MASSACHUSETTS GENERAL HOSPITAL
HEART CENTER

HARVARD MEDICAL SCHOOL

PATIENT GUIDE TO CATHETER ABLATION FOR ATRIAL FIBRILLATION

Also known as Pulmonary Vein Isolation (PVI) Procedure

PREPARING FOR YOUR CATHETER ABLATION

Once you and your doctor have decided to proceed with a catheter ablation procedure to treat your atrial fibrillation and/or atrial flutter you will schedule a procedure date. You may be asked to obtain blood test, a chest X-ray, CT scan or MRI prior to the procedure. Your doctor's office will help to coordinate the timing of the procedure and to help arrange the necessary pre-procedure studies.

THE DAY BEFORE YOUR CATHETER ABLATION

You will receive a call from a nurse in the EP lab by 6 p.m. the weekday before your procedure. If you feel that you missed the call, please check your voicemail. During this call you will be told when you should arrive at the hospital, where to check in, and discuss which medications to take prior to the procedure. You will be instructed not to eat anything after midnight the night before your procedure, to assure that your procedure is done on an empty stomach.

WHAT TO EXPECT THE DAY OF YOUR CATHETER ABLATION

Where do I check in?

Depending on the scheduled time of your procedure, you will either check in to the Admitting Office or report directly to the Electrophysiology Lab (EP Lab) (Gray 109 across from Coffee Central). Once you have checked in to the EP lab, a nurse will come to the waiting room and escort you into the lab when they are ready. Please leave all valuables and jewelry at home or with a family member.

What to expect prior to the procedure?

The nurses will ask you to use the bathroom. There is a scale in the bathroom for you to weigh yourself; this weight should be reported to the nurse. You will then be asked to lie on a stretcher so the nurse can review your past medical history, do a physical exam, and confirm your daily medications (please bring a written list of all your current medications). The nurse will place an intravenous (IV) line and draw some blood to check your INR (Coumadin or Warfarin level) and any other blood tests that may be needed. Your family may sit with you after this is complete.

Team members from the EP lab and Anesthesia will obtain your health history and perform a physical exam. They will review the procedure with you and discuss the risks and ask you to sign an informed procedural consent. The anesthesiologist will review the process of general anesthesia and will also ask you to sign informed consent for anesthesia. Once these consents are signed the nurse will walk you into the procedure room.

Where is the procedure done?

The procedure is performed in the Electrophysiology Laboratory (EP Lab) that consists of 3 procedure rooms. Once in the procedure room, you will be asked to sit at the edge of the bed and nurses will place patches on your back. You will then be asked to lie down on the bed and more patches and EKG electrodes will be placed on your chest. The nurses will insure that you are comfortable. They will finish by attaching wires to some of the patches on your chest that will transmit information to the computers in the control room.

The catheter ablation procedure is typically 4-6 hours in duration but can last up to 8 hours. This time-frame includes preparation to start the procedure as well as time needed to get you ready to go to your assigned bed at the conclusion of the procedure.

Most ablations are done under general anesthesia; however some are done with conscious sedation. Your doctor will determine what type of sedation you will require. A nurse will be with you to provide comfort and support during your entire stay in the lab. If you receive general anesthesia, once asleep the anesthesiologist will place an endotracheal tube (breathing tube) into your mouth. To protect against esophageal injury, a temperature probe will also be placed in your esophagus to monitor heat generated during ablation.

If you are taking Warfarin (Coumadin) and your INR is less than 2.0 at any time in the 4 weeks prior to the procedure and you are in AF on the morning of the procedure; your physician may require you to have a trans-esophageal echocardiogram (TEE). The same would apply if you are taking Dabigatran (Pradaxa) instead of Warfarin (Coumadin) and you happened to miss a dose. A TEE will verify that there is no blood clot present in the left atrium. This involves placing a probe into the esophagus to image your heart. You will be asleep during this test. If there is any evidence of a blood clot the procedure may be postponed to a later date.

Please note that if you require a TEE prior to your ablation, there will be an additional 30 minutes added to your total procedure time.

Because of the length of the procedure and the volume of fluid that you receive during the procedure, a catheter will be placed in your bladder. You will be sleeping when this is done. If there is a medical reason why you cannot have a catheter or there is concern that placement may be difficult please let a nurse know.

Once the catheter ablation is finished

At the end of the procedure the anesthesiologist will wake you up. The breathing tube and temperature probe will be removed. You will need to lie flat for 6 hours after you wake up to protect your groin incisions from bleeding. The nurses will take off all the electrodes, transfer you to a stretcher, and take you to the recovery room. Your Electrophysiologist will call your family to update them on your procedure.

WHAT TO EXPECT AFTER THE CATHETER ABLATION

From the Electrophysiology lab you will go to either the PACU (Post Anesthesia Care Unit) or directly to the inpatient cardiac step-down unit (SDU) for overnight observation. You will be cared for by a team of doctors and nurses who specialize in caring for patients after electrophysiology procedures. We make every attempt to reconnect you with your family member prior to your transfer to the PACU or SDU.

How long should I expect to stay in the PACU?

In most cases, you will stay in the PACU for only a few hours to recover from anesthesia. In the PACU you may still be very tired. The nurses will then move you to an inpatient room when they feel you are ready for transfer. You will stay in this inpatient room overnight for observation. Our team will continue to take care of you while you recover from your procedure and prepare you and your family for discharge the following day.

Our team

Our team consists of many healthcare professionals including the EP lab nursing staff, inpatient nurses who specialize in cardiology, cardiovascular radiology technicians, patient care assistants, mid-level practitioners such as nurse practitioners or physician assistants, medical residents, electrophysiology fellows and attending physicians. On the inpatient floors we also work with physical therapists, occupational therapists, social workers and case managers.

How you may feel after your procedure

- You may feel more tired than usual and may take frequent naps.
- You may feel weaker than usual and simple tasks may drain all your energy.
- You may experience pain primarily in your chest and groins after your procedure, which is to be expected in the first few days.

Pain management

It is normal to experience pain in the groins and in the chest after a cardiac ablation. Pain should lessen throughout your recovery. Your nurse will assess your pain frequently by asking you to rate your pain on a scale of 0-10. It is important to inform your nurse when your pain level reaches 3-4 to allow us to keep you comfortable.

On the hospital floor

Once transferred to the overnight inpatient room, a nurse will greet you and will orient you to your room. They will teach you how to use the phone and the remote control for the TV. Most importantly, they will tell you how to call for the nurse. An electrocardiogram (EKG) will be obtained upon admission to the inpatient room. You will have a portable telemetry monitor which will allow the staff to monitor your heart rate and rhythm throughout your stay. Vital signs (blood pressure, heart rate, respiratory rate, and O2 saturation) will be obtained upon admission and throughout your stay. The nurse will perform a physical exam and will assess your catheter sites (both groins) frequently.

You will be on bedrest for at least 6 hours after your procedure. The purpose of the bedrest is to allow you to rest and minimizes the immediate risk of bleeding from the groin sites. Your nurse will tell you the time that you will be allowed to get up.

When your 6 hours of bedrest is completed-

- If indicated your nurse will remove your Foley catheter (tube to drain your bladder). It is important that the nurses see that you have successfully voided after the catheter is removed.
- You will dangle your legs on the side of the bed for a few minutes before standing up to decrease the chance of dizziness or lightheadedness.
- The first time you walk you should walk with a nurse or a patient care assistant.

Diet

You may be very thirsty immediately after your procedure. You should start with clear liquids initially. You will then be advanced to a regular diet. This may be a low salt, low saturated fat or low carbohydrate diet depending on the presence of other heart diseases or diabetes. There will be a clinical dietitian available should you have concerns about your diet. Some patients experience nausea after anesthesia. Let your nurse know and they will give you medication to minimize the nausea.

WHAT YOU SHOULD EXPECT ON THE FOLLOWING MORNING (DISCHARGE DAY):

Activity

While in the hospital you are less active than usual so it is important to:

- Flex your feet a few times an hour to decrease the risk of developing a blood clot in your legs.
- You should try to sit in the chair for all meals.
- You should take short walks, at least 3-4 times a day.
- Post procedure weight prior to eating will be obtained.

Bathing

You may take a shower the day after the procedure.

Blood work

A technician will come to your room between 5 a.m. and 6 a.m. to draw blood. This will facilitate early results for your primary team to review and plan for discharge.

Diagnostic tests

You may be scheduled for additional diagnostic tests based on your procedure and/or your condition. These tests may include but are not limited to:

- Chest X-Ray – to assess for possible fluid accumulation around the lungs or infection
- Upper Endoscopy also known as an EGD – to assess for possible injury to esophagus
- Groin Ultrasound– to assess for injury to vessels in the groin
- Cardiac ultrasound also known as an ECHO – to check the function of the heart

Discharge process

Our service aims to have post procedure patients discharged by 10 a.m. the day after the procedure. There will be either a nurse practitioner or a doctor who will do a physical exam in the morning. He/she will confirm your discharge medications and will provide prescriptions for any new medications. You will need to sign the discharge instructions, provided by your nurse, prior to leaving the hospital. Your cardiac telemetry monitor, electrodes and IV will be removed at this time.

A record of your procedure and your hospitalization will automatically be sent to your cardiologist (if you have one) and your primary care provider.

Your discharge medication will include but are not limited to:

- **Omeprazole (Prilosec)** - an antacid that helps prevent ulceration of the esophagus.
- **Ibuprofen**- pain medicine to help treat symptoms of pericarditis, which is characterized by chest discomfort or burning sensation with deep breathing.
- **Aspirin**- used as a blood thinner to help protect from clot formation at the ablated areas
- **Warfarin (Coumadin) or Dabigatran (Pradaxa)** - blood thinners to prevent stroke from atrial fibrillation.

WHAT TO MONITOR ONCE AT HOME

- Check for Bleeding- characterized by bright red blood at the puncture sites without swelling. Small amounts of "oozing" may be controlled by applying direct pressure to the site for 5-10 minutes with a piece of gauze or Band-Aid.
- If bleeding continues, call your EP physician and seek immediate medical attention.
- Check for a Hematoma- characterized by a firm mass under the skin that may cause a sensation of tightness or pain.
- If a hematoma grows rapidly in size, apply direct pressure and seek immediate medical attention.
- Check your temperature- A temperature of 101 or greater may be an early sign of infection.
- Weight – If elevated, you may be asked to take a diuretic to help remove fluid retained after your procedure.
- You may remove the clear bandages on your groins the day after the procedure.
- You may take a shower after the bandages are removed. Gently wash the area with soap and water and pat dry.
- Do not lift, pull or push anything greater than 10 pounds (about a gallon of milk) for 1 week.
- Avoid running, lifting (more than 10 pounds) and sit-ups for 1 week.
- Resume normal activity after a week, but avoid any strenuous activities for 2 weeks, such as the gym.
- Do not drive for 2 days post procedure.
- Prior to discharge you should discuss when it is appropriate for you to return to work.

WHEN TO CALL THE DOCTOR

Call your **Electrophysiologist** if you experience one of the following:

- Fever
- Malaise- general feeling of being unwell
- Dysphagia- difficulty swallowing
- Neurological symptoms- numbness, tingling, dizziness, double vision
- Burning or hesitation with voiding- may be a symptom of a urinary tract infection

You should monitor the above symptoms for up to 4 months. These may be symptoms of atrial-esophageal fistula, a rare, but serious potential complication.

When to go to the **Emergency Room**

- Increasing chest pain
- Palpitations
- Shortness of breath
- High fever
- Neurological symptoms

If you should go to the Emergency Room, it is essential that you also call your Cardiologist and your Electrophysiologist.

FOLLOW UP APPOINTMENTS

Please call to schedule your follow up appointments with:

- **Electrophysiologist-** usually 4-8 weeks post procedure.
- **Cardiologist-** usually 2-3 weeks post procedure.
- **Primary Care Physician**- for your regular visit.