

Your Pacemaker

Why do you need a pacemaker?

Your heart beats at a slower rate than normal, which can be caused by a number of different heart conditions. These slow rhythms can cause different symptoms including dizziness, feeling faint, nausea, and sometimes sudden loss of consciousness. A pacemaker is required if the abnormally slow heart rate cannot be reversed by another treatment and will prevent abnormal slowing of the heart rhythm and will control the symptoms that you may be experiencing.

A pacemaker is a small metal box, approximately 5cm by 4cm, with no sharp corners or edges, weighs between two and four ounces and contains a lithium battery and a microchip. The pacemaker is put into a 'pocket' under the skin below your collar-bone and connected to a fine wire (a pacing lead or electrode) which passes into your heart.

Pacemakers work on demand which means that they have sophisticated electrical circuits capable of detecting pauses in the heart's rhythm. If they detect an abnormal pause or gap, the pacemaker uses energy from the battery to generate a small electrical impulse. This impulse is conducted to the heart along the pacing lead. Each impulse causes the heart to contract. This means that you will use the pacemaker only when it is required. When your own heart is beating fast enough the pacemaker will be inhibited (switched off).

There are several different makes and models of pacemakers. The type you require depends on where the fault in your heart's electrical system is located. The main difference between pacemakers is that they have either one or two leads. These will be fitted into either the atrium (the top chamber of the heart) or the ventricle (the bottom chamber), or both. All modern pacemakers are reprogrammable and after insertion changes can be made to the rate, mode of action and electrical output and can be adjusted externally to accommodate changing conditions and maintain battery life.

How will your pacemaker be fitted?

The pacemaker is usually implanted under local anaesthetic in an X-ray room and involves insertion of the pacing lead or leads into a vein below the collar bone. The lead is positioned under X-ray vision into the appropriate chamber of the heart and is secured in place. The amount of electrical energy needed to cause the heart to contract is tested. Once the lead is positioned satisfactorily, the pacing lead is connected to the pacemaker. This is then fitted into a 'pocket' between the skin and muscle of your shoulder.

If there are no complications and your Cardiologist has assessed it is safe you may be allowed home the same day or the following day. A post implant pacemaker check will be arranged for either the next day or at the earliest opportunity. A follow up appointment to attend the pacemaker clinic will be made for six weeks.

Follow-up appointments at the pacemaker clinic are usually arranged at intervals of every 3 to 12 months, depending on the type of pacemaker you have and its performance. These clinic visits will be quite short, but it is extremely important that you attend so that the condition of the batteries can be checked and any faults detected.

You will be given an identification card which you should carry with you at all times and if you are admitted to a different hospital staff can identify your pacemaker. You will not be allowed to drive for at least one week after the pacemaker has been fitted.

Until you have returned for your six-week check do not:

- Drive if you are a vocational driver e.g. PSV, HGV, etc. This is a legal requirement until after your first pacemaker check. You need to inform the DVLA and you will be issued with a three-year licence. It will also be necessary to inform your insurance company.
- Lift the arm which is on the same side as your pacemaker above shoulder height. This is because the pacing wire is fixed in the shoulder, and sudden stretching movements may pull the wire out of the heart. After six weeks, the wire will have become fixed to the heart.

Your recovery to a normal life after implantation will be quick and you should be able to resume normal activities such as travelling, bathing, showering, swimming, sexual activity, returning to your job, and engaging in your hobbies or recreational activities, including walking, hiking, gardening, golf, fishing, etc.

Some hobbies, such as shooting, deep-sea diving, and rowing, may require special positioning of the pacemaker, so please ensure you discuss this with your consultant before the pacemaker is fitted. Most electrical items you encounter in an average day are perfectly safe and will not interfere with your pacemaker's function. You can comfortably use common household appliances, including microwave ovens (these will need to be serviced regularly), televisions, FM and AM radios, stereos, video and computer games, and garage door openers.

A safe way of operating hand-held electrical devices is to hold the device several inches or more away from your pacemaker to reduce the chance of interference. When using mobile or cordless phones, maintain a separation of six inches between the phone and the pacemaker. Long range cordless phones transmitting above three watts will need a minimum separation of twelve inches between the antenna and the pacemaker.

If unsure please do not hesitate to ask the pacemaker follow-up clinic staff. Items of office and light shop equipment will not interfere with your pacemaker if they meet current electrical safety standards.

Please avoid the following sources of electrical interference:

- Electric arc welding equipment.
- Dielectric heaters used in industry to bend plastic.
- Electric steel furnaces.

It is unlikely that airport screening devices and theft detectors in stores and libraries will adversely affect the performance of your pacemaker. Airport screening devices may detect the pacemaker's metal case, so it may be necessary to present your pacemaker identification card to obtain clearance.

Always tell any health professional with whom you have contact that you have a pacemaker and show your identification card.

Most medical procedures are unlikely to interfere with your pacemaker.

If you have a dual-chamber pacemaker or a rate-responsive pacemaker, inform health professionals that your pacemaker increases and decreases its rate as part of its normal function.

Magnetic Resonance Imaging (MRI) is not usually recommended for patients who have pacemakers.

MRI scans should only take place after consultation with your Cardiologist and the pacemaker follow-up clinic staff to ensure that your pacemaker is compatible with MRI scans.

How long your pacemaker lasts depends on how much it is being used and how complicated the pacemaker is. On average pacemakers last 8 to 10 years. The pacemaker runs down gradually and the remaining battery life is measured each time you attend the pacemaker clinic. We will know well in advance when your pacemaker needs replacing. A new pacemaker is implanted in a similar way to the original. The old pacemaker is unscrewed from the pacing lead. The lead is checked and, if it is still working satisfactorily, the new pacemaker will be attached.

If you have any queries about your pacemaker please contact the Cardio-Respiratory Department which is open Monday to Friday 9.00am to 4.00pm. Outside working hours, there is an answerphone service:

Cardio Respiratory Department

Doncaster Royal Infirmary Tel: 01302 642456

Bassetlaw Hospital Tel: 01909 572761

Admission to hospital

You may have been admitted to Hospital as an emergency to the Coronary Care Unit at Doncaster Royal Infirmary or Bassetlaw District Hospital.

If you are a planned admission you will be admitted to the Diagnostic Day Unit (DDU) at Doncaster Royal Infirmary. Access is via Gate 3, Accident and Emergency Department. Enter through the electronically activated doors and take the first left down the corridor towards the CT Department. You will be informed by letter prior to your admission whether you are a day case or are required to stay overnight.

If you have a medical need and require transport please contact your Consultant Cardiologist Secretary, contact details are on your appointment letter. There are open visiting times on DDU.

Items to bring with you to hospital include:

- Day case - Dressing gown, slippers and a list of medications.
- Overnight stay – Dressing gown, slippers, all medications, toiletries and nightwear.

On arrival to the DDU you will be allocated a bed. The Nurse will complete an assessment which involves asking you some questions and recording your blood pressure, pulse, temperature and oxygen levels. The Nurse will explain the procedure and complete your menu as lunch will be provided. All patients receive intravenous antibiotics prior to the procedure this helps with wound healing to minimise the risk of infection. A cannula (small needle) will be inserted into the hand or arm where the antibiotics will be given. You will be asked to wear a hospital gown and your own dressing gown and slippers. You will be taken to the X-ray suite in a wheelchair.

Returning to the Ward after your procedure

You will be assisted into bed for a rest period usually one to two hours. The dressing will be checked and your blood pressure, pulse, temperature and oxygen levels will be monitored. Lunch and drinks will be provided. After the rest period you will be taken in a wheelchair for a routine chest X-ray. The cannula (small needle) in your arm will be removed. If you are a day case you will then be allowed to dress and be discharged with your family. You will be given an appointment to attend the ECG Department for pacemaker checks in the next few days. If it is planned for you to stay overnight you will be informed which ward you will be transferred to. You will attend ECG the next morning for pacemaker checks. You will then be discharged.

Instruction for care of pacemaker wound site

If your wound site has been closed with clips, they will require removal in seven days. You will need to make an appointment at your GP surgery for one week after the procedure and you will also be given a clip remover to take to the appointment with you. If your wound site has been closed with stitches they are under the skin and do not need removing.

You will be given to take home with you three dressings and an appointment to attend the pacemaker clinic in six weeks this applies to both clips and stitches.

Day 1 after leaving hospital

You may have a bath or shower but keep the dressing on and the wound area dry, and replace the dressing after your shower. Keep the wound area dry for the first seven days.

After Day 1

Change the dressing alternate days. For wounds closed with clips, keep a dressing in place until the clips have been removed. For wounds closed with stitches the wound area may be left uncovered as soon as is comfortable to do so.

Checking the wound and applying the dressing

This will have been explained to you by the nurse before you left hospital. You are advised to ask a relatives or friend to do this for you. Please remember hands must be washed before and after removing the dressing. If necessary the hospital nurse will book a District Nurse to visit you at home, you will have been given details about this before leaving the hospital. It is important to observe the wound in case there are any problems but try to avoid touching it. Please contact your GP if:

- The wound or area around it looks red or swollen and feels hot.
- There is any leakage of fluid (blood or blood-stained fluid) which cannot be stopped by applying pressure for a few minutes.
- There is any leakage of pus or foul smelling fluid.
- You experience pain which is not relieved by taking medication.

Contact Details

Diagnostic Day Unit, Doncaster Royal Infirmary Tel: 01302 644614

Opening hours:

Monday to Friday

If you need advice and the unit is closed please contact your GP Surgery.

Please ask!

If you have any questions about your treatment, medicines or the care you are receiving, please ask. Please use the space on the next page to write down any questions you may have for your doctor, nurse or therapist.

Notes:

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Patient Advice & Liaison Service (PALS)

The team are available to help with any concerns, complaints or questions you may have about your experience at the Trust. Their office is in the Main Foyer (Gate 4) of Doncaster Royal Infirmary. Contact can be made either in person, by telephone or email.

The contact details are:

Telephone: 01302 642764 or 0800 028 8059

Email: dbth.pals.dbh@nhs.net

Cardiorespiratory

