

## **Defibrillator Implantation Procedure Pre and Post Instructions**

Ordinarily, your heart beats at a regular, steady pace called a normal sinus rhythm. It is regulated electrically by the sinus node. However, if certain cells in the lower chamber of your heart (the ventricles) begin to generate their own electrical impulses, these can override the heart's normal electrical control mechanism. These impulses do not follow the heart's normal conduction pathway, and may prevent the heart from pumping enough blood and oxygen through the body. One situation, called ventricular tachycardia (VT), may cause you to feel fluttering in the chest or throat or a sensation of dizziness and lightheadedness.

Because less blood is pumped with each beat, your body and brain receive less oxygen-carrying blood, which may result in dizziness, blackouts or fainting, and even unconsciousness. Sometimes VT can be prevented or treated with medications. In other cases, an electrical device is needed to deliver an impulse to the heart to stop the arrhythmia.

When the ventricular arrhythmia becomes even more rapid and unstable, it causes a condition called ventricular fibrillation (VF)-the heart is quivering, and no longer pumps any blood. This leads to cardiac arrest. The only way to correct ventricular fibrillation is to quickly deliver a strong electrical shock to the heart to stop the abnormal rhythm and prompt the heart's normal electrical conduction system to take over again. This process is called defibrillation.

### ***Your implantable Cardioverter-Defibrillator***

In a hospital or ambulance, when emergencies cause life-threatening arrhythmias, defibrillation is done with an external device called a defibrillator. Paddles are placed against the chest, and a strong electrical impulse is delivered through the heart. However, if your arrhythmia (either ventricular tachycardia or fibrillation) occurs in routine situations, an automatic implantable cardioverter-defibrillator (ICD) can be implanted to monitor and deliver whatever therapy is necessary. It will be programmed to detect and diagnose either ventricular tachycardia or ventricular fibrillation, and will deliver the therapy necessary to correct your abnormal heart rhythms.

Your electrophysiologist may choose to implant a defibrillator in your body to monitor your heart rhythm around the clock and to immediately correct any dangerous arrhythmias should they occur.

The ICD has two components: the generator and the lead(s). The generator is a relatively small, flat, lightweight case that holds a tiny computer and battery. This will generate the electrical impulses used to regulate your heartbeat. The leads are wires covered with soft, flexible plastic. They are connected to the generator and "tell" it how the heart is beating. The leads also transmit the electrical impulses from the generator to the heart.

### ***Preparation***

We will discuss the procedure-its purpose, benefits, and potential risks - before you receive your ICD. Inserting an ICD is a common, low-risk surgical procedure with a very small risk of complications. These may include: puncture of the heart or lung tissue, damage to the vein, infection, bleeding and/or bruising, or other uncommon events. You'll be asked to sign a surgical consent form before you have this procedure. If you have any questions or concerns, be sure to call our office.

We will also order a series of tests prior to your ICD. These will include an electrocardiogram (ECG) and some blood tests. We will also go over all medications you're currently taking and give you any special instructions concerning them

### ***Procedure***

Usually you'll be instructed not to eat or drink anything after midnight the evening before your procedure. You may, however, take sips of water to swallow pills. If you're coming to the hospital as an outpatient, you'll be told where and when to report. You should plan for an overnight stay and arrange for someone to drive you home.

Just prior to the procedure, an intravenous line (IV) will be inserted into your arm to administer any necessary medication, including a sedative to help you relax. The area where the ICD will be inserted will be washed with an antiseptic and shaved, if necessary. Then, you'll be moved by stretcher or wheelchair to an electrophysiology (EP) laboratory where you'll be positioned on a special table and covered with sterile drapes. The entire EP staff, who have been trained specifically in the electrical activity of your heart, will be wearing surgical hats and masks to assure that everything remains sterile throughout your procedure.

As the procedure begins, you'll receive an injection to numb the ICD insertion site. A small incision will be made, and a small "pocket" formed under the skin in your upper chest. Then a lead will be threaded into the vein that runs just below the collarbone. This lead will be guided into your heart using an x-ray monitor.

Once in place, it will be tested to make sure it's in the best possible position. Then, it will be attached to the ICD generator, which will be placed in the pocket under your skin. At this point, you'll be given some medication through the IV that will put you to sleep for a few minutes. While you're asleep, the ICD will be tested to be certain it is functioning properly.

When your EP team is certain your ICD is securely in position and will do its job well, your incision will be sutured (stitched) and covered with a small bandage. Throughout the entire procedure, which takes about 1 1/2 to 2 hours, your ECG, heart rate, blood pressure, and oxygen level will be constantly observed on monitors in the laboratory.

Although you'll feel some pushing and tugging on your skin at times, there should be little or no discomfort during the procedure. If you feel any discomfort, tell the physician or staff immediately.

### ***Recovery***

After your procedure, you'll be taken to a hospital room or recovery area. You will be kept overnight in the hospital so that your heart can be monitored to be certain the ICD continues to function properly.

You'll be asked to limit the use of your arm on the side the ICD was inserted. This gives the lead a chance to begin "healing" into your heart.

If you begin to feel some discomfort in the incision area when the local anesthetic wears off, let the staff know and they'll give you some medication to help make you more comfortable. Be sure to tell your nurse if you experience any unusual symptoms such as hiccups, dizziness, or chest pain.

Make sure you arrange for someone to drive you home when you are discharged. Before you leave the hospital, you'll be given detailed instructions about caring for the incision site. We will also explain follow-up plans, and discuss what signs and symptoms should be reported.

### ***Health Maintenance***

Your ICD will help protect you against dangerous heart rhythms. However, you also play an important role in staying healthy. Be sure to keep all appointments for exams and follow-up tests. Follow your instructions, don't hesitate to talk about your concerns.

## **Discharge Instructions**

### ***Taking care of your wound:***

- Remove only the large dressing over the ICD 48 hours after surgery if dressing was not removed in the hospital.
- DO NOT remove Steri strips, the surgical tape that is taped directly on your skin over the incision. We will remove them at your 2 week follow-up appointment. You may have staples on your incision, these will be removed at your 2 week follow-up appointment.
- Shower as usual 48 hours after implantation.
- Don't scrub the incision area, just wash gently with soap, rinse and pat dry with a clean towel (do not rub).
- Do not submerge your wound in a bathtub, swimming pool or Jacuzzi for 6 weeks.
- Some discomfort such as mild redness, itching and swelling may occur. These symptoms are part of the normal healing process. Don't scratch the wound if it starts to itch.
- Avoid tight clothing over incision/pocket site.
- Protect your incision area from excessive sunlight. Do NOT apply any type of lotion or cream to the site.

### ***Signs of Infection/Problem:***

- Significant redness, heat, swelling or severe pain.
- Fever of 100 degrees or higher.
- White, yellow, or greenish discharge from the wound or significant bleeding.
- Opening of the wound.
- Increasing discomfort related to the wound.

***DO:***

- Continue to take medications unless told otherwise at discharge.
- Exercise per physician's orders.
- Take home your ICD booklet and read at home.
- Call if you experience any dizziness, lightheadedness, fainting or any questions related to your ICD.

***DON'T:***

- Lift, push or pull over 10lbs.
- Raise your arm (on defibrillator side) above shoulder level for 6 weeks (this includes golfing and tennis).
- Don't have an MRI (Magnetic Resonance Imaging) unless it has been 6 weeks after implant and you have a known MRI compatible device and an order has been signed by your EP doctor.

***Other:***

- Magnets can affect your ICD. Please read enclosed materials and discuss with your physician if necessary.
- Call 911 if you experience 2 or more shocks in a 24-hour period OR if you receive a shock and do not feel well.
- Obtain a medical alert ID bracelet or necklace at a pharmacy.
- Always tell doctors and dentists treating you that you have an ICD.
- Don't put a cell phone in your shirt pocket over your ICD.
- In the event of an emergency, paramedics should treat you like they would treat any other patient. Your family should also be aware of this.

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