



A Guide to Your Implanted Cardioverter Defibrillator (ICD)

Please bring this book with you on the day of your procedure



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER



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For a digital copy of this book, please visit go.osu.edu/pted4090.

Talk to your doctor or health care team if you have any questions about your care.

For more health information, go to wexnermedical.osu.edu/patiented or contact the Library for Health Information at 614-293-3707 or health-info@osu.edu.

Welcome

Electrophysiology (EP) focuses on the electrical system of the heart, which controls the rate and rhythm of your heartbeat. Your EP healthcare team is dedicated to providing you with personalized care to treat your symptoms of abnormal heart rhythm, also called arrhythmias (ah-RITH-me-ahs) or irregular heartbeats.

An ICD is a small device that is placed in the chest. It uses electrical pulses or shocks to help control life-threatening arrhythmias. An ICD can help prevent:

- A rapid heart beat. If your heart beats too quickly, the heart's chambers and ventricles do not have enough time to fill with blood to pump to the rest of the body. You can pass out within seconds and die within minutes if it is not treated.
- Sudden cardiac arrest. This is a condition in which the heart suddenly stops beating. If the heart stops beating, blood stops flowing to the brain and other vital organs. This can cause death if not treated within minutes.



Electrophysiology (EP) operating room at Richard M. Ross Heart Hospital

Contact information

Ross Heart Hospital Cardiac Device Clinic

452 West 10th Avenue
Suite 1052
Operating Room Suite 1235
Columbus, OH 43210

Hours of operation:

Monday - Friday
8:00 am to 4:30 pm
Closed weekends and all
major holidays

Phone numbers:

Main: 614-293-8916
Toll-free: 1-877-478-2478
Fax: 614-366-1315

Patient and visitor guide

To prepare for your visit, please visit wexnermedical.osu.edu/patient-and-visitor-guide and learn about available resources, including:

- For Patients tab: Billing and Financial Assistance
- For Visitors tab: Locations and Parking (such as [driving directions](#) to Richard M. Ross Heart Hospital) and Visitor Policies (such as [Hotel Accommodations](#) information sheet).

Implanted Cardioverter Defibrillator (ICD)

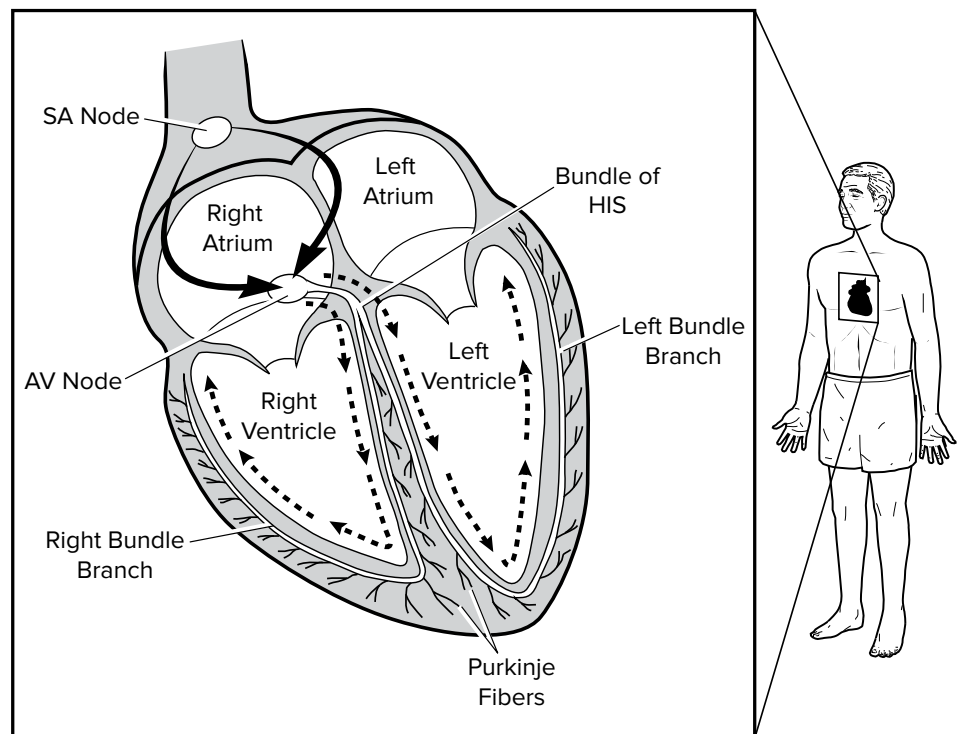
An ICD is a small device that's placed in the chest to help control arrhythmias. It uses electrical pulses or shocks to treat fast heart rhythms that originate from the lower chambers of the heart.

Understanding the heart's electrical system

Your heart has an electrical system that causes the heart muscle to beat.

Electrical impulses travel from the upper chambers (atria) to the lower chambers (ventricles) of the healthy heart. This diagram shows how the impulse travels over the electrical system.

1. Normal heartbeats begin at the **SA node** that acts as the heart's "pacemaker." The SA node is also called the **sinus node**.
2. The electrical impulse spreads across the upper chambers -- the right and left atria.
3. The impulse travels through the **AV node** to the **Bundle of HIS**.
4. The Bundle of HIS divides into a **left and a right bundle branch**. The impulse spreads through these bundle branches into the **Purkinje (pŭrkin'jē) fibers** in the ventricles or the lower chambers of the heart.



ICD overview

ICDs treat arrhythmias

A problem with any part of the heart's electrical system can cause an arrhythmia. Some arrhythmias are more serious than others. ICDs use electrical pulses or shocks to treat life-threatening arrhythmias that occur in the ventricles (the heart's lower chambers).

When ventricular arrhythmias occur, the heart can't pump blood well. You can pass out within seconds and die within minutes if it is not treated. To prevent death, the arrhythmia must be treated right away with an electric shock to the heart. This treatment is called defibrillation (de-fib-ri-LA-shun).

All ICDs have pacemaker capabilities

This prevents your heart rate from going too slow.

Some ICDs coordinate electrical signaling between the ventricles

ICDs that do this are called biventricular ICDs or cardiac resynchronization therapy (CRT) devices. This feature is used to treat heart failure.

How the ICD device works

An ICD has wires with electrodes on the ends that connect to one or more of your heart chambers. These wires carry the electrical signals from your heart to a small computer in the ICD. The computer will monitor your heart rhythm. If the device detects an irregular rhythm in your ventricles, it will use low-energy electrical pulses to restore a normal rhythm.

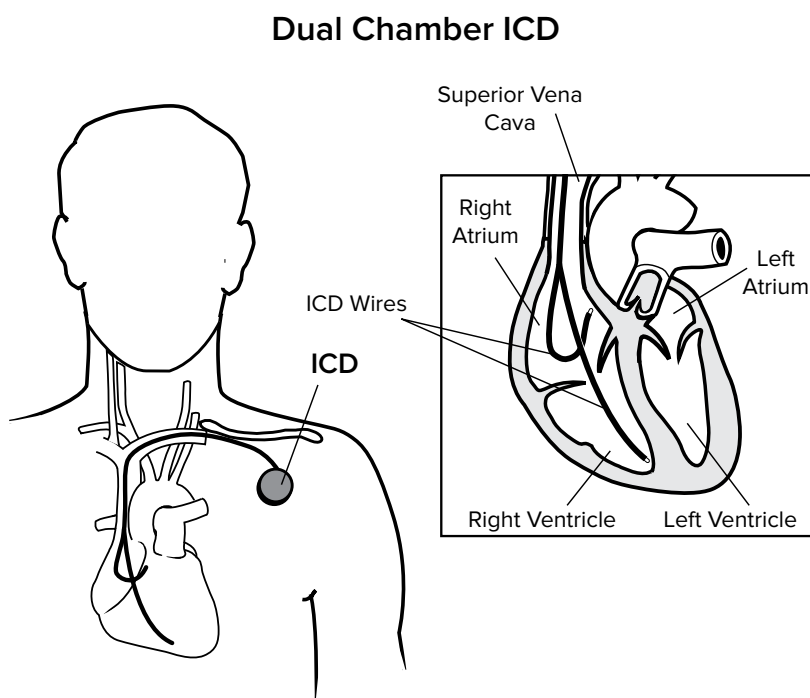
If the low-energy pulses don't restore your normal heart rhythm, the ICD will switch to high-energy shocks for defibrillation. The device also will switch to high-energy shocks if your ventricles start to quiver rather than contract strongly. A high-energy shock lasts only a fraction of a second, but it can be painful.

The wires on an ICD connect to a small metal box implanted in your chest. The box contains a battery, pulse generator, and a small computer. When the computer detects irregular heartbeats, it triggers the ICD's pulse generator to send electrical pulses. Wires carry these pulses to the heart.

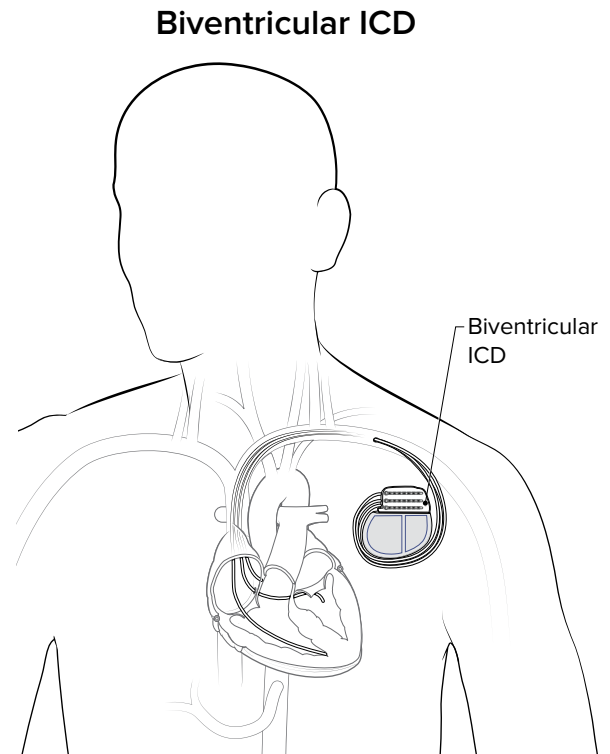
The ICD also can record the heart's electrical activity and heart rhythms. Your healthcare provider will use these recordings to adjust your ICD, so it works better for you.

Types of ICDs

- **Single chamber ICD** has one wire (lead) that is placed in the right atrium or right ventricle.
- **Dual chamber ICD** has two wires (leads). One is in the right atrium and one is in the right ventricle. Pulses from the leads coordinate the timing of the two chambers' contractions.



- **Biventricular ICD** has three wires (leads). One is in the right atrium, one is in the right ventricle, and a third is in the left ventricle. The pulses help coordinate electrical signaling between the two ventricles. This type of ICD is also called a cardiac resynchronization therapy (CRT) device and can be used to improve pumping in patients with heart failure.



When are ICDs used?

Your doctor may recommend an ICD if:

- You have had a ventricular arrhythmia before.
- Tests show signs of ventricle arrhythmia or heart damage that would make one likely.
- You have had a heart attack that has damaged your heart's electrical system.
- You have survived sudden cardiac arrest or you have a heart condition that puts you at high risk for sudden cardiac arrest.
- You have heart failure. Heart failure is a condition in which the heart can't pump enough blood to meet the body's needs. To treat this problem, your doctor may recommend a biventricular ICD, also called a cardiac resynchronization therapy (CRT) device. The device helps both sides of the heart contract at the same time to decrease your heart failure symptoms.

What to expect during surgery

- Placing an ICD requires minor surgery, which takes about 2 hours.
- Before surgery, an intravenous (IV) line will be placed into one of your veins. Medicine is given through the IV line to help you relax. The medicine also might make you sleepy.
- Your doctor will numb the area where he or she will put the ICD, so you don't feel any pain. Your doctor may also give you antibiotics to prevent infection.
- Your doctor inserts a needle into a large vein, usually near the shoulder opposite your dominant hand. The needle is used to thread the ICD wires into the vein to place them in your heart.

- X-rays show the wires as they pass through your vein and into your heart to help your doctor place them. When the wires are in place, your doctor will make a small incision into the skin of your chest.
- The ICD's small metal box is placed under your skin, and connected to the wires that lead to your heart. The box is also called a generator and contains a small computer and battery.
- When the ICD is in place, your doctor will test it to make sure it works well, and then sew up the incision.

What to expect after surgery

- Some patients are discharged home the day of their surgery, but please come prepared to spend at least one night in the hospital. If you are discharged home the day of surgery, you will need to have an adult take you home for your safety.
- For a few days to weeks after surgery, you may have pain, swelling, or tenderness in the area where your ICD was placed. The pain is most often mild. Acetaminophen (Tylenol) is the medicine recommended to control pain.
- You will need to avoid certain activities and heavy lifting for 1 to 4 weeks after surgery. Most people return to their normal activities within a few days of having the surgery.
- Read "Care after Placement of Your ICD" later in this book for more information on how to care for your device after surgery.

For more information about what to expect before and after ICD placement, watch videos from the Device Clinic at go.osu.edu/deviceinfo.

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

Preparing for Your ICD

Surgery date: _____ Check in time: _____

On the day of your surgery, please:

- **Report to the Ross Heart Hospital**, located at 452 West 10th Avenue, Columbus, Ohio 43210
- **Arrive at your check-in time**, so we can prepare you for your surgery. This time is often 2 hours before the start of your surgery.
- **Register in the main lobby.**

Valet parking is available, or you may park in the SafeAuto Hospitals Garage, which is attached to the hospital. The garage's address is 1585 Westpark Street, Columbus, OH 43210.

How to take your medicines before your surgery

- If you take warfarin (Coumadin or Jantoven), _____.
- If you take dabigatran (Pradaxa), apixaban (Eliquis) or rivaroxaban (Xarelto), _____.
- **If you have been instructed to hold any of these medicines, please take one 325 mg aspirin each day you hold the medicine.**
- If you take clopidogrel (Plavix), ticagrelor (Brilinta) or prasugrel (Effient), _____.
- If you take medicines for diabetes, please follow the instructions in this book for how to change your diabetes medicines.
- Take all of your other medicines with a small amount of water the morning of your surgery.
- Please bring all of your medicines in their bottles to the hospital with you.
- **If you are allergic to shellfish, iodine, or contrast dye, please tell your healthcare provider.** A prescription for 3 doses of **prednisone** can be sent to your pharmacy.
 - Take the first dose 13 hours before your surgery start time.
 - Take the second dose 7 hours before surgery start time.
 - Take your last dose 1 hour before your surgery start time.

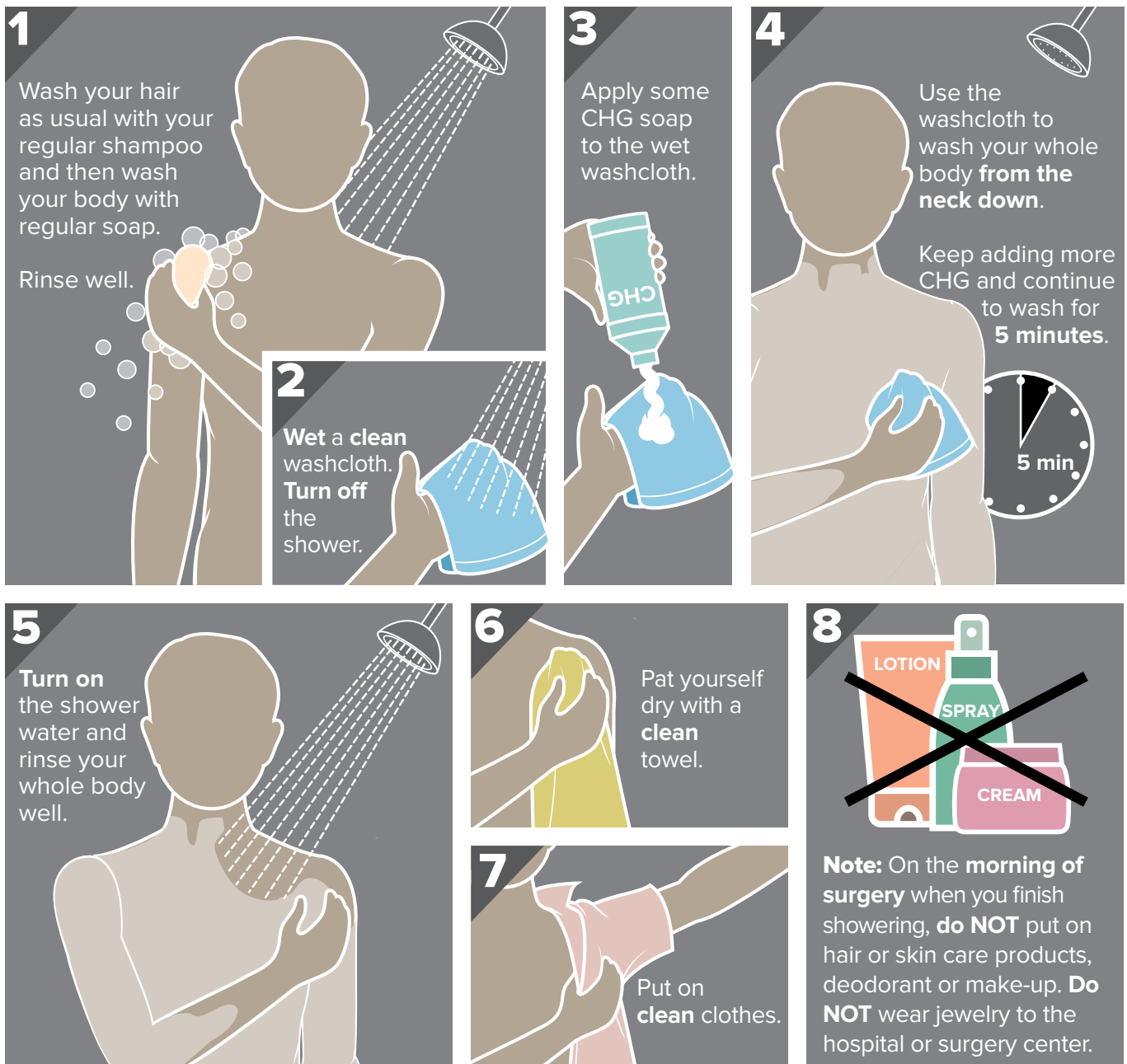
Please also take 50 mg of **Benadryl** 1 hour before your surgery start time. You can buy Benadryl over the counter.

Bring your last dose of prednisone and your Benadryl dose with you to the hospital.

Getting your skin ready for surgery

- **For one week before your surgery, do not shave near the site where you will have your surgery.** Shaving with a razor can irritate your skin and make it easier to develop an infection. If needed, the hair on the site where you will have surgery will be trimmed with electric clippers before you go into the operating room.
- **You need to take two showers using a special soap called CHG** (4% chlorhexidine gluconate). It is sold in most pharmacies under the brand name of Hibiclens. Wash from your **neck to your waist** with this soap the night before your surgery and then again the morning of your surgery. Use 4 ounces (1/2 cup) of CHG soap each time you shower.

Follow these steps for using CHG soap:



If you are not able to shower

If you do not have a shower or you are not able to get into a shower, do a sponge bath each time that you clean your body.

1. First, bathe with a clean washcloth, water, and regular soap. Rinse well with clean water.
2. Then, get another clean washcloth and wet it with clean water.
3. Apply some CHG soap to the wet washcloth.
4. Use the washcloth to wash from your neck to your waist. Keep adding more CHG and continue to wash for 5 minutes.
5. Rinse well with another clean washcloth and clean water.
6. Pat yourself dry with a clean towel.
7. Put on clean clothes.

Other instructions

- If you are pregnant, think you may be pregnant, or if you are breastfeeding, please tell your healthcare provider right away.
- Do not smoke or use tobacco products for 24 hours before your surgery.
- Do not eat or drink anything after midnight on the evening before your surgery. You may take your scheduled medicines with small sips of water the morning of your surgery.
- If you use a sleep apnea machine, please bring the device with you. It will likely be used during your surgery and during your stay in the hospital.
- Some patients are discharged home the day of their surgery, but please come prepared to spend at least one night in the hospital. If you are discharged home the day of surgery, you will need to have an adult take you home for your safety.

If you need to change your surgery date, please call Scheduling at 1-888-293-7677.

If you have any questions, please call the nurse at _____.

Type 1 Diabetes: Medicines before Tests or Surgery

If you are not sure how to adjust your diabetes medicines, talk to your doctor or nurse before your test or surgery date. Follow your doctor's directions if they are different than these guidelines.

Diabetes medicines may need to be stopped or changed before a test or surgery. This is important for your health. There is less of a chance for infection or other problems if your blood sugar is in the normal range before a test or surgery.

- **If you are on a clear liquid diet the day before your test or surgery**, call your doctor to check if you need to make other changes to your medicine dose.
- **Check your blood sugar the morning of your test or surgery.** If it is above 250 or less than 70, call your doctor for more instructions. High or low blood sugars may result in a delay or cancellation of your test or surgery that day.
- **Tell your nurse that you have diabetes** when you arrive at the test area or at pre-operative holding area.



Your insulin

These are general guidelines for how to take insulin before tests or surgery. Many patients with type 1 diabetes need a small reduction in basal insulin before tests or surgery. Check with your doctor to see how much insulin you need and if you need to follow different guidelines.

- ☐ **If you take Humalog/Admelog (lispro), Novolog (aspart), Apidra (glulisine), Fiasp (aspart) or Regular insulin, do not take the dose the morning of your test or surgery.**
 - You can start your usual dose after your test or surgery when you are able to eat and drink.
 - Plan to check your blood sugar at least 4 times each day for the next 1 to 2 days after your test or surgery.
- ☐ **If you take Levemir (detemir), Lantus (glargine), Basaglar (glargine), Tresiba (degludec), or Toujeo (glargine) insulin, reduce your dose either the evening before or the morning of your test or surgery to 80%.**

If you multiply your usual dose by 0.8, that gives you the reduced dose. For example, if your usual dose is 32 units, $32 \times 0.8 = 25.6$. Your reduced dose would be about 26 units. A reduced dose chart is on the next page for your reference.

- **If you are not sure, ask your doctor how much insulin you should take.** Take _____ units of _____ on the night before or the morning of your test or surgery.
- If you are able to eat and drink after your test or surgery, take your usual evening dose.
- Plan to check your blood sugar at least 4 times each day for 1 to 2 days after your test or surgery.

If you wear an insulin pump

- ☐ **And your test or surgery is less than 3 hours**, you and your doctor may decide to keep the pump on.
 - Place the catheter in a location away from the area where the test or surgery will occur.
 - Consider using a temporary basal profile based on 0.8 of your usual basal. Reduce the basal rates down by multiplying the set basal rates by 0.8, starting with the 12:00 midnight basal rate through the test or surgery and recovery. **Discuss this with your doctor.**
 - Return to your usual basal rates after the test or surgery when you are able to eat and drink.
 - Plan to check your blood sugars more often for the next 1 to 2 days after your test or surgery.
- ☐ **And your test or surgery is longer than 3 hours or your doctor takes you off the insulin pump**, take _____ units of _____ on the morning of your test or surgery.

Type 2 Diabetes: Medicines before Tests or Surgery

If you are not sure how to adjust your diabetes medicines, talk to your doctor or nurse before your test or surgery date. Follow your doctor's directions if they are different than these guidelines.

Diabetes medicines may need to be stopped or changed before a test or surgery. This is important for your health. There is less of a chance for infection or other problems if your blood sugar is in the normal range before a test or surgery.

- **If you are on a clear liquid diet the day before your test or surgery,** call your doctor to check if you need to make other changes to your medicine dose.
- **Check your blood sugar the morning of your test or surgery.** If it is above 250 or less than 70, call your doctor for more instructions. High or low blood sugars may result in a delay or cancellation of your test or surgery that day.
- **Tell your nurse that you have diabetes** when you arrive at the test area or at pre-operative holding area.

Your oral diabetes medicines

These are general guidelines for how to take insulin before tests or surgery. Check with your doctor to see how much insulin you need and if you need to follow different guidelines.

- ☐ **If you are having a test or surgery that includes IV contrast dye and you take Glucophage, also called metformin, or any other medicine that has metformin in it, such as Metaglip, Glucovance, Avandamet or ACTO plus Met:**
 - Do not take metformin the day of your test or surgery. You should take your last dose on _____(date).
 - Do not take this medicine for 2 days after your test or surgery. Restart this medicine on the third day after your test or surgery.
 - If you are not sure if you will have a test with IV contrast, call your doctor to find out.
- ☐ **If you are having a same day test or surgery and you take other diabetes pills:**
 - Do not take your diabetes pills in the morning before your test or surgery.
 - If your test or surgery is done before noon and you are able to eat and drink, take your morning diabetes medicine after your test or surgery.
 - If your test or surgery is done after noon and you are able to eat and drink, take your diabetes medicine at the next scheduled time. You will skip your morning dose.
- ☐ **Check your blood sugar at least 4 times each day for the next 1 to 2 days after your test or surgery.**



If you take insulin

- ❑ **If you take Humalog (lispro), Novolog (aspart), Apidra (glulisine), Fiasp (aspart) or Regular insulin:**
 - Do not take the dose the morning of your test or surgery.
 - You can start your usual dose after your test or surgery when you are able to eat and drink.
 - Plan to check your blood sugar at least 4 times each day for the next 1 to 2 days after your test or surgery.
- ❑ **If you take Levemir (detemir), Glargine or Lantus (glargine), Basaglar (glargine), Tresiba (degludec), or Toujeo (glargine) insulin:**
 - Cut your dose in half the evening before or the morning of your test or surgery. For example, if your usual dose is 32 units, $32/2 = 16$. Your reduced dose would be 16 units.
 - **If you are not sure, ask your doctor how much insulin you should take.** Take _____ units of _____ on the night before or the morning of your test or surgery.
 - If you are able to eat and drink after your test or surgery, take your usual evening dose.
 - Plan to check your blood sugars at least 4 times each day for 1 to 2 days after your test or surgery.
- ❑ **If you take NPH, 70/30, 75/25, or 50/50 insulin:**
 - Reduce your evening dose the day before your test or surgery to 50%. **If you are not sure, ask your doctor how much insulin you should take.**
 - Also, reduce your morning dose by $\frac{1}{2}$ or 50% of your usual dose the day of your test or surgery. For example, if your usual morning dose is 30 units, you would take only 15 units. Take _____ units of _____ the morning of your test or surgery.
 - If you are able to eat and drink after your test or surgery, resume your usual evening dose.
 - Plan to check your blood sugars at least 4 times each day for 1 to 2 days after your test or surgery.

Answers to Frequently Asked Questions

Q. How long will my ICD last?

A. Most ICDs last 4 to 7 years. This varies based on how often the device “works” for you.

Q. Are there any household appliances that I should avoid?

A. There are no household appliances that will negatively impact your ICD.

Q. What tools and appliances should I avoid?

A. You may operate any normal appliance and most power tools. There are some tools that generate intense electrical fields, such as electric arc welders, automobile ignition systems, and some “spark motor” electric tools. These could cause your ICD to act erratically, resulting in an inappropriate shock. We recommend that patients do not use arc welders. Caution should be used when using any high power electrical tools. If you are using electrical equipment and become light-headed or feel skipped or irregular heartbeats, turn off the equipment or walk away from it.

Q. What about medical procedures and tests?

A. Tell all of your doctors, dentists, and medical technicians that you have an ICD. Call the Device Clinic at 614-293-8916 or 877-478-2478 if you are scheduled for surgery. We may need to make special arrangements for you before and after surgery. Please call us as soon as your procedure is scheduled. Call the Device Clinic if you are scheduled for an MRI to see if your ICD is MRI compatible. The MRI scan can damage or reset your ICD to a mode that is not safe if it is not MRI compatible.

Q. Can I continue to work at my job?

A. If your job does not involve exposure to intense magnetic, electrical, or radar fields, there is often no problem with going back to work. Talk to your doctor about your limitations based on your type of work and your heart problem.

Q. Can I go through metal detectors like at the airport or government buildings?

- A. Most devices will not cause any problems. If the alarm does go off, tell the security personnel that you have an ICD. They will perform a hand held scanner search. The security check should not interfere with the operation of your ICD. Keep your ICD ID card with you for situations like this.

Q. Can I continue to drive a car?

- A. Most patients who are licensed and capable of operating a motor vehicle may continue to drive a car. There are some people who may be at higher risk and will be advised against driving. Discuss any driving restrictions with your healthcare provider. Remember, if you are told not to drive, the danger is not only to you, but to other drivers and pedestrians as well.

Q. My job involves driving commercial motor vehicles. Can I drive?

- A. Commercial driving is prohibited after ICD placement. Discuss driving restrictions with your healthcare provider.

Q. What about sexual activity?

- A. Your ICD will not be affected by, nor will it affect, sexual activity.

Q. Can I exercise and resume my regular activities?

- A. After placement of your ICD, follow the restrictions listed in your post-op instructions. After that time, you should be able to exercise and return to your regular activities as long as you do not exceed your fitness level. Talk to your healthcare provider about specific activities.

Q. Will items containing magnets affect my device?

- A. We recommend keeping items containing magnets at least 6 inches away from your ICD. This includes cell phones, MP3 players, magnetic therapy products, stereo speakers, and handheld massagers.

General tips:

- Do not put your cell phone or MP3 player in your shirt pocket.
- Do not use magnetic mattress pads and pillows.
- You may want to hold your cell phone up to the ear that is opposite the site where your ICD is placed.
- If you strap your MP3 player to your arm while listening to it, put it on the arm that's farther from your ICD.

Care after Placement of Your ICD

Follow these and other instructions given to you by your healthcare team for your care at home after placement of your ICD or Biventricular ICD.

Call the Device Clinic at 614-293-8916 or 877-478-2478 if you have questions about these instructions.

Your incision care

- The ICD may bulge slightly under the skin. This is normal and common right after surgery. This will lessen over the next few weeks.
- You may have bruising around the incision, especially if you take blood thinner medicines, called anticoagulants, such as aspirin or warfarin.
- Itching is a normal part of the healing process. Try not to rub or scratch the incision site.
- **Keep your incision clean and dry.**
- **Wash your hands well with warm water and soap for at least 15 seconds** before or after touching your dressing or incision.
- **Check your site each day and call the Device Clinic if you have:**
 - › Increased drainage or bleeding at the site
 - › An incision that opens
 - › Redness, swelling, or warmth at the site
 - › A pimple that develops at the incision
 - › A thread (suture) along the incision
 - › A fever greater than 101 degrees F or 38.3 degrees C
 - › Swelling and color change to the skin of the arm or hand on the device side
 - › Abdominal or chest wall thumping or “jumping”
- **For the first 48 hours after surgery:**
 - › Leave the dressing on for 48 hours after surgery.
 - › You may take a sponge bath. **Do not** shower or bathe until 5 days after your procedure.
 - › Wash your hands with soap and water for 15 seconds if you need to touch the dressing.
- › **Remove the outer dressing of tape and gauze after 48 hours, on _____.**
 - › Wash your hands well before and after removing the dressing.
 - › **Do not remove** the narrow pieces of tape, called steri-strips, that go across the incision. They support the outer layer of skin while it is healing.

- **After 5 days, on _____, you can shower or take a bath.**
 - **Shower or take a bath, letting the water gently run over the incision. Do not** let the shower water directly hit the incision, and **do not** soak the incision under water in a bath.
 - **Do not** rub or scrub the incision site while the steri-strips are in place.
 - Gently pat the incision site dry with a clean towel. You do not need to put another dressing on the site.
 - Avoid soaking the incision site under water in a bath tub, hot tub, or swimming pool until the site is healed, often about 14 days after surgery.
- **Leave the steri-strips in place.** The steri-strips may start to loosen and come off on their own after 5 to 7 days.
- Wash your hands well with soap and water for 15 seconds and then **remove any steri-strips from the incision site that still remain:**
 - After 10 days, on _____.
 - After 14 days, if you take prednisone, steroids, or an immunosuppressant.

Activity restrictions for the next: ☐ 7 days ☐ 4 weeks

- **Do not** lift, push, or pull any objects heavier than 10 pounds. A gallon of milk weighs about 8 pounds.
- Use your arms, but **do not** raise your device side arm above shoulder level. You may raise your arms to wash or comb your hair, but avoid raising your elbow above your shoulder on the device side arm.
- No vigorous exercise, such as:

▸ Contact sports	▸ Running, jogging, or aerobics
▸ Golf - you may practice your putt, but wait 6 weeks after surgery to do a full golf swing	▸ Shoveling or chopping wood
▸ Lifting weights	▸ Tennis
▸ Mowing the lawn	▸ Vacuuming
	▸ Washing windows or walls

Driving restrictions

- **Do not** drive for 48 hours after surgery.
- If fainting was a symptom that caused you to need an ICD, do not drive for one week after your ICD is placed. If you have questions about this restriction, please call your healthcare provider's office.

Restarting your medicines

- **If you take a daily aspirin**, restart it the day after surgery.
- **If you take Coumadin**, restart it the night of your surgery unless directed otherwise by your healthcare provider.
- **If you take Plavix**, restart it the day after surgery.
- **If you take Pradaxa, Xarelto or Eliquis**, restart it in the evening the day after surgery.
- **If you take other anticoagulants or medicines**, follow the instructions given to you for when to restart each medicine.

Pain relief

- Take acetaminophen (brand name Tylenol Regular or Extra Strength) to relieve tenderness at the incision site. Follow package instructions for dosage. You may have some discomfort for up to 6 months after surgery.
- **Do not** take ibuprofen (brand names Advil and Motrin) and naproxen (brand name Aleve) unless approved for use by your healthcare provider.

Call the Device Clinic if you have:

- A shock from the ICD. If you have more than one shock in 24 hours, **call 911**
- Dizziness, light-headedness, or you pass out
- A very fast heartbeat or a heartbeat greater than 125 beats per minute for longer than 5 minutes at rest
- Unusual shortness of breath
- Other signs that concern you

If you have any of these signs and need medical help right away, call 911.

If you are scheduled for surgery or to have an MRI scan, call the Device Clinic at 614-293-8916 or 877-478-2478

- We may need to make special arrangements for you before and after surgery. Please call us as soon as your procedure is scheduled.
- Please call the Device Clinic if you are scheduled for an MRI to see if your device is MRI compatible. The MRI scan can damage or reset your ICD to a mode that is not safe if the device is not MRI compatible.

What to do if you get a shock from your ICD

- **If you get a shock from your ICD, do not drive** for your safety and the safety of others until your device has been checked, or you have been cleared by your healthcare provider.
- **If you are not sure about what to do after a shock from your ICD, call 911.**
- **If you get a shock from your ICD and feel that your heart rhythm is back to normal**, you do not feel short of breath or light-headed, and have no chest discomfort, you do not need to call 911. Sit down and call the Device Clinic that day or the next business day.
- **If you get more than one shock from your ICD in a day** or you feel short of breath or light-headed or have chest discomfort, **call 911 right away.**
- **If you pass out, have someone call 911 and start CPR.** CPR should continue until the rescue squad arrives. If the ICD fires while someone is giving you CPR, they may feel a slight shock. This is not harmful to them.

Checking Your ICD

After placement, your ICD will need to be checked to ensure it is working well. This check is also known as device interrogation and can be done by in-office checks and by remote checks with home equipment.

First office visit

Your first office visit will be 6 to 8 weeks from your ICD implant date. Always bring a list of your medicines to your in-office device check. The Device Clinic nurse will use a special device, called a programmer, to check your ICD. It will check:

- The condition of the battery
- The wires in your heart
- Stored information about your heart rhythm

The nurse will also check to see if your ICD is programmed for your specific needs based on tests that will be done.

The information from your ICD is VERY important and MUST be checked at regular intervals. Every patient with an ICD needs this type of office visit. If your device is not checked, your ICD could be at risk for not working well for your needs.

The exam will take about 15 minutes.

Remote (at home) device checks

Your next device check will be done using the home equipment that is given to you at discharge or mailed to your home. Each manufacturer has special equipment. You will be shown how to use the equipment after your ICD is implanted. Most patients keep this equipment plugged in by their beds.

Remote checks are a convenient and safe way to check your ICD. It takes less than 5 minutes, and it is recommended for all patients. Remote checks improve survival rates. It reduces the number of in-office visits and allows for earlier detection of dangerous heart rhythms and other problems. It also reduces the number of emergency department or urgent care visits.

Remember that remote checks are **not a 24-hour emergency service**. If you have symptoms that you think are related to your device, please call the Device Clinic during business hours at 614-293-8916 or 877-478-2478. We will instruct you on whether to use home equipment or come in to the clinic for a check. Remote checks are **NOT a substitute for you going to your closest emergency department or calling 911 if you are not feeling well**.

Remote checks from your device are reviewed by registered nurses (RNs) from our Device Clinic, and then passed on to one of our electrophysiology (EP) doctors for review. Our staff will ONLY attempt to contact you if there are any questions or issues from your check. Due to our large volume of patients, we are not able to contact every patient with normal results. However, please contact our Device Clinic if you would like the results from a specific check reviewed over the phone with you.

Remote check guidelines

Your home equipment sends data from your device using a standard phone line or cellular connection to a secured server that is accessed only by our Device Clinic staff. All data will be reviewed by an RN and an electrophysiology (EP) provider.

Please read and follow these guidelines for using your home equipment.

Contact Information

It is your responsibility to make sure that we have your most current mailing address and phone numbers in order for us to be able to reach you to discuss the findings of your remote checks. Please contact us if you change home telephone carriers as this may impact your remote check abilities.

Scheduling Your Checks

Currently, you have four device checks per year with Ohio State. This means that three checks will be done from home and one check will be done in the office. This schedule may be adjusted based on your care needs.

All device checks will be prescheduled appointments. You will be contacted with a scheduled day or week for your remote checks and your office appointments by an automated phone reminder. You will be contacted with an appointment even if your device is automatically transmitted. You are responsible for either sending or being available for the remote check to gather data on that date. Failure to keep your remote check appointments will result in removal from the remote service, and you will be asked to have all of your ICD care done in the office.

Questions or problems with your remote check can be directed to the Device Clinic at 614-293-8916 or 1-877-478-2478, extension 4, Monday through Friday, 8:00 am to 4:30 pm. If we cannot resolve your issue, you will be asked to contact your device manufacturer for help.

REMINDER: Please don't do a remote check unless you are scheduled or have talked to the Device Clinic and have been instructed to send a remote check. Unauthorized transmissions may result in a delay of treatment or unviewed data.

Traveling

If you are going out of town, you can take your home equipment with you and send your device data at your scheduled time. You can use your equipment within the continental United States, Alaska, Hawaii, and other areas in the world, such as Canada, Mexico, and Europe.

Shock / Emergencies

Seek medical help right away or call 911 if you are not feeling well. If you are feeling symptoms that you think are related to your ICD, please call the Device Clinic during business hours, and we will instruct you on whether to do a remote check or come in to the clinic for a check. **Please be aware that we are not a 24-hour emergency service.**

Clinical Review of Data

Your device data will be sent to a secure server where our clinic staff can view it using a password protected website on the Internet. The data will be reviewed promptly by an RN and an EP healthcare provider. Unscheduled checks will be reviewed within 7 to 10 days.

Insurance and Co-pays

The device data we review from your remote check is charged like an in-office appointment. Therefore, your insurance company will be billed for review of your data. You will be responsible for any amount not paid by your insurance provider. **If you have sent an unscheduled check, and your insurance carrier denies the claim, you will be responsible for the bill.**

Questions

If you have any questions about your home equipment, these guidelines, or heart health issues, please call the Device Clinic during business hours at 614-293-8916 or 1-877-478-2478. **We are not a 24-hour emergency service.**

Patient acknowledgement and agreement

I have read and I understand the remote check guidelines. I had an opportunity to ask questions about anything that I did not understand. Satisfactory answers were provided to my questions. I agree to follow the guidelines.

Print patient / legal representative name

Date

Patient / legal representative signature



THE OHIO STATE UNIVERSITY

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