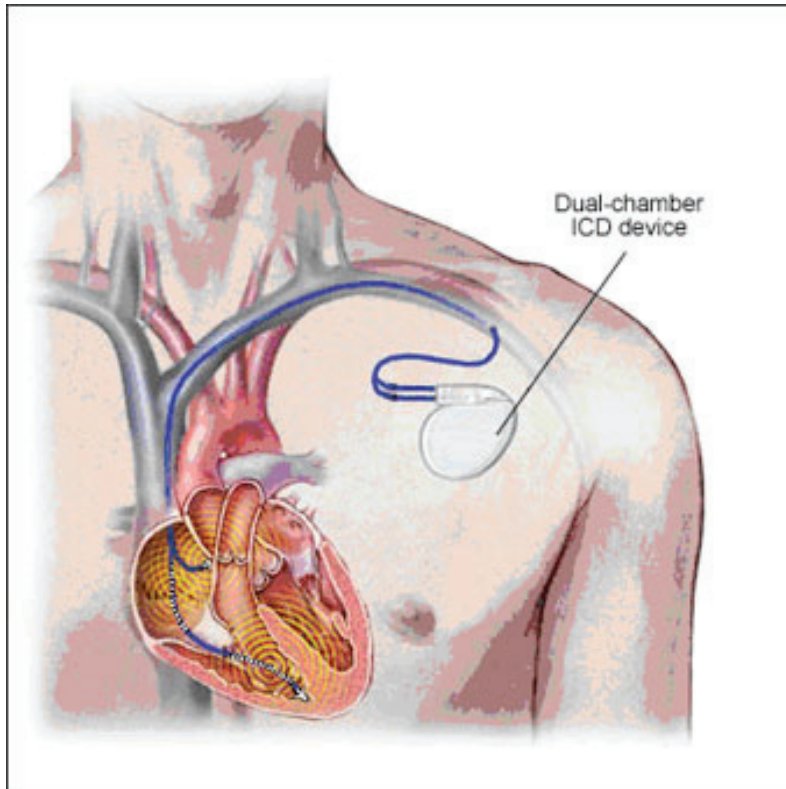


✓ Implantation of Automatic Internal Cardiac Defibrillators (AICDs)

Procedure Image



Prodedure Information

What Is a Defibrillator?

An implantable cardioverter defibrillator (ICD) is a small device that treats abnormal heart rhythms called arrhythmias. Specifically, an ICD treats fast arrhythmias in the heart's lower chambers (the ventricles).

Arrhythmias result from a problem in the heart's electrical system. Electrical signals follow a certain pathway through the heart. It is the movement of these signals that causes your heart to contract.

During a fast arrhythmia, too many electrical signals are moving through the heart. In addition, the signals often do not travel down the proper pathways. The result: the heart cannot pump enough blood out to the body. The person can pass out, and in some cases death—from a sudden cardiac arrest—follows quickly.

The defibrillator can stop a fast arrhythmia, treat sudden cardiac arrest, and therefore help prevent death from a fast arrhythmia. At the same time, ICD treatment can help the heart resume a normal heartbeat.

How Does a Defibrillator Treat My Heart?

An ICD system has two parts, and each plays a role in treatment.

The defibrillator leads are thin, insulated wires that carry electrical signals back and forth between the device and the heart. The leads can sense when the heart is beating too rapidly and needs treatment.

The defibrillator device, or pulse generator, is quite small, fitting easily in the palm of your hand. It contains computerized parts that run on a battery. The device treats your heart by sending electrical energy to the heart through the leads:

- Very low levels of energy called antitachycardia pacing
- Low levels of energy called cardioversion
- High levels of energy called defibrillation

The defibrillator system delivers treatment based on what it senses in your heart, even if you don't feel any symptoms.

How Should I Prepare for the Implant?

Your doctor or nurse will give you specific instructions. Common guidelines include:

- Whether to continue or stop certain medications
- What to avoid eating or drinking before surgery
- What your hospital's check-in procedures are

Where Is the Device Implanted?

The defibrillator can be implanted below the collarbone on either the right or left side of the body. In some cases the device is implanted in the abdomen.

Before confirming where to place the device, you and your doctor will talk about:

- Your age and overall health
- Whether you have had chest surgery
- Your activities and lifestyle

How Is a Defibrillator Implanted?

Implanting the Leads :

You lie on an exam table and an intravenous (IV) line is put into your arm. The IV delivers fluids and medications during the procedure. The medication makes you relaxed and groggy, but not unconscious. (General anesthesia is usually not needed.) During the procedure, you will be attached to several monitors.

Your doctor numbs a small area of skin and inserts the leads through a small incision, usually near the collarbone. The doctor gently steers the leads through the blood vessels and into the heart. The doctor can see where the leads are going by watching a video screen with real-time, moving x-rays (fluoroscopy).

Usually two leads are implanted in the heart: one in your top chamber (atrium) and one in your bottom chamber or ventricle.

Testing the Leads and Device :

Your doctor connects the leads to the device and tests the system. In fact the doctor usually starts a fast arrhythmia in the heart and makes sure that both parts

of the ICD system—the leads and the device—work properly. Your doctor does this to ensure that the ICD system can sense fast, life-threatening heartbeats and deliver the proper amount of energy to treat them.

Implanting the Device : Your doctor places the defibrillator just beneath the skin—usually near your collarbone—and then stitches the incision closed.

What Happens After the Procedure?

The defibrillator implant experience can vary from one person to another. Sometimes a doctor may order an exercise treadmill test before the patient goes home. And some people stay in the hospital overnight, while others go home the same day as the procedure.

There is usually tenderness at the incision site, just as there is anytime you have stitches. However, most people have a fairly quick recovery.

How Often Will My Device Be Checked?

You may have an appointment a few weeks after the procedure so that your doctor or nurse can make sure your incision site is healing well.

After that, most people have their ICD checked in the doctor's office every 3-4 months. You might also have the option of "remote monitoring" at home. With remote monitoring, your device data can be checked by a special piece of equipment that is small enough to fit on a bedside table. The data are then sent automatically over your phone line to a secure website that your doctor can check. Remote monitoring may reduce the number of in-person office visits you have with your doctor.