision on which valve to use. Your surgeon will have discussed this with you.

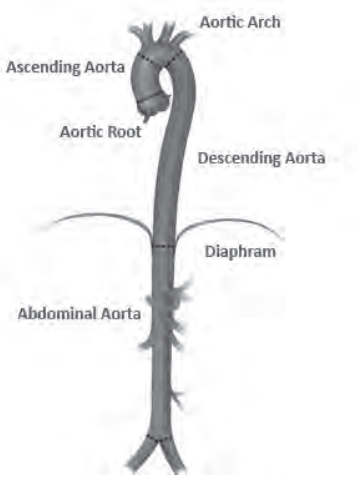
Tissue valve

Non-stented tissue valve

Bileaflet mechanical valve

Surgery of the aorta

The aorta is the large artery that takes blood away from the heart. The aorta starts at the left ventricle and ends in the abdomen.



It consists of several sections:

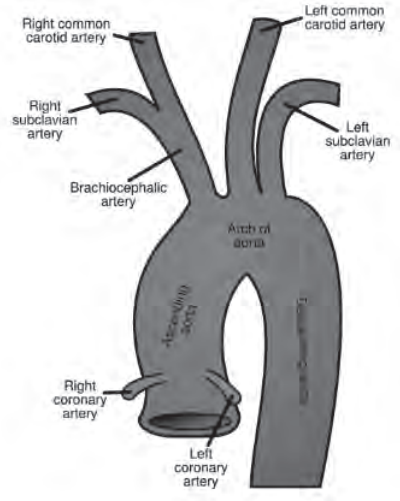
- Aortic valve (which includes a fibrous ring called the annulus)
- Aortic root
- Ascending aorta
- Aortic arch
- Descending aorta
- Thoracic/abdominal aorta

For some people, the walls of the aorta enlarge or dilate, making them potentially thin and weak. This is called an aneurysm.
If an aneurysm is not closely monitored or repaired, then there is a risk that the walls of the aorta could overstretch and rupture.

Common precipitating causes include:

- Congenital heart defect
- Marfans syndrome
- Familial aneurysm
- Bicuspid aortic valve

Surgery involves replacing the affected area of the aorta, and commonly the aortic valve, with either a tissue or a mechanical/synthetic prosthesis.



Aortic root replacement involves the aortic valve plus the lower portion of the aorta. The coronary arteries are connected to the side of the new prosthesis.

Prevention of infection in the heart or aortic valve

Guarding against infection is important for everyone, particularly for those having heart valve or aortic surgery. Bacteria which may cause infection and seriously damage the valves or other structures of the heart can enter the bloodstream in several ways:

- Organisms normally found in the mouth may get into the bloodstream through the gums if there is a broken area resulting from brushing or recent dental work
- Diagnostic or surgical procedures can damage the tissue lining in other parts of the body and thereby allow organisms to break through the body's natural defence barrier
- Bacteria in 'boils' or other local infections can also cause problems

If you have an artificial heart valve or aortic prosthesis, you will always require antibiotic medication prior to any dental work and prior to any operation.

After valve surgery

Medic alert

It is recommended that you wear a medic alert emblem to notify people of your medical condition.

In the case of an emergency situation where you may be unable to speak, medical services need to be notified that you have an artificial heart valve or have had your heart valve repaired and that you may be taking the medication Warfarin. This information is vital and will help to ensure that you receive appropriate treatment.

There are several brands of jewellery available with the emergency emblem. Your medical information can then be engraved on the back of the jewellery.

Medications

Anti-coagulant medications make your blood take longer to clot and therefore help to prevent blood clots from forming, eg Warfarin, this is commonly referred to as 'thinning out' your blood. If you have to take an anti-coagulant, you will receive an information booklet.

Important points to remember after valve surgery

- To protect yourself from infection, have routine check-ups by your dentist and physician
- Wait at least six weeks before having any dental, diagnostic or surgical procedure performed
- Inform each doctor caring for you that you have had a heart operation so he/she can prescribe antibiotics for you to take before and after any procedure, if necessary
- Report occurrences of fever, chills, weight loss or loss of appetite to your doctor and make an appointment to see him/her if you develop a cold, sore throat, influenza or local infection any time in the future
- Sometimes patients retain water, even after successful valve surgery; you may put on weight even though you are not over-eating; the doctor must be informed of dramatic, unexplained weight gain
- A salt-free diet is often recommended for patients who have had valve surgery to minimise the body's retention of fluid
- The doctor must be informed of any significant changes in body weight, temperature, pain and other symptoms
- Finally, brush your teeth and gums with a soft-bristled brush several times a day

Anaesthesia and perfusion

What is an anaesthetist?

An anaesthetist is the doctor who will administer your anaesthetic. After finishing the medical course and basic hospital training, an anaesthetist spends many years undergoing further training, gaining knowledge and skills in the specialty of anaesthesia. Cardiac anaesthetists have had further specialist training. The anaesthetist, the perfusionist and the surgeon work as a team to look after you during the operation. While the surgeon is operating on one part of the body, the anaesthetist and the perfusionist are taking care of the rest of you.

What is cardiopulmonary bypass?

Cardiopulmonary bypass is the pumping of blood through a heart-lung machine, where oxygen is added to the blood and it is cooled to lower the patients body temperature. During heart surgery, the heart-lung machine takes over the functions that your heart and lungs normally perform.

What is a perfusionist?

Medical perfusionists are specialist doctors who operate heart-lung machines. They have often been trained as anaesthetists as well. The anaesthetist, the perfusionist and the surgeon work as a team to look after you throughout the operation. While the surgeon is operating on your heart, the anaesthetist and the perfusionist are also taking care of you.

What are the risks?

Major surgery involves many potential risks and complications. No operation, anaesthetic or heart-lung perfusion is without risk, but most patients do not suffer serious complications. When complications do occur, they vary from the mild and inconvenient (eg headache, nausea, sore throat or hoarse voice, bruising from the cannula sites) to the very severe and life threatening.

The serious risks include, but are not limited to:

- Heart failure or heart attack
- Stroke, neurological damage, memory impairment or depression
- Respiratory complications such as lung collapse or pneumonia
- Kidney failure
- Bleeding possibly requiring transfusion of blood or blood products
- Damage to tooth
- Severe allergic reactions
- Wound infection
- Death

Any specific questions about these matters will be answered readily by your surgeon, anaesthetist or perfusionist during their pre-operative consultations. This opportunity may not arise before emergency procedures.

Blood transfusions

With any major operation, there is the potential need for a blood transfusion. In most cases, some of your own blood will be collected after you are anaesthetised, and this blood will be given back to you later during the operation. Blood donated by other people will be used only if absolutely necessary. All such blood is screened for hepatitis, HIV/AIDS and other infectious diseases. However, there is still a slight risk that transmission of disease may occur.

Preparing for anaesthesia

Except in emergency situations, you will be admitted to hospital on the day prior to your operation. After settling into the hospital, you will be visited by your anaesthetist and your perfusionist, who will ask you questions about:

- Previous operations and anaesthetics
- Any anaesthetic problems that you or any members of your family may have had
- Any allergies you may have
- Past and present medical problems
- Current and recent medication including over-the-counter medication and complementary therapy
- Your smoking and drinking habits
- Loose or capped teeth, dentures or plates

After this, you may have a medical examination and the anaesthetist will review the results of all the tests that you have had. After discussion with you, the anaesthetist will choose the most appropriate pre-medication and anaesthetic for your operation. Any questions that you wish to ask will be readily answered.

During the evening before the operation, you may be given sedative medication by the nursing staff. This will not interfere with the anaesthetic. However, it may make you unsteady if you get up during the night, so please call one of the nurses to be with you.

On the morning of the operation, the nursing staff may give you some or all of your routine medications, as ordered by the anaesthetist. The presence of food or drink in the stomach is dangerous during anaesthetic, so you must not eat or drink anything for some hours before your anaesthetic. You will be advised how long to fast by your anaesthetist and the nursing staff. You will be given a sip of water to swallow all necessary tablets. You will be given a pre-operative medication ('pre-med') by tablets and injection about an hour before your operation. This will make you feel drowsy, relaxed and possibly dry in the mouth. Please stay in bed after you receive your pre-med. You may remember being taken to the operating theatre.

What happens when you arrive in the operating theatre?

After you are taken to the operating theatre, your anaesthetist and your perfusionist will insert intravenous drips into one or both arms, and the side of your neck, using local anaesthesia. The general anaesthetic is started with medications given via the drip.

What anaesthetic drugs are used?

During your anaesthetic, you will be given many different drugs, each at a particular time during the operation and each for a specific purpose. Some drugs are injected into a veins and others are breathed as gases along with oxygen. Your anaesthetist will choose the most appropriate for you after consideration of your health and the operation you are having.

Preparing for surgery

You will be admitted to hospital prior to your operation to undergo several pre-operative procedures. These include:

- Consultations with the doctors and other health professionals who will be involved in your care
- Routine blood tests including matching your blood type in case you need a blood transfusion
- A cardiograph to assess your heart rhythm
- Clipping of your body hair and antiseptic washes to decrease risk of infection
- A chest x-ray to assess the condition of your lungs before the operation
- A visit to the Intensive Care Unit for you and your family (if you are able to leave the ward); these visits can be beneficial to both patients and families in preparing you for what to expect
- Education

Your family can stay with you until it is time for you to go to theatre. At the end of the operation, the surgeon will speak with your family and inform them of your progress. Your family should allow about 4–5 hours before expecting a phone call. If your family prefer, there is a waiting room on the level one where the surgeon will see them after your operation. Please tell your nurse where your family will be waiting and/or their contact number.

There are a few points to remember for your post-operative phase:

- Remember you cannot weight bear on your arms for 6 weeks, ie you cannot apply pressure on your arms
- Start doing exercises as instructed by your physiotherapist and continue these throughout your hospital stay
- After the operation, ensure that you take regular pain relief even if you do not feel too much discomfort
- On the day of surgery, ensure that your belongings are packed; you will not be returning to the same bed on return from the ICU

Questions:

After your surgery – intensive care

ICU visiting hours is from 11am to 1pm and from 3pm to 8pm.

After your heart surgery, you will be taken directly to the Intensive Care Unit (you will not go to recovery). In the Intensive Care Unit, you will be closely monitored with an experienced nurse at your bedside at all times. You will be asleep for several hours following your operation and you will be on a breathing machine known as a ventilator. Once you are awake, the Nurses will remove the breathing tube and you will be able to speak to your family. Your family will be able to visit you approximately 45 minutes after your return from theatre and while you are still asleep.

If possible, we would prefer one person to act as contact person for the duration of your stay.

This person can then disseminate any information provided to the rest of your family. Please note only 2 visitors are allowed at the bedside.

The breathing tube

Because you are sedated and asleep for some time, your breathing is assisted by a ventilator – a breathing machine. The ventilator is connected to a tube that enters your mouth and goes into your wind-pipe. Whilst this tube is in place, you will not be able to talk, as it passes through your voice box. The nurses, however, are experienced in communicating with people with breathing tubes. You will be able to communicate by nodding your head or using your hands. Once you are awake and you are ready to breathe on your own, the tube will be removed. Generally, this is between 6 and 12 hours after the operation. You will then be able to talk and will receive oxygen through a mask over your nose and mouth.

Nasogastric tube

You will have a tube that enters through your nose and goes down to your stomach – a nasogastric tube. This tube will remove stomach secretions and prevent you from feeling nauseated. This tube is usually removed at the same time as your breathing tube.

Chest drains

Below your ribs you will have two or three tubes that are attached to a chest drain. This allows any air or blood that is in your chest cavity to be removed. Generally, these tubes are removed the next day after your operation.

Pacing wires

Occasionally, the electrical system in your heart takes a few days to recover. Your pulse may go faster or slower than normal. During the operation, thin wires may be attached to the outside of your heart and exit your chest under your ribs. These wires can be temporarily attached to a pacemaker to support your pulse rate. The wires will be removed before you go home.

Urinary catheter

A catheter is a tube inserted into your bladder (whilst you are asleep) to continually drain away your urine. You don't need to strain or push against the catheter; your urine will automatically drain from your bladder. You will not need to go to the toilet to pass urine. This tube also allows the nursing staff to accurately measure how much urine your body is making. This is one indicator of how your kidneys are functioning. Generally, this tube is removed 2 days after your operation.

Intravenous lines or drips

Intravenous lines supply fluid and nutrients to your body whilst you are not drinking or eating. They also provide a pathway for medications such as pain relievers and antibiotics. Usually, you will have a tube in the vein in the side of your neck and one in each arm. These are generally removed 2 days after your operation.

Arterial line

You will also have a tube in the artery near your wrist. This arterial line provides constant monitoring of your blood pressure. Additionally, through this line blood samples can be taken for routine blood tests and blood sugar levels.

Monitors and alarms

Connected to your chest will be leads that provide a constant recording of your heart's rhythm. This is similar to what is recorded on an ECG. You will also have a cable that is placed over the tip of your finger to measure your oxygen level. This helps the staff to assess how effectively you are breathing and whether you require additional oxygen therapy.

All of the cables and the tubes attached to you have an alarm system. This allows the doctors and nursing staff to know how you are progressing. The alarms provide information such as when a infusion has finished or if there is a change in one of the readings on the monitor. However, these alarms are very sensitive and you simply moving can cause the monitor to alarm even though you are perfectly well. So, if you hear an alarm and you are worried please, speak with your nurse; but be assured, if there is a concern the doctors and nursing staff will discuss this with you or your family.

Recovering in the ward

Please ensure you have received a copy of the "Patient in room directory" for ward and hospital information.

Transfer to the ward

Generally, patients are moved from Intensive Care to the ward 2 days after heart surgery.

Pain relief

Pain medication is available and will be given to you by a nurse when you ask for it.

Everyone experiences pain differently. Initially, in Intensive Care, you will receive pain relief via an intravenous line (drip). Then you will be given tablets for pain. It is very important to control your pain. Don't 'put up' with pain. Take your pain relief medication regularly, otherwise, you will be unable to move around and breathe deeply. Deep breathing and coughing exercises, as well as walking, are essential to your full recovery.

Wounds

You will have a transparent dressing over all of your wounds. The dressing will remain on your wounds for several days as determined by your surgeon. This dressing is waterproof, so you can shower and get it wet. Generally, you should not require assistance with your wound once you go home, and you do not need to use an antibacterial soap to shower.

Your incisions will usually be closed with dissolving stitches that are underneath the skin (sub cuticular). You will not need to have them removed. If a small stitch is visible at either end of the incision, it will absorb within several weeks and will fall off. If your incisions were closed with external skin clips, a nurse will remove the clips approximately 7 days after surgery.

As your wounds heal, you might notice drying of the skin and itching. This is normal.

You might notice slight puffiness or swelling around the incision, especially at the upper end of the chest incision. This is common. The swelling will decrease gradually and disappear completely in three to four weeks.

Sternal support

Your breast bone (sternum) was cut during the operation to allow the surgeon access to your heart. At the end of your operation, the sternal bone is held together with wire or surgical suture material. This will help to hold the two pieces of breastbone together to support the bone as it heals. Your breastbone will take at least 6 weeks to be healed enough for you to safely use your arms.

It is important to protect the bone during this healing process and you should not be using your arms to lift yourself around the bed or out of a chair.

You may sleep in any position that is comfortable for you whilst in hospital, although lying on your stomach should be avoided until your sternum is healed. Getting onto your side initially can be uncomfortable, but your physiotherapist will show you how to manage this and how to get into and out of bed. By the time you leave hospital, you should be managing these movements independently and using the number of pillows that is normal for you. If you notice any clicking in your breastbone after surgery, please tell your doctor, physio or nurse.

Until you have seen the surgeon 6 weeks after the operation, you are unable to weight bear on your arms or drive a motor vehicle.

Deep breathing, coughing or sneezing will not damage or interfere with the healing of your sternum.

Elastic stockings

You will be given elastic stockings to help the circulation in your legs, as you will not be as active as you normally are. The stockings are worn to reduce the risk of blood clots. They also support the swelling in your legs. To further decrease swelling, elevate your feet when you are sitting and avoid crossing your legs.

Fever and night sweats

It is not uncommon to have a fever for 5 to 6 days after surgery until your lungs are cleared of mucus. You may perspire during the day and particularly at night. This may continue for several weeks after discharge from hospital.

Your feelings

Time spent in hospital for illness or an operation can be disruptive to your lifestyle and relationships. You may feel confused at first and find it hard to concentrate and keep track of time.

Although patients differ greatly in their response to illness and operations, changes in emotional behaviour after surgery are common. Some patients talk of feelings of sadness, wanting to cry, feeling agitated, irritated, or cranky, sudden changes in mood and general fear or anxiety. These are quite normal reactions and often intermittent if they occur at all. For most people, these reactions settle over time as they recover from their operation.

Physiotherapy and cardiac surgery

Physiotherapy plays an important role in your recovery to full function following cardiac surgery.
You will be seen by a Physiotherapist in the Intensive Care Unit after your surgery. Deep breathing and circulation exercises, supported coughing and early mobilisation are important to prevent complications after surgery.

Deep breathing exercises:

Deep breathing exercises are important to assist in the prevention of chest complications such as chest infections or lung collapse.

1. Take 5 long slow deep breaths in through your nose and out through your mouth.
2. Each breath should be slightly deeper than the previous breath.
3. Take 5-10 normal breaths.
4. Take another group of 5 deep breaths followed by 5-10 normal breaths.
5. Repeat this cycle once more.

This routine should be followed hourly after you have woken from your surgery.

Supported cough

After your surgery it is important to regularly clear your chest of any secretions/sputum that has built up to assist in the prevention of chest complications.

Your chest wound should be supported by holding a towel/ pillow firmly against your chest and leaning slightly forward.
This will also help alleviate pain when coughing.

Coughing strongly will not damage your wound.

Circulation exercises

Regular lower limb circulation exercises are also important to prevent complications after surgery.

1. Ankle pumps: vigorously move your ankles up and down 10 times.
2. Thigh squeezes: tighten your thigh muscles and straighten your knees. Hold for 5 seconds and repeat 10 times.
3. Bottom squeezes: tighten your bottom muscles together. Hold for 5 seconds and repeat 10 times.

Early Mobilisation

It is essential to get out of bed as soon as possible after your surgery. You will be stood and sat out of bed on the first day after your surgery and start walking short distances on the second day.
The Physiotherapist will determine if any walking aids are required to assist with mobility. The distance walked and frequency of mobility will increase daily until you are discharged home. You will be given advice about progression of your walking program at home when you are discharged.

Arm and Shoulder Exercises

Your Physiotherapist will give you specific arm and shoulder exercises and advice about your posture a few days after your surgery. These instructions will vary according to your Surgeon's instructions.

Daily activities plan

Day 2 – After operation

This is a guide to your planned treatment and activities in hospital. You can use it to monitor your progress.

Planned activities

- Take regular analgesia to allow effective exercising without restriction from pain
- Attend to deep breathing and coughing exercises hourly, using a towel splint to support your wound when coughing
- Do not push on your arms for 6 weeks
- Sit out of bed with assistance
- Walk to the toilet with assistance
- Sponge in bed with assistance or shower with assistance if you feel well enough
- Weighed daily until your weight equals pre-op weight
- Plan for transfer to ward

Diet

- Light diet and fluids
- Your appetite is usually decreased

Treatments

- Reviewed by the doctor visits daily
- Removal of drains and drips
- Blood tests taken in the morning
- Cardiograph (ECG) in the morning
- Restrict fluids to 1,500ml until weight equals pre-op weight
- Medication taken to assist bowels

What I achieved

Activities

Diet

Treatments

Hint

Don’t be afraid to cough. It’s safe to cough, and you won’t cause any damage to your wound.

Day 3

Planned activities

- Regular analgesia to allow effective exercising without restriction from pain
- Attend to deep breathing and coughing exercises hourly using a pillow to support the wound
- Attend to arm exercises hourly
- Do not push on your arms for 6 weeks
- Aim to walk three laps of the ward
- Shower with assistance
- Education – how to apply your own stockings
- Education – how to mobilise out of bed
- Weighed daily until your weight equals pre-op weight

Diet

- Cardiac diet and fluids
- Appetite improved

Treatments

- Visited by surgical team
- Restrict fluids to 1,500ml until weight equals pre-op weight

What I achieved

Activities

Diet

Treatments

Hint

Don't 'put up' with pain. Pain can slow down your recovery.

Day 4

Planned activities

- Regular analgesia to allow effective exercising without restriction from pain
- Deep breathing and coughing exercises hourly
- Arm exercises hourly
- Do not push on your arms for 6 weeks
- Aim to walk four laps of the ward
- Apply own stockings
- Weighed daily until your weight equals pre-op weight

Diet

- Cardiac diet and fluids
- Appetite improving

Treatments

- Visited by surgical team
- May have pacing wires removed
- Restrict fluids to 1,500ml until weight equals pre-op weight

What I achieved

Activities

Diet

Treatments

Hint

Please inform the nursing staff if your bowels have not opened.

Note: It is common for patients to experience emotional fluctuations. Some patients describe a 'down day' around 4 days after their operation. If you are concerned, please speak with your nurse or doctor.

Day 5

Planned activities

- Regular analgesia to allow effective exercising without restriction from pain.
- Deep breathing and coughing exercises hourly – 2-hourly
- Arm exercises hourly
- Do not push on your arms for 6 weeks
- Aim to walk four laps of the ward
- Walk up and down two flights of stairs accompanied
- Independent showering and dressing
- Apply own stockings
- Watch education video
- Weighed daily until your weight equals pre-op weight

Diet

- Cardiac diet and fluids
- Appetite returning to usual pattern

Treatments

- Visited by surgical team
- Blood taken in the morning
- Cardiograph (ECG) in the morning
- Chest x-ray
- Restrict fluids to 1,500ml until weight equals pre-op weight
- Discharge day and destination confirmed
- Transport organised

What I achieved

Activities

Diet

Treatments

Hint

Plan your discharge – write down any questions you need answered.

If you are going home tomorrow, give your x-rays to your family to take home.

Day 6

Planned activities

- Receive letter for local doctor (GP)
- Be informed of a Cardiac Rehabilitation program at a hospital close to where you live
- Ready for discharge
- Be seen by the pharmacist
- Receive x-rays, doctors appointments and medications
- Attend discharge education
- Ensure that your pain relief is effective

Diet

- Cardiac diet and fluids
- Appetite returning to usual pattern

Treatments

- Clips in leg wound reviewed re: removal
- Drain site stitches removed

What I achieved

Activities

Diet

Treatments

Hint

Note: If you have any questions or concerns once you are at home, you can phone your surgeon or your GP.

Going home after cardiac surgery

While most people look forward to going home, there may also be some anxiety felt about leaving the safety of the hospital. It is important to remember that your doctors will not send you home until you are ready and it is safe to do so.

Day of discharge

Discharge time at Sunshine Coast University Private Hospital is 10.00am. Please ensure the following:

- You have been seen by the Pharmacist
- You have received your x-rays to take home
- You have been referred to an outpatient cardiac rehabilitation program
- You have packed your sternal support pillow and breathing exerciser

Pain

It is common to have wound pain for several weeks while your wounds and breastbone heal. Muscular pain in your neck, back and shoulders is also common and may be eased by massage therapy, or doing your arm and neck exercises.

By the time you go home, your pain should be well controlled. It is very important to take pain relief regularly, for as long as you need it. As your pain improves, try taking your pain relievers in the morning and at night and reducing the number during the day. Coughing and sneezing may aggravate wound pain, but this can be reduced by supporting the wound with your small pillow.

Maintaining good posture, getting adequate rest and doing your exercises will also help reduce discomfort. It is important to allow yourself time to have rest periods when you are at home. If your pain is not well controlled at home, see your local doctor.

Unless your cardiologist has told you otherwise, you would not be expected to get angina after you have had bypass surgery. If you get pain that is similar to your angina, go to your nearest emergency department at your local hospital or contact your doctor.

Wounds

Continue to shower daily and let the water run over your wounds. Do not use soap directly on your wounds. You should not bath, swim or use creams or powders until your wounds are healed. Use a clean towel (or dry face washer and) dry your wounds first. Do not use a towel that has been used on the rest of your body. If you notice increased redness, swelling, pain or ooze, you should see your local doctor. Make sure you are familiar with how your wounds look prior to leaving hospital.

Medications

Before you go home, the pharmacist will give you your medications with a list which will explain the dosages as prescribed by your doctor, and the actions of your medications. If you are on Warfarin tablets, you will need to have regular blood tests which will be discussed with you.

Anti embolic stockings

As you are generally less active than you would normally be, you may be at risk of a blood clot forming in the veins in your legs. Anti embolic stockings are worn to facilitate your circulation and reduce the risk of (DVT). The stockings may also support any swelling in your legs.

Wear your stockings day and night for 2 weeks after your operation or longer if the swelling persists. Stockings are interchangeable; there is not a left or right leg. Do not roll or fold down your stockings, as this can cause a torniquet effect and interfere with your circulation. Your stockings are machine washable on a gentle cycle or, alternatively, hand wash.

Activities

Take your first week at home quietly. You should be able to shower and dress yourself, but you may need help putting on your stockings.

You cannot resume driving until you have seen your surgeon, usually 6 weeks after surgery.

You can resume your usual sexual activities as soon as you wish, being careful not to put too much pressure on your breastbone. It can take a few months for your usual sexual drive to return; however, you should consult your doctor if you continue to have problems after this time.

Usually, patients return to work approximately 6–8 weeks after discharge, often on a part-time basis. Your surgeon will advise you at your 6-week follow-up appointment.

Activity guidelines after discharge

Watering garden with hose	1 week
Washing Dishes	1 week
Sewing	2 weeks
Light hand washing	2 weeks
Exercise Bike	2 - 3 weeks
Ironing Small Items	3 weeks
Light weeding	4 weeks
Making the Bed	4 - 6 weeks
Golf putting and lawn bowls	6 weeks
Housework: • Sweeping • Vacuuming • Hanging washing on the line • Raking leaves	 6 weeks 6 weeks 6 weeks 6 weeks
Driving	Consult Cardiologist
Swimming	6 - 8 weeks
Lawn mowing / heavy Gardening	8 - 12 weeks
Car washing	8 - 12 weeks
Heavy lifting	12 weeks
Golf	12 weeks

Cardiac rehabilitation

Cardiac rehabilitation provides patients and their families with invaluable information and support to aid full recovery and is strongly recommended for all patients following heart surgery.

The Cardiac Rehabilitation Program Co-ordinator will contact you to co-ordinate your care within 1-2 weeks of discharge.

Common problems after cardiac surgery

You may have some minor problems after surgery; however, they will all resolve over time. It can take at least 3 months before you are feeling recovered. If you still have concerns after this time, discuss them with your local doctor or cardiologist.

Tiredness

It is common to feel tired once you are at home. You should have a rest during the day for the first few weeks. Your tiredness will improve with time. It is important to gradually increase your activities to help your recovery.

Nausea and poor appetite

Any nausea should be resolving and your appetite returning to normal by the time you go home. If you do not notice any improvement when you go home, see your doctor. As you begin to feel better, you will find that your appetite improves and you may feel more like eating.

Good nutrition is very important after any major surgery, as it can help your surgical wounds to heal. Be sure to include a small serve of lean protein at each meal to help with sternal wound healing. Examples of lean protein include skinless poultry, fish, lean red meats, eggs, low-fat dairy products, lentils and legumes. Fruits, vegetables and wholegrains also provide important vitamins and minerals for recovery and also assist with treating constipation.

Poor concentration and memory loss

Many people experience mild memory loss or have trouble concentrating after cardiac surgery. Major decisions should be avoided for a few months.

Palpitations

About 1/3 of all patients develop a fast, irregular heart rhythm in the first week after heart surgery. It is easily treated with medication. If you feel palpitations like this after you go home, contact your cardiologist or local doctor. If the palpitations don't subside after a few minutes or if you are feeling very unwell or dizzy, call an ambulance.

Constipation

Constipation may be caused by medications, surgery and a decreased level of activity. Eating more fibre may assist; however, some people need a mild laxative. Your local chemist can recommend a suitable product.

Sleep disturbances

You may sleep poorly for a number of reasons, such as not being able to get comfortable in your usual position. People often find they can get off to sleep easily, but wake up a couple of hours later. After the first few weeks this should improve; otherwise, see your doctor.

Important points

- SMOKING!!! If you are finding it hard to give up smoking, ask your local doctor or the nurse at your cardiac rehabilitation program for some advice; you can also ring QUIT for information and counselling on 137 848
- Do not drive until you have consulted your surgeon at your appointment 6 weeks after you go home
- Avoid lifting anything heavier than 5kg for at least 6 weeks after surgery
- Avoid activities causing significant shortness of breath; ensure that you are able to speak easily during exercise

Handy hints

- The general rule of thumb is: 'If it hurts, don't do it.'
- Use a pillow or cushion when you are a passenger in a car to avoid discomfort from your seatbelt
- Be careful when greeting children and pets that may jump up on you
- If there is anything you are unsure of when you go home, feel free to speak to one of the nurses in the cardiac unit

Coronary risk factors guide

After having bypass surgery, it is important to decrease the risk of future heart problems. This may involve lifestyle changes. There are several coronary risk factors, and each one compounds and increases your risk of developing narrowed coronary arteries.

The seven risk factors you can change are:

- Smoking
- High blood pressure
- Physical inactivity
- Stress
- Cholesterol
- Overweight
- Diabetes

The three risk factors you can't change are:

- Family history
- Gender – Male
- Increasing age

Smoking

You are strongly advised to stop smoking. Smoking damages your heart and blood vessels and greatly increases your risk of further heart problems. Passive smoking can also affect your health, so avoid smoky environments as much as you can. Please speak to your doctor or nurse if you would like some help to give up smoking. We have information on giving up and community support programs available to you and your family.

High blood pressure

High blood pressure means that the blood flowing through your arteries is exerting too much pressure on the walls of the blood vessels and the heart.

To lower your blood pressure you should:

- STOP SMOKING
- Keep your weight within normal range
- Exercise regularly
- Limit your alcohol intake
- Limit your salt intake
- Manage your stress effectively
- Take your blood pressure medications as prescribed

Physical inactivity

Exercising regularly has a positive effect on all the other risk factors. It helps you lose weight, lowers your blood pressure, improves your cholesterol, and is a good way of managing stress. You should aim to exercise daily for 30 minutes at a time. The exercise need not be high intensity – walking is fine.

Cholesterol

The National Heart Foundation recommends a total cholesterol level of less than 4.0. If you have high cholesterol, it is important to follow a low saturated fat diet, take your cholesterol lowering medications as prescribed and have your cholesterol checked regularly.

Overweight

Being overweight increases your risk of heart disease and puts extra strain on your heart. Being overweight also increases your chance of getting diabetes. If you would like to see our dietitian, please talk to your nurse or doctor.

Diabetes

Having diabetes can cause damage to your blood vessels and lead to heart disease. It is important to follow a diabetic diet and take your diabetic medication as prescribed. Keeping your weight within the normal range and exercising regularly will also keep your sugar level stable.

Stress

Stress can certainly have a negative effect on your quality of life. In order to feel happy and motivated to live a healthy lifestyle, you need to be able to deal effectively with your stress. There are many effective ways to manage stress. If you would like more information, please talk to your nurse or doctor.

Diet and nutrition guide

Why follow a healthy diet?

There are benefits for everyone in following a healthy diet. It can assist in treating or preventing the following risk factors for heart disease. A healthy diet can also benefit your recovery from heart surgery.

- Excess weight
- High blood cholesterol
- High blood pressure
- Poor diabetes control
- High blood triglycerides

What steps should I take to follow a healthy diet?

Eat less saturated or animal fats

- Choose lean meats, fish and chicken
- Cut fat from meat and remove fat and skin from poultry before cooking
- Use low fat cooking methods such as steaming, poaching, grilling, BBQ, micro-waving, dry-baking or using a nonstick pan
- Remove fat from soups, stews and casseroles when cool
- Use low fat dairy and dairy equivalents
- Restrict pastries, biscuits, cakes, fried foods, commercial snacks and packaged foods, cream and butter
- Use mono and polyunsaturated fats in moderation (margarines, oils, nuts and seeds), especially if you need to lose excess weight
- Use oil sparingly in cooking or as a salad dressing; use stock, vinegar or citrus juices, where possible, instead of oil
- Use 'No oil' salad dressings or make your own low fat dressing
- Use only a scrape of margarine on your toast and bread
- Aim to eat fish, particularly deep-sea varieties, at least twice weekly
- Include vegetable protein, such as legumes and lentils, at least twice weekly

Eat more fibre

- Eat a variety of breads including wholegrain, wholemeal or rye bread
- Include high fibre, low fat breakfast cereals
- Eat at least two serves of fruit and five serves of vegetables each day

Reduce your salt intake

- Avoid adding salt while cooking food or to your food at the table; use herbs and spices for added flavour
- Be conscious of the salt that you bring home from the supermarket shelves: canned foods and sauces, processed meats, gravy and casserole mixes, stock cubes
- Choose no added salt or reduced salt products

Be conscious of your alcohol intake

- Check with your doctor about whether you can include alcohol in your diet following heart surgery
- Limit alcohol to no more than two standard drinks per day with two alcohol-free days each week; an alcohol standard drink includes 30ml spirits, 100ml wine, 375ml full-strength beer

Eat less sugar

- Drink water, plain mineral water or soda water instead of soft drink and cordial
- Use unsweetened tinned fruit and fruit juices
- Restrict lollies, chocolate, cakes and biscuits for snacks

Monitor your weight

- Weigh yourself each fortnight
- Contact an Accredited Practising Dietitian for further advice if you have experienced significant weight loss or gain

But I need to gain weight

Should you need to gain weight after heart surgery, increase your intake of monounsaturated and polyunsaturated fats, while keeping to a low saturated fat diet. The following suggestions should be considered: have an additional serve (20g) of nuts or seeds during the day, either as a snack or with your breakfast cereal. Include a 50g portion of avocado (about a quarter of an average fruit) with your sandwich or salad. A fruit smoothie made with low fat milk or soy beverage can make a nourishing, low-saturated fat snack. The hospital dietitian can provide you with other practical suggestions for your discharge diet if you are concerned about your weight. Some patients may also be prescribed a medical nutritional supplement to support their recovery from surgery. The dietitian will inform you about which supplement/s are suitable and coordinate their provision during your hospital stay.

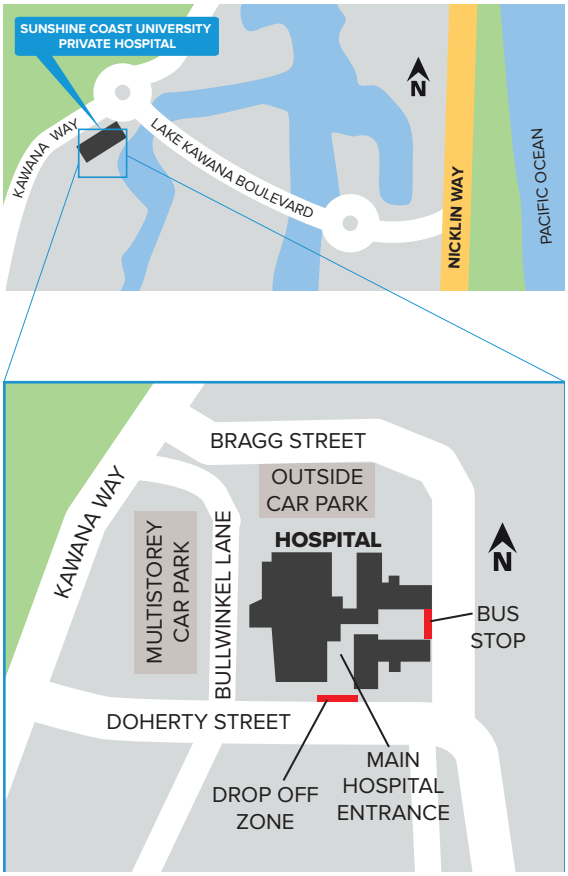
How can I see a dietitian?

If you would like further dietary information during your stay at Sunshine Coast Private Hospital, a dietitian is available for consultation.

Discharge checklist

Please ensure you have the following with you on discharge

1. Medication
2. X-rays returned
3. Breathing incentive exerciser
4. Cardiac pillow
5. Stockings – to be worn day and night for two weeks or as instructed



CONSUMER ENDORSED 2016

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