



Oxford University Hospitals
NHS Foundation Trust

Cardiac Physiology

Implantation of a Pacemaker

Consent Information for patients



What is a Pacemaker?

Your doctor has recommended that you are fitted with a pacemaker. A pacemaker is a small, metal, battery-powered device that sends impulses to the heart muscle when the heart beats too slowly.

Your cardiologist will consider the different types of pacemaker available, and select the one that best meets your particular needs and circumstances.

The procedure is usually carried out using local anaesthetic (to make your skin and the area below go numb) and sedation (to make you feel drowsy).

How do I prepare for the appointment?

We will let you know by letter, prior to the procedure, whether there are any specific instructions you need to follow. The letter will include important directions for stopping eating and drinking. You may also have a pre-assessment appointment by telephone or face-to-face to discuss the procedure.

Please make sure you have a shower, bath or wash before you come into hospital for your procedure. This helps to make sure your skin is clean and reduces the risk of infection.

What happens before the procedure?

The doctor or nurse will explain the procedure to you, including the risks and benefits. You will then be asked to sign a consent form to confirm you are happy for the procedure to go ahead. You will need to change into a hospital gown, you may be able to keep your underwear on as long as it contains no metal (such as sequins or poppers).

Before the procedure, a small plastic tube (called a cannula) will be inserted in your arm, so that we can give you antibiotics (to reduce the risk of infection) and pain relief during the procedure. We will offer you sedation if you would like to have this, which will make you feel relaxed and sleepy.

If you have any questions or concerns, please ask, as we would like you to be as relaxed as possible about the procedure.

What happens during the procedure?

You will be asked to lie on your back on a narrow, firm table, which is positioned under an X-ray camera. The X-ray camera is used to help guide the doctor during the implantation. It is important that you lie still during the procedure, so that the pictures produced by the X-ray are not blurred. If you need to move or scratch an itch, please let the staff know.

We will connect you to monitoring equipment to check on your heart rate, blood pressure and the level of oxygen in your blood.

We will clean your skin with an antiseptic solution, which may feel cold and wet, and your chest will be covered in sterile drapes. This helps us to keep the wound as clean as possible. You will be given a local anaesthetic, which will be given as an injection under your skin and below your collar bone, on the side where your pacemaker will be placed. This may sting at first, but will soon go numb.

You will be offered some light sedation to help you to relax. You can choose not to have sedation. The sedation will help you feel calm and sleepy, but you will still be awake. You should not feel anything during the procedure but will still be aware of what is happening. If you choose to have sedation, this will be given into the cannula.

The pacemaker will be implanted under your skin in a pocket that the cardiologist will make in front of the muscle on the left or right side of your upper chest, near your collar bone. As with any surgical procedure, there will be a visible scar and there may be a small bump where the pacemaker is placed.

The pacemaker will be connected to your heart using 1, 2 or 3 flexible leads, that pass through a vein under your collar bone. The doctor will insert the leads into your heart using X-ray images to guide them.

Moving the leads inside your heart is completely painless. You may feel some pressure or a fluttering sensation when the leads are being positioned. Please let the doctor or nurse know if you feel uncomfortable at any point, so that we can give you further sedation or pain relief.

What happens during the procedure? (continued)

The wound is closed using a single long stitch rather than lots of small stitches. This may be a non-dissolvable stitch, which will need to be removed by the practice nurse at your GP's surgery, or may be a dissolvable stitch, which will disappear over the next few weeks. You will be told which stitch you have and what you need to do before you are discharged.

The wound will be covered by a dressing. Please keep it covered for 7 days. During this time, try to avoid getting the dressing very wet. You will need to have a wash, rather than a shower or bath. After seven days you can remove the dressing and bath and shower as normal. If at any point you have any concerns about your wound, please see your practice nurse or GP.

How long does the procedure take?

The procedure takes 45 - 90 minutes.

Benefits of having a pacemaker

The main benefit of having a pacemaker is that it helps to protect you from the symptoms and dangers of slow heart rhythms.

Risks of having a pacemaker

All medical procedures have a risk of complications. There are some risks associated with the implantation of a pacemaker that are important to know about:

- 1 in 100 people develop a collapsed lung (pneumothorax) as a result of a needle perforating (making a hole) their lung. This often requires no treatment but may require the insertion of a chest drain, to help reinflate the lung.
- 1 in 500 people develop a collection of blood around the heart (a cardiac tamponade) as a consequence of a lead making a hole in the wall of the heart. This can be dangerous, but we will treat it immediately.
- 2 in 100 people may experience lead displacement within 30 days of the procedure. This means that the leads would need repositioning during a repeat operation. We will carry out a chest X-ray and special ECG to confirm the pacemaker is working correctly before you go home.
- It is common to experience wound pain, bleeding and bruising in or around the wound area. We strongly advise that you take painkillers to help with this.
- Around 1 in 100 people develop a large collection of blood (haematoma) over the pacemaker. This usually gets better by itself, but may need to be treated with a further operation.
- 1 in 50 people experience an irregular heartbeat (arrhythmias) which can usually be treated at the time.
- 1 in 200 people can develop an infection of the pacemaker after implantation. If this happened you would need the pacemaker and leads to be removed. To minimise this risk, you will be treated with antibiotics before and occasionally during the implantation.

Your doctor will recommend that you have a pacemaker if they feel that the benefits of the procedure clearly outweigh the risks. The figures quoted are average figures for all cases. Your doctor will discuss any specific risks that may apply to you, before the procedure.

Alternatives to having a pacemaker

There is no alternative way to treat your condition.

What happens after the procedure?

Once you are fully awake, you should be able to eat and drink. Pacemakers are almost always day cases and you can usually go home a few hours after the procedure is finished.

After the implantation of a pacemaker, you will not be allowed to drive yourself home. You will need to be accompanied on your journey home, ideally by car and not public transport as this will be more comfortable for you. Travelling by car will also be quicker for you to return to the hospital if there are any complications on the journey home.

You will normally be seen in the outpatient clinic 6 -12 weeks after the implantation. The cardiac physiologists will let you know when your next follow up is, usually once a year.

Pacemakers are extremely reliable and well-made devices, but still need to be regularly monitored over the long-term.

When the time comes for the battery (generator) to be replaced, you will need to come into hospital for a small operation for a new pacemaker generator to be fitted.

Remote Monitoring

Sometimes, patients will need a remote monitoring box to use at home, the cardiac physiology team will let you know if this applies to you. If it does, please set the box up using the instructions. If you have any questions about your remote monitoring box please contact the helpline for each manufacturer.

Merlin: **0800 389 2714**

Carelink: **0330 123 2112**

Lattitude: **0800 678 1644**

Driving

If you have a Group 1 driving licence, the DVLA (Driver and Vehicle Licensing Agency) states that you cannot drive for one week after the pacemaker has been implanted; for some people this period is longer. We will tell you when you can return to driving.

If you have a Group 2 licence (HGV and similar), the DVLA states you cannot drive for 6 weeks.

How to contact us

Cardiac Rhythm Management Office (Pacemaker Office)

01865 220 981

(Monday to Friday: 8.00am to 4.00pm)

Cardiac Angiography Suite

01865 572 615

(Monday to Friday, 7.30am to 9.00pm)

Cardiology Ward

01865 572 675

(24 hours)

Remote Monitoring Lead (Pacemaker Office)

01865 221 432

Useful websites:

British Heart Foundation

Tel: 0300 330 3322

Website: www.bhf.org.uk

Arrhythmia Alliance

Tel: 01789 867 501

Website: www.heartrhythmcharity.org.uk

Please note: The department regularly has professional observers. These are health care professionals, qualified/ in training and, on occasions, specialist company representatives. If you do not wish them to be present during your procedure please let a doctor or nurse know.

Feedback

If you would like to tell us anything about your experience, staff, students and facilities, please speak to a member of the team. Alternatively, you can contact the patient advice and liaison service (PALS).

Telephone: 01865 221 473 or 01295 229 259
Email: PALS@ouh.nhs.uk or feedback@ouh.nhs.uk
For more information, please visit: www.ouh.nhs.uk

Further information

For a translation of this document, or a version in another format such as easy read, large print, braille or audio, please telephone: 01865 740 892 or email: patientexperience@ouh.nhs.uk.

If you would like help preparing for your visit, arranging an interpreter, or accessing the hospital, please visit Patient guide - Oxford University Hospitals (ouh.nhs.uk)



What did you think of your care?

<https://www.ouh.nhs.uk/patient-guide/feedback/friends-and-family-test.aspx>



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