



## **EPS (Electrophysiology Study)**

### **Patient Information**

#### **What is an EPS?**

An Electrophysiology Study is done to locate and identify the cause of an irregular heart rhythm. You may hear an irregular heart rhythm referred to as an "arrhythmia". Sometimes, certain conditions can cause the heart's electrical system to make the heart beat too slow, too fast, or in an uncoordinated fashion. Your heart's electrical impulses travel in a normal fashion from the upper chambers to the lower chambers over the conduction system.

The most common reasons to perform an EPS are:

1. To see if your heart's ability to set its own rate and rhythm is normal, or whether an artificial pacemaker is needed.
2. To see if your heart is likely to have irregular or fast beats.
3. To determine the cause of passing out or dizzy spells, palpitations, and irregular heart beats.

#### **Preparation**

Before the test, you may be required to have an EKG and lab work done one week prior to the procedure. We highly encourage you to view the video on EPS and direct any questions or concerns to the electro-physiologist or staff. You will then be asked to sign a consent form. Some of the heart medications you normally take may be withheld 48 - 72 hours prior to the EPS. You will not be allowed to have anything to eat or drink 8 hours prior to the procedure. You may, however, take any medications as directed by your physician with a small amount of water. You will wear only a gown for the EPS procedure.

When you arrive, an intravenous line (IV) will be inserted. A mild sedative will be given to help you relax in the EP lab.

You will be draped in sterile linens. It will take about 20 - 30 minutes to set up the insertion site, computers and other equipment used during the procedure. An EPS procedure usually lasts about 1 - 2 hours.

**Please let us know if you could be pregnant.**

#### **During the test**

Before beginning the procedure, the electrophysiologist will inject a local anesthetic through the skin in the groin. This will sting momentarily, but soon will become numb. After the anesthesia has taken effect, an introducer sheath will be placed in a vein in your groin. Special catheters are inserted through a vein in the groin area and up to the heart. These catheters help evaluate the electrical activity inside your heart and can

be used to reproduce an irregular heart rhythm in a controlled setting. These catheters will be moved through the sheath to the heart. The catheters are guided into place by x-ray cameras by the electrophysiologist. When the catheters are in position, they are connected to a recorder that produces an internal recording of your heart's electrical activity.

The electrophysiologist will use the catheters to recreate your particular arrhythmia. When the arrhythmia occurs, you may notice familiar symptoms: dizziness, chest pain, heart flutters, or pounding, and so on. Your arrhythmia and its symptoms will last only a short while. The electrophysiologist will convert your heart back to its normal rhythm by changing the electrical impulses in the catheters. If you faint during the procedure, electrical cardioversion may be used.

#### **Recovery**

After the procedure, the catheters and intravenous sheath are removed and pressure is applied to the place in your groin where they were inserted. Then you will be moved to the recovery area where you will rest for 3 - 6 hours. Your blood pressure, heart rate, respirations, and groin site will be checked frequently for several hours after the test.

#### **Results**

Depending on the results, your doctor may recommend that you:

1. Change medication
2. Have an implanted device to help manage the heart rhythm
3. Have an ablation performed to correct your arrhythmia
4. Return for more diagnostic tests

#### **What are the risks?**

There are a few risks involved with an electrophysiology study. The risks include the possibility of infection or blood clot and very rarely a collapsed lung, heart perforation, or stroke. Fatalities occur in less than 1 in 5,000 patients.