First Community Health and Care

NHS

Guidelines for the Emergency De-activation of Implantable Cardioverter Defibrillators (ICD's) at End of Life v2

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Guidelines for the Emergency De-activation of Implantable Cardioverter Defibrillators (ICD's) at End of Life

Guideline Number	GU_ASC014
Version	2
Executive Lead	Renee Padfield, Executive Director of Operations
Approval Body	Clinical Practice Group
Date Approved	April 2024
Guideline Owner	End of Life Nurse Advisor
Review Date	April 2026

Equality and Health Inequalities Statement

First Community values diversity, promotes inclusion, and ensures equal opportunities for all. We aim to design and implement services that meet the diverse needs of our population and workforce, ensuring that no one is placed at a disadvantage over others. We take into account the Equality Legislation including the Equalities Act 2010 and embrace the four staff pledges in the NHS Constitution. We use our Equality, Diversity, and Inclusion (EDI) vision and mission statements to help us drive our work.

This document has been assessed to ensure that no employee receives less favourable treatment on the protected characteristics of their age, disability, sex (gender), gender reassignment, sexual orientation, marriage and civil partnership, race, religion or belief, pregnancy and maternity.

Members of staff, volunteers or members of the public may request assistance with this policy if they have particular needs. If the member of staff has language difficulties and difficulty in understanding this policy, the use of an interpreter will be considered.

First Community are compliant with the requirements of the Accessible Information Standard which aims to ensure that people who have a disability, impairment or sensory loss get information that they can access and understand and any communication support that they need. We ensure that we ask people if they have any information or communication needs and ask how we might meet those needs, make sure this is recorded clearly on any records, highlight this so it is clear to other staff, share this as appropriate and make sure that we take the necessary steps so that our patients receive information that they can access and understand and receive communication support as needed.

Sustainability

In October 2020, the NHS became the world's first health service to commit to a target of reaching Net-Zero Carbon emissions by 2040.

As healthcare professionals we have a duty to play our part in tackling the problem of our changing climate. Right across the organisation, in all roles both clinical and non-clinical we can think, and act, more sustainably.

This is why we need to take action to create the change that will protect the environment on which our health depends. We are working to create a greener NHS at First Community as set out in our Green Plan. All of our documents consider sustainability and support our green plan.

Contents

This Guideline
The implantable cardioverter defibrillator (ICD) is routinely implanted in patients for the treatment of life-threatening ventricular arrhythmias. However, there comes a time when prolongation of life is no longer appropriate.
Healthcare professionals have a duty of care to consider withdrawal of non-contributory therapies and the distress caused by resuscitation measures in those near the end of life with a progressive and irreversible decline in their condition.

Deactivating an ICD means 'turning off' the shocking function of the defibrillator so that the patient is not unnecessarily 'shocked' in the last minutes of their life. The ICD will continue to provide bradycardia (slow heart rhythm) support should the patient need it but will no longer provide lifesaving therapy in the event of a ventricular tachyarrhythmia. This would usually occur in a hospital setting by the cardiac physiologist using a programmer.

Situations may arise in which a patient is terminally ill, sometimes due to deterioration in their condition or where the question of deactivation has not been considered or determined in advance. In such situations it may not be possible to arrange an urgent deactivation by the cardiac physiologist and emergency deactivation may need to be considered if the patient is recognised as close to death or when they are imminently dying. This can be done after discussion and careful consideration of its consequences, by taping a ring magnet securely on the skin overlying the device.

This guideline covers the process for the emergency deactivation of an ICD using a ring magnet.

1. Purpose

The purpose of this guideline is to:

- Promote high-quality care of patients who are approaching the end of life with an ICD
- Avoid unnecessary distress that ICD shock therapy can cause.
- Outline the process of what to do when a patient requires emergency deactivation of an ICD.
- Guide good communication with having discussions about emergency deactivation.
- Show correct documentation for this procedure

2. Definitions

ICD Implantable Cardioverter Defibrillator
Ring Magnet Specifically designed magnet to use for emergency deactivation of ICD
Ventricular Arrhythmias Abnormal heart rhythms

3. Roles and Responsibilities

First Community Employees are responsible for:

Team leads

- Dissemination of the guideline

- Ensuring staff are familiar with the guidance prior to undertaking the task and are working within their professional capabilities.
- Ensuring that staff comply with the guidance in practice.

The End of Life Nurse Advisor

- Ensuring the guideline is updated in line with national guidance.
- Dissemination of the guideline
- Ensuring that a copy of the guideline is available for staff to use as an electronic copy.
- Monitoring compliance with the guideline.

All staff

- Reading the guideline
- Knowing where to access the guideline and appendices.
- Working within their professional capabilities and seeking further advice from their team lead or the End of Life Nurse Advisor

4. Guidance / Process

4.1 Why an ICD should be deactivated

At the end of life, there is a risk of the device delivering an inappropriate shock which is painful and traumatic to the patient and can be distressing for those present. Inappropriate shocks are uncomfortable for the patient and any family member that may witness them.

4.2 When an emergency ICD deactivation should be considered

- When it is not possible to have their ICD deactivated in hospital with a programmer
- Continued use of an ICD is inconsistent with patient care
- Death is expected in the near future, no further interventions are planned and delivery of shock therapy from ICD would be inappropriate as the person dies
- An active Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) is in place

4.3 Communication and Consent

When it has been recognised by GP and Nursing Teams that the patient is at the end of their life and there has not been the opportunity to deactivate the ICD a sensitive conversation needs to be had with the patient and their family or significant others about the possibility that deactivation may need to occur with the use of the magnet.
Explain to the patient and relatives/significant others what the deactivation process is and what will happen
The patient should consent to the ICD deactivation. If there are concerns that the patient is unable to consent to ICD deactivation then a mental capacity assessment should be completed in line with the Mental Capacity Act 2005. If the patient is unable to consent, then a decision should be made in the patient's best interest following the best interest process outlined in the Mental Capacity Act 2005 (refer to the Mental Capacity Act and Deprivation of Liberty Safeguards Policy and Procedures for further details). Consent should be recorded in the Emis records.

This conversation should also address that.

- Deactivation of the ICD is not painful
- Deactivation of the ICD will not cause death

4.4 Documentation

- All conversations, including consent should be documented on EMIS.
- The deactivation form (Appendix 3) must be completed and signed by GP and be in DN notes and on EMIS

4.5 Emergency temporary ICD deactivation using a magnet

Ring magnets are held by each of the five community nursing teams based at Phoenix House, Tandridge District Council offices and Caterham Dene.

Emergency ICD deactivation can be done by a qualified nurse following completion of the deactivation form by the GP, by placing a ring magnet directly over the implant site (Appendix 2).

The ring magnet should be placed directly on the patient's skin over the bump of the ICD (usually on the left side of the chest just below the clavicle/collar bone).

Tape the ring magnet in place and do not remove even after death. The magnet is only effective when it is in place and the ICD will return to normal function when it is removed.

The ring magnet is safe for all staff to use. It will not affect staff or relatives who may have active pacemakers.

It is safe to touch a patient whilst the ICD is delivering shocks – no shock will be transmitted to the person touching the patient. You may feel a twitch but try to avoid touching the area close to the ICD

A Biotronik device will only be inhibited by a magnet for 8 hours so if the manufacturer of the ICD is unknown the magnet must be removed for a few seconds and then reapplied every seven hours. This should be considered when families would like to wait for the deceased to be removed, there is a delay with the funeral directors or when the patient has the magnet in situ for a period of time prior to death.

4.6 After Death

All ICD's deactivated using a magnet will require subsequent deactivation by a cardiac physiologist using a programmer prior to postmortem and burial or cremation.

- Do not remove the magnet until the device has been deactivated. After death, movement of the body may stimulate the ICD to deliver further electrical impulses/shocks if the magnet is removed. These are no danger, but may obviously alarm family, staff and morticians
- The community nursing team must inform the funeral home of the ICD status as this will be noted in the death certificate.

- The community nursing team must contact the ICD pacing clinic to arrange for the ICD to be turned off. Let them know where the body is. Inform the appropriate clinic (Appendix 1) as soon as possible to minimise delays in funeral arrangements as postmortem and burial cannot be arranged until the ICD has been turned off. If the deceased is to be cremated the funeral home will remove the ICD as standard practice.

Appendix 1

Contact Details of ICD centres to arrange deactivation

All patients should have a card/leaflet with details of their ICD including the manufacturer and the hospital at which it was implanted. Community nursing teams should contact the hospital where it was implanted, if the implant details are not known, they should contact the hospital most conveniently located from the list below.

St Georges Hospital Monday – Friday	9.00 am – 5.00 pm	Pacing ICD clinic Tel: 0208 8725 1372/3597
Croydon University Hospital Monday – Friday	9.00 am – 5.00 pm	Cardiology Department Tel: 0208 401 3046
Epsom Hospital Monday – Friday	9.00 am – 5.00 pm	ECG Department Tel: 01372 735735 ext: 6054
St Helier Hospital Monday – Friday	9.00 am – 5.00 pm	ECG Department Tel: 0208 296 2575
East Surrey Hospital	8.30 am – 4.30 pm	Pacing Clinic 01737 768511 ext: 2826

Appendix2

Flow Chart for emergency ICD deactivation

Patient has been identified as end of life and the ICD remains active

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Multi professional decision that Emergency deactivation of ICD with a ring magnet is appropriate and documented on EMIS

↓

Discussion with the patient and their family/carers about emergency deactivation to enable informed consent. Follow the MCA Act (2005) if there are concerns with patients' capacity. Document on EMIS

↓

Multi professional agreement with family and patient when the appropriate time is to apply magnet

↓

GP to complete De-activation of implanted Cardioverter Defibrillator form and upload to EMIS

↓

Obtain magnet from one of the five community hubs.

↓

Apply over ICD and strap into place with adhesive tape

↓

If Biotronik device or if the manufacturer is unknown, remove magnet for a few seconds every seven hours, refer to evening and night service if necessary.

↓

After death:
Inform Funeral Directors
Inform relevant hospital department.

Appendix 3

Surrey Heart & Stroke Network ICD Deactivation
Implantable Cardioverter Defibrillators (ICDs) in Dying Patients

What is an ICD?

ICDs are implanted devices that are fitted in the same way as pacemakers and used to treat life threatening heart rhythm disturbances - ventricular tachycardia and ventricular fibrillation.

The ICD constantly monitors the heart rhythm and if it senses one of these two abnormal rhythms, it delivers an electrical impulse or shock to return the heart back to normal. An ICD can therefore prevent sudden cardiac death. ICD's also include a pacemaker function that can prevent the patient's rhythm from going too slow.

Issues at the End of Life

Patients with ICDs often suffer from progressive cardiac or other co-morbid conditions.

The presence of an ICD at the time of natural death can present potential complications. If these patients develop ventricular tachycardia or ventricular fibrillation in the terminal phase of their illness, they may receive inappropriate and unpleasant shock treatment from the ICD.

Goldstein et al found in a group of next of kin contacted after the patient's death that 8% of ICD patients received a shock in the last minutes of life and a further 19% in the last month. This can be distressing both for the patient and for the relatives and professional carers.

This can be prevented by de-activating the 'shock' therapy function of the ICD.

Deactivation of the shock mode of an ICD does not deactivate the pacemaker function and in itself does not end a patient's life, but will allow for a natural death without the risk of unnecessary shocks. Deactivation can be reversed if a patient's health improves and it is no longer indicated.

How is the ICD de-activated?

The patient will have had their ICD checked on a regular basis at their local ICD clinic by a specialist Cardiac Physiologist.

A specialist computer is used to communicate with the ICD usually by placing a small communicating device over where the ICD is situated (most commonly situated in the left pectoral region).

Hence the ICD can be tested and reprogrammed as required very simply. The process of de-activation takes a matter of minutes and is totally painless. This will involve the patient attending the hospital devices clinic and therefore forward planning to have this done will help reduce the stress of the situation for the patient.

Indications for de-activation

- When continued use of an ICD is inconsistent with patients care.
- In conjunction with withdrawal of anti-arrhythmic mediations.
- Imminent death (activation inappropriate in the dying phase).
- While an active DNR (Do Not Resuscitate) order is in force.

When should de-activating the ICD be discussed?

Discussion about de-activating the ICD should take place as early as appropriate to enable proactive care management to avoid unnecessary distress.

Although de-activation is not a complicated process, it may only be possible at certain times, because of the special programmer required - therefore early planning is required. Once CPR is no longer medically appropriate, the shocking function of the defibrillator should be de-activated.

Ideally criteria for de-activating a defibrillator should be discussed with a patient and/or their next of kin when resuscitation issues are explored or when a patient's condition is worsening and de-activation may be appropriate. The discussion should take place while the patient is still able to be involved in the decision making process. If this is not possible discussion should take place with the next-of-kin. It is important to try to avoid "last minute" decisions as there may be no one available out of hours to provide this service.

Where appropriate, the patient's Cardiologist should be consulted prior to a decision being made.

The decision to de-activate the device can be reversed if the clinical situation changes. It is not an irreversible decision.

When discussing the intention of turning off the ICD, the following should be made clear:-

- The device will no longer provide lifesaving therapy in the event of a ventricular tachyarrhythmia.
- Turning off the device will NOT cause death.
- Turning off the device will not be painful, nor will its failure to function cause pain.
- There will be a plan of care to ensure healthcare professional availability to address new questions or concerns.
- The ICD will continue to provide bradycardia (slow heart rhythm) support should the patient need it.
- A de-activation request form will need to be completed. - Please find attached

If there are issues for further discussion, consultation with the palliative care team may be required.

Procedure for de-activation

1. Prior to de-activation there should be discussion with the medical/nursing team looking after the patient to decide the appropriate timing. The de-activation form attached to this guideline should be completed by the physician and patient (if possible).
2. The team should then contact the local appropriate centre to discuss with the Cardiac Physiologist and fax the Consent to De-activate form (page 3).
3. The Cardiac Physiologist will then discuss deactivation with one of the Cardiologists to ensure that deactivation is appropriate. Both parties will then co-sign the form.
4. The Cardiac Physiologist will organise for the patient to attend the hospital where a special programmer will be used to communicate with and de-activate the ICD. A health professional involved in the patient's care needs to be present at the time the ICD is de-activated.
5. This is a simple non-invasive procedure and takes only a few minutes.

6. In the event of urgent de-activation you may be advised to apply a magnet over the ICD as this disables therapy/shocks. Magnets are available on CCU and the Cardiac Investigations Dept. Application of the magnet will only temporarily disable shock therapy and once it is removed therapy will then be enabled.

It is particularly important that the ICD is de-activated following the death of a patient, if not carried out beforehand, and before removal of the device prior to a cremation.

Contact Details for Cardiac Physiologists

In the event of need for advice regarding the management of ICDs in this situation please call the appropriate hospital from the numbers below.

All patients should have a card/leaflet with the details of their ICD. This will include the manufacturer and the hospital at which it was implanted. It would be helpful if you have this information when you call.

East Surrey Hospital		
Monday – Friday	8.30am to 4.30pm	Cardiac Investigations Unit
		Tel: 01737 231661
Out of hours	CCU	01737 231937 and/or for the on call registrar
Epsom Hospital		
Monday – Friday	8.30am to 4.30pm	Cardiac Investigations Unit: ECG
		Tel: 01372 735735 Ext 6054
Out of hours	CCU	Ask for the on call registrar
Frimley Park Hospital		
Monday - Friday	8.30am to 5.00pm	Clinical Investigations Dept
		Tel: 0300 614 5000
Out of hours	A&E or CCU	Ask for the on call registrar
Royal Surrey County Hospital		
Monday – Friday	8.30am to 5.00pm	Pacing Department in Clinical Measurements
		Tel: 01483 571122 Ext. 4128
Out of hours	CCU	Ask for the on call registrar
St. Peter's Hospital		
Monday - Friday	8.30am to 5.00pm	Cardiology
		Tel: 01932 722530
Out of Hours	CCU	Inform Cardiac Registrar on call

References: www.arrhythmiaalliance.org.uk

ICD Deactivation for Surrey – approved 19.11.10 by the Cardiac Clinical Reference Group (Version 3)

(Reviewed by East Surrey Hospital 05/12/23)

Adapted from the ICD Deactivations Policy developed by Western Sussex Hospitals NHS Trust by Surrey Cardiac Physiologists' Network and the Arrhythmia & Sudden Cardiac Death Working Group

Date ratified by Cardiac Clinical Reference Group: 19th November 2010, reviewed 2023 (version 3)

Request for De-activation of Implanted Cardiovertor Defibrillator (ICD)

ICD Details (most patients will have a card/leaflet with this information)

Manufacturer: Implant Hospital:

Patient Name: .....

Hospital number: .....

Date of Birth: .....

Normal Address

.....

.....

.....

Address patient is currently located (if different to above):

.....

.....

GP Name: .....

GP Practice: .....

.....

GP Tel: .....

Deactivation

Date of request: ..... (dd/mm/yyyy)

Time of request: .....(hh:mm)

Reason for Request:

.....

.....

.....

Responsible clinician:

.....

Print Name:

.....

Authorisation

I understand the reasons for deactivating my ICD and that the decision to de-activate can be reviewed if necessary. I agree to the de-activation of my ICD.

Signature of patient: ..... Date: .....

or if not the patient please complete the box below.

I understand the reasons for the deactivating the ICD of the patient named above and that the decision to de-activate can be reviewed if necessary.

I agree to the de-activation of their ICD.

Signature of next of kin/ relative/carer (circle as appropriate): .....

Print name: ..... Date: .....

Date and time device de-activated:

..... (dd/mm/yyyy)

..... (hh:mm)

Any Other Comments:

Signature of Cardiac Physiologist de-activating the device:

.....

Print name: .....

Signature of second health professional present:

.....

Print name: .....

The completed form will be returned to the cardiac department, a copy will be filed in the patient's hospital notes and a copy will be faxed to the patient's GP

5. Monitoring Compliance of this guideline

Complete the table below to state how you will know the policy is being adhered to (an example is given). If you need help with this please contact fchc.quality@nhs.net:

What will be done	How often	Where will it report to	Who is responsible for doing it
Notes reviewed to ensure compliance with all areas of guidance	on each occurrence	CQ&E	End of Life Nurse Advisor
Any incidents involving emergency deactivation of ICD will be reported and investigated	On each occurrence	CQ&E	Clinical Leads End of Life Nurse Advisor

6. References

James Beattie (2013) ICD De-activation at the End of Life, Principles and Practice. Available at https://www.bhf.org.uk

Resuscitation Council UK Deactivation of implantable cardioverter-defibrillators towards the end of life Available at https://www.resus.org.uk/sites/default/files/2020-05/CIEDs

South London Cardiovascular and Stroke Network. Guidelines for deactivating implantable cardioverter defibrillators (ICDs) in people nearing the end of their life. Available at https://www.slcsn.nhs.uk/cardiac-hf.html

Appendix A: Version control

Version Number	Status	DATE	Name and job title of person making amendments	Comments / summary of changes
1	19/4/21	FINAL	Karen Newman	Approved at CPG May 2021
1.1	draft	09.04.24	Elli Jacobs	
2	Final	14.05.24	Elli Jacobs	Approved at May CPG 2024

Appendix B: Equality Impact Assessment Screening Tool

For help and guidance see GU_WF015 EIA Guidance or contact fchc.edi@nhs.net
Once complete please send the whole document to fchc.edi@nhs.net.

Equality Impact Assessment Screening Tool

EIA No: *(To be inserted by EDI Lead)*		
What is being assessed? (Name of Policy, process, procedure, decision, guidance, change etc.)	Guideline for the Emergency De-activation of Implantable Cardioverter Defibrillators (ICD's) at End of Life	
Owner/Author:	Elli Jacobs End of Life Nurse Advisor	
What are the main aims and objectives of the Policy/Document/project/programme/guidance/change	Outline the process of what to do when a patient requires emergency deactivation of an ICD. Show correct documentation for this procedure	
Date EIA screening tool Commenced	21.03.2024	
Person leading the EIA	Name Job Title	Elli Jacobs End of Life Nurse Advisor
	Date Completed	15/05/2024

The Equality Act (2010) defines a range of protected characteristics we must think about when doing an EIA. These are age, disability, gender reassignment, marriage/civil partnership, pregnancy/maternity, race, religion or belief, sex and sexual orientation. In relation to marriage and civil partnership only the discrimination aim applies, not advance equality of opportunity or foster good relations. Please consider these protected characteristics groups, along with other relevant groups such as carers when completing the EIA.

Section 1: SCREENING:
Do any of the following apply? *(If so complete a full impact assessment)*:

Criteria*	**Yes**	**No**
Could or does the policy, process, procedure, decision, guidance, change, etc affect one or more equality target group(s) in a different way to other groups?	☐	☐x
Could or do different equality groups have different needs in relation to the policy, process, procedure, decision, guidance, change, etc?	☐	☐x
Does the policy, process, procedure, decision, guidance, change, etc actually or potentially contribute to or hinder equality of opportunity?	☐	☐x
Does the policy, process, procedure, decision, guidance, change, etc offer unique opportunities to promote equality?	☐	☐x

If all answers to the above are NO, a full assessment is not required. Please make reference to the fact that EIA Screening has taken place and forward the document to the EDI Lead at fchc.edi@nhs.net.
If you have answered YES to any of the questions above, please complete the full Equality Impact Assessment template in appendix c.

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Further Information and Feedback

If you would like to find out more about our services, please visit our website at:

www.firstcommunityhealthcare.co.uk

If you would like this information in another format, for example large print or easy read, or if you need help communicating with us, please contact:

First Community (Head Office)

Call: **01737 775450**

Email: **fchc.enquiries@nhs.net**

Text: **07814 639034**

Address: First Community Health and Care, Orchard House, Unit 8a, Orchard Business Centre, Bonehurst Road, Redhill RH1 5EL

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TikTok: **www.tiktok.com/@firstcommunityhcnhs**