

## Implantable Cardioverter Defibrillator (ICD) and Cardiac Resynchronisation Therapy Defibrillator (CRT-D)

### Patient information Booklet

If you require a translation or an alternative format  
of this leaflet please call PALS on 01296 316042

### How can I help reduce healthcare associated infections?

Infection control is important to the well-being of our patients and for that reason we have infection control procedures in place. Keeping your hands clean is an effective way of preventing the spread of infections. We ask that you, and anyone visiting you, use the hand sanitiser available at the entrance to every ward before coming in to or after leaving the ward. In some situations hands may need to be washed at the sink using soap and water rather than using the hand sanitiser. Staff will let you know if this is the case.

[www.buckshealthcare.nhs.uk](http://www.buckshealthcare.nhs.uk)

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Author: Cardiac Physiology

Issue date: May 2017

Review date: May 2019

Leaflet code: ICD-001

Version: 1.0

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## **What is an Implantable Cardioverter Defibrillator (ICD)?**

- ICDs or CRT-Ds are small battery powered devices that constantly monitor your heart rate and rhythm. The system consists of a metal box that usually sits in a small pocket located under the skin on the left side of your chest, just underneath your collarbone. The box is connected to leads positioned inside of your heart. The leads are placed via a vein just under your collarbone. Your device will have either one, two or three leads, depending on the system most suited to your need. There will be a small scar on your chest.
- The device works in two main ways: it prevents your heart from beating slowly (bradycardia) like a pacemaker. It also tries to stop fast, abnormal, life threatening heart rhythms (tachycardias).
- The device can decide if a fast heart beat is normal, such as when you exercise (sinus tachycardia) or abnormal such as rhythms called ventricular tachycardia (VT) and ventricular fibrillation (VF). An ICD/CRT-D sends faster electrical impulses to the heart to try to stop the abnormal tachycardias (a painless therapy called Anti-Tachycardia Pacing/ATP). If this is unsuccessful at stopping the rhythm, the device can deliver a high amount of energy (called a shock) into the heart to stop the tachycardia. A shock will often be felt as a jolt or thump in the chest. This is uncomfortable but lifesaving.

## **Why do I need an ICD?**

- Your doctor has decided you need this device because you have either had or at risk of having faster heart rhythms which can be potentially life threatening. The ICD will try to stop these rhythms if they occur.

## Useful Contacts

**Pacing Clinic:** 01494 425471

**Cardiac Day Unit:** 01494 425278

**Cardiac Stroke Receiving Unit:** 01494 425443

**2A, Cardiology Ward:** 01494 425978

**Switchboard:** 01494 526161 (for on-call Cardiology Registrar)

**Hammersmith Hospital.** Heart Assessment Centre:  
02033131663

**DVLA:** 0300 790 6806 or [www.dvla.gov.uk](http://www.dvla.gov.uk)

**British Heart Foundation:** [www.bhf.org.uk](http://www.bhf.org.uk)

The **British Heart Foundation** has a very informative video on YouTube on ICD implantations which we recommend you view - <https://www.youtube.com/watch?v=DHJT9eJXHLI>

**Arrhythmia Alliance:** [www.heartrhythmalliance.org/aa/uk/](http://www.heartrhythmalliance.org/aa/uk/)

**Ask The ICD:** [www.asktheicd.com](http://www.asktheicd.com)

## Prior to ICD Implant

- A Nurse or Health Care Assistant will meet you on the ward to help get you ready for your procedure. Your chest may need to be shaved before changing into a hospital gown. You may have blood tests and ECGs prior to the procedure. A small plastic tube (called a cannula) will be inserted in your hand or arm to allow us to give you any medications needed. A doctor will see you before your procedure to explain the procedure and inform you of any risks. You will be asked to sign a consent form if you are happy to have the device implanted. Please feel free to ask questions or discuss any worries that you might have.
- It is important not to have anything to eat after midnight before your procedure unless you are diabetic, in which case you should have an early breakfast with your medication before 7:00am on the day of the procedure. Please continue to drink water throughout the morning.
- After the procedure the Doctor will give you instructions as to when these medications can be re-commenced.
- You are required to wash the day before or morning of the procedure as the wound will need to be kept clean and dry for 48 hours. On the day of the procedure please avoid using moisturisers, lotions or oils on your skin on the day of the procedure.
- You may have a wait on the Day Unit before your procedure begins so you may wish to bring a book, magazine or newspaper with you.
- Please bring all your medications with you in case of delays to your procedure time.

## What happens during the procedure?

- A Nurse or Health Care Assistant will escort you to the Cardiac Catheter Lab when it is time for your procedure. After your consent form and identity has been confirmed you will be brought inside the lab. A team of Catheter Lab staff will be present during the procedure.
- You will be asked to lie down on your back on the bed in the room. Stickers will be placed on your arms, legs and chest to allow us to monitor your ECG throughout the procedure. Your chest will be washed with a cold antiseptic solution and sterile drapes will be applied across your chest and body to keep everything as clean as possible. Local anaesthetic will be injected under the skin where the device will be positioned. The area will then go numb. The Doctor will gain access to a vein underneath your collarbone and use this to pass the leads into the heart. X-Rays are used to make sure the leads are put into a good position in the heart. The leads will be tested by a Pacing Physiologist to make sure they are working well. For some of the testing it might be necessary to give you some sedation to make you sleepy while it's happening – this will be discussed with you first if you need it. The leads are connected to the ICD box and positioned in a pocket made underneath the incision. The pocket is sutured in layers, often using dissolvable stitches but this will be confirmed after the procedure. The wound will either be covered by a dressing or using a special glue – you will be informed of this after the procedure.
- The procedure generally takes between 45 and 90 minutes.

## DVLA and Shocks

- If your device gives you an appropriate shock or you receive anti tachycardia pacing that makes you feel symptomatic you will need to inform DVLA and will be **unable** to drive for **6** months from that date.
- If you receive an inappropriate therapy from your device (e.g. a shock that was not for VT/VF) then you will need to **stop** driving for **1** month. You will not need to inform the DVLA of this.
- Following an ICD or CRT-D generator change (to replace older batteries) you can drive after **1** week.
- You **won't** be able to drive for **1** month after a lead revision.
- Full help and advice is available via the DVLA on **0300 790 6806** or via [www.dvla.gov.uk](http://www.dvla.gov.uk)

## What if I get a shock from my ICD/CRT-D?

- **If you receive a shock from your device it is very important that you do NOT drive!**
- If you receive one shock and feel well, please contact the Pacing Clinic on **01494 425471** (Mon-Fri 8am-6pm) and we will advise you what to do next.
- If you receive 2 or more shocks or feel unwell, please call **999**.
- If you have any urgent device concerns outside of the hours above then please call Cardiac and Stroke Receiving Unit in the first instance on **01494 425443**.

### Can I drive?

- This will depend on the reason why your ICD was implanted and also on your previous medical history.
- If your device has been implanted as primary prevention or for prophylactic reasons (e.g. strong family history of sudden death or high risk of an arrhythmia but have-not had one yet) and you hold a Group 1 licence (cars and motorcycles) then you will **not** be able to drive for **4** weeks. You will need to inform the DVLA and inform your insurance company.
- If your device was implanted for secondary prevention because you have had a ventricular arrhythmia or cardiac arrest then you will need to **surrender** your Group 1 licence to the DVLA for 6 months. The DVLA will return your licence after this period if your ICD is being regularly checked and you have not received any shocks.
- If you hold a Group 2 PSV/HGV licence then you will be **permanently barred** from driving that category. Please contact the DVLA for further information.
- Following the procedure your Doctor will specify to you the exact duration of your driving ban following the procedure.

### What happens following your procedure

- You will be taken back to the Cardiac Day Unit or ward and monitored there. You will be able to eat and drink once any sedatives have worn off.
- You will have a chest x-ray to check the position of the leads in the heart and to ensure you don't have a pneumothorax (pocket of air) in your lungs.
- A Cardiac Physiologist will see you to test your new system and discuss the planned follow-up care for your new device. You will be given an identification card with the details of your device on it. It is very important you carry a copy with you everywhere you go. We recommend you photocopy the card and give a copy to a family member, carry a copy with you and keep the original safe at home. It's also useful to photograph your ID card on a smartphone if you have one.
- It's important not to move your arm above shoulder level or carry excessive weight on the side of your device as it may cause the leads in your heart to move. If everything is okay at your next device follow-up then you will be able to return to normal using that arm.
- It is common to have an ICD/CRT-D implanted as day case.

### Are there any risks associated with the procedure?

- Every procedure comes with risks. Before the procedure the Doctor will go through these with you. Complications can include infection, bruising, bleeding and puncturing the lung. There is a small risk that a lead in the heart may move out of position after the procedure, which may require adjustment with a further procedure. Fortunately, the risks of complications are low.

## **Wound Care**

- After the procedure you will be given information about your wound site, including the type of sutures used and the dressing in place. If non-absorbable stitches have been used they will need to be removed in 7-10 days by your GP Practice Nurse. Please make the appointment with your GP Practice Nurse directly.
- If you have a dressing covering the wound, please remove this after 48 hours. If glue has been used then please do not 'pick' at the glue.
- Please keep the wound site clean and dry for 48hrs.
- It is common to see bruising around the wound area and across the chest.
- Please look for any signs of redness, swelling, oozing or bleeding from the wound. If you notice any or if the area becomes hot or tender to touch then please call the Cardiology Day Unit on **01494 425278** or the Pacing Clinic on **01494 425471** (Mon-Fri 8am-6pm). If outside of these hours you feel unwell including a temperature, please contact your GP as soon as possible or seek emergency help if needed.

## **Follow up appointments**

- You will receive an appointment for a 6 week post implant check at our Pacing Clinic at Wycombe Hospital. You will be seen by a Cardiac Physiologist. There is no need for a Doctor to be present at your check. The wound site will be checked to ensure it is healing correctly. You may be asked questions about your general health and any medications you are currently taking. The check itself is painless. A special computer called a programmer is used to communicate with your device which will allow us to test your device and see how much you have been using it. It will also tell us about your battery life. The battery will generally last between 5 and 7 years however this will vary between patients.
- You will be asked to attend the Pacing Clinic every 3-6 months or yearly if you have been given a remote monitoring system. This will be discussed with you at your 6 week check to see if you are suitable for this system.
- An ICD or CRT-D check can take between 20 and 60 minutes usually, depending on each patient.

## **Can I have an MRI scan?**

- You will be told this during your check appointments. It is very important **not** to have an MRI scan without prior discussion with the clinic team.

## **What happens at airport security?**

- You should show airport security your ID card. You may not have to walk through the scanner; the security team may choose to use a handheld scanner. Neither type of scanner will damage your ICD or CRT-D device. You are fine to walk through the security scanner; please walk through at a normal pace and do not stand in the middle of the doorway.