

Implantable Cardioverter Defibrillators (ICDs) in Dying Patients

What is an ICD?

ICDs are implantable devices that are fitted in the same way as pacemakers and used to treat life-threatening heart rhythm disturbances - ventricular tachycardia and ventricular fibrillation. There are two types of devices with an ICD function; the ICD and a combined device of a special pacemaker (cardiac resynchronization therapy pacemaker and defibrillator (CRT-D). The ICD constantly monitors the heart rhythm and if it senses one of the 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.

Issues at the end of life

Patients with ICDs often suffer from progressive cardiac or other co-morbid conditions. Near the end of life, many of these patients may not want cardio-pulmonary resuscitation (CPR). CPR may no longer be medically appropriate. The co-management of "do not resuscitate" orders and implantable defibrillators can be confusing to patients and healthcare professionals.

Dying patients are at risk of receiving inappropriate and unpleasant electric shocks from the ICD if they develop ventricular tachycardia or fibrillation in their terminal phase of illness, for example when decisions are made around advanced care planning, or the aim of care becomes palliative. The health care professionals should anticipate situations in which the defibrillator is no longer desired by the patient or no longer appropriate, and arrange for the ICD to be deactivated. If an ICD is not deactivated prior to death, there is a risk after death that movement of the body may stimulate the ICD to deliver further electrical impulses/shock, which may be inappropriately felt by family/professionals.

Indications for deactivation

- Continued use of an ICD is inconsistent with patient goals
- Withdrawal of anti-arrhythmic medications
- Imminent death (activation inappropriate in the dying phase)
- While an active DNR (do not resuscitate) order is in force

When should deactivating the ICD be discussed?

Discussion about deactivating the ICD should take place as early as appropriate to enable proactive care management to avoid unnecessary distress. Although deactivation 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 deactivated. Ideally criteria for deactivating a defibrillator should be discussed with a patient and/or their next of kin when resuscitation issues are explored or when a patients condition is worsening and deactivation 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 and avoid last minute decisions as there may be no one available out of hours to provide this service. Where appropriate the ICD physician should be consulted prior to a decision being made. The decision to deactivate the device can be reversed if the clinical situation changes, so that it is not an irreversible decision.

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

- The device will no longer provide life saving 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 questions or concerns
- The ICD will continue to provide bradycardia (slow heart rhythm) support should the patient need it (note: if the patient has a combined device (CRT-D) the resynchronization therapy pacing will continue whilst the ICD part of the device is turned off)
- A deactivation request form will need to be completed

FORM: REQUEST FOR DEACTIVATION OF IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD)

Patient name.....

Address.....

Date of Birth.....

GP details.....

Date/Time of request.....

Address patient is currently located at.....

Reason for request.....

Signature of authorising Consult/Physician.....

I understand the reasons for deactivating my ICD and that the decision to deactivate can be reviewed if necessary. I agree to the deactivation of my ICD.

Date and time device deactivated.....

Any treatments that remain active.....

Signature of healthcare professional deactivating the device.....

ADDITIONAL COMMENTS.....

This form has been created for use by healthcare professionals and medical practioners. It should only be completed following discussion and agreement with your healthcare team. Arrhythmia Alliance cannot and will not provide approval for a request for deactivation of an Implantable Cardioverter Defibrillator (ICD). Make sure to discuss any decision to deactivate with your healthcare provider.