Permanent Pacemaker Implantation / Box Change - A Guide to the Procedure

Cardiology Department
Medicine

Forms to be sent out with this information leaflet – ECG (green form), blood test and admission form.

This leaflet has been designed to give you important information about your condition / procedure, and to answer some common queries that you may have.
Information for patients and visitors

Introduction

This leaflet has been compiled to help you understand the test you are having and to give you some general information about what to expect during your stay.

Please ensure you read this leaflet carefully.

What does the procedure involve?

A pacemaker is a small, sealed metal device (pacemaker box) which contains a battery and electronic circuits. The device is connected to your heart by one or more wires (leads).

The leads are passed along a blood vessel to your heart and the pacemaker box is usually implanted under the skin in your upper chest close to your collar bone. The pacemaker can monitor your heart and if it detects a slower heart rate it can produce an electrical stimulus to make the heartbeat. Pacemakers are largely used to treat slow heart rhythms although if you have been diagnosed with heart failure a CRT (Cardiac resynchronisation therapy) biventricular pacemaker may be implanted to increase heart function.

Your pacemaker may be single chamber (one lead), dual chamber (two leads) or CRT (three leads). Each type is implanted depending on the underlying heart rhythm problem.

How is the pacemaker implanted?

The procedure is performed under local anesthetic given by injection which will numb the area so you will not feel anything.

Before the procedure starts you will be covered in sterile drapes and your skin will be cleaned with an antiseptic solution. The device is usually implanted on the left side. The doctor will pass a small lead and electrode down a vein into the heart. You may have 1, 2, or 3 leads depending on the type of pacemaker you need. The leads are then connected to the pacemaker box. A pocket is created in your chest for the pacemaker box to sit under the skin. The area will be stitched with dissolvable sutures and closed with steri-strips or glue. The procedure should take approximately 60-90 minutes.

Box Change

Most pacemaker batteries (box) last 6-10 years, sometimes longer. You will then need to have a Box Change procedure to replace the box with a new one. The leads do not usually need to be replaced during this simple procedure. It is similar to the procedure to implant the pacemaker and is usually as a daycase.

Benefits

Sometimes the heart’s electrical system does not work as well as should which causes slow, fast or irregular heartbeat. A pacemaker can treat some of these abnormal heart rhythms. A CRT pacemaker helps to improve the pumping action of the heart.

Are there any risks?

The implantation operation is usually successful, but as with all procedures there are some risks.

- There is some risk of puncture of the lung (between 1% - 2%) as the vein used for the wire runs close to it. Usually no treatment is required and sometimes any escaped air has to be removed using a needle and drain
- There is a small risk of a wire slipping out of place (between 1% - 4%). If this
happens it must be repositioned under x-ray guidance

• The risk of infection for pacemaker implantation and pacemaker box change is about 2%

If you have any concerns regarding the potential risks of this procedure then please do not hesitate to discuss this on the day of your admission.

It can be helpful to some people to write down their questions, as it is common to forget them when in hospital.

Alternatives

Your cardiologist should have discussed alternatives with you.

Preparation

Requests for Tests / Investigations Prior to Your Admission

You will / should have been sent TWO forms, one for an ECG (green card) and one for a blood test.

These tests must be done at the hospital before 1pm on the day prior to your admission OR at your pre-assessment appointment.

Please bring the forms to the hospital with you and take them to the relevant departments to be carried out. The ECG should be done in Cardiology and the blood test in Pathology, if you do not have a pre-assessment appointment.

It is essential that you have these tests done before the day of admission otherwise your procedure may be cancelled.

Prior to Admission

If your procedure is in the morning we advise you to have a light breakfast (toast / cereal) and a drink before 7.00am. If your procedure is in the afternoon then you should have a light snack no later than 10.00am. Please do not eat or drink after the stated times.

Please bring a list of your medication with you. If you take any of the following medications please follow the instructions below.

Warfarin

Please stop taking this 5 days prior to your admission unless instructed otherwise. If you have had a valve replacement or have been told you have a heart murmur you will be advised at a pre-assessment appointment about possible replacement therapy. If you do not receive a pre-assessment appointment please contact the hospital on the phone numbers at the end of this sheet.

Novel Anti-Coagulants (Pradaxa - Dabigatran Eteixilate, Eliquis - Apixaban and Xarelto - Rivaroxaban)

Your Cardiologist will have given you instructions regarding stopping your medication prior to your appointment, if you are unsure please contact us.

Clopidogrel (Plavix)

Please stop taking these 48 hours prior to your admission.

Diuretics (Water tablets)

Please do not take these on the day of the test.

Diabetic Medication:

• Metformin

Please discontinue the day before and the day of your admission.
Information for patients and visitors

• **Tablet controlled**
  Do not take diabetic tablets on the morning of the procedure (with the exception of Metformin where instructions are given above).

• **Insulin Dependent**
  Fast acting - have half your normal dose on the morning of your procedure.
  Slow release – do not take on the morning of the procedure.

**Forms**
Please complete the enclosed admission form and bring it with you on the day of admission.

**What to Bring into Hospital with You**
- Dressing gown
- Slippers
- Nightwear
- Medications or list
- Reading material & glasses
Please leave valuables and large amounts of money at home.

**Visitors**
Unfortunately we do not allow visitors to stay due to patient privacy. We do ask that you organise a friend / relative to bring you into hospital and take you home.

**Prior to the Procedure – On the Day**
A needle (cannula) will be inserted into one of your veins, usually in the back of the hand or forearm to administer an antibiotic prior to the procedure. This is to help minimise the risk of infection. This will be removed before you are discharged.

**Following the Procedure**
You may need a chest x-ray to check the lungs as well as the position of the leads and an ECG (electrocardiogram). You will then be given something to eat and drink. You will probably be able to go home the same day or the next day provided there are no complications.

A pacemaker check will also take place, making sure the pacemaker is working and you will be given a registration card which has the details about your pacemaker. This card should always be carried with you in case of an emergency.

A wound check appointment will be made for you and either given to you or posted to you. Following the procedure you will be given an advice sheet. The advice on the sheet will be explained to you before you leave the hospital.

**Discharge**
You may require to stay overnight at the hospital after the procedure. If you are discharged home it is necessary to have a friend or relative stay with you. It is important that you rest completely for the rest of the day.

If you do not have a relative or friend to stay with you overnight your procedure may be cancelled or you will have to stay overnight in hospital providing there is a bed available.
Information for patients and visitors

Driving
After having a pacemaker or box change, driving is restricted for 7-10 days following discharge so it is advisable that you do not drive yourself to the hospital and public transport is not suitable for travelling home.

References
Should you require further information regarding heart investigations you may find the following websites useful:

The British Cardiac Society
www.bcs.com

The British Heart Foundation
www.bhf.org.uk

Contact Details for Further Information
If you have any queries regarding any of the information contained within this leaflet, or your admission date and time please contact the Cardiology Department at:

Diana, Princess of Wales Hospital, Grimsby
01472 875317 (Secretary)
01472 875514 (Secretary)
01472 875551 (Secretary)
01472 302357 (Nursing Staff)
01472 875315 (Coronary Care Unit)

Scunthorpe General Hospital on:
01724 387897 (Secretary)
01724 387969 (Planned Investigations Unit)
01724 290129 (Coronary Care Unit)

Concerns and Queries
If you have any concerns / queries about any of the services offered by the Trust, in the first instance, please speak to the person providing your care.

For Diana, Princess of Wales Hospital – you can contact the Patient Advice and Liaison Service (PALS) on (01472) 875403 or at the PALS office which is situated near the main entrance.

For Scunthorpe General Hospital – you can contact the Patient Advice and Liaison Service (PALS) on (01724) 290132 or at the PALS office which situated on C Floor.

Alternatively you can email: nlg-tr.PALS@nhs.net

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Grimsby
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01472 874111

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