

# Your Atrial Fibrillation Catheter Ablation

## *How to prepare and what to expect*

*This handout is for patients with atrial fibrillation. It explains how to prepare for a treatment called catheter ablation. It includes what to do before you come to the hospital, and what to expect during your hospital stay, recovery time, and follow-up care.*

### What is catheter ablation?

You are preparing to have *catheter ablation* to treat your *atrial fibrillation* (AF). A catheter is a long, thin, flexible tube. Ablation comes from the word *ablate*, which means “to destroy.”

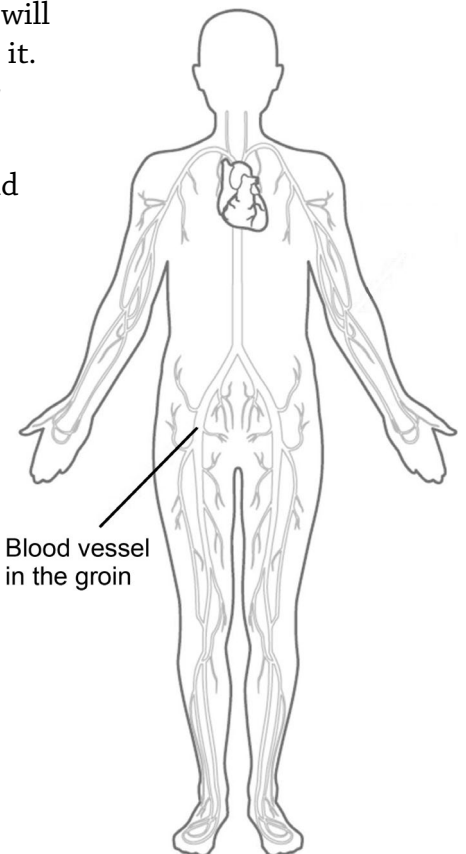
During this procedure, the part of your heart just outside the *pulmonary* (lung) veins will be destroyed by “burning” or “freezing” it. This is done using either *radiofrequency energy* or *cryo-balloon* ablation.

The burned or frozen tissue cannot send electrical signals from the 4 pulmonary veins to your heart. This will keep your AF from recurring.

### What happens during the procedure?

A special doctor called a *cardiac electrophysiologist* will do your procedure. The procedure usually takes 3 to 5 hours.

First, your doctor will place several short, thin, flexible tubes called *sheaths* in a blood vessel in each side of your *groin* (the area where your inner thighs meet your main body). A sheath is like a large IV. The sheaths make it easier to insert the catheters.



*In catheter ablation, long wires are inserted through a blood vessel in each side of your groin.*

When the sheaths are in place, several longer catheters are then moved through them and up to your heart. Different types of catheters are used to make sure the procedure is successful.

If you have:

- **Radiofrequency ablation**, an ablation catheter will be used to create many small burns next to each other around your pulmonary veins.
- **Cryo-balloon ablation**, a balloon containing cold liquid will be placed in your pulmonary veins. This will “freeze” the tissue around the veins.

Both of these types of ablation create a scar. This scar stops electrical signals from entering or leaving your pulmonary veins.

Sometimes, other areas in your *atrium* (upper chamber of the heart) are ablated to increase the success rate of the procedure.

## How do I prepare?

Here are answers to some of the questions you may have about how to prepare for your procedure.

### Should I keep taking my usual medicines before my ablation?

#### ***Anticoagulation Medicines***

If you take anticoagulation medicines, your electrophysiology team will give you specific instructions. Most times, if you take:

- Warfarin (Coumadin): It will likely not be stopped for the procedure and it will be continued after the procedure. If you were not already taking warfarin, your doctor may have asked you to start taking it before your procedure.
- Dabigatran (Pradaxa), rivaroxaban (Xarelto), edoxaban (Savaysa), or apixaban (Eliquis): Your doctor may tell you to stop taking it for 1 to 4 days before your procedure.

#### ***Heart Medicines***

If you take medicines to control your heart rate or rhythm, your doctor will likely tell you to stop taking them a few days before your procedure.

Do **not** stop taking any medicines before talking with your doctor first. Ask your provider which medicines you should stop taking, and when to stop taking them.

Be sure your doctor knows all the other medicines you normally take. This includes vitamins, herbs, and any other supplements.

## ***Diabetes Medicines***

If you take diabetes pills, insulin, or other medicine you might inject, ask your provider how to adjust your doses for the day of your procedure.

### **May I eat before my procedure?**

- Eat a normal meal the evening before your procedure.
- Do **not** eat or drink anything after midnight the night before your procedure. This includes gum, mints, coffee, and water.
- If you must take medicines on the morning of your procedure, take them with **only** a small sip of water.
- When brushing your teeth, do **not** swallow any water.

## **Procedure Day**

### **Before You Leave Home**

Before you leave home to come to the hospital:

- If you want, you may take your morning shower using your regular soap and shampoo.
- Remove all makeup and nail polish.
- Please leave all jewelry (including wedding rings and watches) and other valuables at home.
- Put on comfortable clothes.

### **What to Bring to the Hospital**

- **A list of all medicines you now take.** Include the dose and how often you take each one. Include all non-prescription products such as multivitamins, other vitamins, and herbal supplements.
- Any other medicines, including vitamins and supplements, you have taken in the last 2 days. Write down the dose and how often you take each one.
- If you use a CPAP machine for sleep apnea or breathing problems, bring it with you to the hospital.

## **At the Hospital**

### **Where to Park and Check In**

- Park in the Triangle Garage, or use valet parking from the front drive of the hospital.

- After parking, use the **main hospital entrance** on Pacific Street.
- When you enter, you will be in the lobby on the 3rd floor of the hospital. Turn right and go down the hall to the Pacific elevators.
- Take an elevator to the 2nd floor. As you exit the elevator, turn left and walk down the small hallway.
- You will see a sign for “Pacific Admitting” right across from Radiology. Enter the room and check in.

### Preparing for the Procedure

While you are in our Pre-Procedure area:

- We will ask you to change into a hospital gown.
- We will take your blood pressure and temperature.
- A nurse will review your health history. This includes a review of any allergies you may have and your current medicine list.
- We will do an *electrocardiogram* (ECG or EKG), if your doctor has ordered one. This painless test measures the electrical activity of your heart. It helps show whether parts of your heart are too large or working too hard.
- We will place an *intravenous* (IV) line into your arm, and we will draw some blood.
- We will ask you to sign a consent form that gives us permission to do your ablation.

### The Consent Process

You will meet with an *electrophysiology fellow* in the pre-procedure area. This doctor:

- Has a very high level of training in electrophysiology, the study of electrical activity in the human body
- Has completed 3 years of internal medicine training and 3 years of cardiology training
- Will work with your doctor during your ablation procedure
- Will answer any questions you have and go over the risks of the procedure with you

After you talk with this doctor, we will ask you to sign a consent form. By signing the form, you are telling us that you understand the procedure, including all the risks, benefits, and other treatment options. If you already signed your consent form at an earlier visit, you will not need to go over the risks again.

When you sign the consent form, you are giving us permission to do your procedure. You may decide not to sign the form. We will not do the procedure if you do not give your consent by signing the form.

After the consent is signed, you will be brought to the Electrophysiology lab.

### **In the Electrophysiology Lab**

Before your ablation begins:

- Your anesthesiologist will give you *anesthesia* through your IV. This medicine will keep you comfortable and put you to sleep. This doctor will stay with you during your procedure to check your vital signs (blood pressure, temperature, and heart rate), and make sure you stay safe.
- We will place a breathing tube down your windpipe to help you breathe.
- Your nurses will place many ECG (*electrocardiogram*) pads on your body. These small pads monitor your heart rhythm and can also be used for electrical *cardioversion* (a shock to the heart to restore a normal heart rhythm). You may have 1 or more cardioversions during your procedure. You will not feel these because you will be asleep.

### ***If You Have a Transesophageal Echocardiogram***

Some patients have a *transesophageal echocardiogram* (TEE) right before their ablation procedure. A TEE is the best way to get pictures of the left atrium of your heart.

A TEE helps us check for blood clots in your left atrium. If we find a clot, which is rare, we will need to cancel or reschedule your ablation procedure.

In a TEE, we take ultrasound pictures of your heart through your esophagus, the tube that carries food from your throat to your stomach. To do this, we place a small tube down your throat. The tube has a tiny ultrasound device called a transducer on the end that will take the pictures.

Most times, your TEE is done on the day of your ablation after you are sedated. But, your TEE may have been done in the Echocardiography lab the day before the procedure. If you have your TEE on the same day as your ablation, the TEE will be done after the breathing tube has been placed to make you more comfortable.

## During Your Ablation Procedure

- Your groin will be cleaned with a special soap and draped with a *sterile* (germ-free) cloth to prevent infection.
- Your doctor will insert *sheaths* into the veins in your groin and maybe in the right side of your neck. These sheaths are small tubes that allow catheters to be placed into your vein and up into your heart. They help us monitor your heart's electrical system and find what causes your AF.
- Your doctor will use X-ray and ultrasound to help guide the catheters to the best position in your heart. One of these catheters provides an ongoing "real-time" picture of your heart. This allows your doctor to see exactly what is going on during the entire procedure.
- To do the ablation, the catheters are moved from your right atrium to your left atrium. Your doctor does this by making a small hole in the membrane in the wall between the right and left atria. This membrane will heal easily after the ablation procedure.
- As soon as the catheter enters your left atrium, you will be given a medicine called *heparin* to thin your blood and stop any clots from forming. This medicine is given through your IV. You will receive heparin throughout the rest of the procedure.
- When the catheters are placed in your heart, your doctor will use special mapping equipment and X-ray to find all of your pulmonary veins. Your doctor will ablate these veins by burning or freezing them. You will not feel this.
- Before we ablate any tissue, we want to make sure to protect your *esophagus* (the tube that goes from your mouth to your stomach). To do this, we will either:
  - Put a paste we can see on the X-ray through a tube in your esophagus. This shows us where your esophagus is so that we do not injure it during the procedure.
  - Place a special thermometer in your esophagus to measure the temperature. This will tell us if your esophagus is also starting to burn or freeze.
- Some people have other spots on their heart, away from their pulmonary veins, that cause AF symptoms. During your procedure, your doctor may use medicines to cause the triggers to react. Once these triggers have been found, your doctor may ablate these, too.

## **Will the procedure hurt?**

You will be asleep during the procedure. You will not feel any discomfort.

## **Where can family and friends wait during my procedure?**

Family and friends are welcome to wait in the Radiology/Cardiac Procedures waiting room. This is on the 2nd floor of the hospital near the Pacific elevators, in the same area as the EP lab. Your family and friends can also wait in the “Pacific Admitting” room where you first checked in.

## **After Your Procedure**

- We will remove the catheters in your left atrium and stop the heparin.
- When the blood-thinning effects of the heparin wear off, we will remove all the other small IVs and sheaths from your body.
- You will not need stitches to close the cuts where the catheters were inserted.
- Your doctor or nurse who removes the catheters will put pressure on the insertion sites to stop bleeding. They will then put a bandage over these sites. This bandage will stay in place for about 24 hours.
- You will be taken to an area near the Electrophysiology (EP) lab called Cardiac Procedures Recovery. Here, nurses will monitor you closely.
- You must lie flat in bed for 4 to 6 hours after the sheaths are removed. During this time, you must keep your legs still to prevent bleeding.
- After your time in Cardiac Procedures Recovery, you will be moved to a hospital room for the rest of your stay.
- If you were admitted to the hospital before your procedure, you might be taken back to your hospital room before all your catheters are removed. You may also be taken to a different room so that special nurses can watch you while the catheters are still in your body.

### **If You Have an Upper Endoscopy**

Your doctor may want to do an *upper endoscopy* (EGD) to look at your esophagus before you leave the hospital. If you have an EGD:

- You will have sedation.
- **A responsible adult must take you home after your procedure.** You may not take a bus, shuttle, taxi, or any other transportation by yourself.

### **For 24 Hours**

- Do **NOT** drive.
- Make sure you have a responsible adult who can help you if needed during this time.
- Do **NOT** be responsible for the care of children, pets, or an adult who needs care.
- Do **NOT** drink alcohol or take drugs unless your doctors prescribed or suggested them.
- Do **NOT** make important decisions or sign legal papers.

### **How will I feel after my procedure?**

- You will need to lie flat for several hours during and after your procedure. If you have back pain, talk with your nurse. Your nurse will give you pain medicine and muscle relaxants as needed, and will help you get into a comfortable position.
- You may also feel stiff or sore after lying flat for so long. If needed, you may take acetaminophen (Tylenol and other brands) or ibuprofen (Advil, Motrin, and other brands) to relieve this soreness.
- You will likely feel a little tired and not be thinking clearly the day after your procedure. These are side effects of the anesthesia you received.
- Some people say they also feel a mild ache inside their chest. This may be from irritating the sac around your heart during your ablation. This ache should go away on its own in a few days.
- You may have a little chest discomfort for the first 3 to 5 days after your procedure. Please tell your provider if any of these symptoms get worse or last longer than this.

- Some people have symptoms of *congestive heart failure* during the first 1 to 5 days after their procedure. These symptoms are often caused by irritation from the ablation. They include:
  - Feeling short of breath
  - Bloating in your belly
  - Holding water in your hands, arms, feet, or legs

## How long will I be in the hospital?

Most people stay in the hospital for 1 night after their ablation. How long you are in the hospital will depend on:

- How long it takes to adjust your medicines
- The results of your *telemetry* monitoring

Telemetry is a type of ECG that records your heart rate and rhythm. These readings will tell us when you are ready to leave the hospital.

## What if I still have AF symptoms?

Some people still have AF in the first 2 to 3 months after their procedure, while their bodies are healing. This happens because of irritation from the ablation process.

The AF may go away on its own. But, some people may need electrical *cardioversion* during this time.

If you have AF during this period, it does not mean that the ablation did not work or that you need another ablation. If needed, we may prescribe *antiarrhythmic* medicines to keep your heart rate steady.

## What medicines will I need to take after my ablation?

- After your ablation, you will resume taking the medicines you were taking before your procedure to control your heart rhythm. If these medicines were not causing major side effects before your procedure, you will take them for 3 to 6 months.
- Medicines that did not work to control your heart rhythm before your procedure may work better afterward. This means you may be able to take medicines you could not take before.
- Many people keep taking their anticoagulant for 3 to 6 months after their ablation. Anticoagulants include warfarin (Coumadin), dabigatran (Pradaxa), rivaroxaban (Xarelto), edoxaban (Savaysa), and apixaban (Eliquis). Your doctor may advise taking this medicine for the rest of your life if you are at high risk of having a stroke.

## Activity

- **24 hours** after you are discharged from your procedure, you may:
  - Return to light activity.
  - Drive.
  - Shower **with the dressing on**. After you shower, you may take the dressing off. You do not need to replace it.
- For **48 hours** after your procedure:
  - Do **not** do anything that puts stress on your puncture site. This includes housework, gardening, and many self-care tasks. Ask for help with any tasks that need to be done during this time.
  - You may go up and down stairs, but limit how much you do this.
- For **7 days** after your procedure:
  - Do **not** lift more than 10 pounds (4.54 kilograms). This includes pets, groceries, children, trash, and laundry. (A gallon of milk weighs almost 9 pounds.)
  - Do **not** hold your breath, bear down, or strain when having a bowel movement.
  - Do **not** allow the puncture site to be covered by water. This means do not take a bath, sit in a hot tub, or go swimming.
  - Avoid sexual activity.
  - Do **not** go hiking, bicycling, jogging, or running.
- **Over the next week, slowly** increase your activity. Start at about half your activity level before your ablation. Slowly build from there.

## Pain Control

- The puncture site where the catheter was inserted will most likely be sore for 1 to 2 days. You may take acetaminophen (Tylenol) to ease pain. Follow the dose instructions on the package.
- If your doctor prescribed aspirin for your heart, you may take it as usual. But do **not** take extra aspirin for pain control.
- For 5 days after your procedure, do **not** take anti-inflammatories such as ibuprofen (Advil, Motrin) or naproxen (Aleve, Naprosyn). They may cause increased bleeding.
- If pain at the puncture site is not eased by acetaminophen, call us:
  - During clinic hours (weekdays, 8 a.m. to 5 p.m.), call the Electrophysiology (EP) nurse.

- After hours and on weekends and holidays, call 206.598.6190 and ask to page the Cardiology E Fellow on call.

## Site Care

- You may remove the dressing or bandage 24 hours after your procedure.
- Keep the catheter sites as clean and dry as you can.
- For the next 3 days, check for these **signs of infection**:
  - Redness at the site
  - Fever higher than 100.4°F (38.0°C)
  - Drainage from the site

If any of these signs appear, call us:

- During clinic hours (weekdays, 8 a.m. to 5 p.m.), call the Electrophysiology (EP) nurse.
- After hours and on weekends and holidays, call 206.598.6190 and ask to page the Cardiology E Fellow on call.
- You may have a bruise at the catheter site. It may spread down your leg. It may take 2 to 6 weeks for the bruise to go away.
- **If you have swelling or bleeding at the puncture site, use your fingers or a fist to put pressure on the area.** If the swelling or bleeding does not stop after 10 minutes, keep pressure on the site and call 206.598.6190. Ask to page the Cardiology E Fellow on call.

## Follow-up Visits and Care

You will have follow-up visits at about 3 months, 6 months, and 1 year after your ablation. You will receive a 1-page handout that tells you when and where these visits will be.

- **After 3 to 6 months:** We may ask you to wear a Holter or event monitor to record your heart rhythm. You may wear this monitor for 24 hours or up to 30 days. We want to make sure that you are not having any AF, even if you may not feel any symptoms.
- **After several months:** We may also want to get *magnetic resonance imaging* (MRI) scans of the ablated areas of your heart to see how they are healing.

All these tests are important to monitor your progress. We will send all test results to your primary cardiologist for their records.

**If there is any reason you cannot go to your follow-up visits and have the tests your cardiac electrophysiologist advises, please talk with your doctor. We strongly believe these visits and tests are needed for your health and safety.**

## When to Call for Help

It is rare to have problems after this procedure, but tell us **right away** if you have any of these symptoms so that we can follow-up as needed.

**If you have sudden, heavy bleeding, or a lot of swelling, put pressure on the site and call 911.**

During the first 3 months after your ablation, call for help **right away** if you have:

- Any shortness of breath
- Chest pain that does not go away
- Discomfort when you swallow
- Fever higher than 100.4°F (38.0°C) or chills
- Stomach pain
- Slurred speech, or numbness, tingling, or weakness on one side of your body
- Redness, swelling, increased tenderness, or drainage where the catheters or IVs were inserted
- AF symptoms that last more than 12 hours, including:
  - Heart palpitations
  - Being very tired (fatigue)
  - Having less stamina

## Who to Call

- **Weekdays, 8 a.m. to 5 p.m.:** Call your EP nurse directly **or** call the Heart Institute at 206.598.4300. Ask to talk with your doctor's nurse.
- **After hours (5 p.m. to 8 a.m.) and on weekends and holidays:** Call 206.598.6190. Ask to page the CARD E Fellow on call.

## If Your Atrial Fibrillation Returns

Call us if AF symptoms return, especially if they last for 12 hours or more. Remember, AF that occurs within the first 2 to 3 months after the procedure may be caused by irritation from the ablation.

If you have AF symptoms 3 months or more after your ablation:

- Your electrophysiologist will want to meet with you.
- You may need to start an antiarrhythmic medicine.
- You may be scheduled for a *cardioversion* or have another ablation.

Even though the area around your pulmonary veins that cause AF were ablated during the first procedure, some of the electrical connections may recover. This would allow them to cause arrhythmias again. If this is true for you, a “touch-up” ablation procedure provides relief for most patients.

## Other Questions You May Have

### How successful is ablation in treating AF?

When an ablation is successful, the patient has normal heart rhythm without medicines 1 year after the ablation. A catheter ablation works:

- In 70 to 80 patients out of 100 (70 to 80%) who have *intermittent* (paroxysmal) AF
- In about 50 to 70 patients out of 100 (50 to 70%) who have *persistent* AF

Sometimes, more than 1 ablation procedure is needed to get these results. This is true for people who have either of these types of AF.

### When can I travel?

If you can, please stay in the Seattle area as long as your doctor has advised. Talk with your doctor if you want to travel out of the area.

### When can I go back to work?

You can go back to work right away, if your work does **not** involve heavy lifting.

### When can I stop taking my anticoagulation medicine?

Depending on your risk of stroke, you will need to keep taking an anticoagulant for at least 2 to 6 months after your procedure. Some people need to take it longer. Some will keep taking it for the rest of their lives.

Anticoagulants include warfarin, dabigatran, rivaroxaban, edoxaban, and apixaban. Most times:

- If you were taking warfarin (Coumadin) regularly before your procedure, you will need to keep taking it.
- If you were taking dabigatran (Pradaxa), rivaroxaban (Xarelto), edoxaban (Savaysa), or apixaban (Eliquis) before your procedure, you will likely take it after the procedure.
- You will need to keep taking your anticoagulant until your doctor says it is OK to stop. Ask your doctor about this about 2 to 6 months after your procedure.
- If you are taking warfarin and you do not get care at the UWMC Anticoagulation Clinic, your local cardiologist or primary care provider will do tests to make sure you are taking the right dose.

### **Do I need to keep taking my heart rhythm and rate control medicine after my procedure?**

Before you leave the hospital, your doctor will decide if you should start taking these medicines again. If you do start taking any of them, we will talk with you about tapering or stopping them about 3 to 6 months after your ablation. This will depend on the type of AF you had, your recovery, and if your AF returns.

### **Questions?**

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

- **For general questions** weekdays from 8 a.m. to 5 p.m., call your EP nurse.
- **If you cannot reach your EP nurse** weekdays from 6:30 a.m. to 8 p.m., call Cardiac Procedures at 206.598.7146. Ask to speak with a nurse.
- **For urgent concerns related to your procedure**, or if it is after hours or on a weekend or holiday, call 206.598.6190 and ask to page the Cardiology E Fellow on call.

### **What if I have other questions?**

Please talk with your doctor, nurse, or other provider if you:

- Have questions about anything this handout did not explain
- Do not understand something in this handout

We are happy to talk with you about any other questions or concerns you have.