

Implantable Cardioverter Defibrillator

Your guide to coronary heart disease and a healthy lifestyle

We hope this leaflet will help you to understand a little more about your operation and the treatment you will receive after surgery. If you have any further questions, please don't hesitate to ask a member of the nursing or medical staff. They will be happy to help you.

How the Heart Works....

The heart pumps because there is a specialised electrical system running through it. The normal heart beat starts in the natural pacemaker of the heart which lies in the top chamber. Electricity then passes through the heart to a junction box which lies between the upper and lower chambers of the heart. Electricity then spreads through the bottom chambers of your heart causing the heart to pump.

In your case we have discovered a fault in the electrical system. This 'fault' causes

Ventricular Tachycardia or Ventricular Fibrillation.

What is Ventricular Tachycardia and Ventricular Fibrillation?

Ventricular tachycardia is life threatening rhythm disturbance where the bottom chambers beat too quickly. This interferes with the way the heart pumps blood around the body and can cause dizziness, fainting and collapse.

Ventricular fibrillation is when the electrical action of the heart is completely disorganised and blood is not pumped from the heart around the body.

Ventricular fibrillation is fatal unless treated immediately.

What is an Implantable Cardioverter Defibrillator (ICD)?

An ICD is a small metal box that can sense when your heart is in ventricular tachycardia or ventricular fibrillation. It delivers electrical shocks or pulses to regulate the heart. It can also function as a pacemaker if necessary. It is battery operated and lasts for up to 6 years depending upon the amount of treatments your heart needs. The ICD is programmed to meet the needs of each individual.

Preparation for admission to hospital

You will usually be admitted the day before your operation. You may be asked to attend a pre-operative assessment up to one week before the procedure, where a nurse will ask you some questions and carry out a few routine tests. The assessment will include tests for blood pressure, pulse and heart trace (ECG). We will also record your height and weight, and possibly take a chest x-ray.

On admission a Doctor will visit you and explain the operation to you, and you will be asked to sign a consent form. Please feel free to ask any questions.

A cardiac nurse will also visit you (if you did not attend the pre-assessment clinic) to make sure you are well prepared and will answer any final questions you may have.

Before the operation

We ask you not to eat anything for 6 hours before your operation, but you are able to drink water until 2 hours before hand. This is to prevent you being sick during the procedure. Do take your usual tablets with a sip of water.

About one hour before your operation, you may be given a pre-med tablet to help you relax. You will be given antibiotics through a cannula in the back of your hand, as a routine precaution to prevent infection.

To reduce the risk of infection, we ask you to have a bath or shower 2 hours before going to theatre, and to put on a hospital gown and

paper pants. Please do not use talcum powder or deodorant. So that this procedure may be carried out as safely as possible, we also ask you to remove all jewellery, including hairpins (except your wedding ring which can be taped to your finger) and any glasses, contact lenses, hearing aids or dentures that you wear.

Risks and complications

The risks associated with this operation vary according to individual circumstances, but serious complications are rare. Although every effort is made to minimise problems, you should be aware that all invasive procedures carry some risk and we advise you to discuss these with the doctor before signing the consent form.

The complications specific to having an ICD fitted are:

- Infection
- Allergic reaction (Please tell us if you have any allergies)
- Movement or displacement of the leads
- Injury to nearby tissue or swelling due to bleeding (haematoma)
- Compression of the heart caused by build-up of fluid (tamponade)
- A build-up of air in the lung leading to a collapsed lung (pneumothorax)
- Abnormal heart rhythm
- Inappropriate shocks

The Operation

This procedure is carried out under operating theatre conditions to reduce the risk of infection, so the doctor will wear a sterile gown and gloves.

There will be a doctor, nurse, physiologist, radiographer and a manufacturer's representative in the room. The physiologist and the representative will check that the ICD is working correctly.

A local anaesthetic injection is used to numb the skin around the area of insertion, this means you will be awake. However, during the procedure you will be given a sedative and possibly a strong painkiller through a cannula, this will make you drowsy and less aware of what is happening. A small incision is made below the collarbone and the leads are positioned in the heart through a vein and their position checked by x-ray, you will not feel the leads inside you as veins can't 'feel'. The ICD box is then connected and inserted below the collarbone usually on the left side, you may feel a bit of pushing at this point.

The small wound (less than 10cms) is stitched or glued and a dressing may be applied.

The ICD is then tested by provoking the abnormal heart rhythm (fault) causing your problems and observing its response. You may require more than 1 test. During the test you will receive a low voltage electric shock that may wake you. Patients often describe this feeling as a short moderate 'thump' to the chest.

Recovery

After the operation you are advised to rest on your bed until you are fully awake from the sedation. You may experience short-term memory loss for up to 48hours. It is not unusual to have episodes of drowsiness for up to 24 hours. A nurse will regularly check your blood pressure, pulse and wound. It is important to limit the movement of your arm and shoulder on the affected side for the first month. The leads inside your heart need this time to anchor firmly into the heart muscle.

Follow up

Before you go home you will need to have a chest x-ray to check the position of the leads in your heart. The physiologist will check the programming of the ICD. You will be given an appointment for 1 month's time to have your ICD checked again. These technical checks are required throughout the lifetime of the ICD on a six monthly basis. If you cannot attend an appointment please contact the clinic to rearrange a convenient time. Please inform the clinic if you change your home address or GP's details.

Going home.

Your chest area may be tender for a few days, perhaps with some bruising. You may wish to take some paracetamol or usual painkiller. A course of antibiotics will be given to you when you go home to help prevent any infection. If you have non-dissolvable stitches they will need to be removed 7 days after your operation, this will be arranged for you.

Looking after your wound.

Your wound should be kept clean and dry until it heals completely. If you develop a temperature, or the wound becomes red, inflamed, weepy or painful please contact the clinic promptly.

Travel

People with ICD's can safely travel abroad, however at the airport show your ICD identification card and ask for a hand search. It is possible that hand held wands may temporarily interfere with the ICD's function and so these should not be used.

It is advisable that you plan for emergencies. Tell your travelling companions about your ICD and what to do if your ICD is activated or you feel unwell.

What to do if you have a shock from your ICD

Usually patients will have a warning that their ICD has triggered. You may feel dizzy, light headed or have palpitations. If this happens and you think your ICD may activate you should:

- Sit or lie down on the floor
- Tell someone how you are feeling, you might want to remind them that they will not come to any harm if they are touching you when you receive a shock, in fact this may be very comforting for you.

Afterwards you should recover quickly, however, if you remain unwell, or your ICD gives a second shock please call 999. When you are in hospital your ICD can be checked. Sometimes patients may not have warning that the device has triggered and is about to shock them.

In the first few months we ask you to contact the clinic after each shock you feel, this is because we may need to check your ICD. Please keep your ICD card with you at all times as it contains all the technical information that may be required by a health professional.

Living a normal life.

Exercise is safe for those who have an ICD and is actually good for the heart. However, if you play contact sports we would advise you to discuss this with the physiologist or your consultant. It is a good idea to swim, ski, or hill walk with a companion in case the ICD activates.

Patients and partners sometimes have concerns about sexual activity. As with other exercise sexual activity is safe, if you have any particular concerns please talk to your nurse, physiologist or doctor.

We will talk to you about driving as the restrictions vary for each individual depending on why your ICD was put in. These restrictions are laid down by the DVLA, most drivers will be unable to drive for six months.

Some patients feel anxious or down when they first go home, if you feel this way it is important to talk to someone. You may wish to

contact the clinic secretary who can arrange for someone to call you back, alternatively, you might wish to talk to your practice nurse or GP.

Do's & Don'ts

- **Do** carry your ICD card with you at all times.
- **Do** let the DVLA and your insurance company know. You may need help to fill in any forms they send you, if so please contact your consultants secretary.
- **Do** tell your dentist that you have an ICD
- **Do** use mobile phones on the opposite ear to your ICD and don't store it in a pocket or bag near to your ICD.

- **Don't** lift your arm on the side of your ICD above shoulder height for 1 month; this is to allow the leads to settle.
- **Don't** lift anything heavy or do any strenuous exercise for a month after your ICD is fitted.
- **Don't** linger in shop, museum or library doorways where electronic anti-theft devices are installed. You can walk in and out at a normal pace.
- **Don't** carry stereo or hi-fi speakers as these contain strong magnets.

If you undertake activities such as shooting, welding or work with car engines please let us know as restrictions apply.

You can continue to use normal electrical equipment in the home (including microwaves). If you have any ill effects whilst in close proximity to electrical or magnetic equipment move away from the source. If you are unsure about any possible effects of any device or equipment you wish to use please contact the clinic.

Some equipment used in hospitals can cause interference with an ICD. You should NOT have a MRI scan or use a TENS machine. Some electrical physiotherapy treatments are not suitable.

Please inform any healthcare practitioners that you see, (Doctor, Dentist, Physiotherapist etc) that you have an ICD.

Help and further information

Clinic secretary

Mon-Thurs 08.00-15.45

01823 342546

Clinical investigations unit

Mon-Fri 08.30-17.00

01823 342953

Pacing sister

Mon-Fri 09.00-16.30

01823 333444
bleep 2352

Coronary care unit

for 'out of hours' advice

01823 342066

NHS direct

24 hours a day

0845 4647

British heart foundation

confidential heart information line

08450 70 80 70

(Calls charged at local rate and open Mon-Fri 9-5)

Internet sites, it is recommended that you use a regulated site; you may find the following helpful.

Alternatively you may wish to use the site of the company who manufactured your device. This should be on your ID card.

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