

Electrophysiology (EP) Study & Ablation

What is an EP Study / ablation and why do I need it?

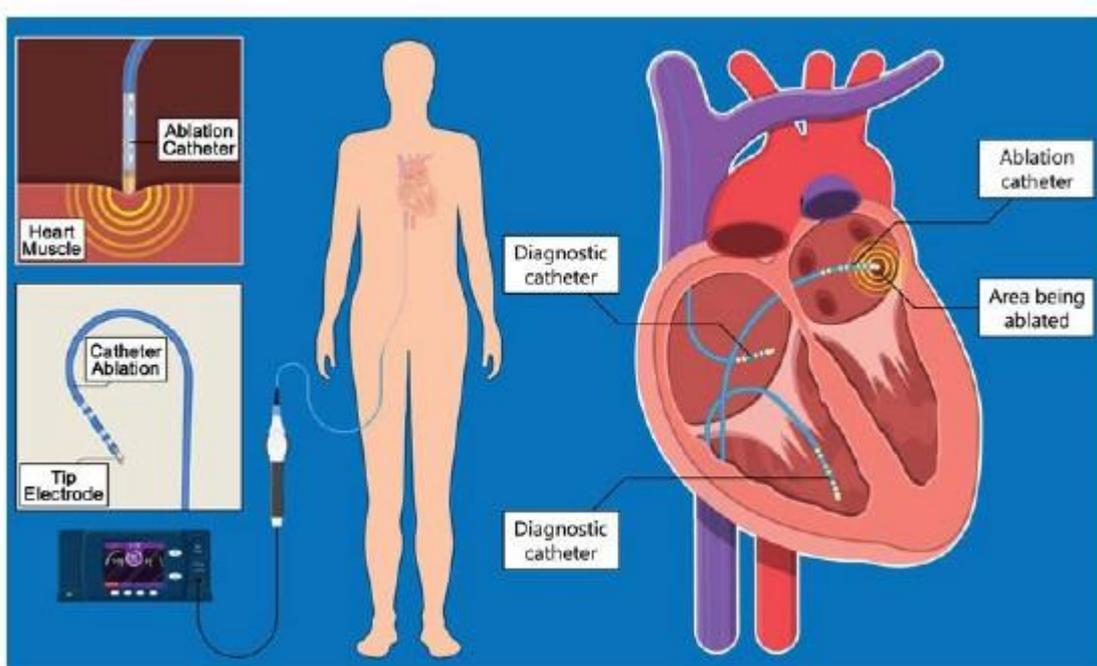
An Electrophysiology Study (EPS) is an invasive procedure to understand the electrical activity of your heart. It is usually performed in people who have fast abnormal heart rhythms (arrhythmias) coming from the top part of the heart, Supraventricular Tachycardia (SVT) or less commonly in people having or at risk of arrhythmias from the ventricles, Ventricular Tachycardia (VT).

The procedure involves passing plastic coated wires called catheters through the veins in your groin to specific positions within your heart to record and stimulate your heart's electrical activity. You may or may not be sedated for this procedure to make you more comfortable. This procedure shows how your heart reacts to extra electrical signals delivered to different areas of your heart. If an abnormal pathway or source of Tachycardia / Arrhythmia is identified, we may proceed to ablation of the extra electrical pathway by means of freezing or burning the pathway.

An EP study is a day case procedure meaning you will get to go home the same day. However if we proceed to ablation you may or may not be required to stay overnight for monitoring and be discharged the following morning providing there are no complications.

What to expect during an EP Study/Ablation

You will be checked in by a nurse and a doctor. Bloods will be taken and an IV cannula will be inserted in your arm. The doctor will go through the procedure and get you to sign a consent form to proceed.



You will be brought into the procedure room and placed lying on your back on the x-ray table and attached to a monitor. Electrodes will be placed on your front and back to record your rhythm during the procedure. Both groins will be shaved. You will be connected to fluids and a blood pressure machine.

A nurse may administer sedation at the start of the procedure. Both groin areas will be numbed with local anaesthetic. Once the area is numb, a puncture is made with needle and 2-4 tubes are gently advanced into the blood vessels and upto your heart. Once the catheters are in place, the doctor will begin to induce your arrhythmia by giving your heart small electrical impulses to make it beat at different speeds. You may feel your heart rate speeding up, slowing down or missing a beat. This gives more detailed information about the cause of your arrhythmia and where the area of extra electrical activity responsible for your arrhythmia is within your heart. A drug may be administered through a needle in your arm. This will help to stimulate your abnormal fast heart rhythm. The doctor can induce and terminate the arrhythmia by using pacing.

If a life threatening heart rhythm occurs, it may be necessary to give you an external defibrillation shock. If you need this treatment you will be given more sedation.

Radiation

Ionising radiation is used to take images during this procedure. The Radiographer will optimise your X-ray examination, keeping your radiation dose as low as possible. As X-ray is used, women aged between 12 - 55 years old will be asked to provide the first date of their last menstrual period (LMP) and sign a "Pregnancy Status Declaration" form. If your period is overdue, a urine pregnancy test will be taken before your procedure. If you are aware that you are pregnant please inform the Nurse/Radiographer attending to you.

Radiation Warning

Your procedure, which your doctor has recommended, involves the use of ionising radiation (X-rays). We monitor the radiation dose used throughout the case. High doses of radiation may be associated with some health risks, such as slightly elevated cancer risk or skin reddening. Although the doses of radiation usually incurred in a given procedure are small, it is possible that cumulative exposure received may produce a reaction such as skin reddening (very like sunburn). If levels measured indicate that the cumulative exposure could cause such skin reactions, then appropriate advice will be given and monitoring for any possible reactions instigated.

Sedation

This procedure may be carried out with or without sedation. You will be awake for the procedure but you may feel drowsy. Please be aware of the following guidance for patients receiving sedation.

- Sedation increases your risk of falling.
- Do not drive for 48 hours. Please make arrangements for an adult to collect you to bring you home.
- Do not consume alcohol within 24 hours post procedure.
- Avoid making any legal decisions or signing any legal documentation.
- Do not operate heavy machinery.

Your role during the study

Please try to refrain from moving your legs or arms in the sterile working area. If you feel any discomfort or uncomfortable symptoms during the procedure for example chest pain, dizziness or shortness of breath please let your doctor or nurse know so they can assess you and take measures to help you get more comfortable.

Preparing for your procedure

- Please fast for 6 hours prior to you procedure
- If you are taking diabetic medications / insulin please contact us on 01 8032312 for advice.
- Have a shower the night before or morning of your procedure.
- Bring a list of your current medications
- If you are on heart rhythm medications your Cardiologist may instruct you to stop them for 3–4 days prior to the procedure. If unsure please contact the Cath lab on 01 8034715 before your procedure date.
- Please make arrangements for an adult to collect you after the procedure. If you have nobody to collect you or stay overnight with you, contact us to inform us of same – 01 8032312 as it may be unsafe for us to proceed with your procedure if you have no one to look after you.

Blood Thinners

- If you are taking Aspirin and / or a second antiplatelet medication such as Clopidogrel (Plavix), Ticagrelor (Brilique) or Prasugrel (Effient), please continue these without any interruption
- If you are on Warfarin, you can continue this uninterrupted
- If you are on Dabigatran (Pradaxa), Rivaroxaban (Xarelto), Apixaban (Eliquis) or Edoxaban (Lixiana), you should skip one dose only on the morning of your procedure.

Post Procedure

- Catheters are removed in the lab and pressure is applied to the groin
- Strict bed rest is required for at least 4 hours after the completion of the study.
- You will be transferred to a recovery area for observation prior to being transferred to the ward.
- You will be asked to restrict leg movement at the puncture site(s) to reduce the risk of bleeding.
- The nurse will inspect the puncture site to ensure there is no bleeding.
- You may go home after 4 to 6 hours or as advised by the Consultant. However, if you have a Catheter Ablation you will need to stay overnight for monitoring.

On Discharge

- You may be at an increased risk of falls due to the medications administered. You will have to stay on a trolley until the nurse deems you safe to mobilise and for discharge. Please take care when leaving the hospital with supervision and for 24 hours at home.
- To avoid risk of bleeding after the procedure:
 - When sitting or standing up after your procedure apply pressure to the procedure site with your hand.
 - If you need to cough or sneeze apply pressure to the procedure site with your hand
 - Avoid immersing the procedure site in hot water
 - Avoid bending at the groin
 - Avoid heavy lifting

Potential Complications

- Bleeding, bruising, swelling at puncture site
- Pain or discomfort at site
- Change in colour, temperature appearance of the leg.
- Chest pain or shortness of breath
- Signs of infection or redness at site or new temperature
- Possible reaction to medications administered.
- Damage to the blood vessels that might need surgical correction

Uncommon complications (risk < 1 per 200)

- Damage to the AV Node requiring placement of a permanent pacemaker
- Major internal bleeding
- Major bleeding around the outside of the heart requiring emergency drainage (pericardiocentesis)
- Obstruction of a blood vessel requiring emergency intervention

Rare major complications (risk < 1 per 1,000)

- Stroke
- Death

Please contact the Cath lab if you develop any complications 01 803 2312 (08.00-20.00 Mon-Fri) for advice. However, if you become acutely unwell or notice sudden bleeding that doesn't stop after applying pressure, call 112 or attend your local A&E.

Useful websites:

https://www.rsa.ie/Documents/Licensed%20Drivers/Medical_Issues/Medical%20Fitness%20Guidelines.pdf

<https://www.hse.ie/eng/health/az/c/coronary-angiography/risks-of-a-coronary-angiography.html>



Catheterisation Laboratory

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