

After the Procedure

→ Once your pacemaker has been checked, you will usually be sent home within six to 24 hours.

Q: How will I know if the pacemaker is working correctly?

A: You may not feel your pacemaker when it activates.

Contact your doctor or pacemaker clinic immediately if you develop:

- ♥ Symptoms similar to those prior to pacemaker implantation
- ♥ Hiccapping or twitching in your chest area
- ♥ A racing heart
- ♥ Redness, pain, swelling and/or discharge from around the pacemaker site.

You may experience some discomfort and bruising around your pacemaker site. Discomfort can be relieved with regular paracetamol.

Before going home your doctor/nurse/cardiac technologist will discuss with you how to care for the pacemaker site, including keeping it dry for one week. You will also receive a pacemaker information booklet. It is important to read this booklet and discuss any questions during the appointment.

When home, you will also be sent a pacemaker clinic appointment. Regular follow-ups will be arranged by your local pacemaker clinic to ensure the pacemaker continues to function appropriately.

Q: When will I be able to return to my normal activities?

A: It takes a few weeks for the pacemaker wires to become fully secure and for the discomfort to go away. For this reason, heavy lifting and activities that require you to lift your arm above shoulder-height should be avoided. In general, after four to six weeks you should be able to build-up to your normal living activities, including work and travel. Your doctor will advise you as to when you can start to drive again.

It is important if you have any concerns about your new pacemaker or wound, to contact your local pacemaker clinic immediately.

Electrical Devices

→ While most electrical appliances will not affect your pacemaker, the following equipment may interfere with a pacemaker's electronic system.

Devices and equipment to avoid:

- ♥ Medical equipment, such as magnetic resonance imaging (MRI), lithotripsy or radiotherapy
- ♥ Magnetic bracelets and mattresses or chairs
- ♥ Shortwave diathermy treatment/TENS machines used by physiotherapists and during surgery
- ♥ Electro-cautery and ultrasonic scaling equipment used by dentists and electrolysis for hair removal
- ♥ Working on car ignition systems
- ♥ Electric arc welders
- ♥ Close proximity to high power radar or electrical installations
- ♥ Cell phones should be kept at least six inches away from the pacemaker.

In general, prior to any treatment you should advise all health professionals that you have a pacemaker fitted. You may be required to have a pacemaker check before and after some procedures or treatments.

If unsure of the effects of treatments, contact your local pacemaker clinic for advice. Your doctor will advise you about wearing a MedicAlert® bracelet.



Contact Information

The Heart Foundation is dedicated to reducing the risk of cardiovascular disease – heart, stroke and blood vessel disease – for all New Zealanders.

Since our formation in 1968, we have assisted people with cardiovascular disease, funded vital heart-health research, supported health professionals in their practice, developed health promotion activities, informed and educated the public – and worked with high risk groups through dedicated prevention programmes. In fact, since our inception, heart disease death rates in New Zealand have halved.

Thanks to the generosity and support of the New Zealand public, our charity is able to continue with ground-breaking work into the future. Thank you for helping us provide the very best heart health information and funds for cutting edge research – efforts we hope will help keep New Zealanders together for longer.

For more information about heart health and/or supporting the Heart Foundation, please contact:

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You
and Your
Pacemaker



→ a helping
hand to
making a
difference

Introduction

→ Your heart beats regularly at varying rates depending on your body's needs. However, if your heart beats too slowly or at an irregular rate, it may cause you to feel light-headed, breathless or even experience blackouts. These slow or irregular heartbeats are called arrhythmias and can be due to:

- ♥ heart disease
- ♥ damage to the heart's electrical conducting system
- ♥ congenital heart defects.



A pacemaker with two leads

Arrhythmias can sometimes be corrected through the use of a pacemaker. The pacemaker monitors your heart rate and starts working when your heart rate is too slow. It continues 'pacing' until your own natural heart rate picks up again. This prevents you feeling light-headed, breathless or faint due to a slow heart rate.



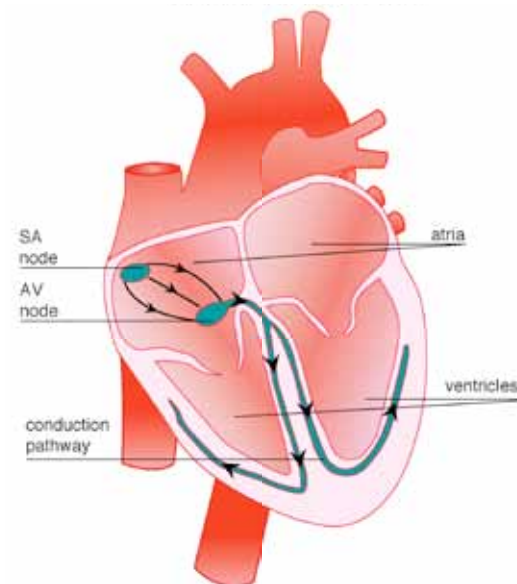
Electrocardiogram (ECG) measures the electrical activity of the heart

How Your Heart Works

→ Your heart is a pump made of muscle, with four chambers - two atria at the top and two ventricles at the bottom.

Electrical impulses travel along the electrical conduction system in the heart, causing the heart muscle to contract and pump blood around your body.

Electrical conduction system



The heart's natural pacemaker, the sino-atrial node (SA node), situated inside the right atrium, sends an electrical impulse through the heart muscle to the atrio-ventricular node (AV node). This signal causes the two atria to contract and pump blood into the ventricles. The impulse then travels from the AV node along special cells, causing the heart muscle to contract and pump blood from the ventricles to the lungs and the rest of the body. This is your heartbeat. After a short time the cycle then starts again.

A pacemaker may be needed when the SA node is too slow at sending impulses, or the pathway to the ventricles becomes partly or completely blocked.

What is a Pacemaker?

→ A pacemaker is a small device, designed to help your heart beat regularly. It contains a long-lasting battery and an electronic circuit sealed in a metal case. The pacemaker sits under your skin and produces an electrical impulse, which is sent directly to the heart muscle by one or two leads.

When the impulse reaches the heart muscle, it causes the heart to contract or beat.

There are several types of pacemakers available. Your doctor will discuss the different options with you to decide which is the most suitable.

The pacemaker may do one or more of the following things:

- ♥ Control the rate at which the ventricles pump
- ♥ Restore "communication" between the atria and ventricles, coordinating their contractions
- ♥ Increase the heart rate, when required, in response to physical activity demands.

When your heart is beating normally, the pacemaker will not be activated. It only activates when your heart rate is too slow.

The pacemaker rate can be reprogrammed to meet your needs. This is done by an external device that communicates with the pacemaker.



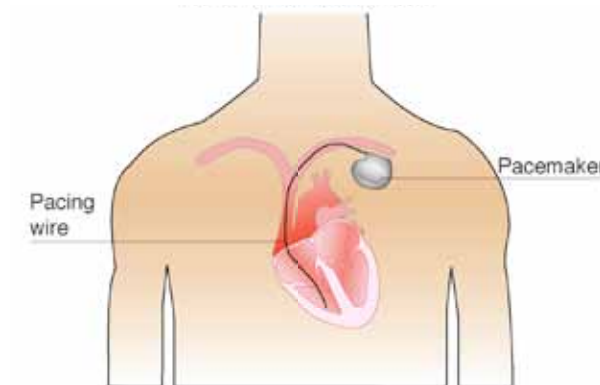
Pacemaker being checked

The pacemaker can also be programmed not to activate at times when your heartbeat would normally slow down, for example when sleeping.

Pacemaker Procedure

→ Pacemaker implantation procedures are normally undertaken in hospital as a day stay or overnight stay. Prior to your pacemaker procedure you may be given a light sedative to help you relax. The doctor will begin the procedure by injecting local anaesthetic to numb the area where the pacemaker will be implanted.

Pacemaker placement



The pacemaker leads are inserted into a vein below your collarbone and passed along this vein into your heart. The leads are then attached to the inside of the heart wall.

The leads are tested and connected to the pacemaker. The pacemaker is then implanted under your skin, below your left or right shoulder. The procedure normally takes about one hour, although this can vary.

Your cardiologist or cardiac technologist will then check and programme your pacemaker to best suit your individual needs.

Q: How long does the battery last?

A: It depends on the type of pacemaker and how often it is activated. Most pacemaker batteries last between five and ten years. At each pacemaker clinic appointment the battery will be checked. Replacing the battery requires a local anaesthetic and is generally a very brief procedure.