Your Atrial Fibrillation Catheter Ablation

How to prepare and what to expect

This handout explains how to prepare for your catheter ablation to treat atrial fibrillation. 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). Ablation comes from the word ablate, which means “to destroy.” Catheters are thin, flexible wires.

In your procedure, the part of your heart just outside the pulmonary veins will be destroyed by “burning” or “freezing” it, 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 will happen during my ablation procedure?

During your procedure, your doctor (a specialist called a cardiac electrophysiologist) will first place several small sheaths in a blood vessel in each side of your groin (the area where your inner thighs meet your main body). A sheath is a short, thin, flexible tube, like a large IV. The sheaths make it easier to insert the catheters.

When the sheaths are in place, several longer catheters are then threaded 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 with cold liquid inside will be placed in your pulmonary veins. The balloon will “freeze” the tissue around the veins.

These 2 types of ablation create a scar and will stop 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. The procedure usually takes 3 to 5 hours.

**How to Prepare**

This section answers important questions about how to prepare for your procedure before you come to the hospital.

**Should I keep taking my medicines before my ablation?**

**Anticoagulation Medicines**

Your electrophysiology team will give you specific instructions. In general, 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), or apixaban (Eliquis)**: Your doctor may tell you to stop taking it 1 to 4 days before your procedure.

**Heart Rate, Heart Rhythm, and Other 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.

**If You Have Diabetes**

If you have diabetes, ask your doctor or nurse how to adjust your diabetes medicine (pills, insulin, and/or other medicine you might inject) for the day of your procedure.
Can 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, take them with a small sip of water.
  - When brushing your teeth, do not swallow any water.

**On the Day of Your Ablation Procedure**

**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.

**When You Arrive at the Hospital**

- We will ask you to change into a hospital gown before your procedure. We will give your clothes to the person who came with you, or we will put them in a locker.

- You will be brought to the pre-procedure area.

- You will meet your nurses and **anesthesiologist** (the doctor who will give you **general anesthesia**, the medicine that will make you sleep during your procedure). Please ask questions and tell these health care providers if you have any concerns. They want you to be comfortable and make sure your procedure goes smoothly.

**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) and has already completed 3 years of internal medicine training and 3 years of cardiology training. The electrophysiology fellow will assist your doctor during your ablation procedure.

The fellow will answer any questions you have, and will go over the risks of the procedure with you. You will then be asked to sign a consent form. Your signature indicates you understand the procedure, including all the risks, benefits, and other treatment options. When you sign the consent form, you are giving us permission to do your procedure.
If you already signed your consent form when you met with your doctor in clinic to schedule your procedure, you will not need to go over the risks again.

**Before Your Procedure Starts**

Before your ablation begins:

- You will have an IV (*intravenous* tube) inserted into a vein in one of your arms. Blood tests will be done as needed.
- You will then be brought to the electrophysiology lab.
- Your anesthesiologist will give you medicine through the IV tube to keep you comfortable and put you to sleep. Your anesthesiologist will stay with you during your procedure to check your vital signs (such as blood pressure, temperature, and heart rate), and make sure you stay safe.
- A breathing tube will be put 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 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.

**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 put to sleep. 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 cloth to prevent infection.

- Then, your doctor will insert IV sheaths (large IV tubes) into the veins in your groin and maybe in the right side of your neck. These sheaths are the 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 the triggers of your AF.

- Your doctor will use X-ray and ultrasound to help guide the catheters (electrical wires) to the best position in your heart. One of these catheters provides an ongoing “real-time” picture of your heart so that your doctor can see exactly what is going on during the entire ablation 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 your procedure.

- When all 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 (destroy) these veins by burning or freezing them. You will not feel this.

- Before we ablate any tissue, we want to make sure your esophagus is protected. 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 the 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 also.

Will the procedure hurt?

You will be asleep during the procedure, so you will not feel any discomfort.
After Your Ablation Procedure

- After your ablation procedure, the catheters in your left atrium will be removed and the heparin will be stopped.

- When the blood-thinning effects of the heparin wear off, all the other small IVs or sheaths will be removed 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 after the sheaths are removed.

- You will be taken to an area near the EP lab called the Interventional Cardiac Recovery Unit (ICRU). Here, nurses will monitor you to make sure you are OK.

- You must stay in bed and lie flat for 4 to 6 hours after the sheaths are removed. During this time, you will need to keep your legs still to prevent bleeding.

- After your time in the ICRU, 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 of your catheters are removed. You may also be taken to a different room than your original room so that special nurses can monitor you while the catheters are still in your body.

How will I feel after my ablation procedure?

- You will likely feel a little tired and not be thinking clearly the day after your procedure. This is from the sedation medicine you received during your procedure.

- You may also feel stiff or sore from lying flat for a long time before and after your procedure. If needed, you may take acetaminophen (Tylenol and other brands) or ibuprofen (Advil, Motrin, and other brands) to relieve this soreness.

- Some people also say they feel a mild ache inside their chest. This may be from irritating the sac around your heart during your ablation procedure. This ache should go away on its own in a few days.
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 how long it takes to adjust your medicines and the results of your telemetry monitoring.

Telemetry is a type of ECG that records your heart rate and rhythm. The telemetry readings will tell your nurses 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 failed or that you need to have another ablation done. We may use antiarrhythmic medicines to keep your heart rate steady during this time.

What medicines will I need to take after my ablation?
During the first 3 to 6 months after your ablation, we will restart the medicines you were taking before your procedure to control your abnormal heart rhythm. You will take these medicines for 3 to 6 months if they were not causing major side effects before your ablation.

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 continue to take their anticoagulation medicine, such as warfarin (Coumadin), dabigatran (Pradaxa), rivaroxaban (Xarelto), or apixaban (Eliquis), for about 3 to 6 months after their ablation. Your doctor may advise you to take this medicine for the rest of your life if you are at high risk of having a stroke.

Will I need to change my activities after my ablation?
- You may take a shower the night after your procedure. Keep the dressings on while you shower.
- After your shower, you may take the dressings off. You do not need to put another dressing on.

For 1 week:
- Keep the catheter sites as clean and dry as possible.
- Do not soak the areas where your catheters were placed. Do not take a bath, sit in a hot tub, or go swimming.
• Do not lift, push, or pull anything that weighs more than 10 pounds. (A gallon of milk weighs about 8 pounds.)

• Keep your activity light:
  - Do not go hiking, bicycling, jogging, or running.
  - Do not have sexual activity.
  - It is OK to take walks and go up and down stairs.

**After 1 week:**

• You may slowly increase your activity level. Start at about half of your usual activity level for 1 week, and slowly build up from there.

**Follow-up Visits and Care**

• You will have follow-up visits at about 2 weeks, 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 special scans of the ablated areas of your heart to see how they are healing.

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

Special note: 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**

Complications are rare, but it is important to let us know right away if you have any of these symptoms so that we can follow-up as needed.

During the first 2 to 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 101.4°F (38.6°C) or chills
• Stomach pain
• Slurred speech, or numbness, tingling, or weakness on 1 side of your body
• Redness, swelling, or drainage where the catheters were inserted
• AF symptoms that last more than 12 hours, including:
  – Palpitations
  – Being very tired
  – Having less stamina

Who to Call

• **Weekdays, 8 a.m. to 5 p.m.:** Call the Regional Heart Center at 206-598-4300. Ask to speak with your doctor’s nurse.

• **After hours (5 p.m. to 8 a.m.) and on weekends and holidays:** Call 206-598-6190. Ask for the Electrophysiology Fellow on-call to be paged.

If Your Atrial Fibrillation Returns

Call us if your 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 from irritation of the area near your pulmonary veins during the ablation procedure.

Your electrophysiologist will want to talk with you if you have AF symptoms 3 months or more after your ablation. You may need to start an antiarrhythmic medicine or have another ablation procedure.

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 atrial fibrillation?

We consider a successful ablation one that restores normal heart rhythm with no medicine 1 year after the ablation. The procedure is successful:

• 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 in people who have either of these types of AF.
Where can family and friends wait during my procedure?

Family and friends are welcome to wait for you in the Radiology 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 Surgery Pavilion where you first checked in for your pre-procedure process.

How will I feel after the procedure?

- You may be tired and have minor chest discomfort for the first 3 to 5 days after your procedure. Please tell your health care 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 the irritation the ablation causes. They include:
  - Shortness of breath
  - Bloating in your abdomen
  - Retaining water in your hands, arms, feet, or legs.

- Also, your back may hurt from lying flat on your back for several hours during and after your procedure. Your nurse will help keep you comfortable with pain medicine and muscle relaxants, and will help you get into a comfortable position.

- If needed, you may take acetaminophen (Tylenol and others) to relieve soreness. We prefer that you do not take ibuprofen (Advil, Motrin, and others). But, if the acetaminophen does not relieve the soreness, you may take ibuprofen for no longer than 3 days.

When can I travel?

If possible, please stay in the Seattle area for 1 month after your procedure in case any problems arise. You can take short trips away from Seattle or the Puget Sound area 1 week after your procedure.

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 anticoagulation medicine (warfarin, dabigatran, rivaroxaban, or apixaban)?

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, and some will take it for the rest of their lives.
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), 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. Talk with 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 doctor 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 ablation 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 3 to 6 months after your ablation. This will depend on the type of AF you had, your recovery, and if your AF returns.

**What if I have other questions?**

Please talk with your doctor, nurse, or other health care 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 may have.