



Replacing a cardiac device generator

This leaflet explains what is involved in replacing a cardiac device generator.

Why do I need to have my cardiac device replaced?

Pacemakers and implantable cardiac defibrillators (ICDs) are cardiac devices. Pacemakers are used to manage slow heart rhythms and ICDs to treat dangerously fast heart rhythms. Each device has two main components: a pulse generator and one or more wires known as leads. The generator has a battery inside it and, like all batteries, it depletes with time and needs to be replaced. This will have been identified during your routine device checks. The generator is a sealed unit containing both the battery and intricate electronics, so it will all need to be removed and replaced with a new one.

The original leads (wires) are usually left in place, so the procedure is often a bit quicker than the original implant. Occasionally, a new lead may need to be placed at the same time.

What are the risks and benefits?

The benefit of having your pacemaker or ICD replaced is that it will continue to protect you from the symptoms and dangers of either slow or fast heart rhythms.

Like all procedures, there are some risks involved. Complications are generally rare but may include:

- **Pain:** you will be given local anaesthetic and sedation if you wish. There may be discomfort during the procedure around the area where the incision is made, but if it is painful please speak up and we will give you more medication as necessary.
- **Bleeding and bruising** around the pacemaker/ICD site: (*common*).
- **Keloid scar formation:** an enlarged raised scar that can be skin coloured, pink or darker than the surrounding area (*uncommon*).
- **Haematoma:** a large collection of blood at the device site. A pressure bandage may be applied to help decrease the haematoma, but it may require drainage in more severe cases (*1 in 100*).
- **Infection:** antibiotics are given routinely in order to prevent infection. Serious infections will likely require the removal of the pacemaker and leads (*1 in 100*).
- **Lead replacement:** a new lead may need to be inserted if it is found to be faulty during the procedure. (*Less than 1 in 100*)

What do I do before the procedure?

- On the day of the procedure, you will be admitted to our cardiac day ward which is known as the 'Jim Shahi Unit' (JSU), located on level 1 in Battle Block. The JSU is an emergency unit and there may be unforeseen delays. Please bring some reading material along to occupy you while you wait.
- You may have a light breakfast and drink as normal prior to the procedure. **If you are having a subcutaneous ICD (S-ICD) replaced, please do not eat or drink for 6 hours prior to the procedure.**
- Most people can continue to take their regular medications. Please refer to the accompanying letter for specific instructions on this. If you have any concerns regarding your medications, please ring the Jim Shahi Unit (JSU), 0118 322 6502 for clarification.
- It is common to have an MRSA swab prior to the implant, and details about this will be given in your letter.
- If you are pregnant, or think you may be pregnant, notify a member of the administration team prior to the procedure.
- Tell one of the nurses if you have any allergies.
- Please be sure to bath or shower prior to your procedure, avoiding any moisturizer or oils to the skin.
- If your cardiac device was implanted at a different hospital, please ensure that you bring your current ID card with you, so the team has full information about your existing device.

What happens during a device replacement procedure?

- A nurse will undertake some pre-procedure checks, including taking your blood pressure, an electrocardiogram (ECG) to assess your heart rhythm and insert a small tube (cannula) into your arm. The tube is used to give you a one-off dose of antibiotics at the start of the procedure, which helps to minimise the risk of infection. The tube can also be used during the procedure to give any other medications, such as pain relief or sedation as required.
- The risks and benefits of the procedure will be explained to you, and you can raise any questions you might have with the doctor. You will then be asked to sign a consent form.
- Having a device replaced is relatively straightforward and is carried out in a room called a catheter lab, which looks like an operating theatre. The team usually consists of one or more cardiology doctors, a cardiac physiologist, one or more nurses and a radiographer. All members of the team will be wearing a hat and mask.
- You will be taken into the catheter lab and asked to lie flat on a narrow table. You will be attached to a heart monitor (ECG), have a blood pressure cuff put on your arm and a probe attached to your finger.
- Your chest area will be cleaned with an antiseptic solution and a sterile sheet placed over you. This will cover your face temporarily.
- The doctor will inject a local anaesthetic into the skin near the generator. This will sting initially but the skin will soon become numb.

- A new cut will be made near to or over your previous device scar, the generator will be removed from the device pocket, and it will be disconnected from the leads. The leads will then be connected to the new generator, which is then placed into the device pocket.
- The skin is closed with stitches or glue, and the wound site may be covered with a transparent dressing that allows you to monitor the wound at home. The procedure can take between 30-60 minutes in total.
- You will then return to the JSU ward to recover, where you will have a post procedure device check. Your post procedure care will be explained during the device check.

What happens after the device replacement procedure?

You will usually be able to go home later in the afternoon or evening depending on what time you had the procedure done. In some cases, you may need to stay overnight.

You are not allowed to drive yourself, so please arrange for a friend or relative to pick you up from the hospital and stay overnight with you.

You will be given an information pack while recovering on the day ward and can read this when you get home. This will provide you with further details on the post procedure care.

- **Wound care:** the wound will be closed with either absorbable stitches or a special type of skin glue. If the wound has been covered with a dressing, please keep it on for 7 days. There may be a loop of stitch that needs to be trimmed. You can do this by using a clean pair of small scissors – cut each end of the stitch to remove. If glue has been used, this will gradually flake off as the wound heals. You should keep the wound dry for 7 days. If you notice any signs of redness, swelling, oozing, or bleeding from the wound or have a high temperature, please get in touch with the cardiac rhythm management (CRM) team, 0118 322 6636 so that this can be dealt with as soon as possible. The cardiac care unit (CCU) can be contacted out of hours (contact details below).
- **Limiting arm movement:** arm movements do not need to be limited unless you have had a new lead implanted.
- **Driving:** you do not need to notify the DVLA that you have had a device replacement. If you have a group 1 licence, you will not be able to drive for 1 week. If you have group 2 licence and you have a pacemaker, you will not be able to drive for 6 weeks. However, if you have group 2 licence and you have an ICD, you are not allowed to drive group 2 vehicles, as per DVLA rules. Further information can be found on the DVLA website: <https://www.gov.uk/guidance/cardiovascular-disorders-assessing-fitness-to-drive>
- **Electrical gadgets and mobile phones:** keep all electrical gadgets and mobile phones 6 inches (15cm) away from your device. It is best not to keep your mobile phone in a shirt or jacket pocket that may be near to your device.
- **A new device identification card** will be given to you and you should always carry this around with you. This is particularly important when attending a hospital or a dental appointment and when travelling.
- **A device check** will be arranged for you in 6 weeks' time. It is important to attend regular checks to ensure the appropriate functioning of your pacemaker or ICD.

Useful contact information

Cardiac Rhythm Management (CRM)/ Devices Clinic:	0118 322 6636 (Mon - Fri, 8am - 6pm)
Jim Shahi Unit (JSU):	0118 322 6502 (Mon - Fri, 8am - 6pm)
Cardiac Care Unit (CCU):	0118 322 6684 (Mon - Sun, after hours)
Clinical Admin Team (CAT 11) (bookings):	0118 322 6676 (Mon - Fri, 8am - 5pm)
British Heart Foundation:	www.bhf.org.uk
Arrhythmia Alliance:	www.heartrhythmalliance.org/aa/uk/patient-booklets
DVLA	www.gov.uk/guidance/cardiovascular-disorders-assessing-fitness-to-drive

This leaflet is printed privately for the Cardiac Fund. It was set up in 1976 for the purpose of providing cardiac services that would otherwise not be available through National Health resources. Our Cardiac Laboratory was equipped through the fund and many other areas in the Department have also benefited from equipment and staff training.

If you would like to contribute, please scan the QR code below to donate direct to the fund online, alternatively, cheques should be made payable to:

The Royal Berks Charity Cardiac Fund U226

Royal Berks Charity
Royal Berkshire NHS Foundation Trust London Road
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Please ask if you need this information in another language or format.

RBFT Cardiac Rhythm Management Clinic, January 2025
Next review due: January 2027