

Electrophysiology Study (EPS)

What Is An Electrophysiology Study?

- An Electrophysiology Study or "EPS" is a test that evaluates the electrical system of the heart. The electrical system is a network or pathway through which impulses pass that direct the activity (heart rate and rhythm) of the heart.

Why Is An Electrophysiology Study Done?

- This test is used to study irregular or abnormal heart rhythms that may be life-threatening so that proper treatment can be given to correct the problem.
- To determine which treatment will correct the problem.

How Is The Procedure Done?

- This procedure is nonsurgical and performed under X-ray in the Cardiac Catheterization Lab.
- The patient is hooked up to several different monitors.
- An intravenous (IV) line will be placed in the arm by the nurse so medications can be given.
- The patient will be sedated during the procedure.
- A small area in the right and left groin is shaved and cleansed where catheters will be inserted.
- Medication will be used to anesthetize (numb) this area so a small incision can be made where the catheters will be inserted.
- Catheters (long, thin, flexible tubes) are inserted through the femoral vein in the groin. X-ray is used to guide the catheter up into the heart.
- The doctor stimulates the heart with small electrical signals to make it beat at various rates.
- If irregular rhythms occur, different medications will be given to determine which best corrects the irregularity and converts the heart back to a normal rhythm.
- On rare occasions, an electrical shock may need to be delivered to the heart to convert an irregular rhythm back to normal.
- This procedure usually takes two to four hours on the average.

What Symptoms May Be Experienced During The Procedure?

- A slight burning or stinging from the medicine used to numb the catheter insertion site
- A slight discomfort or pressure as the catheter is being inserted
- The heart pounding very fast when the small electrical signals are sent
- Back soreness from being positioned on the back during the test
- Dizziness or lightheadedness

What Happens After The Procedure Is Completed?

- After the test is completed, the catheters are removed.
- Firm pressure is applied to the catheter insertion site in the groin for 15-20 minutes until the bleeding stops.
- A bandaid or pressure dressing will be placed over the areas where the catheters were inserted.
- The patient will be admitted to the Short Stay department or a special cardiac care unit where he can be closely monitored.
- The Catheter insertion site will be checked frequently for signs of bleeding.
- Blood pressure, heart rate and the pulse in the leg used for the catheter insertion will be checked frequently.
- A knot may occur under the skin where the catheter was inserted. This is only temporary.
- Bruising may occur in leg/groin area where the catheter was inserted and spread down the leg. This is only temporary.
- After four to six hours, the patient should be able to get up.
- Most patients are discharged in 12-24 hours with minimal activity restrictions.

What Precautions Should Be Observed Following The Procedure?

- Keep both legs straight and avoid bending them at the hip (groin area) for four to six hours.
- Hold the dressing firmly, if need to cough or sneeze.

What Signs And Symptoms Should Be Reported Immediately?

- Discomfort or sudden pain at insertion site
- Pain, swelling, or warm, moist, sticky feeling or bleeding at the insertion site
- Any discomfort in chest, neck, jaw, arms or upper back; shortness of breath; weakness or dizziness

What Preparation Is Needed?

- Nothing to eat or drink for eight hours prior to the test.
- It is important for the patient to ask his doctor:
 - How to adjust insulin and food intake prior to the test if he is a diabetic
 - If he should take his regular medications the morning of the test
 - If taking blood thinners (ie. Coumadin), should this medication be withheld and, if so, how long prior to the test
- It is important for the patient to tell his doctor if he is allergic to any medications, or in the case of a female patient, if she is pregnant
- Leave all valuables at home.
- The doctor may have the patient stop certain medications 24-48 hours before the test.
- An ECG, chest X-ray, and/or blood tests may be done.