

## **WHAT YOU NEED TO KNOW ABOUT YOUR ICD (CARDIAC DEFIBRILLATOR)**

You have recently had an ICD implanted and will soon be ready to go home from the hospital. This memo will contain certain information that you will need to be aware of after being discharged from the hospital. This may answer some questions which, you may have concerning the follow-up and other aspects of living with the defibrillator. However, if you have any questions concerning any subject discussed in these instructions or about any subject not discussed, please feel free to call at any time. To reach us dial **732-247-7444** and ask for **Dr. Gowda**.

1. Your device is totally automatic. You should not have to interact with the device at all. You should, however, avoid allowing very strong magnets to come into close proximity with the ICD generator (the metal box implanted under the skin). Small magnets like those that you might use to attach notes to a refrigerator are okay. Bigger magnets should not be brought closer than two or three feet from the ICD. These include magnets in larger stereo speakers. Listening to music through these speakers is fine, but you should not hold the speaker (or any other strong magnet) against the ICD site. In addition, you should be aware that strong electrical currents can produce a magnetic field and should be avoided. Almost all home appliances are safe, unless the electric cord is faulty or the appliance is not well grounded. Specifically, microwave ovens are absolutely safe. Most hand tools such as drills, sanders, saws, etc., are safe. Kitchen appliances such as mixers, electric lights, can openers, etc., are safe. Electric shavers and hair dryers are safe. You should not work on automobile or other engines while they are running. The alternators can create current and magnetic fields that can cause problems with the functioning of the ICD. You can ride in a car or work on an engine that is not running. If you use high current items such as arch welders, high-powered radials, generator, etc. you should discuss it with one of us before using them. Alternatively, you can ask the technical support staff from the company who made your ICD. Their attendant number is on the card. Remember, no matter what type of defibrillator you have, it is very important to avoid coming in contact with any powerful magnetic field.
2. Cellular phones can potentially interfere with your ICD if held too closely. Cell phones should never be closer than 8 to 12 inches from the ICD when the phone is on. You should only use the cell phone in the ear opposite to the side of the ICD. You should never put a cell phone turned on in a breast pocket next to the ICD.

Conventional cordless phones are safe: these precautions only apply to a cellular phone (analog or digital).

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3. Metal detectors such as those used in airports, court houses, police stations, etc can interfere with ICD if in close proximity for more than a few seconds. Likewise, antitheft devices used in stores can cause interference. It is safe to walk into or out of the stores, and it is safe to walk through the metal detectors used in airports etc. You should not stand directly in the metal detector for more than a few seconds, but you can just walk through at a slow pace. If you do stand near one of these devices too closely or for too long- do not panic. Most likely, nothing bad will happen. It is very rare for any permanent problem to occur. If you have a concern- calls us. There is no need to come directly to the office, emergency room, etc. because of exposure to these devices. The metal in your ICD is likely to set off the metal detector at the airport etc. since these are fixed to a very sensitive level. You should have your ICD identification card with you in case you need to show it to the personnel there. The personnel in the airport etc. may need to screen you with a handheld metal detector. This is completely safe; once again make sure that you do not hold the wands immediately over your ICD for more than few seconds.
4. Some ICDs may produce high-pitched continuous sound when they are very close to a magnetic field which may affect the device. This beeping sound does not mean that the ICD is about to fire. It just means that the magnetic field is strong enough to potentially interfere with your ICD. If you hear this sound, you should leave the area immediately and move far enough away for the sound to stop. You should not confuse the sound with the sound produced by paging, beepers, microwave ovens and other environmental noises. Some ICDs can be programed to generate a soft beeping sound at a preset time of the day if they detect a problem with the ICD battery or with the lead. If you hear a sound coming from the defibrillator- please contact us so that we can evaluate the device.
5. You must avoid having any test involving an MRI scan or an MRA scan sometimes known as MMR scan. This is a type of medical test, which a physician may order. An MRI or MRA cannot be performed safely in any patient who has an internal defibrillator.

Medical devices such as module stimulators, TENS units and lithotripsy machines can interfere with your ICD. Do not use these or allow any one to use these on you unless you are sure they are safe. You can call your ICD manufacturer if you need to ask, but please be sure before any such devices are used on you.

If radiation therapy also known as XRT is being contemplated for the treatment of cancer or other condition, the ICD generator will need to be shielded. In addition the ICD needs to be checked with the programmer after each such treatment.

6. Routine x-rays can be performed safely, as well as CT scans or ultrasound tests.
7. If you have any psychological or other problems adjusting to living with an ICD, please feel free to call us. This is not at all unusual and many patients are initially very

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apprehensive about their ICD when they are first discharged from the hospital. However, you should remember that the purpose of implanting the device is to allow you to resume your normal life without having to worry about life threatening arrhythmias. If you feel anxious or depressed concerning the device, please feel free to call us so that we can discuss your concerns with you.

8. If your ICD was implanted because you had a sustained ventricular arrhythmia (VT) or a cardiac arrest you may not operate a motor vehicle for at least six months. This is not because you have a defibrillator, but because of the underlying heart arrhythmia which you have. If this occurred while you are driving, you might hurt or kill someone as well as yourself. After six months have elapsed, you may or may not be allowed to operate a motor vehicle at the discretion of your arrhythmia doctor and your personal physician. This will depend on your underlying cardiac condition and how you have done clinically.

If your ICD was implanted because you are at increased risk of a life threatening arrhythmia but you have not yet had such an arrhythmia, you will likely be allowed to operate a motor vehicle shortly after the implant (unless other conditions make driving unsafe). You should ask one of us or your personal physician before you resume driving.

9. You should not swim for at least one to two months. Although, the defibrillator is contained within your body and it is waterproof you must remember that the ICD does not prevent potentially life threatening arrhythmias, but simply will terminate any such arrhythmias that may arise. This may save your life, but if you are swimming and have an arrhythmia which triggers the device you may lose consciousness briefly and you could drown. We therefore recommend that you do not swim for one to two months after an ICD is implanted. This allows you to fully heal from the implantation surgery and also see how you are doing. After that if you are told that it is okay for you to swim, you should only swim if a companion is with you.
10. If possible, your entire family and friends should be instructed in cardiopulmonary resuscitation (CPR). If they have not already done so, CPR training can be arranged through the local Heart Association near your home. Alternatively, we may be able to help you with that training at Robert Wood Johnson University Hospital.
11. Cough CPR may be life saving. This technique involves coughing at approximately one second intervals, should you start having a dizzy spell or feel that you are about to pass out. Coughing can help improve the circulation in cases of unstable rhythm. You should remember that coughing during any severe dizzy spells or when you are about to pass out can be life saving.
12. During the first month after your ICD is implanted you will need to take an antibiotic before and after any dental care is administered as well as before and after any medical or

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surgical procedures such as colonoscopy and cystoscopy, etc. Remember to inform your physician or dentist that you have an ICD. After the first month has passed it will no longer be necessary to take antibiotics before and after dental and minor surgical procedures to protect the ICD from infection. However, if it was previously recommended to take antibiotics because of some other condition or cardiac problem (for example a prosthetic heart valve) it will remain necessary.

13. Your dentist or surgeon should be reminded not to use electric cautery under any circumstances, since the electrical “noise” may cause the ICD to fire. The same is true of the electric cautery used during endoscopy or cystoscopy. If necessary, we can inactivate the ICD temporarily while you are having the procedure done and then turn it back on immediately thereafter.
14. You should avoid wearing any type of clothing which may cause constant rubbing in the area of the ICD generator.
15. You should obtain a medical alert bracelet or necklace identifying you as a patient with an ICD.
16. Prior to leaving the hospital or as an outpatient afterwards we may recommend that you have an electrophysiological study. If so we will explain this in detail.
17. If you need to have a treadmill test or an exercise stress test you should make sure that the personnel administering the test know that you have an ICD. They need to be aware of the heart rate that your ICD is programmed to in order to safely perform the exercise test.
18. If your heart beats faster than the detection rate of the device, the device will automatically charge and deliver the shock. It will not deliver an audible sound or warning prior to delivering the shock and thus there will be no way for you to know that it is charging. If the arrhythmia causes you to lose consciousness or pass out before receiving the shock you will not feel the shock. If the arrhythmia does not make you lose consciousness before the ICD delivers the shock, the shock will feel as though you had been punched in the chest. This is reasonably uncomfortable, but not unbearable. If you feel the shock or if you pass out and then regain consciousness you should call us promptly. We may advise you to call rescue the squad and go to the nearest emergency room, or we may advise you to come to the office to see us. You could leave if every thing sounds alright.

If you receive more than one shock in a row or if you feel dizzy or lightheaded after you have regained consciousness, you should call the rescue squad immediately. They can call us if necessary, or you can call us and we will let you know if it is necessary to bring you to the hospital.

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19. You should keep a diary recording of any symptoms such as lightheadedness, palpitations or passing out. You should also record any shocks that you receive. This should be as detailed as possible, including the date and the time, activities in which you were engaged prior to the event, or any other circumstances that you remember. In addition, the name of anyone who was present with you during the event may also be helpful.
20. If someone else is touching you while the ICD delivers a shock they may feel it as a very mild tingle, such as the shock that you get from static electricity. This is a very mild sensation and is neither painful nor dangerous.
21. Your defibrillator may be programmed to deliver a burst of rapid pacing during some arrhythmias in order to terminate an episode of ventricular tachycardia. If this is the case you may not be aware of this at all, or may only feel a brief sensation of your heart racing. If this is successful in stopping the arrhythmia, your ICD will not charge up and will not give you a shock. However, if this antitachycardia pacing is not successful or if it speeds up a tachycardia, the ICD will then proceed to charge and deliver a shock. In addition, if the arrhythmia is too fast to begin with, the ICD will proceed directly to a shock.
22. All of the current ICDs are designed so that they can deliver several shocks in rapid successions if the first shock is not successful in stopping a life threatening arrhythmia. Your family members should know that if you pass out and receive a shock and do not wake up immediately, the ICD might deliver a second or even more shocks within several seconds. Your family member should know that if they are touching you when you receive a shock they will not be hurt.
23. You should feel free to engage in exertion, work, sexual activities and other activities as discussed with us or with your personal physician. The physical activities will be limited mostly by the underlying nature of your heart disease and by your general physical condition, and not by the presence of the ICD. Remember, the whole purpose of implanting the ICD is to let you return to as normal a life as is tolerable. The presence of the ICD should not in itself limit your activities in any way, other than those mentioned above. Remember it is necessary to not move or exercise the arm on the same side of the ICD for six weeks after implant. Do not lift that arm above the shoulder or exercise that arm vigorously or rapidly for six weeks.
24. Extensive follow-up is necessary. You will need to be seen by a physician who can interrogate and monitor your ICD every three to four months or as long as it is functioning. Eventually the ICD batteries will run low and the generator will need to be replaced. The only way to tell when the battery is running down is with regular follow-up. The most recent ICDs will last for a very long time and the length of the time also depends on how much the generator has been used. In most circumstances we will be

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providing the follow-up here with New Brunswick Cardiology Group, at the Somerset Office or at the Monroe office.

In other circumstances as when you are traveling, you can identify other physicians who can provide follow-up for you wherever you are going. Please let us know if you need to have another physician identified who will provide the ICD follow-up.

Once you have recovered from the implant surgery you will be able to travel freely as long as you are not personally operating a motor vehicle. If you will need to be away from home for more than a few days, we or the company who manufactured the ICD can provide you with the names of the hospitals nearby where you are going.

We will give you a temporary ID card, which explains that you have an ICD and which you should carry with you at all times (in addition to the medial alert bracelet). You will receive a permanent ID card from the ICD manufacturer in a few weeks. In case of an emergency, physicians or bystanders may find the information in the card to be very helpful.

If you have any questions regarding any of the above issues or if you have any other questions please feel free to contact us at any time.

Thank you very much for allowing us to participate in your care and good luck.

Subhashini Gowda, M.D.