

MonashHeart, Southern Health is committed to providing outstanding cardiac services for cardiac patients of all ages

- ♥ Every 10 minutes, an Australian dies from cardiovascular disease making it the biggest killer of all Australians
- ♥ MonashHeart treats more acute heart attack patients than anywhere else in Victoria
- ♥ Each year MonashHeart treats over 5700 patients with acute heart problems, the most in Victoria
- ♥ MonashHeart operates one of the busiest cardiac CT scanners in the world
- ♥ MonashHeart is the only cardiac service in Victoria, South Australia and Tasmania to treat heart patients of all ages; from pre birth to our senior citizens
- ♥ MonashHeart is an internationally and nationally recognised leader in cardiovascular research



Fundraising Manager  
Southern Health  
Locked Bag 29  
Clayton South 3169

### Some Useful Websites

**MonashHeart**  
[www.monashheart.org.au](http://www.monashheart.org.au)

**PPM Manufacturers**  
[www.medtronic.com](http://www.medtronic.com)  
[www.bostonscientific.com](http://www.bostonscientific.com) (Guidant)  
[www.sorin.com](http://www.sorin.com) (ELA)  
[www.biotronik.com](http://www.biotronik.com)  
[www.sjm.com](http://www.sjm.com) (St Jude Medical)

**Patient Information**  
[www.heartfoundation.com.au](http://www.heartfoundation.com.au)  
[www.arrythmiaalliance.com](http://www.arrythmiaalliance.com)  
[www.hrsonline.org](http://www.hrsonline.org)



Please use this space to write down any questions you may have:

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Acknowledgement: Stuart Allen, Cardiac Technologist, MonashHeart.



Having A Pacemaker



A Guide For Patients

## Introduction

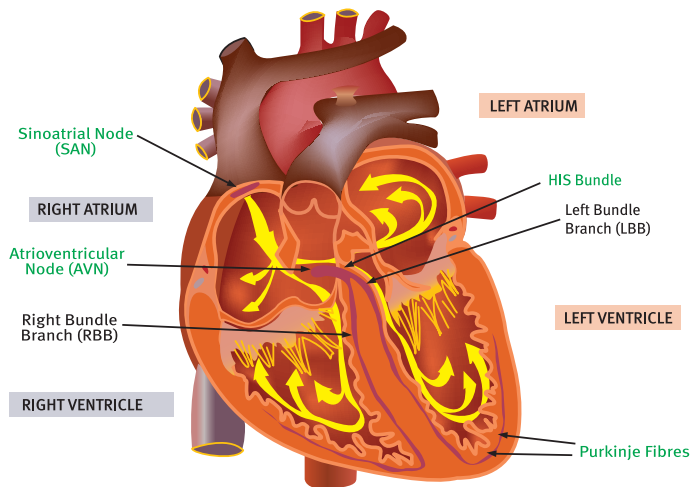


MonashHeart has over 20 years' experience in implanting pacemakers, and over 500 are implanted each year in patients from a few days old to people in their 90s.

This booklet has been written to help you understand what will happen when you have a pacemaker fitted. If there is anything you do not understand please ask a member of the MonashHeart team looking after you.

## Normal Heart Conduction

Within the heart, there are specialised pacemaker cells which discharge electricity that stimulates your heart muscle to pump. These pacemaker cells are situated in the sino atrial node (SA node) within the right upper chamber of the heart (right atrium). This is the heart's natural pacemaker, which starts an electrical impulse, which passes throughout both upper chambers of the heart then through connecting fibres called the atrio ventricular node (AV node) to activate the lower chambers of the heart (ventricles) and cause the major pumping action of the heart.



The Heart's Electrical System

## Some useful telephone numbers

### Pacemaker Appointment Enquiries:

**Dr David Adam** MonashHeart 9594 2249  
Valley Hospital 9790 9338  
Wonthaggi 5671 3353

**Dr Jeff Alison** MonashHeart 9594 2249  
Suite F 9594 2788  
Melbourne Heart Care  
Brighton 9592 2177

**Dr Emily Kotschet** Suite B 9594 2461  
Melbourne Heart Care  
Brighton 9592 2177

**Dr Jack Krafchek** MonashHeart 9594 2249

### Technical Enquiries Only:

03 9594 2248 (9.30 am to 5 pm, 24 hr answering machine)

The receptionists are not medically trained and therefore will not be able to answer any questions directly. The receptionist will take a message and a trained member of staff will return your call. The above numbers should only be only used for general enquiries relating to your pacemaker.

### Pacing Office

**Address:** Pacing Office  
MonashHeart  
Level 2, Monash Medical Centre  
246 Clayton Rd, Clayton  
Victoria 3168

**Telephone:** 03 9594 2249  
or 1300MHEART (1300 643 278)

**Fax:** 03 9594 6239

**Website:** [www.monashheart.org.au](http://www.monashheart.org.au)

I support MonashHeart, Southern Health in providing leading care to cardiac patients of all ages.

(Donations of \$2 or more are tax deductible ABN 82 142 080 338)

♥ I enclose a cheque/money order made payable to MonashHeart, Southern Health for: \$.....

♥ Please debit my credit/debit card for: \$.....  
 VISA  Mastercard  AMEX  Diners

Card Nos:

Expiry:   /

Cardholders Name: .....

Cardholders Signature:.....

### Receipt sent to:

Name: .....

Address:.....

..... Postcode:.....

Phone:..... Email:.....

Is your donation a gift in memory?  Yes  No

In memory of: .....

### Acknowledgement should be sent to next of kin:

Name: .....

Address:.....

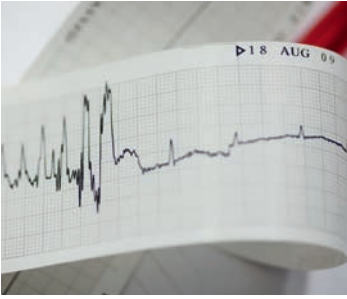
*I give MonashHeart the option of publishing my name in recognition of my support*

### Here's how to make your gift:

**Call:** 1300 MHEART **Fax:** 03 9594 6030

**Post:** complete and return this coupon to:  
Fundraising, MonashHeart, Southern Health,  
Locked Bag 29, Clayton South 3169

Thank you for supporting MonashHeart



Sometimes the electrical system of the heart can become tired or damaged, leading to serious slowing of the heart. This may be intermittent or constant and can lead to a variety of problems. A pacemaker is then needed to help the heart beat normally, returning the person to improved health.

## What are the risks of disorders of the conduction system of the heart?

Slowing of the heart rate can be serious and may even on occasion be life threatening. Thus a pacemaker insertion may be vitally important. A temporary system is occasionally needed until a permanent device can be implanted.

A pacemaker may also be advised when the slowing of the heart is less severe (e.g. an intermittent slowing) or it is thought to be likely to deteriorate. In this situation, the pacemaker is to prevent serious consequences such as fainting, falling and breaking bones.

## What is a Pacemaker System?

A system includes a pacemaker and connecting wire(s) that are attached to the heart by a hook or screw at the end of the lead. The wires allow the natural electrical activity of the heart to be recognised by the pacemaker and, if absent, the pacemaker will stimulate heart activity.

Pacemaker wires are passed through a vein that passes under your collar bone and then into the heart. The wire is connected to the pacemaker, which is then positioned under the skin just below the collar bone. Pacemakers are most commonly placed on the left side but may also be fitted on the right side if you use your left arm for playing sport etc. Rarely pacemakers may need to be positioned in the abdominal wall.

## How does a Pacemaker work?

The pacemaker has a complex electrical system, but the basic function is to send an electrical impulse to the heart if it has sensed that the heart's natural impulse has failed, causing the heart rate to slow below a preset level.

A pacemaker system may have one or two wires (single or dual chamber) placed in either the upper, lower, or both of the right-sided chambers of the heart, depending on the nature of the fault in the heart's electrical system.

Pacemakers usually have a variable rate which is due to either the pacemaker responding to the amount of activity you are doing or triggering by the rate at which the natural pacemaker is firing (dual chamber only). Your own heart beat may be faster than the pacemaker at times, but should not fall below a preset baseline programmed into the pacemaker.

## What are the risks of having a Pacemaker?

As with all invasive procedures, there are some risks that we feel should be outlined in advance. Overall it should also be stated that most complications can be remedied and are rarely life threatening.



### Risks at the time of the procedure:

- ♥ Damage to blood vessels when placing the pacemaker wires into the heart, causing excessive bleeding/bruising.
- ♥ Puncture of the lung causing an air leak from the lung (1-2%).
- ♥ Damage to any existing pacing wires (rare).

### Risks after the procedure:

- ♥ Movement of the pacemaker wires requiring repositioning (2-3%).
- ♥ Bleeding from the wound (2-3%).
- ♥ Infection of the wound or wires within the circulation (1-2%).
- ♥ Failure of pacemaker or lead (very rare).



## Preparation for your Pacemaker

Some preparation will be needed before you have your pacemaker fitted, this will be explained by the nurses caring for you.

The doctor will explain the procedure and any possible complications. You will need to sign a consent form. If you are unsure of anything, please ask the doctor before signing the form.

The procedure is undertaken using xrays, therefore it is critical that if there is any chance you may be pregnant you must inform a member of the team looking after you.



### Before your pacemaker is fitted:

- ♥ We ask that you have nothing to eat or drink for at least four hours before your procedure.
- ♥ You will need to remove your street clothes or pyjamas and put on a hospital gown.
- ♥ If you have a bath, shower or wash before the procedure, please do not use any creams, oils or body lotions.
- ♥ You will be given some antibiotics before the procedure (please inform the nurse or doctor if you have any allergies).
- ♥ You will be transferred to the “cath lab” on a trolley or on your bed.



## In the Cardiac Catheterisation Laboratory

The “cardiac cath lab” is a specialised xray room, where your pacemaker will be implanted. The MonashHeart team involved in your procedure consists of a doctor, cardiac technologist, radiographer and nurses. The catheter lab staff are highly trained and will be happy to answer any questions you may have. As MonashHeart is part of a teaching hospital it is not unusual for students or members of staff to observe operations.



You will be awake during the time your pacemaker is fitted (except patients under age 18, who will usually have a general anaesthetic). You will also be given some drugs which will make you feel relaxed. Your skin will be cleaned with an iodine solution, and sterile towels placed around the area of your body where the specialists will be working. There will be an xray camera above you and you will be attached to a heart monitor.

Local anaesthetic will be used to numb the skin and tissues. Once this has taken effect, a cut about two inches long will be made to fit your pacemaker. When the wire(s) are in place, the cardiac technologist will perform some checks, and when these are satisfactory the pacemaker will be connected to the wire(s) and everything placed in a pocket under the skin.



The cut will then be stitched with dissolving sutures, and a dressing applied. The whole procedure normally takes between 45 and 90 minutes. You will then spend two to four hours in the Immediate Care Centre recovery area or be transferred directly back to your ward.



## On return to the Immediate Care Centre / Ward

On return to the Immediate Care Centre/ward, your wound will be checked regularly for any bleeding or swelling. You will need to stay resting in your bed for at least two hours.

You are advised to limit the movement of your arm on the side that the pacemaker has been fitted in order to reduce the potential risk of the wire(s) moving.

You will need to have your pacemaker programmed and its function checked before you leave hospital. This may be done after your procedure or the following morning.

In some cases, a chest xray is performed to ensure the pacemaker wire(s) are in good position and to check there are no other complications. Often you are able to go home or are transferred back to a hospital near your home the same day your pacemaker is fitted.





## Care of your wound

The dressing to your wound may be removed seven days after the pacemaker has been fitted and the wound should then be left uncovered. The stitches in the wound are dissolvable and do not require removal. You may see some bruising around the wound area. It is advisable for the first couple of weeks to wear loose clothing, so that your clothes do not catch on your wound. You are not automatically exempt from wearing a seatbelt. If you find this causes some discomfort, a cotton wool pad placed over the pacemaker site may be helpful.

While your wound is healing you must be careful how it is cleaned. Having a bath or shower is fine, provided that your wound is fully dried afterwards. You are advised not to use any strong smelling soaps, talcs, body lotion, deodorants or perfumes near your wound while it is healing.

You may experience some wound discomfort for a few days. This is usually relieved with Panadol or Panadeine.

If any further bruising, swelling or bleeding develops, or if your wound starts to ooze any secretions or becomes hot and tender to touch, contact your local doctor or the Pacing Office, MonashHeart at once. If infection is suspected, it is vital that the wound is reviewed by the implanting physicians at MonashHeart BEFORE any antibiotics are prescribed.

## Advice for 'at home'

When a pacemaker has been fitted it will be programmed to beat at a certain minimum rate and you will be advised of this. If you check your pulse and your heart rate is higher than this do not be concerned, as this may be your own heart rhythm or it may be the pacemaker responding to your activity.

If you notice your heart rate to be lower than the rate on your card and you feel unwell please contact your doctor or the Pacing Office, MonashHeart (telephone numbers are listed at the end), as you may need to have your pacemaker checked.

## ID card & check ups

You will receive your pacemaker identification card automatically in the post. If you do not receive your card by your first pacemaker check please tell the technician or your doctor. If you lose your identification card please contact the MonashHeart Pacing Office or tell your doctor at once.

Your first pacemaker check is around six weeks after your pacemaker is fitted and this appointment is automatically made for you.

## Warfarin

If you have been asked to stop taking Warfarin prior to your pacemaker insertion, you should restart your Warfarin on the same night after your pacemaker insertion. You will need to have a blood test to check your Warfarin level (INR) three to four days after you have restarted your Warfarin.

It is important that you are careful with any activities using your arm on the side of the pacemaker for about one month after implant. This will give the wound time to heal and the wire(s) time to settle into place. Avoid any heavy lifting, strenuous exercise, stretching (for example, carrying shopping bags, hanging clothes on the washing line and getting dressed). Household chores like vacuuming, ironing and lifting heavy saucepans must be done with caution. If you have to lift anything heavy, make sure you use both hands to take the weight.

You may resume a normal sex life when you feel fit but for the first four weeks avoid pressure on your wound.



## Things to avoid:

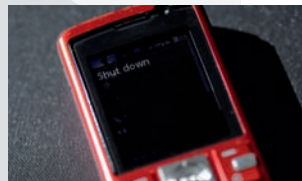
- ♥ Short-wave therapy treatments, eg, slender-tone machines and electrolysis treatments.
- ♥ Direct contact with car ignition systems (if doing car maintenance).
- ♥ High powered radio equipment and TV transmitters. Your own TV and radio are perfectly safe.
- ♥ Welding equipment.
- ♥ Close contact with electrical spark equipment.
- ♥ Never place large magnets near your pacemaker. (Magnetic bracelets used for arthritis etc should be removed at night).
- ♥ Before using any electrical exercising sports equipment seek advice from the manufacturer or the gym instructor to check whether it is safe to use.
- ♥ You cannot have an MRI scan.

**Microwave ovens** are normally safe to use, although unserviced or early models (more than 15 years old) should be used at arms length.

**Mobile phones** should not be carried in a pocket over the pacemaker. When making or receiving a call you should use the opposite ear to the side of the pacemaker.

**Shop security systems** should cause no problems, but to avoid any potential risks walk through normally and avoid stopping within 1 metre of the aerials (usually situated at the shop entrance).

If you are unsure of a piece of equipment that may affect your pacemaker, please contact the Pacing Office, **MonashHeart**.





It is important that you carry your pacemaker identification card at all times, and when attending any hospitals, clinics or dentists for treatment that you inform them that you have a pacemaker. After your pacemaker is fitted you should not drive for one week. You should inform your own insurance company that you have had a pacemaker fitted. Having a pacemaker fitted should not affect your insurance premiums.

## Travel

When travelling, it is important that you avoid walking through archway metal detector devices. Tell someone at the security area that you have a pacemaker and show them your pacemaker card if necessary. They will then hand search you to give you clearance with your travelling.

Many pacemaker patients continue to travel abroad especially as pacemaker problems are rare. If you have any worries about travelling abroad now that you have your pacemaker fitted, the Pacing Office MonashHeart can obtain addresses of pacemaker centres throughout the world (please contact the Pacing Office well in advance of your travel date).



## The Pacemaker Clinic

Now that you have a pacemaker it is important that you attend the pacemaker clinic for your pacemaker to be checked.

- ♥ The first check is after four to six weeks.
- ♥ The second check is after three months.
- ♥ You will then need to have your pacemaker checked at least once a year.

All your appointments are made automatically for you. If you are unable to attend any appointments, phone the Pacemaker Office as soon as possible and a new appointment will be sent to you.

If possible, we encourage you to make your own way to the pacemaker clinic or to get a relative to bring you. However, if you live in a nursing home or hostel and no transport is available or no one can bring you, then your residence should be able to organise transport for you.

The battery of a pacemaker normally lasts for seven to 10 years, after which time the battery will need replacing (recharging is not an option). It will be carefully monitored each time you visit the pacemaker clinic and when the pacemaker battery begins to show signs of running down you will then be asked to come back more frequently to have it checked. When the pacemaker needs changing, it is normally a day procedure.

Once the pacemaker is fitted there should be no restrictions or limitations to your lifestyle (besides those mentioned in this booklet). It is important that you continue to live a normal, happy, healthy life and enjoy the benefits that your pacemaker will provide for you.