

## Catheter Ablation / EP Study

### What is it?

An electrophysiology (EP) study is a test done in a hospital where electrode catheters (long wires) are introduced into the veins and placed under X-ray guidance into the heart. They (EP studies) are used to study abnormal heart rhythms under controlled situations to diagnose what the specific problem with your heart's electrical system may be that could lead to episodes of a racing heartbeat or fainting. The study is a diagnostic test which can be accompanied by the infusion of medications to test what therapies are best and also in conjunction with radiofrequency ablation.

An electrophysiology study is an invasive heart catheterization that is designed to evaluate the electrical system of the heart. The electrical system of the heart is that component of the heart which coordinates the beating of the heart muscle. In particular, the electrical system makes certain that the four chambers of the heart muscle work in a synchronous manner to maximize the efficiency of the heart muscle. For patients who have concerning symptoms such as fainting, episodes of almost fainting, sensations of rapid heartbeats, or excessively slow heartbeats, the preferred method for evaluating these heart rhythm problems is through the use of an electrophysiology study. This test evaluates if there is a need for implantation of a pacemaker or defibrillator or to perform a catheter ablation.

An electrophysiology study is also helpful to locate the exact origin of certain types of heart arrhythmias, and then to try to eliminate this electrical short circuit by the use of alternating current. This part of the electrical heart study is called radiofrequency catheter ablation. The catheter is positioned at the origin of the abnormal heart rhythm and then energy is delivered through the tip of the catheter to burn away the electrical short circuit. In this manner, the catheter ablation procedure can cure patients of an abnormal heart rhythm and eliminate the need for medications. However, it is important to note that even if an abnormal heart rhythm is documented, not all heart rhythm problems can be ablated.

### What do I do?

As an inpatient, you will be evaluated by MidOhio Cardiology and Vascular Consultants (MOCVC) and a recommendation will be made to proceed with an electrophysiology study. All your medications and preparation for the procedure will be managed by MOCVC.

As an outpatient, the electrophysiology study will be scheduled through MOCVC. The procedure is performed at [Riverside-Methodist Hospital](#). Information regarding time and place to arrive at the hospital will be provided to you. In accordance with hospital policy, you will be asked to arrive 1-2 hours prior to the start of the procedure.

### What will happen?

When you arrive to the electrophysiology laboratory, you will be cared for by a nursing staff that specializes in only electrophysiology procedures. The procedures are performed in a room dedicated only to electrical heart testing. Upon arrival to the laboratory, special adhesive pads will be placed on your chest and a monitor will be placed to assess the level of oxygen in your blood. The nurses will also be certain that an intravenous catheter is available to allow the administration of medicine to help you relax and relieve discomfort.

Typically, either the right or left groin area will be shaved and cleaned. A special drape will then be placed over this area and the electrophysiologist will administer a local anesthetic. Through the leg vein, the special electrode catheters that evaluate the electrical system of the heart will be advanced under the guidance of x-ray imaging. The electrodes will then be placed in the different chambers of the heart. As the catheters move through the blood vessels and are positioned in the heart, this generally causes little or no discomfort. In general, an electrophysiology study is a safe study and the risk of serious complications is less than 1%. Once the electrophysiology study results are complete, your electrophysiologist will review the results with you, your family and your physician.

### Post Procedure Instructions

After completion of the electrophysiology study and/or catheter ablation, the results of the study will be reviewed with you, your family and your physician. For the majority of patients, the procedure is an outpatient procedure and after approximately 3 hours, you will be able to leave the hospital. However, for some patients in whom the results of the electrophysiology study are worrisome, or require further evaluation or changes in medications, you may be asked to stay one or two nights in the hospital.

In general, we ask that patients not drive within 24 hours after their electrical study. We also ask that the patient does not lift more than 15 pounds for the next 5 days. Walking, climbing steps and lifting up to 15 pounds as well as showering are fine. Also, we recommend that patients do not submerge their leg in water (such as in a pool or hot tub) for up to 5 days.

### Frequently Asked Questions:

**Q:** If I have palpitations or fluttering, I must have an abnormal electrical system and I should have an electrical heart study?

**A:** Palpitations or odd sensations of the chest are very common among all types of people, even among those patients who do not have an abnormality of the electrical system of the heart. These types of sensations should be evaluated by your doctor or cardiologist, but these sensations do not always imply that they are from an abnormal electrical problem in the heart. Not all abnormal heart rhythms require electrophysiology testing.

**Q:** I have frequent sensations of skipped beats. Can these be eliminated with catheter ablation?

**A:** The heart rhythm problems that can be ablated are based on the frequency and type of abnormal electrical heartbeats. Whether a certain type of heart rhythm can be ablated and the likelihood of success for eliminating the abnormal heart rhythm will be discussed with you by your electrophysiologist.

**Q:** How will I feel after my catheter ablation procedure?

**A:** After a successful catheter ablation procedure, it is common for patients to have sensations of skipped beats or palpitations. These sensations do not mean that the catheter ablation procedure was unsuccessful. If, however, you have sensations identical to the sensations you had prior to the ablation procedure, you may need to wear a heart monitor, or undergo a repeat electrophysiology procedure.

**Q:** When the ablation burns my heart, won't this hurt my heart?

**A:** Ablation is designed to deliver a very localized burn or injury to the heart muscle to eliminate an abnormal heart rhythm. If directed to the appropriate site, ablation does not appear to cause heart muscle dysfunction.

**Q:** When can I drive and return to work after my electrophysiology or catheter ablation procedure?

**A:** Usually you can return to driving approximately 24-36 hours after the electrophysiology and catheter ablation procedure. Your return to work is dependent upon the type of work that you do. If there are concerns regarding this matter, please do not hesitate to discuss these issues with your electrophysiologist.

**Q:** If there are abnormalities in the electrical heart test, will they be managed at the same time of the procedure?

**A:** A catheter ablation procedure is almost always performed during the same procedure as the electrophysiology study. If the electrophysiology study confirms the need for implantation of a device such as a pacemaker or defibrillator, that procedure may either be done on the same day or another day.

**Q:** How should I adjust my medications prior to my electrophysiology study and catheter ablation procedure?

**A:** As an inpatient, your medicines will be adjusted by MOCVC. If you are an outpatient, the instructions on how to alter your medications will be provided to you prior to the procedure. However, if there are any questions regarding medicines that may need to be stopped, please do not hesitate to contact MOCVC at 614-262-6772. In particular, blood-thinning medications such as coumadin/warfarin or antiarrhythmic medications such as the following list may need to be stopped prior to the procedure: Quinidine, Quinaglute, Norpace, Disopyramide, Procainamide, Procan SR, Ethmozine, Moricizine, Mexitil, Sektal, Toprol, Lopressor, Metoprolol, Inderal, Nadolol, Corgard, Propranolol, Atenolol, Tenormin, Flecainide, Tambacor, Diltiazem, Cardizem, Cartia, Verapamil, Calan, Verelan, Sotalol, Betapace, Amiodarone, Cordarone, Tikosyn, Dofetilide.

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Your doctor has just referred you to a MidOhio Cardiology and Vascular specialist for a test. Immediately, all sorts of questions come to mind. Will I experience discomfort? How long will the test take? These questions and others are natural. Please click on the appropriate procedure to understand how to prepare and what to expect when you arrive on test day. Remember that you should consult your physician. The following information does not replace a physician's instruction.