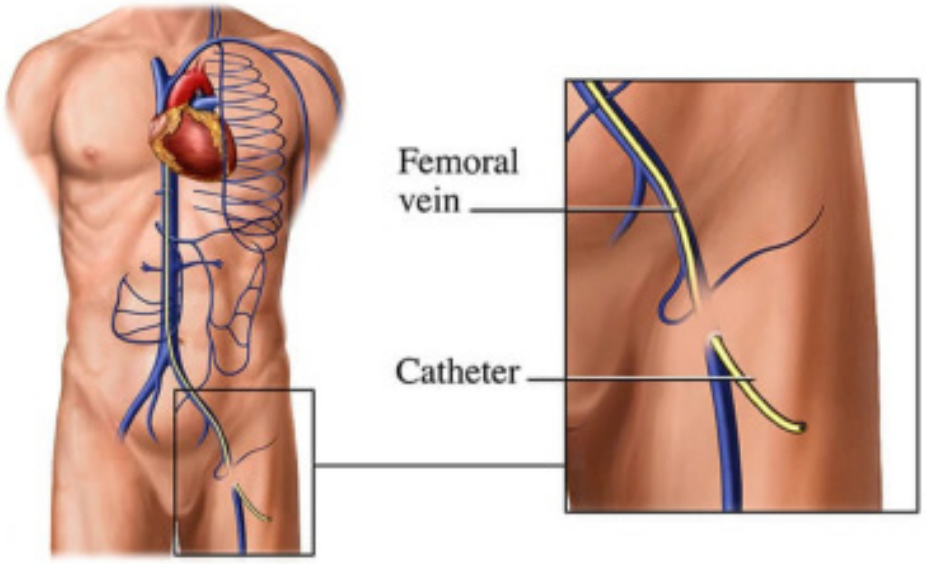
ELECTROPHYSIOLOGY (EP) STUDY

MultiCare Pulse™ Heart Institute

What is an EP study?

An EP study is done as an outpatient procedure by an electrophysiologist (a cardiologist that specializes in heart rhythm management). After being numbed with local anesthetic, a small puncture is made in the femoral vein in your groin. The doctor will then thread one or more catheters from the vein in your groin up to your heart. The doctor monitors the movement of the catheters on a video monitor while doing this.

Once the catheter is positioned in your heart, the doctor will attempt to induce (trigger) an abnormal rhythm. The doctor does this by sending electrical signals through the catheter to stimulate the heart. The goal is to identify and evaluate the abnormal rhythm. If you are awake during the EP study, you may feel your heart racing from time to time during the procedure while the doctor is evaluating your heart rhythm. If an abnormal rhythm is identified, your doctor may also decide to do an ablation as well.



Why would an EP study be done?

- To identify and evaluate an abnormal rhythm with the intent of doing an ablation
- For symptoms such as dizziness, fainting, weakness, or palpitations when other testing has failed to identify the clear cause, but your doctor strongly suspects a heart rhythm problem
- To evaluate/gather more data related to abnormally fast or slow heart rhythms

Abnormal rhythms: for which an EP study may be done

Fast rhythms:

- *Supraventricular tachycardia (SVT)* includes AV Nodal Reentrant Tachycardia (AVNRT), Atrial tachycardia or Atrioventricular reentrant tachycardia (AVRT): a very fast heartbeat that originates in the upper chamber of the heart
- *Ventricular Tachycardia (VT):* an abnormal circuit that develops in the lower chamber (ventricles) causing a fast heartbeat

Slow rhythms:

- *SA Node problems:* The sinus node sets the pace of the heart rhythm. If the SA node is not functioning properly, the heartrate may be too slow (bradycardia), too fast (tachycardia), alternate between fast and slow (sick sinus syndrome), or even stop occasionally (sinus pause)
- *AV Node problems:* The signal that travels through the AV node between the upper and lower chambers can be slowed or even blocked completely. When this occurs it is called heart block

What are the risks?

- Bleeding or bruising to groin site where catheter was put in
- Damage to vessel where catheter was placed
- Blot clot
- Infection
- Damage to heart's electrical conduction system (rare)

Recovery:

- **On the day of procedure:** you will have to rest flat for a few hours before you can get up and walk around. This is to allow the access site at the femoral vein to clot sufficiently and prevent bleeding
- When you go home it is advised to minimize your activity in the first three days following your procedure to allow your groin to heal sufficiently. Then you can gradually return to your usual activity as tolerated
- Avoid lifting anything heavy >10 lbs. or bending over for 1 week
- Keep your incision clean and dry

When to call the doctor:

- Redness or increased swelling to incision
- Drainage to incision
- Increase in bruising to incision (small amount of bruising is normal)
- Fever >100F
- Increased Pain, swelling or numbness to leg in which the catheter was inserted
- Shortness of breath
- Chest pain