



Pre-ICD (Implantable Cardioverter Defibrillator) Placement Frequently Asked Questions

What is Sudden Cardiac Arrest (SCA)?

Sudden Cardiac Arrest is caused by an electrical problem in the heart that triggers a dangerously fast heartbeat, causing the heart muscle to quiver and not pump blood to the body and brain.

What is the difference between Sudden Cardiac Arrest and a heart attack?

SCA is an electrical problem and a heart rhythm problem. A heart attack is caused by a blood flow problem in the heart. When one or more of the arteries delivering blood to the heart muscle becomes clogged or blocked, oxygen cannot get to the heart and the heart muscle is damaged, causing a heart attack.

Who is at risk for Sudden Cardiac Arrest?

In general, most people who are at risk for Sudden Cardiac Arrest have one or more of the following risk factors:

- A previous heart attack
- Heart failure with a low ejection fraction (see below)
- A family member who has experienced Sudden Cardiac Arrest

What is heart failure (HF)?

Heart failure is a condition that reduces the heart's ability to pump blood due to damage to the heart muscle. It can result from a heart attack, untreated high blood pressure, or another problem. Because of heart failure, the heart cannot pump enough blood to supply the body's need for oxygen. As a result, fluid may build up in the lungs, legs, and other tissues throughout the body. That is why when you have heart failure you may experience swelling and weight gain and have shortness of breath or trouble breathing at night.

What is ejection fraction (EF)?

Ejection fraction is the percentage of blood pumped out of the heart during each beat. In a healthy resting heart, 50-75% of the blood is pumped out during each beat. Many people with heart failure pump out less blood. A below-normal ejection fraction means that your heart is no longer pumping as it should and may not be able to supply your body and brain with enough blood.

How is ejection fraction measured?

There are two methods for measuring heart function. Both methods measure the ejection fraction which is defined above as heart's ability to pump blood. One of the tests is a simple and painless test called an echocardiogram, or "echo". The test, which uses ultrasound, can often be performed in your doctor's office. A second test, called a MUGA nuclear scan, requires a visit to a lab that has a special camera. Once you receive two injections, the special camera will be used to determine your ejection fraction by analyzing your heart's ability to pump blood.

How is Sudden Cardiac Arrest treated?

The only effective way to treat Sudden Cardiac Arrest is defibrillation. Defibrillation means giving the heart an electric shock in a controlled manner to restore a normal heartbeat. This treatment is mainly given by an implantable cardioverter defibrillator (ICD).



What can be done to reduce my risk for Sudden Cardiac Arrest?

Defibrillation within 6 minutes is critical to survive Sudden Cardiac Arrest. An ICD is the most effective way to treat Sudden Cardiac Arrest (see next page). It is always there, monitoring your heart rate and administering treatment if needed.

What is an ICD?

An ICD is a pacemaker-like device that has been available since the mid-1980s. It is small – about the size of a pager – and is implanted under the skin in your upper chest. The battery and computer circuits needed to correct your heart rhythm are contained in the device. Thin insulated wires, called leads, connect the implantable defibrillator to your heart. If the device detects a problem with your heart rhythm, it will deliver an electrical shock to correct your heart rate. Implantable defibrillators can last 5 to 7 years before they need to be replaced. An implantable defibrillator is the most effective way to treat Sudden Cardiac Arrest. It is programmable and will deliver just the right amount of therapy for your particular heart problem. Once it is implanted, an ICD will work by itself, but does require follow-up checks.

What are the risks and precautions?

Generally, use of ICDs is considered safe and highly effective. However, there are potential risks associated with any implantable device system. Risks include, but are not limited to, infection at the surgical site and/or sensitivity to the device material, failure to deliver therapy when it is needed, or receiving extra therapy when it is not needed. After receiving an ICD, you will have limitations with magnetic and electromagnetic radiation. Please note that there are other important risks and precautions that you will need to review with your physician. Your physician will review these with you before your procedure.

Will I be able to drive?

Most people with an ICD are able to resume personal driving after a waiting period. ICD recipients are not permitted to resume commercial driving. Please talk to your doctor about your specific case.

Will I be able to travel?

Most patients can travel without problems soon after their ICD implantation.

Will I have a problem with airport security?

Airport security systems may detect the metal of your ICD and you may be asked to undergo an additional search. Patients receiving ICDs are given a device identification card, which can be presented at airport security if needed. You can also request a hand search. You should request that any handheld screening devices be kept away from your ICD, since they have the potential to trigger defibrillation therapy.

What happens during the implant procedure?

As a general overview, the implant procedure is typically a one day procedure done under local anesthesia. It does not require open-heart surgery. Patients are normally sedated throughout the procedure. Your doctor will make a small incision in the upper chest and guide the leads through a vein and into your heart. Your doctor will connect the leads to the ICD and program the device. Then the ICD will be inserted beneath the skin and the incision in your chest will be closed. Your physician will test the ICD to ensure that it is working properly. Your experience may differ, so please talk to your doctor for specifics regarding your implant.



What happens following the procedure?

Following surgery, there will be a short recovery period prior to discharge. You will see a bump under your skin where your device is located and the area may be tender. Do not raise your arm above the level of your shoulder on the side with the incision until after your 6 week assessment in the Cardiac Device Clinic. However, you must start to use your arm 1 - 2 days after your surgery otherwise you could end up with limited movement of your shoulder. The Cardiac Device Associated Professionals will provide you with more specific care instructions, but you can expect to gradually return to your everyday activities within several weeks. If you have any questions, please ask your doctor or Cardiac Device Associated Professional.

What about follow-up after the procedure?

After the implant, you will have regular follow-up visits with the Cardiac Device Clinic that is specifically dedicated to ICDs. Ask your doctor or Cardiac Device Associated Professional about your schedule for follow-up visits with each of your physicians. It is important to keep your appointments with each of your doctors and to follow the recommended daily care instructions to ensure the best possible results. Your device helps you only when it is functioning properly. It is important to receive regular follow-up care by your electrophysiologist and the doctor or nurse who are treating you.

Do I still need to take my medication?

You will still need to take your medication as prescribed by your regular cardiologist.

