

Atrial Fibrillation Center

Electrophysiology Study

What is an Electrophysiology study?

An electrophysiology (EP) study records the electrical activity and electrical pathways of your heart. This test is used to help reveal the cause of your heart rhythm abnormality and to determine the best treatment for your arrhythmia (abnormal heart rhythm). In general, an EP study is performed after other noninvasive tests, such as an electrocardiogram (ECG), have been conducted. An EP study can provide more detail about your abnormal heart rhythm including the cause of the arrhythmia, the evaluation of antiarrhythmic medications and the need for further treatment such as catheter ablation or device implantation (pacemaker or implantable cardioverter defibrillator, also called ICD).

What should I expect during an EP study?

Prior to an EP study, you will be given sedation through an IV line that will keep you comfortable and drowsy, but still breathing on your own. After injecting numbing medication, your doctor will insert catheters (thin, flexible tubes) into your groin and/or neck which are introduced into blood vessels and directed into the heart under x-ray guidance. The catheters detect the electrical activity in your heart and are used to assess your heart's electrical system. The catheters are specially designed with a pacing mechanism that sends electrical signals to the heart to induce the arrhythmia. This is necessary to find the location of your arrhythmia and determine which treatment may be appropriate. Once the abnormal electrical pathways have been located, your doctor may administer different medications to evaluate their effectiveness at restoring normal rhythm. Based on the findings of this study, your doctor may want to proceed with a device implant or an ablation. The entire EP study may last approximately two hours; however, if additional treatments are needed at the same time, more time may be needed. After the EP study, you will need to recline with your legs still (no bending at the waist) for several hours before your discharge in order to monitor the catheter insertion sites. If an ablation or device implantation is performed at the same time as the EP study, you will need to plan on staying in the hospital at least overnight.

What are the possible risks?

The risk of complications is very low (less than 1 percent), but may differ if additional procedures are performed (such as device insertion or catheter ablation).

Some of these risks may include:

- Bleeding from the catheter insertion site
- Stroke or blood clot formation
- Perforation of the heart or blood vessels
- Myocardial infarction (heart attack)
- Arrhythmias
- Palpitations (racing heartbeats)
- Syncope (fainting)
- Hypotension (low blood pressure)
- Chest discomfort
- Dyspnea (shortness of breath)

For more information on the Atrial Fibrillation Center, please contact Suzanne Hall, RN, Clinical Coordinator, at 216-983-2260.

For appointments, call 1-866-UH4-CARE (1-866-844-2273).

UHhospitals.org/heart

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