Guide to Your Electrophysiology Study (EPS)
with or without Catheter Ablation

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

Welcome ......................................................................................................................................... 3

About Electrophysiology Study and Catheter Ablation ............................................................... 4

Preparing for Electrophysiology Study or Catheter Ablation .................................................... 6

Type 1 Diabetes: Medicines before Tests or Surgery ................................................................. 8

Type 2 Diabetes: Medicines before Tests or Surgery ................................................................. 10

What to Expect with Catheter Ablation ...................................................................................... 12

Your Care after Returning Home ............................................................................................... 14

---

**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](http://wexnermedical.osu.edu/patiented) or contact the Library for Health Information at 614-293-3707 or health-info@osu.edu.

© 2007 - September 27, 2019, The Ohio State University Wexner Medical Center.
Welcome

Your doctor is recommending that you have an Electrophysiology Study (EPS). You may also need to have a catheter ablation done.

Please review this book to learn what you need to do to prepare for your procedure.

Call our office if you have questions or if there is anything that you do not understand.

For driving directions, billing and visitor information, please visit wexnermedical.osu.edu/patient-and-visitor-guide. Hotel information can be found under Visitor Policies.

For a digital copy of this book, please visit go.osu.edu/pted4365.

Contact information

Ross Heart Hospital
452 West 10th Ave, Suite 1052
Columbus, OH 43210

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

Before the Procedure

Call 614-293-3201 to:
• Ask questions.
• Check arrival time for tests.
• Cancel or reschedule tests or ablation if more than 24 hours before procedure.

Call 614-293-3056 to:
• Check the arrival time for your ablation procedure.
• Cancel or reschedule within 24 hours of the procedure.

After the Procedure

To report problems you are having after the procedure, call the number marked:

614-293-5122
614-293-4299
Normal heart beat pattern
For most people, the heart pumps or contracts and relaxes to a regular beat.
What allows your heart to beat normally is an electric pulse that starts at the **SA (sinoatrial) node**.
The SA node is above the upper chambers of the heart, called the **right atrium and left atrium** or atria. It is your heart’s **natural pacemaker**. It sends electric signals to the **AV (atrioventricular) node**, which carries the signal through its right and left branch to the rest of your heart to contract and pump blood.

Problems with your heart beat pattern
When your heart beats, the beating comes from an internal electric signal. It is like a start button that gets pushed over and over again, at regular intervals. Sometimes, the electric signal doesn’t work as it should. The heart may get more or not enough “starts” than it needs, or the signal may not flow through the correct path.

**You may hear these terms used to describe your condition:**
- **Tachycardia** is when the heart beats too fast.
- **Bradycardia** is when the heart beats too slow.
- **Arrhythmia** is when the heart does not beat at a normal rhythm.
Electrophysiology study (EPS or EP study)

An electrophysiology study is a test that observes and measures the electrical impulses of the heart. An EPS uses small amounts of energy delivered to the heart to cause the abnormal heart rhythms to happen. This allows the doctor to find the place in your heart where they are starting from and where treatment needs to be done to stop these signals from starting an abnormal heart rhythm.

Catheter ablation

Ablation treats the irregular rhythms of the heart. It stops the abnormal electrical path so that the normal electric path can be used for a normal heart rhythm.

When your heart beats, the beating comes from an internal electric signal. It is like a start button that gets pushed over and over again, at regular intervals. Sometimes, the electric signal doesn’t work as it should. The heart may get more or not enough “starts” than it needs, or the signal may not flow through the correct path.

The doctor will use catheters put into a vein in your upper leg or groin. The catheters will be guided into your heart as the doctor watches a monitor that shows x-ray pictures of your heart and blood vessels.

The doctor will first use a catheter to find the abnormal signals to locate the right spots to treat. This is called an electrophysiology study or EPS.

Using the same site, another catheter will be used to stop the abnormal signals. The catheter tip sends radiofrequency or cryoenergy to scar spots inside your heart where the abnormal electrical signals start. The scarring will break the signal path to stop the abnormal electrical signals.
Preparing for Electrophysiology Study or Catheter Ablation

Your procedure date is ________________ and you are to arrive at ________________. This arrival time is when you need to be at the hospital, so we can prepare you for your procedure. It is NOT the procedure start time. Please allow a full day for the procedure.

Your electrophysiologist is Dr. ________________ and his/her office phone number is ________________.

On the day of your procedure, please:

- Report to the Ross Heart Hospital, located at 452 West 10th Avenue, Columbus, Ohio 43210
- Register in the main lobby.

Valet parking is available in front of the hospital, 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.

To prepare

- If you take any of these medicines, **stop taking them for 48 hours before your procedure** unless otherwise directed:
  - Atenolol (Tenormin)
  - Diltiazem (Cardizem, Cardizem CD, Cardizem LA, Cartia XT, Dilt-XR, Taztia XT, Tiazac)
  - Verapamil (Calan, Calan SR, Isoptin SR, Verelan, Verelan PM)
  - Propranolol (Hemangeol, Inderal LA, Inderal XL, InnoPran XL)
  - Digoxin (Digitek, Digox or Lanoxin)
  - Metoprolol (Kapsargo Sprinkle, Lopressor, Metoprolol Succinate AVPak, Toprol XL)
  - Carvedilol (Coreg, Coreg CR)

- If you take an **anticoagulation medicine**, also called a blood thinner, do not stop this medicine unless directed by the electrophysiology (EP) team. Some procedures may not require you to hold this medicine. If you are told that a hold is needed, please follow these instructions:
  - Stop your warfarin (Coumadin) ______ days before your procedure. Take one aspirin (325 mg size) a day, unless you are allergic, starting the day you stop the warfarin (Coumadin). **If you have ANY questions about this, please contact your EP team.**
  - Stop your dabigatran (Pradaxa) _____ doses before your procedure. If you have ANY questions about this, please contact your EP team.
› Stop taking your rivaroxaban (Xarelto) _____ doses before your procedure. If you have ANY questions about this, please contact your EP team.

› Stop your apixaban (Eliquis) _______doses before your procedure.

• Other medicine instructions: __________________________________________________
  ___________________________________________________________________________
  ___________________________________________________________________________

• Do not smoke or use tobacco products for 24 hours before your procedure.

• **Do not eat or drink anything after midnight the evening before your procedure.** You may take your scheduled medicines with small sips of water the morning of your procedure.

• If you have diabetes, your diabetes medicines or insulin may need to be stopped or changed before your procedure. You will be given specific instructions on what to do. There are some general guidelines in this book.

• **Please bring your medicines in their bottles to the hospital with you.**
  
  If you use a sleep apnea machine, please bring the machine and tubings with you. It will likely be used during your procedure.

  Your electrophysiology team will decide if you will go home the day of your procedure or if you need to stay in the hospital overnight.

  Please come prepared to spend the night. If you are discharged home the day of your procedure, you will need to have an adult take you home. You will not be allowed to drive the day of your procedure.
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. Check with your doctor to see how much insulin you need and if you need to follow different guidelines.

- **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), 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 x 0.8 = 25.6. Your reduced dose would be about 26 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 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.
  - 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.
  - Consider using a **temporary basal profile** based on 0.8 of your usual basal. 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), Aspart, Novolog (aspart), Glulisine, 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 ½ 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.
What to Expect with Catheter Ablation

**During the procedure**

- You will be brought to the procedure room and greeted by your electrical heart team.
- Your blood pressure will be taken every five minutes.
- Fluids will be started through your IV.
- Your wrists will be lightly restrained, so you do not touch any sterile areas.
- Your groin will be shaved, if needed, and cleaned with a sterile soap called chlorhexadine. After the soap has dried, a sterile drape will be placed from your neck to your feet.
- You may have conscious sedation or general anesthesia for your procedure.

**If you have conscious sedation:**

- A nurse will be right beside you throughout your procedure and give you a pain medicine and sedation medicine. You will be awake, but sleepy and relaxed.
- If you are uncomfortable at any time, tell the nurse and they will give you more medicine.
- You will feel the doctor touch your leg and inject a numbing medicine, called Lidocaine. You may feel pressure in your groin after this, but should not feel any pain. If you are uncomfortable at any time, please tell the nurse at your shoulder and we will give you with more medicine, as long as it is safe to do so.
- During your procedure, you may feel your heart speeding up and slowing down. This is a normal response.
- During an ablation, you may feel warmth or mild discomfort in your chest and shoulder. Please tell the nurse at your shoulder if you are having pain and we will give you more pain medicine, as long as it is safe to do so.
- During the procedure, you may hear the doctors and staff talking about your procedure.

**If you have general anesthesia:**

- Your doctor will have talked with you about this at your office visit.
- You will be asked to sign a consent form before this is done.
- Some people have nausea after having general anesthesia.
After the procedure

• You will return to the post-operative area on your bed with IVs in your leg. In some cases, these will be removed as soon as you arrive. If you have received a blood thinner during your procedure, your blood will be checked often to make sure it is not too thin and then the IVs will be removed.

• You will need to lie flat for 2 to 3 hours after the IVs have been removed. You will need to keep your legs straight and your head down during this time.

• After the IVs are removed, the staff will apply a gauze dressing and a bandage.

• If you need to cough, sneeze, or laugh, hold gentle pressure to the dressing. If you feel something warm or wet running down your leg, hold pressure to the dressing site and call your nurse right away.

• If you bleed after the IVs have been removed, your bed rest may be longer, so it is very important that you listen to all instructions and lie flat in the bed.

• You will be able to eat and drink after your procedure.

• If you have nausea or vomiting, drink clear liquids and follow the BRAT diet for 8 to 12 hours.
  ‣ Clear liquids include water, lemon lime soda and fruit juices that have no pulp like apple, grape and cranberry.
  ‣ The BRAT diet includes bananas, rice, applesauce and dry toast. These bland foods can help you ease back into your normal diet. Do not add dairy products, sugary or fatty foods right away until you are sure the nausea or vomiting has stopped.

• The doctor will speak with you and your family after the procedure and answer any questions you may have.

• Ask your doctor what you should expect about your heart beat after the procedure. Sometimes the irregular rhythm goes away right after the procedure. Other times, it may take longer to go away.
Your Care after Returning Home

You will need someone to stay with your for at least the first 24 hours after your procedure for your safety.

Care of your site

- The dressing covering your leg site can be removed the morning after your procedure.
- Keep the area clean, dry and open to air. Do not put a bandage, lotion or powder on the site until it is fully healed.
- You may shower the day after your procedure. Gently wash around the site. Do not let the stream of water directly hit the site. Clean the site gently and pat it dry with a clean towel.
- Do not take a tub bath, swim, use a hot tub, or immerse the site in water for 1 week or until the leg site is fully healed.
- Your upper leg or groin site may be tender and have some bruising. This is normal. **If your leg site feels hard, or there is any bleeding or swelling at the site, call right away (number marked):**
  - 614-293-5122
  - 614-293-4299

Activity limits

- Do NOT drive for the first 24 hours after your procedure.
- You may walk around, but limit stair climbing and bending at the waist as much as possible for 48 hours.
- DO NOT lift, push or pull more than 10 pounds for the first week after your procedure. A gallon of milk weighs about 8 pounds.
- Reduce stair climbing, bending, squatting, stooping and excessive walking for the first week after your procedure.
- Ask your doctor when you can expect to return to work.

Managing pain without medicine

Many patients find they are able to manage pain without using medicine. Options include:

- **Activity:** Start moving as soon as possible after surgery if your doctor says it is okay. Moving helps your breathing and digestion, helps you heal faster and can help lessen pain over time.
- **Cold and Heat:** Both cold and heat can help lessen some types of pain. Some types improve best using cold, others with moist heat. Talk to your nurse about which is best for you.
- **Deep Breathing:** Taking slow deep breaths can help you relax and lessen pain.
- **Distraction:** Focus on something other than pain. Playing games, talking and visiting may relax you and keep you from thinking about the pain. Watching TV or reading may also help.
• **Music:** Playing or listening to music can help you relax and help you breathe more deeply and slowly. It can also increase your energy and help change your mood.

• **Relaxation Techniques:** Stress and anxiety can make pain worse and slow healing. It is hard to avoid stress, but you can learn to control stress. Below are different ways to help you relax:
  - Use extra pillows and blankets to stay in a comfortable position.
  - A massage of your back, hands or feet may help lessen your pain.
  - Try placing a cool cloth on your hands or face.
  - Close your eyes and imagine yourself in a place you find relaxing.

**Talking about your pain**
Tell your health care team as much as you can about your pain. Share with them:

- **Location:** Where does it hurt?
- **Intensity:** How strong does the pain feel?
- **Duration:** How long do you feel the pain? How often does the pain occur?
- **Causes:** What makes the pain worse?
- **Relief:** What helps the pain?
- **What the pain is like:** Is it burning? Sharp? Dull? Stabbing? Spasms? Aching?

Talk to your doctor if you are having more pain that you can tolerate.

**Medicines**
- You may take acetaminophen (brand name Tylenol or store brand) to help with pain around the leg site. Follow the package directions for the amount and time between.
- Your health care team will review with you all of the medicines listed on your discharge instructions before you leave the hospital.

**Follow up visit**
You will be scheduled for a follow up visit with your electrophysiology (EP) doctor. Please bring a list of all our medicines to this visit.

If you have not been contacted within 6 weeks to set up your 3-month visit, please call us at 614-293-7677, option 1.

**Call your doctor right away if you have**
- Redness, swelling, bleeding or drainage from the leg site
- Temperature of 100.4 or higher, or as directed
- Nausea or vomiting

**Call 911 if you have**
- Chest pain or shortness of breath
- Sudden coldness
- Sudden pain or numbness in the leg with the site