



How an ICD is Implanted



icd 101

An implantable cardioverter defibrillator (ICD) is a device that may help correct fast heartbeats coming from the lower chambers of your heart. An ICD delivers a shock or pacing therapy to restore your heart to a normal rhythm. It has two parts:

- **a pulse generator:** this holds the battery and a computer that can sense when changes in your heart rate or rhythm could be dangerous.
- **lead wires:** these monitor the electrical impulses made by your heart and send information to the generator. A shock can be sent through the wire in the lower right chamber to attempt to reset the rhythm, slow the heart rate, or both.

You do not always need to have open heart surgery to get an ICD. Placing an ICD may be done in a special procedure room in the cardiac lab. Your adult congenital heart team will decide what is best for you. Medicine will be used to make you feel drowsy and comfortable.

The ICD can be placed on either side of your chest, but is most often placed on the left side, just below the collarbone. Some patients with congenital heart disease need to have an epicardial ICD, where the leads are placed on the outside of the heart and the generator is placed in the upper abdomen.

Your doctor will make an incision (cut) about 2 inches long and will make a small “pocket” for the pacemaker under your skin. He or she may use a special X-ray monitor to guide the pacemaker leads into your heart through the vein, where the leads are attached to the inside of your heart. For epicardial ICDs, the leads will be attached to the outside of your heart.

Once the leads are attached to the heart, they are tested and attached to the ICD. The ICD is then put in the pocket under your skin. Your doctor will close the incision and you will go to the recovery area. An X-ray will show if your lungs are fully expanded and that the leads are in a good location.



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The procedure can take up to 3 hours. You may spend 1 night in the hospital. If you have an epicardial ICD, you may spend 4 nights in the hospital.

Living With an ICD

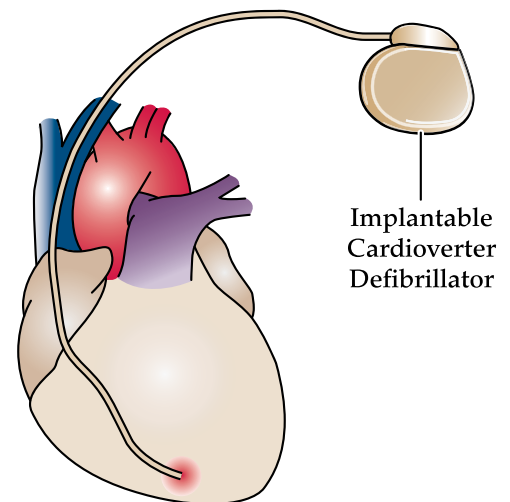
- Your ICD will need to be checked on a regular basis. This is called an “interrogation.” You will be given a remote monitor which allows frequent interrogations to be done from home. These are usually done every 3 months.
- Over time, your ICD’s settings may need to be adjusted. This can be done using an ICD programmer. This is done in clinic and does not involve any type of procedure or surgery.
- Most machines and devices will **not** interfere with the ICD.
- You may use a cell phone, but hold it to the ear on the opposite side of your device. Do not carry a cell phone in a shirt pocket directly over your ICD.
- You should not have an MRI scan.
- Carry your device ID with you at all times.
- Tell all other health care providers (including your dentist) that you have an ICD.

Replacing the Battery or Leads

Your ICD contains a battery that may last 5 to 10 years. The battery is sealed inside the generator. Replacing the battery means that the entire generator must be replaced.

Your doctor will re-open your surgery incision and disconnect and remove the old ICD generator. He or she will connect a new generator to the leads, place it back into the existing pocket, test it, and close the incision.

Sometimes, the leads may also wear out or shift and need to be replaced. To replace the leads, you will have a procedure much like when you had the ICD put in. The procedure will be done at the hospital.



If You Receive a Shock

- ☺ If you receive a shock and **you feel OK**, call the ICD clinic, your doctor, or both. You do not need to make this call right away. Call between 8 a.m. and 5 p.m.
- ☹ Call your cardiologist or ICD clinic if you **have any symptoms** of an abnormal heart rhythm, such as feeling faint, dizzy, weak, or if you have a rapid pulse.
- ☹ If you receive a shock and you **do not feel OK**, call 911 or have someone drive you to the nearest hospital Emergency Department.

