



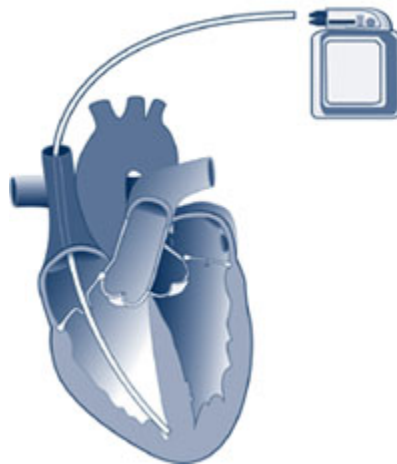
CARDIOLOGY

OF CENTRAL ALABAMA

➤ Guidelines for Patients with Implantable Devices

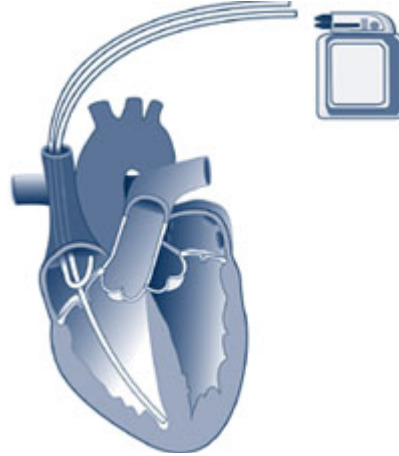
○ Implantable Cardioverter Defibrillator (ICD)

- Your ICD is approximately the size of a pager and includes the following parts:
 - The ICD: A battery powered device that is used to create an electrical shock to the heart when needed. The device is inserted under the skin (or muscle) below the collarbone.
 - The Leads: Wires that are able to monitor the electrical impulses and send the electrical activity to the ICD as well as send electrical charges to the heart muscle when needed. The ICD leads are passed through the subclavian vein into the heart.
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- There are different types of ICDs:



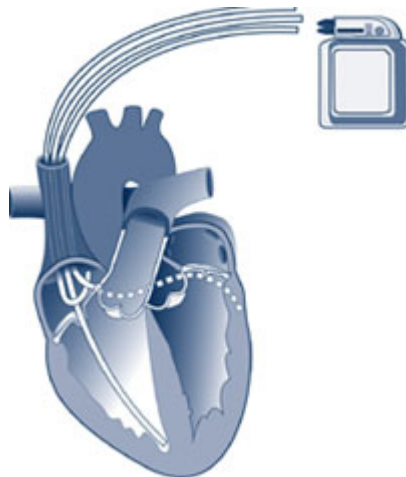
- **Single chamber ICD**

- A lead is attached in the right ventricle. If needed, energy is delivered to the ventricle to help it contract normally



- **Dual chamber ICD**

- Leads are attached in the right atrium & the right ventricle. Energy is delivered first to the right atrium and then to the right ventricle, helping your heart to beat in a normal sequence



- **Biventricular ICD**

- Leads are attached in the right atrium, the right ventricle and the left ventricle. This technique helps the heart beat in a more balanced way and is specifically used for patients with heart failure.

- **During the Procedure:**

- You will be given an antibiotic to prevent infection and a medication through your IV to relax you and make you drowsy, but it will not put you to sleep.
- The nurses and technicians will connect you to several monitors. The monitors allow the doctor and nurse to check your heart rhythm, blood pressure, and other measurements during the ICD implant.
- Your left or right side of your body, from your neck to your nipple area, will be shaved and cleansed with a special soap. Sterile drapes are used to cover you from your neck to your feet.

- **After the procedure:**

- **Hospital stay:** You will be admitted to the hospital for one to two days. The nurses will monitor your heart rate and rhythm. The length of your hospital stay depends on the type of ICD procedure you had. The morning after your implant, you will have an EKG, blood tests, and a chest x-ray to ensure the leads and generator are in the proper position.
- **Wound care:** Keep your wound clean and dry. Look at your wound every day to make sure it is healing. Call your doctor if you notice:
 - Redness
 - Swelling
 - Drainage
 - Fever
 - Chills
- You will have a slight bulge under the skin where the generator is located. It will not be noticeable under clothes.
- **ICD Identification:** You will be given information about:
 - The type of ICD and leads you have
 - The date of implant
 - The doctor who implanted them.
- You will receive a card and a packet of information about your device when you are discharged from the hospital. It is important

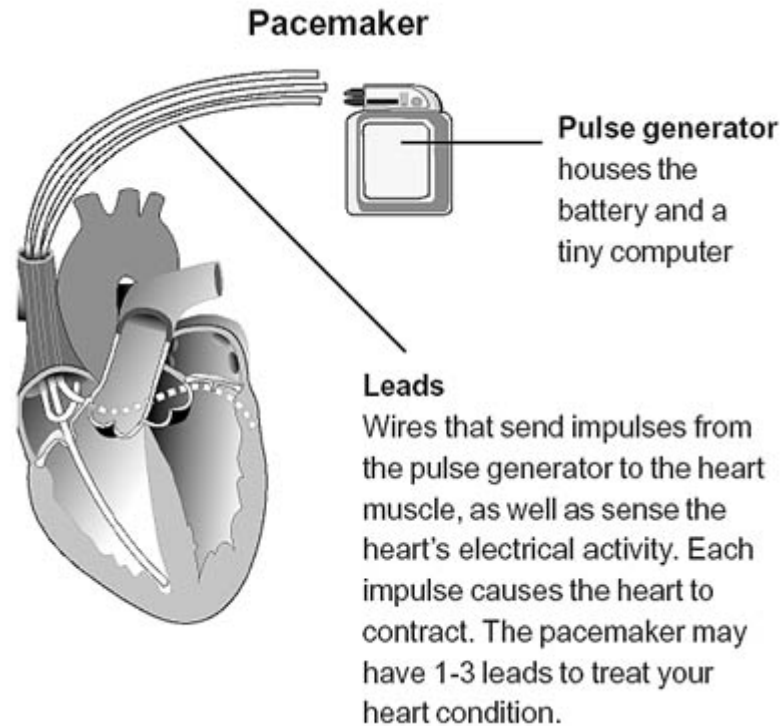
that you carry this card with you at all times in case you need medical attention.

- **Activity:** You may move your arm normally and will be able to do most activities when you return home.
 - Avoid lifting objects that weigh more than 20 pounds or pushing or pulling heavy objects.
 - Your doctor or nurse will discuss specific activities with you before you leave the hospital.
- After your ICD is implanted you can expect that your device will require monitoring every three to six months. You will be provided with all necessary information regarding monitoring and servicing of your ICD. There are several items that may occur or you may experience with your ICD:
 - **Shocking-** If you experience a single shock with no other complications, no further treatment is necessary. If you receive frequent shocks, two or more shocks, or a cluster of shocks throughout several days or weeks please call our office to schedule an appointment and notify a medical technician. If you receive multiple shocks in one day or have dizziness, fainting, or other symptoms after the shock, please have someone take you to the Emergency Room immediately.
 - **Driving-** Your physician will provide you with any driving restrictions upon discharge.
 - **Medical Procedures-** Please notify all doctors, dentists, and other healthcare members that you have an ICD device so they may take all necessary precautions when determining your medical care. If your medical provider is unfamiliar with precautions for an ICD, please have them contact our office.
 - **Travel-** You may pass through security gates with your ICD device; however, if you do set off the alarm have the security personnel hand search you. Do not allow them to use the handheld wands as it may interfere with your device. It is recommended that you carry your ICD owner's card with you when you travel.

- The following items are safe for an individual with an ICD device:
 - Most house hold items which include hair dryers, heating pad, electric razors, remote controls, vacuum cleaners, TV's, CD players, radios, electric toothbrushes, computers, lawn mowers, and many other appliances and tools.
 - Microwave ovens, blenders
 - Cellular telephones
- The following items are not safe for an individual with an ICD device and should be avoided:
 - Medical imaging with an MRI (magnetic resonance imaging)
 - Magnetic devices should not be placed within six inches of your ICD (unless you are undergoing testing in our clinic)
 - The distributor or coil of a gasoline engine while the engine is running
 - SCUBA diving to depths in excess of one hundred feet
 - Arc welding (unless certain precautions are taken as directed by your physician)

- **Pacemaker Placement**

- A pacemaker is an electronic device designed to stimulate contraction of the heart muscle when it is no longer able to do so naturally. The device is placed just below the collarbone through a small surgical opening. There are three different types of Pacemakers:
 - **Single chamber pacemaker:** Uses one lead in the upper or lower chamber of the heart
 - **Dual chamber pacemaker:** Uses one lead in the upper chamber and one lead in the lower chamber of the heart.



- **Biventricular pacemaker:** (pictured here)
Uses three leads, placed in the: Right atrium, Right ventricle, Left ventricle (via the coronary sinus vein).

▪ **During the Procedure:**

- You will be given an antibiotic to prevent infection and a medication through your IV to relax you and make you drowsy, but it will not put you to sleep.
- The nurses and technicians will connect you to several monitors. The monitors allow the doctor and nurse to check your heart rhythm, blood pressure, and other measurements during the Pacemaker implant.
- Your left or right side of your body, from your neck to your nipple area, will be shaved and cleansed with a special soap. Sterile drapes are used to cover you from your neck to your feet.

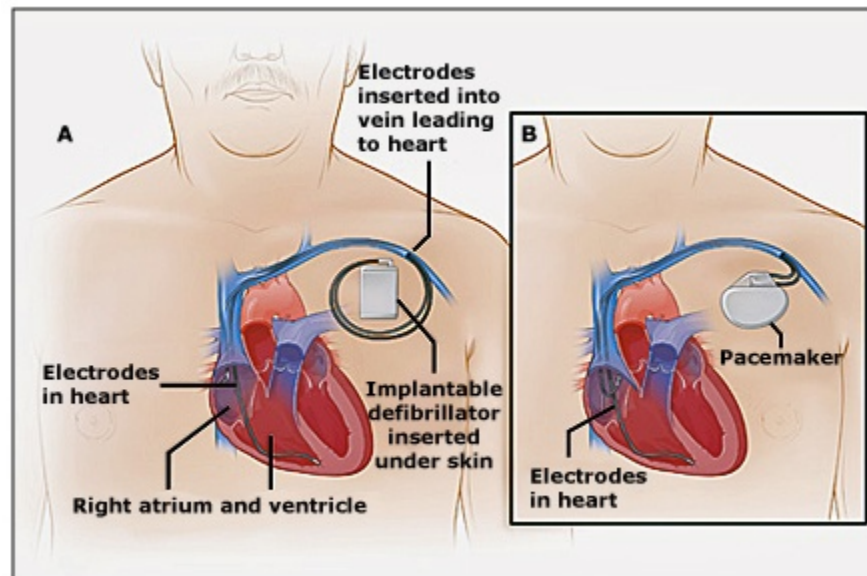
- **After the procedure:**
 - **Hospital stay:** You will be admitted to the hospital for one to two days. The nurses will monitor your heart rate and rhythm. The length of your hospital stay depends on the type of Pacemaker procedure you had. The morning after your implant, you will have an EKG, blood tests and a chest x-ray to ensure the leads and generator are in the proper position.
 - **Wound care:** Keep your wound clean and dry. Look at your wound every day to make sure it is healing. Call your doctor if you notice:
 - Redness
 - Swelling
 - Drainage
 - Fever
 - Chills
 - You will have a slight bulge under the skin where the generator is located. It will not be noticeable under clothes.
 - **Pacemaker Identification:** You will be given information about:
 - The type of Pacemaker and leads you have
 - The date of implant
 - The doctor who implanted them.
 - You will receive a card and a packet of information about your device when you are discharged from the hospital. It is important that you carry this card with you at all times in case you need medical attention.
 - **Activity:** you may move your arm normally and will be able to do most activities when you return home.
 - Avoid lifting objects that weigh more than 20 pounds or pushing or pulling heavy objects.
 - Your doctor or nurse will discuss specific activities with you before you leave the hospital.
- There are several items that may occur or you may experience with your Pacemaker:
 - **Driving** – Your physician will provide you with any driving restrictions upon discharge.

- **Medical Procedures** – Please notify all doctors, dentists, and other healthcare members that you have a pacemaker so they may take all necessary precautions when determining your medical care. If your medical provider is unfamiliar with precautions for a pacemaker, please have them contact our office.
 - **Travel** - You may pass through security gates with your pacemaker; however, if you do set off the alarm have the security personnel hand search you. Do not allow them to use the handheld wands as it may interfere with your device. It is recommended that you carry your pacemaker owner's card with you when you travel.
- The following items are safe for an individual with a pacemaker:
 - Most house hold items which include hair dryers, heating pad, electric razors, remote controls, vacuum cleaners, TV's, CD players, radios, electric toothbrushes, computers, lawn mowers, and many other appliances and tools.
 - Microwave ovens, blenders
 - Cellular telephones

The following items are not safe for an individual with a pacemaker and should be avoided:

- Medical imaging with an MRI (magnetic resonance imaging)
- Magnetic devices should not be placed within six inches of your pacemaker (unless you are undergoing testing in our clinic)
- The distributor or coil of a gasoline engine while the engine is running
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Pacemaker and an ICD:



○ Insertable Cardiac Monitor

- An insertable cardiac monitor is a small implantable device that continuously monitors heart rhythms and records them automatically or by using a hand-held patient activator. The device is implanted just beneath the skin in the upper chest area during a simple procedure.
- When a fainting spell occurs, you or your family member should immediately place a small hand-held activator over the cardiac monitor and press a button. This triggers the device to record the heart's signal before, during, and after the unexplained fainting spell.
- The insertable cardiac monitor is programmed to continuously monitor your heart's activity in the form of an electrocardiogram (EKG). It can also be programmed to record abnormal heart rhythms automatically.
- The insertable cardiac monitor is the gold standard for determining causes of infrequent, unexplained fainting.
- The insertable cardiac monitor is designed for long-term use.

- Because the heart monitor is placed under the skin, you do not have to use sticky recording pads on your skin or worry about connecting any wires. Your implantable loop recorder can be used up to 3 years, so it increases the chance of capturing your heart signal during infrequent fainting spells.
- The insertable cardiac monitor may help your doctor rule in or rule out abnormal heart rhythms as the cause of your unexplained fainting.
- **Risks**
 - All surgical procedures carry some risk. Because the cardiac monitor is implanted just beneath the skin, there is a slight risk of infection, the device moving or coming through the skin, and/or sensitivity to the cardiac monitor material. The risks of something serious happening are rare. Remember to talk to your doctor about any concerns you have or anything you don't fully understand.
- **During the Procedure:**
 - You will be asked to move onto a large x-ray table, and you will see a lot of equipment around you. Nurses and technicians will prepare you for the procedure by placing EKG electrodes on your chest, cleansing your chest area with antiseptic solution and covering you with a sterile drape.
 - You will be awake during the procedure and should experience very little discomfort. You will receive medication to help you relax.
 - Your doctor will inject your upper chest with a local anesthetic that will numb the area. After this medication has taken effect, your doctor will make a small incision in your skin. The cardiac monitor will then be slipped under the skin. The edges of the wound will be either sewn with a couple of dissolvable stitches or glued together. The entire procedure will take only 15 – 20 minutes. A small dressing may be applied over the incision.
- **After the Procedure:**
 - After the insertion, you will be returned to your room to recover, you will need to wait for an hour before discharge.

Insertable Cardiac Monitor:



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