

## Patient information factsheet

# Implantable cardioverter defibrillator (ICD)

Your doctor has recommended you have the above procedure.

This factsheet has been written to help you understand what is involved. If there is anything you do not understand, or you are unsure why you need this treatment, please ask a member of your healthcare team who will be happy to explain further.

To help you understand this factsheet please refer to our “how the heart works” factsheet first. This is available on: [www.uhs.nhs.uk](http://www.uhs.nhs.uk) or ask a member of your healthcare team.

### What is an implantable cardioverter defibrillator (ICD)?

An ICD is a small device which can treat people with dangerously abnormal heart rhythms. It continually monitors and sends electrical pulses to regulate abnormal heart rhythms (specifically those that can be dangerous and cause a cardiac arrest).

### Why do I need an ICD?

Your doctor has recommended that you have an ICD implanted as you have either survived a cardiac arrest or are considered to be at risk of developing a potentially life-threatening heart rhythm called a ventricular arrhythmia.

### About ventricular arrhythmias

Ventricular arrhythmias are abnormal heartbeats that originate in your heart's lower chambers (called ventricles). These types of arrhythmias cause your heart to beat too fast, which can result in cardiac arrest.

### The ventricular arrhythmias you are considered to be at risk of developing are:

- ventricular tachycardia (VT) and
- ventricular fibrillation (VF).

VT occurs when the ventricles start beating at an abnormally fast rate. This effectively creates an electrical short circuit within the ventricular muscle. As the ventricles are beating rapidly the heart does not work as efficiently as it does during normal (sinus) rhythm. This can cause you to experience feelings of weakness, dizziness, chest pain, shortness of breath or may even cause you to collapse.

VT is often found in people who have previously had a heart attack. The area of the heart muscle damaged by the heart attack forms scar tissue, which makes the heart susceptible to abnormal heart rhythms such as VT.

### Other causes of VT are:

- Cardiomyopathy, a progressive thickening of the heart muscle.

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- A family history of sudden cardiac death due to an inherited arrhythmia, such as long QT syndrome or Brugada syndrome. The underlying fault may be due to changes within the cells of the heart (ion channels). Ion channels alter the chemical balance of the cardiac cells by adjusting the amount of electrical charge to them. This can result in a disturbance of the heart rhythm (arrhythmia).

There is also a small group of people who have VT despite having a structurally normal heart.

After you have had all the necessary investigations, your doctor will be able to explain the likely cause of your VT to you.

Some people do not experience any symptoms and are unaware of their arrhythmia. However, in some people, if VT is left untreated it may lead to a more life-threatening condition called ventricular fibrillation.

### Ventricular fibrillation (VF)

Ventricular fibrillation (VF) is more serious than VT because it can result in sudden death if not treated immediately. With VF the heart's electrical and pumping systems are completely disorganised, and the heart provides little or no blood flow to the body resulting in loss of consciousness and cardiac arrest.

### Tests you may need

It is likely that your doctor will suggest you have a number of tests before the decision is taken to implant an ICD.

### VT stim or EPS

You may need to have a test called a ventricular tachycardia stimulation test (VT stim) or an electrophysiology study (EPS). These tests allow your doctor to consider your individual risk of developing VT or VF by inducing (bringing on) your arrhythmia in the controlled environment of the catheter lab. Your doctor can then assess whether or not you would benefit from having an ICD implanted. (Sometimes it is not possible for us to bring on VT or VF during the test, but your doctor may still advise that you need an ICD. This is to protect you if your doctor thinks there is still a significant risk of you developing a ventricular arrhythmia in the future).

### Angiogram

You may also have an angiogram (cardiac catheter) to check the blood supply to the heart. Due to a blockage or narrowing in one of the coronary arteries (blood vessels that supply the heart) you may have a reduced blood flow to the heart. This can cause ischaemia (lack of oxygen to the heart muscle) that can cause arrhythmias. If the blockages or narrowings can be treated by angioplasty (inflation of a balloon catheter to widen the narrowed artery) or by cardiac surgery, you may no longer be at risk of developing arrhythmias (as normal blood flow is returned to the heart).

### MRI

Some patients will need to have a magnetic resonance imaging (MRI) scan to look in a very detailed way at the structures and muscle of the heart.

### Ajmaline test

Patients who are suspected of having Brugada syndrome will have an ajmaline test. Ajmaline is a drug known as a sodium channel blocker. Ajmaline blocks the faulty sodium channels and

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unmasks electrocardiogram (ECG) changes in those patients who have Brugada. In patients with normal cardiac cells, ajmaline has little or no effect on the ECG.

## Types of ICDs

### Transvenous ICD:

This type of ICD has a small box (containing the battery and tiny computer circuitry) which is implanted under the skin on the front of the chest (usually near the left shoulder). It has 1–3 wires going in to the heart via the blood vessels draining from the arm to the chest. These wires are called leads and carry electrical signals to and from the ICD box. (The ICD box is also called the ICD generator or ICD can). Since these types of ICDs have leads going through the blood vessels, they are called transvenous ICDs.

### There are three types of transvenous ICDs:

- **Single chamber ICD** – this has only one lead which ends in the lower right chamber (right ventricle of the heart).
- **Dual chamber ICD** – this is similar to the single chamber ICD but has an additional lead which ends up in top right chamber (right atrium) of the heart – hence the term dual chamber.
- **Cardiac resynchronisation therapy and ICD (or CRT-D device)** – this is a special type of ICD which also helps with heart muscle function. This device has a third lead which ends on the left lower chamber (left ventricle). In combination with the lead in the right ventricle, this device helps the bottom chambers to work in synchrony, hence the term cardiac resynchronisation.

### Subcutaneous ICD (S-ICD)

This new form of ICD has no wires or leads going inside the heart. To detect and treat dangerous rhythms, this device has a lead which is placed under the skin along the chest wall. The device box is placed under the skin inside of the chest wall, slightly below the armpit.

Since there is no lead inside the heart, certain lead-related complications (see Risks below) are not seen with this type of device. However, this type of device is not suitable for everyone, and your doctor will have a discussion with you and chose the most appropriate device based on your cardiac condition.

You will be provided with additional information if a S-ICD/CRT-D are felt to be the most appropriate device.

## The procedure

To implant an ICD your doctor will pass one or two leads through a vein just under your collarbone and thread them into the heart.

One lead will be placed in the atria and the second in the ventricle. If you are having a CRT device, then the third lead will be placed to help the left ventricle. Once the leads are placed in the correct position, they will be secured into the heart muscle. The leads are then connected to the ICD box, which is positioned in a small pocket created on the left side of chest just below the collarbone. These leads will continuously monitor your heart rhythm and send the information to the ICD. If you have an arrhythmia the ICD will be able to recognise which type it is and treat it accordingly, by delivering the appropriate therapy. ICDs may occasionally be fitted on the right side, for example if you use your left arm for playing sport.

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The procedure is performed under a local anaesthetic, with sedation.

X-ray screening is used during the procedure so if you think you may be pregnant you should let us know before the procedure.

Once the implant has been done, the technician (cardiac physiologist) will save instructions in the ICD computer to enable treatment. This is called programming the ICD.

### How the device works

The ICD is a complex device. It is able to detect and distinguish between atrial and ventricular rhythms. It can detect if your heart is beating in a regular rhythm (sinus rhythm), if your heart rhythm is irregular (for example, atrial fibrillation) or if your heart rhythm is too fast (VT or VF).

If the ICD detects an abnormally fast heart rhythm it will watch it for a few seconds to see if it stops of its own accord. If it does stop, it will document that you have had an episode of arrhythmia that stopped by itself (non-sustained).

If the arrhythmia continues, the device will treat you by initially trying to pace you out of your arrhythmia. It will deliver a pre-set number of paced beats (electrical impulses), which is referred to as anti-tachycardia pacing or ATP. You may feel a fluttering sensation at this time, although not everyone experiences this.

If ATP does not stop the arrhythmia, then the device will deliver shock therapy. You will feel a very firm thump in your chest. Although this is not pleasant, it is lifesaving. The ICD also has a pacemaker function, to regulate your rhythm should your heart beat too slowly.

Very occasionally, the ICD may deliver a shock for a fast heart rhythm that is not abnormal. This is referred to as inappropriate therapy. The risk of an inappropriate shock in the lifetime of your ICD is up to 20%, however, individual programming has shown to reduce this risk.

It is important that you inform the non-invasive cardiology team (details at the end of this factsheet) if you receive a shock.

### Shock therapy

We cannot predict if you will ever receive a shock from the ICD and we certainly do not want you to live your life worrying and waiting for treatment from the device that may never happen.

If you have a shock you may feel a very firm thump in your chest that some people liken to being kicked from the inside out. You may find this distressing but this is what the ICD is designed to do if you have a potentially life-threatening arrhythmia. It is unusual to feel any ill-effects after you have had a shock; however, you may feel anxious. If you have received more than one shock, or you continue to feel unwell (dizziness or chest pain), you will need to call an ambulance and go to your nearest hospital for a check-up.

If you think you have received a single shock please call non-invasive cardiology (although this does not have to be done urgently).

If someone is touching you when the ICD delivers shock therapy they may feel a small electric shock similar to a static reaction, but it will not hurt them or do them any harm.

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## Risks of the procedure

ICD implantation is performed safely in both children and adults. However, as with any procedure, there are potential risks. Your individual risk of complications will be identified and fully explained to you by your doctor before you have your procedure. The majority of patients who undergo an ICD implant do not experience any complications, but it is important that you are made aware of the associated risks. If you are known to have underlying coronary heart disease the risks are slightly increased.

All the risks outlined below can be treated and are rarely life-threatening.

- **Bruising and bleeding:** this is common around the implant site following the procedure. However this usually disappears within a couple of weeks and does not cause a problem. Occasionally, some patients will continue to bleed into the wound and a haematoma (large bruise) will develop. The risk of this happening to you is between 2 and 3%. The risk of bruising and swelling is higher in patients who are on blood thinning medications (anticoagulation).
- **Blood vessel damage:** occasionally the leads can accidentally damage the blood vessels when being moved into position. The risk of this happening to you is between 3 and 5%. Serious injury to the blood vessels requiring a surgical procedure to repair the damage is very rare and occurs in less than 1% of patients.
- **Pneumothorax:** very occasionally the leads can puncture the lung wall when being moved into position. Air leaks out of the lungs and collects in the space between the lung and chest wall, resulting in partial or complete collapse of the lung. If this happens the doctor may need to insert a drain to reinflate your lungs. The risk of this happening to you is less than 1%. This is one reason why an x-ray is taken after the procedure.
- **Haemothorax:** very occasionally the leads can puncture the lung wall. Blood leaks out of the lungs into the pleural cavity, the space between the lungs and the walls of the chest. If this happens the doctor will need to insert a drain to reinflate your lungs and drain the blood. The risk of this happening to you is less than 1%.
- **Pulmonary embolism, or deep vein thrombosis (DVT):** the risk of developing blood clots in the legs (DVT) or heart that travel to the lungs (pulmonary embolism) is extremely rare, less than 0.5%.
- **Transient ischaemic attack (TIA) / cerebrovascular accident (CVA) - commonly called a stroke:** The brain cells in the part of the brain served by the affected blood vessel die of lack of oxygen and nutrients due to a blockage. Symptoms can be slurred speech, limb/ facial weakness and loss of memory or recall, depending on the area of the brain affected. The difference between a TIA and CVA is the duration of your symptoms. (Less than 48 hours is usually classified as a TIA). This is extremely rare, less than 0.5%.
- **Cardiac tamponade:** during placement the leads may puncture the heart muscle, causing blood to collect around the heart. If this happens the doctor may need to insert a drain to remove the blood. The risk of this happening to you is less than 1%.
- **Infection:** the wound or wires can get infected in up to 6% of patients. It is important that if you have any concerns about your wound following your discharge from hospital you contact us promptly so we can review. Early signs of an infection include: undue and increasing pain in the operation site, discharge from the wound edges, redness of the wound and unexplained fever.
- **Movement of the ICD leads:** occasionally a second procedure is required to reposition the leads if they move. The risk of this happening to you is between 2 and 4%. This is why you will be instructed on how to take care of the arm of the operated site to avoid excessive movements
- **Failure of ICD or leads:** this is extremely rare. If the device manufacturer issues an

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advisory of a potential problem regarding a component of your ICD, we will contact you and the appropriate safety checks will be carried out. Very rarely, you may hear an alarm from your ICD. This is a safety function of the device to alert you that there may be a problem with the ICD or the leads. Please do not worry, but contact us at the earliest opportunity to enable us to check the device.

- **Dangerous rhythms during the operation:** During attempting to place the leads in the heart, your heart may go into a dangerous rhythm. If this occurs and promptly does not settle on its own, the doctors will have to give you an external shock to get back to the normal rhythm. If time permits, they will give you sedation so that you will feel very drowsy and not feel the shock.
- **Death:** this is extremely rare but with any procedure there is always a small risk.

### Before admission

- If you are taking warfarin (blood thinner) you will need regular blood tests for at least four weeks before the procedure, usually at your doctor's surgery. We ask that you keep your INR between 2.0 and 3.0. A record of this should be kept in your warfarin book. You should also check your INR three days before your admission (contact the admissions office on the number given on the last page of this factsheet) to confirm it is in range to enable the procedure to go ahead.
- If you are taking an alternative anticoagulant (Rivaroxaban, Dabigatran, Apixaban or Edoxaban) then you will be given an individual management plan to follow.
- You will be advised not to eat or drink before your procedure, specific instructions will be on your admission letter.
- If you are taking medication to control your heart rhythm it is likely that you will be advised to continue taking your tablets until your procedure.

If you have any questions please talk to the admissions coordinator about the medicines you are currently taking.

**The above advice should be followed unless your admissions letter advises otherwise.**

### Before the procedure

On your arrival to the ward a nurse will talk to you and your family about your hospital admission and answer any questions you may have. Before the procedure, you will have blood tests taken and an electrocardiogram (ECG) recorded. A doctor will also see you to explain the procedure and ask you to sign a consent form. If you have any worries or concerns please do not be afraid to ask questions. It is important to tell your nurse or doctor if you have any allergies or have had a previous reaction to drugs or other tests. If you are having the procedure done under a general anaesthetic (usually children under the age of 18), you will also talk to an anaesthetist.

A small needle will be inserted into a vein in your hand (cannula) in order to give you drugs during the procedure. If required, you will be asked to shave your upper chest. You will be given a hospital gown to wear. If you are diabetic, your nurse will discuss your tablets/insulin dose with you, because not eating may affect your blood sugar levels.

The procedure is likely to take between 45 and 90 minutes. You may wish to let your family know so they do not worry.

### During the procedure

You will be taken to the catheter lab where a nurse will stay with you and be there to reassure

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you throughout the procedure. There is a lot of equipment in the room, which is used to monitor your heart rhythm.

Your doctor will give you a sedative to make you sleepy and help you relax during the procedure. The sedative used sometimes affects memory recall, so you may have no recollection of the procedure.

Your skin will be cleaned with an antiseptic solution and the area where the ICD is to be sited covered with sterile towels. Your doctor will inject a local anaesthetic into your skin to numb the area where the defibrillator will sit. When the local anaesthetic has taken effect, the doctor will make a small cut, 2-3 inches in length in which to fit the ICD box. The doctor will then insert a small tube (sheath) into the vein under your collarbone. Through the sheath the doctor will gently thread the leads into your heart. The leads are very small, about the size of a small drinking straw.

They are moved into the correct position within your heart under x-ray screening. Once the leads are in place, your doctor will complete the necessary checks and then connect them to the ICD box accordingly.

After the procedure is completed the wound will be stitched and covered with a dressing.

### After the procedure

After the procedure you will be moved to the recovery area where you will be monitored for a short time. On returning to the ward you will need to rest for a couple of hours. You may feel a little sleepy until your sedative has worn off. After this period you will be able to get up if there are no complications. As the local anaesthetic wears off your wound will feel sore, so you will be offered painkillers to ease the pain. Your blood pressure, pulse and an ECG will be recorded and your wound site checked for any signs of bleeding. On returning to the ward you will be able to eat and drink normally.

If you feel any palpitations or dizziness after the test, please let your nurse know. You will also have a chest x-ray, to make sure that the leads are in a good position and that you do not have a pneumothorax (pocket of air) in your lung. After your procedure your doctor will usually discuss the procedure and ongoing treatment plan with you and your family.

Your ICD will be checked before you go home and reprogrammed if necessary. This will take place either by your bedside or under sedation in the catheter lab the following day. The procedure takes less than 10 minutes. The small needle in your hand will be removed before you go home.

### Going home

You will normally be able to go home after your ICD check the same day. It is important to ask a family member or friend to collect you and drive you home. Before you are discharged your doctor or CRM nurse will advise you on the medicines you will need to take, or stop and your follow-up care.

Before you leave hospital, you will be given an ICD identification card. Your ICD identification card will contain your personal details and your unique ICD device settings. It is important that you carry your ICD identification card at all times, particularly when attending a hospital or dental appointment or when going on holiday.

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## Caring for your wound

You will have a small dressing covering your ICD site that you can remove after seven days. The wound should then be left uncovered. You must keep the area clean and dry until it has healed. Having a bath or shower is fine provided that you dry your wound afterwards. Do not use any lotions that may cause skin irritation (strong smelling soaps, talcum powder, body lotion, deodorants or perfumes) near your wound until it has healed completely.

You may see some bruising around the wound area. It is advisable to wear loose clothing for the first couple of weeks, so that your clothes do not catch on your wound. Remember that when you are a passenger in a car you must still wear a seatbelt. To prevent the seatbelt from rubbing on the wound and to make you more comfortable, place a small pad or rolled up towel under the seatbelt, over the ICD site.

**If you notice any bruising, swelling, redness, oozing or bleeding from the wound site, or if the wound becomes hot and tender to the touch and you develop a temperature,** please contact the cardiac rhythm management (CRM) clinical nurse specialist or cardiac physiologists, even if you have been seen by your own GP. Contact details are at the end of this factsheet.

The skin is closed using absorbable stitches. They should not be visible once you take off the dressing. If any stitches are visible, please contact our CRM nursing team to enable us to have a look. Please do not apply anything on the wound or try to remove stitch remnants by yourself.

## Follow-up care

The CRM team will give you specific follow-up instructions when you leave hospital. The doctor will write a letter to your GP detailing your hospital stay and treatment. You will be asked to attend the ICD clinic approximately six weeks after your ICD has been fitted. This appointment is automatically made for you. At your first appointment the cardiac physiologists will check your ICD device and review your wound.

After your first appointment the cardiac physiologist can check your device using remote monitoring (see below). You will be asked to attend a formal clinic once a year. It is important that you attend the clinic, as this is when the cardiac physiologists will make any necessary technical adjustments to your device. The battery life of an ICD box is normally around seven to nine years, after which time it will need replacing. The battery life will be carefully monitored each time you visit the ICD clinic and when the battery begins to show signs of running down, you will be asked to come back more frequently to have it checked. When the ICD box needs to be changed, you will need to come back into hospital. Normally, this procedure is done as a day case. All your ICD clinic appointments will be made automatically for you. If you are unable to attend any appointments please phone non-invasive cardiology as soon as possible and a new appointment will be sent to you.

## Remote ICD monitoring

The use of remote patient management systems to monitor ICDs is evolving. This new technology provides detailed reports of device function from the comfort of your home. This means you will not need to attend clinic every three to six months. A letter will be sent to you giving specific instructions on how and when to use the system.

## Resuming normal activities

You can resume your normal daily activities when you leave hospital, bearing in mind the

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following information. We would advise you to limit the movement of your affected arm (try to lift it no higher than shoulder height) for four to six weeks. This will allow the leads to become embedded in your heart, therefore reducing the risk of lead movement. It will also give your wound time to heal.

You should also avoid heavy lifting, strenuous exercise and stretching (for example carrying shopping bags, hanging clothes on the washing line and when getting dressed). Household chores such as hoovering, ironing and lifting heavy saucepans should be undertaken with caution. If you have to lift anything heavy, make sure you use both hands, to distribute the weight equally. Avoid direct pressure on your wound.

We advise caution when playing contact sports such as football, rugby or squash, as potentially the ICD could be damaged from impact.

You may resume sexual activity when you feel fit but do try to avoid direct pressure on your wound for the first couple of weeks. If you are considering becoming pregnant please consult your doctor, as we have access to specialist advisors.

You can normally return to work after one week unless your job involves heavy lifting. If you have any concerns about using equipment at work please ask. If we are unable to answer your question we can contact a representative from the device manufacturer.

### Concerns

It is only natural that you will feel anxious about living with the device. If you would like to talk to someone about how you are feeling there are people available to help. Please use the contact numbers listed at the end of this factsheet.

### Magnets

The ICD is an electromagnetic device therefore you are advised to avoid areas with a strong electromagnetic or magnetic field. Everyday household appliances are considered safe, however you should not stand directly in front of items such as induction hobs or speakers at a concert, theatre or cinema. Shop security systems are safe when you walk through them, but avoid stopping within one metre of the aerials, which are usually situated at the shop entrance.

If you wish to use electrical exercising gym equipment please seek advice from the manufacturer or the gym instructor to check whether it is safe to use.

Mobile phones are safe to use, but do not carry them in a pocket over the ICD. When making or receiving a call you should use the opposite ear to the side of your implant. Household cordless phones are safe to use.

Computers are safe, as is wireless technology. Console games are also safe but hold the handset at least 15cm away from the ICD.

Magnetic bracelets for arthritis can be worn during the day, but it is wise to remove them at night. We would also advise against the use of TENS machines for pain control.

### Medication

Your doctor will advise you regarding the medicines you will need to take.

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## Travelling

We encourage you to travel and live an active and full life. Although it is very unlikely that anything will happen to you on your travels, please ensure that you take out adequate health insurance and obtain an EHIC card if travelling in Europe. This will entitle you to emergency treatment. You can get an EHIC application form at the post office. You should carry your unique device identification card with you at all times.

When travelling abroad it is important that you try to avoid walking through security arches, as these particular scanners contain a magnetic component. Tell someone at the security area that you have an ICD and show your ICD identification card. They will then hand search you, to give you clearance.

If a hand-held scanning device is used, please ask them not to hold the wand over the device as this can disable your device. New technologies for screening are gradually being introduced at airports. The new scanners use a low dose of radiation to produce an outline of your body (similar to x-ray techniques), which shows up any metal objects. This type of scanner is safe for you to use.

If you are planning to travel in Europe, North America or Australasia there should be no problems in finding hospitals in the major cities and towns with ICD facilities to cater for your needs. If you are planning to travel off the beaten track to more remote destinations and are unsure of the facilities provided, please contact non-invasive cardiology on the telephone number at the end of this factsheet. At present the remote monitoring terminals do not work outside the UK. If you are admitted to hospital abroad, please inform us so that we can send the relevant details to the hospital caring for you.

## Device deactivation

Sometimes, it is necessary for us to turn off (deactivate) your ICD, for instance if you need diathermy during surgery or if your ICD has given you inappropriate treatment. Your heart rhythm will be very closely monitored during this time.

## End of life and the ICD

The ICD is designed to treat dangerously fast heart rhythms but it will not stop you dying of other conditions, so you may reach a time when you no longer wish the device to actively treat you. It is vital that you discuss your wishes with your next of kin and family.

Deactivation is a painless process involving reprogramming of the device to disarm the lifesaving treatments (shock and ATP therapies). We will respect any decision that you make and will continue to offer our support to you, your next of kin and your family.

## Driving

DVLA guidance is subject to change please always check on their website for up to date information

## Prophylactic implant

The DVLA's guidance for patients who have had a device implanted for prophylactic reasons (strong family history of sudden death) or those patients who have not had an arrhythmia rhythm but are considered at risk is that you will be eligible to drive after one month from the date of the implant. If you fall into this category you must inform the DVLA.

If you hold a Group 2 PSV licence (lorries/buses), you are permanently barred from driving.

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Contact the DVLA for more information.

## **ICD implanted for sustained ventricular arrhythmia (cardiac arrest)**

The DVLA's guidance for patients who have had a device implanted for sustained ventricular arrhythmia following a cardiac arrest is that they should not drive for a minimum of six months from the date of implant. You must inform the DVLA.

Your licence will be returned on the provision that the ICD is checked regularly and there is no other disqualifying decision.

If you hold a Group 2 PSV licence (lorries/buses), you are permanently barred. Again, contact the DVLA for more information.

## **Appropriate shock from ICD**

If you have an appropriate shock from your ICD or you have symptomatic antitachycardia pacing you will be unable to drive for six months. If you have an appropriate shock from your ICD with associated incapacity (loss of consciousness) you will be barred from driving for two years.

## **Inappropriate shock from ICD**

If you have inappropriate therapy from the ICD then you may drive after one month on the advice of your cardiologist. The DVLA do not need to be notified of this.

## **ICD box change**

You are allowed to drive one week after a defibrillator box change.

## **Revision of the leads or changes of anti-arrhythmic drug treatment**

You are allowed to drive one month after revision of leads or changes of anti-arrhythmic drug treatment.

When your licence is up for renewal your consultant will be contacted by the DVLA and asked to complete a form that is then sent back to the DVLA for their consideration. You are advised to reapply for your driving licence at least two months before the date you are allowed to drive. This will allow time for the DVLA to contact the hospital on your behalf.

The latest guidelines and recommendations can be obtained by contacting the DVLA by telephone or on their website [www.dvla.gov.uk](http://www.dvla.gov.uk)

## **Cancellations**

Unfortunately we do sometimes have to cancel procedures. If this happens to you, we will always try to explain the reason. We fully appreciate that this is a stressful time for you and your family and we will do our best to provide you with a new date that is convenient for you as soon as possible.

## **Who will perform my procedure?**

Your procedure will be performed by a specially trained doctor with appropriate experience (although we aren't able to guarantee that you will be treated by a particular member of staff). If the doctor is undertaking training on this procedure they will be supervised by an appropriately qualified colleague.

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## Contact us

If you have any questions regarding your procedure please call: **023 8120 8436** to speak to a cardiac rhythm management (CRM) clinical nurse specialist.

You can also email: **[uhs.crmnurses@nhs.net](mailto:uhs.crmnurses@nhs.net)**

If you have a query relating your admission date please contact the cardiac rhythm management coordinator on: **023 8120 8772**.

## Useful links

The following websites also provide useful information:

[www.bhf.org.uk](http://www.bhf.org.uk)

[www.heartrhythmcharity.org.uk](http://www.heartrhythmcharity.org.uk)

An online version of this factsheet is available on our website **[www.uhs.nhs.uk](http://www.uhs.nhs.uk)**.

Navigate to: Our services > Blood, heart and circulation > Cardiac rhythm management > Useful information and resources.

For a translation of this document, or a version in another format such as easy read, large print, Braille or audio, please telephone **023 8120 4688**.

For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit **[www.uhs.nhs.uk/additionalneeds](http://www.uhs.nhs.uk/additionalneeds)**