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## Frequently Asked Questions about Implantable Cardioverter Defibrillators (ICDs)

*Laura Horwood, NP  
University of Michigan Hospital*

### **Q. What is an implantable cardioverter defibrillator?**

An implantable cardioverter defibrillator (ICD) is an implantable device that provides immediate therapy to a life-threatening arrhythmia (heart beating too quickly) via a sequence of painless impulses or a jolt of electricity. It can also act as a pacemaker if the heart is beating too slowly.

### **Q. Why might a person need one?**

Numerous underlying heart conditions that can cause a weakening of the heart muscle can predispose an individual to develop or be at risk to develop life threatening ventricular arrhythmias. For adults, the most common condition is coronary artery disease leading to ischemic cardiomyopathy (where the heart can't pump enough blood to the rest of the body). There are also a number of inherited conditions that can cause a person to have sudden life threatening ventricular arrhythmias. Examples include: Hypertrophic Cardiomyopathy, Long QT Syndrome, Brugada Syndrome, and Arrhythmogenic Right Ventricular Cardiomyopathy.

### **Q. How does it work?**

The implantable device continuously monitors the heart's rhythm and is programmed to deliver "pacing impulses" to restore its natural rhythm, which would avoid the need for a shock. If pacing is unsuccessful, it will deliver a shock to the heart.

### **Q. Where does it get implanted?**

The device is implanted under the superficial skin tissues in a preformed pocket in the left or right chest area (just under the collar bone). The leads are inserted into the large subclavian vein and threaded into the heart and then secured within the right heart chambers.

### **Q. How does my doctor determine if I need an ICD?**

Through a comprehensive evaluation that includes: history and physical exam, echocardiography (using sound waves to see the heart), and electrocardiography (measures heart's electrical impulses). Sometimes the individual may require further tests such as a nuclear stress test, cardiac catheterization and cardiac MRI.

### **Q. How big is it?**

It's slightly smaller and thinner than a pager.

### **Q. How much is the ICD going to protrude from my chest?**

It depends on the person. It also depends on the type of implant that you receive. Some of the implants are very small and some are a little bigger. If you're thin, it generally will protrude. If you have a little more bulk it won't be so obvious. The device can be implanted under the chest muscle,

which would prevent it from being seen. Speak to your physician about options for your implant location.

**Q. What does a shock feel like?**

Some people say they felt like they were kicked in the chest by a horse. Others describe the shock as it feels like being hit in the back with a hard object. Still others say it wasn't as bad as they expected. In general, patients will agree that the shock is uncomfortable, however, it is quick and there is no lingering discomfort.

**Q. What should I do after a shock?**

First thing, you should sit down. It's possible that you could pass out from the arrhythmia, and you want to make sure you don't fall and/or hit your head. Call your doctor's office and let them know you received a shock. When patients know they received a therapy (pacing or shock), it is important to have the device evaluated to make sure the device is working properly and to document your arrhythmia episode. Your device may be evaluated remotely by a home monitor. However, if you have received multiple shocks or you are having symptoms, you will be directed to your doctor's office or the emergency room to be evaluated.

**Q. Can I still work with an ICD?**

That depends on what you do for a living. Most people with an ICD are able to continue working. Speak with your doctor about your occupation.

**Q. Will people be afraid to touch me?**

No. Even if someone does touch you when you are shocked, it won't hurt the other person. They may feel a tingle, like getting a static shock.

**Q. I feel scared and depressed. Is this normal?**

This is absolutely normal. In the beginning, many people worry about having arrhythmias and if and when a shock will happen. You have also been diagnosed with a new medical condition and have undergone a surgical procedure. This new diagnosis will also likely impact many areas of your life. This is a major event in your life and many individuals go through an adjustment period. Joining a support group and meeting others who share your fears can be beneficial. If you're experiencing anxiety, you can speak to your doctor about anti-anxiety medication and/or counseling to help you through this transitional period.