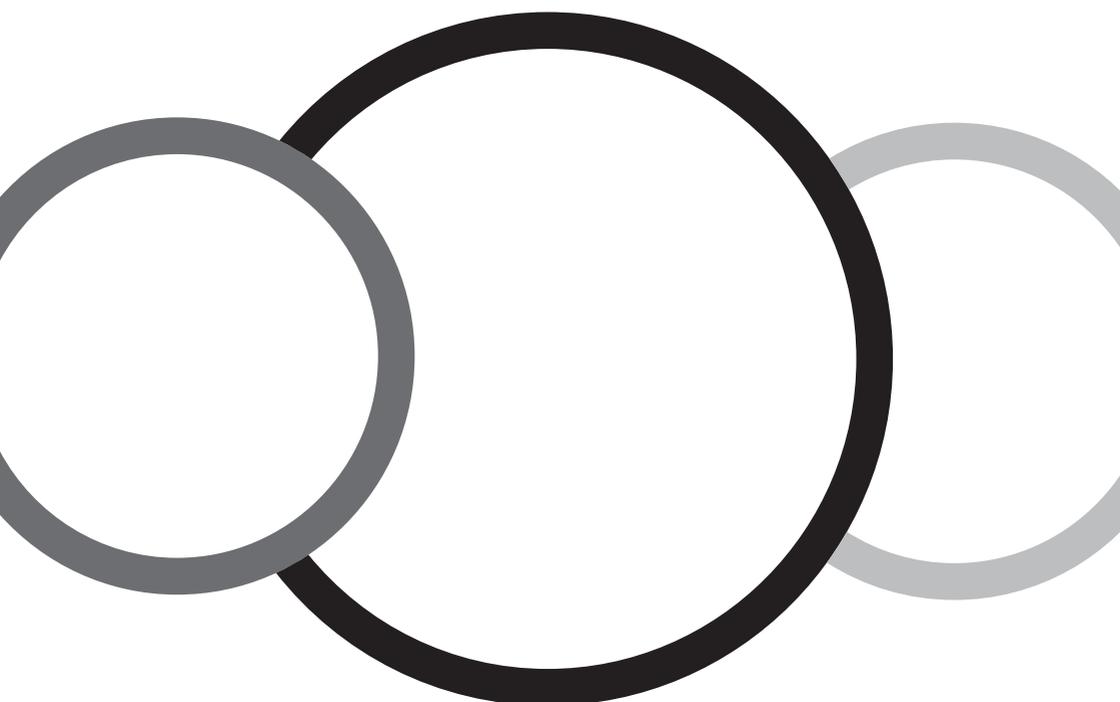


Patient Information

Implantable cardiac defibrillator



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Having your cardiac defibrillator

You have been referred to have a cardiac defibrillator fitted (implanted). This leaflet describes the operation, so that you know what to expect.

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How the heart works

The heart is a muscular pump which delivers blood containing oxygen to the body. It is divided into two upper chambers (atria) which collect blood returning through the veins; and two lower chambers (ventricles) which pump blood out.

The heart has an electrical system. This normally drives the heart to beat in a regular organised way, at a rate of 60-100 beats per minute. Each normal heart beat begins with an electrical impulse from a group of specialist cells called the Sinus Node (SA Node). These electrical impulses travel across the top two chambers of the heart, down through the Atrio Ventricular Node (AV Node), then spread across the bottom chambers, causing the heart to contract and pump.

When a heart is beating normally we refer to this as sinus rhythm, or normal rhythm.

Sometimes there is an abnormality in the electrical

system of the heart which can result in your heart beating too fast and/or irregularly.

Some people benefit from having a defibrillator even if they have never had an abnormal heart rhythm. The specific reason why you require a defibrillator will be explained to you by the arrhythmia nurses during your preadmission assessment

What is a cardiac defibrillator?

A cardiac defibrillator is a device that is able to monitor your heart rhythm; it can treat life threatening rhythms either by using a pacing mechanism or by delivering an electrical shock. There are different types of cardiac defibrillators in use, each being appropriate for different patients according to their needs. Below is an overview of each type of defibrillator, the specific type of cardiac defibrillator you will be having and why will be discussed in full during your pre-assessment clinic appointment.

Trans-venous cardiac defibrillator (often called an ICD)

An ICD is a metal, box-shaped device that is implanted under the skin, most commonly below the left collar bone. It is connected to your heart with wires (called leads) which are fed through a vein into your heart using X-Ray guidance and attached to the inside wall of your heart. An ICD utilises one or two leads attached inside the chambers of the heart. Regardless of the number of wires you have, the ICD will be able to detect and treat life threatening rhythms if required.

Subcutaneous cardiac defibrillators (often called S-ICD)

An S-ICD is a metal box shaped device that is placed on the left side of the chest next to your rib cage. Only one wire is required which is tunnelled in an 'L' shape along the bottom of your ribs and up the centre of your chest. Because the S-ICD is placed subcutaneously (under the skin), we do not need to put wires through your blood vessels or into your heart. The S-ICD will be able to detect and treat rapid life threatening rhythms if required.

Points to note

A date will be arranged for you to have a pre-admission assessment. This will take place at either the Essex Cardiothoracic Centre or the Cardiac Department at Basildon Hospital. A nurse will take some details to make sure you are well enough to have a defibrillator implanted. Your blood pressure, ECG, weight and pulse will be checked.

- **If you have any special needs or requirements**, please tell the nurse during your pre-admission assessment appointment.
- **You will need to arrange for somebody to bring you to the hospital and collect you by**

car or taxi on the day of your operation. You will not be able to drive yourself. You will not be able to travel by public transport for 24 hours following discharge.

- **Unless you require someone to stay with you** to interpret or to assist with special needs, we ask that relatives or friends return to collect you when you are ready to go home.
- **If you already have an implanted device** please bring your current identification card with you as it may contain essential information.

If you need ambulance transport because of your medical condition and are being admitted to:

Basildon Hospital:

Please contact the Waiting List Co-ordinator's office on 01268 524900 ext 4536/4065 for advice

The Essex Cardiothoracic

Centre: Please contact the Patient Activity Office on 01268 524900 ext 4191/4192 for advice.

For patients attending the Cardiothoracic Centre for their procedure who do not live in the local area, there is a possibility of subsidised hotel accommodation.

Please contact the CTC Patient Activity Office on 01268 524900 ext 4191/4192 for advice.

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On the day

On the day of your operation please remember to bring with you:

- All your medication (in its original container).
- Something to read or a personal stereo.
- An overnight bag with your preferred nightwear, dressing gown, slippers and toiletries.
- Your current identification card (if applicable)
- For security reasons please do not bring anything that is valuable to you into hospital.

The hospital regrets that it cannot accept responsibility for loss or damage to property belonging to patients.

Please do not wear jewellery, make-up or nail varnish. Your wedding ring may be left on if

you wish and we will cover it with tape.

Unless you are informed otherwise you will be able to have an early light breakfast on the day of your procedure, such as a small bowl of cereal, usually no later than 6am.

Once you have eaten your breakfast, you must not eat or drink thereafter.

Should I take my normal medication?

Unless advised by the nurse at your pre-admission assessment appointment, you should take all your usual medication with a small sip of water.

You may be taking medications that need to be withheld prior to your procedure, if so this will

be discussed and explained to you by the pharmacy technician and the nurses during your preadmission assessment.

If you are diabetic the management of your diabetes and your diabetic medication will be discussed with you during your pre-admission assessment.

What happens when I arrive at hospital?

You will be admitted to the ward by a nurse. Please tell the nurse if you have had any allergic reactions in the past or if you think you might be pregnant.

The consultant or doctor will come

to see you. They will explain the procedure and any side-effects or possible complications for you. They will then ask you to sign a consent form. If there is anything you don't understand or if you have any questions, please ask.

What happens during the procedure?

You will be taken to either the cardiac catheter procedure room or theatre for your operation.

There will be a team of people present, including your consultant, a doctor, a physiologist (for technical support), nurses and a radiologist who will assist with the x-ray equipment.

You will be given a local anaesthetic and a mild sedative to make you relax, or a general anaesthetic. You will be advised which type of anaesthetic you will be having during pre-assessment clinic.

If you are having a local anaesthetic and mild sedative, you will need to lay flat during the procedure and you will be

asked to lie as still and relaxed as possible. If you have difficulty lying flat please discuss this with the nurse during your pre-assessment.

The nurse will clean your chest with antiseptic solution and cover you with sterile drapes. You will also have a drape around your head and you may have a light drape covering one side of your face. You will be attached to a heart monitor so that we can monitor your heart.

Having an ICD implanted.

ICD devices are implanted by making a small cut (5cm/2ins), in the upper chest, typically just below the collar bone, usually on the left side.

An x-ray machine will be positioned above you and may be moved around while the ICD is being implanted.

The lead(s) are then inserted into a vein and are advanced until they reach inside the heart chambers. If you are having one lead this will be placed into the right ventricle. If you are having two leads, an additional lead is placed in the right atria.

The leads are then connected to the ICD, which is placed under the skin. You may feel some pushing at the top of your chest and a fluttering sensation in the chest. This is normal so please do not worry. If you do feel uncomfortable, please tell the nurse.

The wound will be stitched with either dissolvable or non-dissolvable stitches. You will be told which you have, and whether

these will need to be removed.

Having a S-ICD implanted.

S-ICD devices are implanted by making a small cut (5cm/2 ins), on the left side of the chest next to your ribcage.

The lead is inserted by tunnelling under the skin in an 'L' shape from the left side of your chest, along the bottom of your ribcage and up the centre of your chest (sternum).

In order to place the lead correctly one or two incisions will be made on your chest. One positioned at the bottom of your sternum and the second, if required, at the top of your sternum.

The lead is then connected to the S-ICD, which is placed under the skin. The wounds will be stitched with either dissolvable or non-dissolvable stitches. You will be told which you have, and whether these will need to be removed.

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Are there any side-effects or possible complications?

Defibrillator implantation is generally a safe procedure. Complications may include:

- infection
- bleeding
- bruising

Specific complication risks will be discussed during your pre-admission appointment.

What happens after the operation?

You may need to stay at least one night after the operation this will be discussed during your pre-assessment appointment. You may need to rest in bed, in a sitting position for a few hours after the operation. Once you are fully awake you will be allowed to eat and drink normally.

You will need to have a chest x-ray before you go home.

You will be told about any changes to your medication and how to care for your wound. You will be advised when to restart any medication that was withheld, before you go home.

Before you leave the hospital your new device will be checked, and an identification card will be sent to you in the post. Once you have received your identification card, you should carry it with you at all times.

You will be given an appointment for an outpatient device check in the Pacing & ICD clinic; this will typically be 4-8 weeks after your implant date.

What is my defibrillator identity card for?

Your defibrillator identity card will be sent to you in the post after you leave the hospital. Please remember to carry it with you at all times. Please inform your GP, dentist, or other healthcare professionals who may use electrical appliances to treat you that you have had a defibrillator implanted. The card tells the doctors about the type of defibrillator you have and the manufacturer. Your identification card also provides very useful information if you are ever admitted to hospital in an emergency.

Cardiac Device I.D Card Permanent pacemaker	
Model: Pacesetter St Jude - Allure Quadra RF PM3242	
Date of Implant: 01/01/2017 Device Serial Number: 123456	
Lead Details:	
Right ventricle: Medtronic - 5078-55cm, CapSureFix Novus MRI SureScan	
Left ventricle: Medtronic - 4399-55cm, Performa straight	
WARNING: PLEASE PHONE PACEMAKER IMPLANT CENTRE PRIOR TO USING ELECTRO-SURGERY, NMR OR IONISING RADIATION!	

NHS No: 123456789	
Surname: Bond Forename: James	
Date of Birth: 01/01/1950	
Device Implant Centre: Essex CTC, Basildon Hospital, Nethermayne, Basildon, Essex SS16 5NL , UK	
Tel 0044 1268 524 900	
Email: btu-tr.essexcrm@nhs.net	
	

How long will my defibrillator last?

The life of defibrillator batteries varies depending on how much they are used. Regular attendance at the Pacing and ICD clinic is essential and will allow us to predict when the battery will need replacing. Battery replacement is a simple procedure involving a short stay in hospital. The operation is performed under a local or general anaesthetic; the old device is removed and replaced with a new defibrillator.

Taking care of your wound

A clear dressing will be sprayed on your wound before you leave hospital – this will gradually dissolve over the next week or two.

You must keep the wound site clean and dry for seven days (if you are not diabetic) or 10 days (if you are diabetic) or until your stitches have been removed. You can have a bath or shower but you must ensure that the wound stays completely dry.

After this time you may bath or shower as normal, taking care around your wound until it is healed. It is common to have some discomfort around the site of the wound. Pain relief such as paracetamol may be taken to relieve this.

You should avoid wearing tight clothing over the wound.

Women may find that a soft pad placed over the wound will help to reduce any skin irritation. Some bruising is quite normal.

Wound infection/swelling

If you notice any reddening or swelling near your defibrillator or have any concerns please contact the department where you had your defibrillator implanted:

Essex Cardiothoracic Centre:

Arrhythmia nurses: 01268 394021

Basildon Hospital:

Cardiac department: 01268 394536

ICD-specific advice

Until new tissue has had the chance to form around the leads, there is a small possibility of them moving. You should avoid lifting the arm on the same side as the ICD implant above shoulder level or using the affected arm for lifting or carrying heavy items until you have attended your first outpatient device check in the Pacing and ICD clinic. Do not restrict all movement but try to avoid any sudden or jerky movements that could cause problems. It is very important to keep some mobility so gentle arm exercises are important to prevent your shoulder becoming stiff.

Returning to normal activity

Once you have had your first device check in the Pacing & ICD clinic you should be able to return to normal activity. Once the wound is healed a normal lifestyle can be resumed. You may resume sexual activity as soon as you feel fit. You should avoid any position that will put pressure on the affected arm/ shoulder for the first four weeks.

Returning to work

You should notify medical staff at your workplace that you have had a defibrillator implanted.

Requirements for time off work can vary depending upon the individual and occupation. If necessary you can self-certificate or obtain a medical certificate from your GP; please ask the pre-assessment nurses if you have any concerns.

Driving

You must notify the DVLA that you have had a defibrillator implanted. It is a DVLA requirement that you attend the Pacing & ICD clinic regularly in order to retain your licence.

Group 1 (car): DVLA guidance varies depending upon the reason you are having your defibrillator implanted. Driving restrictions range from 4 weeks to 6 months.

If you hold a group 2 licence (LGV/PCV), this procedure permanently disqualifies you from driving using a group 2 licence.

All driving restrictions will be discussed and explained during your pre-assessment appointment. If you have access to the internet, current DVLA regulations are available at www.dvla.gov.uk

Device alerts

Your device may beep or vibrate an alert. Please call the Pacing and ICD clinic if you hear any alerts coming from your device. During your first attendance to the Pacing and ICD clinic, the physiologist will demonstrate the alert tones specific to your device so that you will know what they sound like.

Remote monitoring

Following defibrillator implant you will be offered the opportunity for remote monitoring which enables information to be obtained from your device without the need for you to attend the Pacing and ICD clinic. Remote monitoring does not negate the need for clinic visits but can reduce the frequency of attendances. Remote monitoring will be discussed with you before your discharge.

Can I travel by air?

You can safely travel abroad with your defibrillator. However, it is necessary to carry your defibrillator identification card with you when you travel by plane as you may need to show this to the security staff.

Can electrical equipment affect my defibrillator?

Most electrical items that you encounter will not affect your defibrillator. Modern devices have built-in safety features which protect them from electrical interference from all common electrical appliances encountered in daily life.

If you are working with high voltage industrial equipment and powerful magnets, please call the pacing and ICD clinic for advice.

Airport security systems

You should show airport security staff your defibrillator identity card. It is advisable to avoid walking through airport detector archway/security machines or to be checked with a handheld detector. The metal detector should not be placed directly over your defibrillator because this can temporarily interfere with your defibrillator. Where some patients have walked through the security machines there have been no

reported problems. If you cannot avoid going through the security machines, walk through briskly.

Shop security systems

It is advised you should walk straight through the shop doorway without loitering; your defibrillator should not trigger the alarm system.

Household/domestic appliances

Practically everything in the household environment is safe for defibrillators. These include:

- Microwave ovens
- Televisions
- Radios and stereos
- All kitchen equipment
- Hairdryers and shavers
- Vacuum cleaners
- Garden equipment

TENS machine in particular should be avoided (sometimes used for pain control).

Mobile phones

Mobile phones are safe, but it is recommended that you use the phone on the opposite side to your device implant (six inches away from the defibrillator). It is safe for other people to use a mobile phone close to you.

Hospital environment

Most equipment used in hospitals will not cause any interference with the defibrillator. If you need hospital or dental treatment it is important that you let medical and dental staff know you have a defibrillator so that they can assess if their equipment is safe to use. Please make sure you carry your defibrillator identity card with you at all times and take it with you to any hospital appointments.

X-rays

X-rays do not interfere with defibrillator devices.

MRI scans/ CT scans

CT scans are usually safe however, MRI scans are not appropriate for all types of device. An MRI scan is a diagnostic test that uses a strong electromagnetic field. Some devices and leads have been engineered to be compatible with MRI scans to avoid damage to the implanted device.

If your defibrillator is not MRI compatible then you should not have MRI scans as the risk of damage to your device is high. If you are advised that you would benefit from an MRI scan after your defibrillator has been implanted, please contact the

Pacing and ICD clinic to confirm if your device and leads are MRI compatible.

If you regularly undergo MRI scans or if you think there is a high probability that you will require MRI scans in the future, please discuss this with the nurses during your pre-assessment appointment.

Radiotherapy

If you are advised at any time that you would benefit from radiotherapy then it is important that your consultant contact the Essex Cardiothoracic Centre to discuss treatment.

Radio Frequency (RF)

It is unlikely that most patients will come across sources of RF that will cause problems. If you are concerned about anything at all, please contact the Pacing and ICD clinic for advice.

Shock treatment

Defibrillators deliver therapy to provide life-saving treatment if needed using either pacing mechanisms or electrical shocks. Shocks delivered by the defibrillator can be because of a dangerous heart rhythm (appropriate shocks) but sometimes treatment can be delivered because of other

reasons (inappropriate shocks). This does not mean your defibrillator is malfunctioning; inappropriate shocks are a known risk of defibrillator implantation. The nurses will fully discuss shock treatment during pre-assessment clinic and will answer any questions you have.

What will happen to me when the defibrillator delivers treatment?

At the start of a fast heart rhythm, you may feel palpitations and start to feel dizzy as your blood pressure drops. Some patients may lose consciousness, so if there is time then it is best to sit down. You should wait for your palpitations to stop or for treatment to be delivered.

Your response will vary depending on what treatment is being delivered. Many patients are unaware of pacing therapies and some are unaware of shock treatment.

Shock therapy is felt in different ways by different people. It can cause your body to twitch or jump, sometimes quite violently. This can be unpleasant.

What should I do after receiving shock therapy?

You may be very upset the first time you receive shock therapy, and need help and support.

Please contact The Pacing and ICD clinic as soon as possible, on 01268 524900 ext 4019 and arrangements will be made to see you. If you have remote monitoring at home we may be able to give you more information regarding your symptoms and advise if you need to attend the Pacing and ICD clinic

For advice out of hours please contact Roding Ward on 01268 524900 ext 4209.

When you come to see us we will be able to identify exactly what has happened, and provide you with the reassurance and support you need. Patients who have had treatments from their defibrillators regularly will often be aware of their heart rhythm changing and will be able to prepare themselves for whatever treatment is to be delivered.

Should I call 999?

If you receive a shock from your defibrillator try and stay as calm as possible. Many patients feel perfectly well after a shock and can carry on with whatever they were doing beforehand. If this is the case then there is no need to treat the situation as an emergency.

Remember, that potentially needing shock therapy is part

of the purpose of having a defibrillator in the first place, please follow guidance as below;

Stay at home if you have experienced a single shock only and feel otherwise well. There is no need to attend hospital but we recommend that you stay at home and rest. You should not drive and you should contact the Pacing and ICD clinic either immediately or during the next available working hours.

Call 999 if you have experienced multiple shocks, (these may occur in quick succession or may be isolated single shocks some time apart) or if you feel unwell in any way and have received any shocks at all. You should not drive and we recommend your defibrillator is checked as soon as possible.

Driving restrictions following treatment from your defibrillator vary depending upon whether treatment was appropriate or inappropriate. You will be advised by the physiologist, nurse or doctor caring for you which driving restriction apply to you. In all cases the DVLA need to be informed.

If you are in any doubt about what to do if you receive shocks call 999.

What should I do if I feel unwell but have not received any shocks?

This depends on how unwell you feel. If you feel generally unwell but have had no palpitations or shocks from your defibrillator then you should contact your GP. They will assess you and decide whether you need additional help.

If you are feeling very unwell then you should call an ambulance. It is important that you tell them that you have a defibrillator and show them your defibrillator identification card.

What happens if anyone is touching me when I get a shock from my defibrillator?

This is not a problem. No harm can come to anyone touching a patient with a defibrillator during shock therapy. Many patients who have small children or grandchildren worry about this. There is no need to worry – it will not harm anyone. At worst they may feel a slight tingle.

Can I stop taking my medication now that I have a defibrillator?

The defibrillator does not stop you getting heart rhythm disturbances; it only treats them when they occur. You should continue all of your medication unless specifically advised otherwise.

Planned defibrillator deactivation

The defibrillator is designed to provide life-saving treatment. Some people, as they near the end of life, may not feel that they want or need shock treatment any more.

In such circumstances it is possible to request a planned defibrillator deactivation. Deactivation of the defibrillator eliminates the risk of receiving shocks but will not have any impact on your state of health.

If you have any questions, please contact the arrhythmia nurses or the Pacing and ICD clinic.

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Where can I find further information?

If you need to contact us regarding your procedure, please call:

Arrhythmia nurses

Essex Cardiothoracic Centre
01268 394021
arrhythmia.nurses@btuh.nhs.uk

Pacing and ICD clinic

Essex Cardiothoracic Centre
For appointment queries and
transport requests:
01268 394516

For all other queries

01268 524900 ext 4019 or email
btu-tr.essexcrm@nhs.net

Cardiac department

Basildon Hospital 01268 394536

Roding Ward

Essex Cardiothoracic Centre
01268 524900 ext 4209
(For out of office hours queries)

Hospital contact details

Basildon University Hospital
Nethermayne, Basildon
Essex SS16 5NL
01268 524900
www.basildonandthurrock.nh.uk

Patient advice and liaison service (PALS)

01268 394440
Email: pals@btuh.nhs.uk
www.basildonandthurrock.nhs.uk

Basildon University Hospital
Nethermayne
Basildon, Essex SS16 5NL

01268 524900

Minicom 01268 593190

www.basildonandthurrock.nhs.uk

Patient Advice and
Liaison Service (PALS)
01268 394440
pals@btuh.nhs.uk

The Trust will not tolerate
aggression, intimidation or
violence.

This is a smokefree Trust.
Smoking is not allowed in any of
our hospital buildings or grounds.

This information can be provided
in a different language or format
(e.g. large print, Braille or audio
version) on request