

Implantable Cardioverter Defibrillator (ICD) Facts

1. What is the purpose of an ICD?

Initiate a shock for ventricular arrhythmias. ICDs *DO NOT* prevent arrhythmias from occurring and *DO NOT* shock for atrial arrhythmias.

2. Where is the most common anatomic location of an ICD generator?

Anterior left upper chest wall, subcutaneous pocket. Other locations can be right upper anterior chest wall or abdomen, depending on the size of the patient and anatomic limitations.

3. A single chamber ICD consists of:

Right ventricular (RV) lead plus a generator (the device). A right atrial (RA) lead is a common addition to allow for AV pacing (dual chamber ICD).

4. An ICD can have how many leads, maximum?

Three, 1 in the RA, 1 in the RV and CRT-D devices include 1 on the surface of the LV.

5. Hazards patients need to avoid include:

Large magnets, having an MRI and security wands can all cause interference with the generator and cause either inappropriate shocks or no shocks that are required.

6. What factors impact ICD recipients from retaining information while in hospital?

Anxiety, depression, short hospitalization duration, environment, anaesthesia or procedural sedation can all affect a patient's ability to retain information, similar to most other procedures. Patients will have pre and post procedure teaching; including friends or family members and should be both verbal and written to allow for best retention.

7. What lifestyle changes, if any, occur?

Adjustment to living with an ICD; may experience changes in ability to work; avoiding activities due to fear of a shock, fear of dying, change in sexual activity can all occur post implant. Truck drivers and heavy equipment operators will experience changes in their ability to work as they will lose their licenses for months or permanently. Patients may refrain from activity for fear of shocks, and relationships with loved ones may change due to

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fear of mortality and shocks while being intimate. The patient's identity changes with the implant and a new identity slowly forms.

8. What is the most common emotional response experienced by patients following an ICD implant?

Anxiety, and fear are common post implant. Patients have anxiety about being shocked or not being shocked when needed. There is fear about how a shock will feel, about mortality and about changes in life.

9. What are common experiences for the partner of an ICD patient?

Worry about the ICD not firing when it should, worry about leaving their partner with an ICD, anxiety and depression, and worry that they could do something to cause an ICD shock are all common experiences for partners of ICD patients. Most do not want to cause harm to their loved one so they treat them with “kid gloves” and try to shield them from real or potential harm. This can perpetuate the identity shift that the patient is experiencing and lead to conflict.

10. An ICD shock can cause someone to pass out?

False. Patients may lose consciousness briefly PRIOR to being shocked due to lack of cardiac output. The shock is painful and can cause mental trauma but does not cause a patient to lose consciousness.

11. An ICD can deliver inappropriate shocks?

True. This is a big stressor for patients and families. ICDs can malfunction and shock inappropriately or can shock due to interference from certain surgical techniques, magnets etc.

12. Receiving multiple shocks or >5 is associated with a decreased quality of life?

True, shocks are painful and can cause post-traumatic stress disorder (PTSD).

13. What happens when an ICD is deactivated?

ICD will not initiate a shock for a life-threatening event. If deactivated, the ICD will still function as a pacemaker, unless that functionality is also turned off. The ICD will not defibrillate for a ventricular arrhythmia if it is deactivated. ICDs can be deactivated when a patient is approaching end of life and if they decide that they do not want resuscitation and can be reactivated if prognosis or decisions change.

**See Cardiac Sciences Program Guideline #311. Deactivation of an Implantable Cardioverter-Defibrillator at End of Life for more information.