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# Electrophysiology study



## Patient information

# Electrophysiology study (EP) of the heart and cardiac catheter ablation



This leaflet explains the cardiac electrophysiology procedure and why it has been recommended. At the end of this leaflet, you will find a list of important points to remember and also some contact numbers for further information and support.

### **What is an EP study?**

An electrophysiology study is an invasive procedure conducted by a heart rhythm cardiologist (electrophysiologist) in hospital.

Recording wires are placed in the heart through needle punctures via the veins of the leg. These wires are used to analyse the heart's electrical system, to help diagnose or assess the risk of abnormal heart rhythms (arrhythmia) that might be causing symptoms and enables your doctor to make treatment decisions or even provide it on the day (if required).

### **What will happen before the EP study?**

Before your EP study, a pre-assessment appointment is usually arranged. Routine tests such as blood sampling and a physical examination will be performed. **You may be asked to stop taking some of your medications for up to a week prior to the procedure.** Your doctor or nurse will advise you. Do not eat anything after midnight on the procedure day. You may drink clear fluids until 7:00am.

### **What will happen during the EP study?**

On the day of the EP study, the doctor will discuss details of the procedure and the risks/benefits with you. You will be given the opportunity to ask questions before you sign a consent form. Your EP study will be performed in a cardiac catheter laboratory; a room which is similar to an operating theatre, equipped with X-rays. There will be a team of people present: the doctor performing your procedure, a cardiac physiologist who gives technical support, nurses, and a radiographer to assist with the X-ray equipment.

You may receive mild sedation and pain relief to make you feel relaxed and sleepy. You will be required to lie flat. Local anaesthetic will be administered to your groins, into which small tubes will then be inserted. Fine wires or electrical recording catheters are passed through the tubes and positioned within the heart, under X-ray guidance. **For this reason, it is important that you tell your nurse or doctor before the procedure if you think you may be pregnant.**

Once the wires are positioned, the doctor can record and test the electrical activity from specific areas of your heart. Extra beats are delivered using an external pacemaker to try and bring on an arrhythmia, in order to see where it is coming from in your heart. The procedure normally takes between 45 and 60 minutes.

Sometimes it can be difficult to induce an arrhythmia. Under these circumstances, an intravenous medication called isoprenaline/isoproterenol may be administered to increase your heart rate. This is generally a safe drug, and it is rare to get a serious adverse reaction. You may feel breathless, sweaty, experience palpitations and other arrhythmias that you would be monitored for. Rarely you may get chest pain. If you feel any of these symptoms, the drug can be stopped quickly. It is short-acting and wears off within minutes with no long-lasting effects.

## **Catheter ablation may proceed if treatable arrhythmia is found at EP study.**

If a treatable arrhythmia is diagnosed during EP study, your doctor may proceed to catheter ablation to destroy the area of tissue that is causing it. Energy is delivered down a wire fed through the groin called an ablation catheter to the target area within the heart. Most commonly radio-frequency energy is used to heat the tissue, but freezing by cryotherapy can be used as well.

This may be a bit uncomfortable, so painkillers and sedation can be given if needed. Ablation can add another 30-40 minutes to the procedure, including a waiting time to make sure the ablation is successful.

## **What happens after the EP study and catheter ablation?**

Once the procedure is over, the wires and tubes will be removed, and manual pressure applied over these areas for a few minutes to stop any bleeding.

You will then be transferred back to the ward to rest in bed for up to four hours.

## **How long will I have to stay in hospital?**

Most people go home on the same day. Rarely patients are admitted overnight. For your safety, we recommend that someone takes you home from the hospital and stay with you overnight.

**PLEASE ENSURE THAT SOMEONE IS ABLE TO TAKE YOU HOME AFTER THE PROCEDURE AND STAY WITH YOU OVERNIGHT**

## **What can I expect when I go home?**

- It is normal to experience a little chest discomfort for a few days after the procedure. This usually resolves but simple pain killers can be taken for this.
- It is quite common to be aware of your own heartbeat or 'missed beats' afterwards which is normal and usually settles with time.
- If your puncture site starts to bleed, then lie down to help slow the bleeding, and press firmly on the puncture site continuously for 10 minutes. If the wound continues to bleed despite this, go to your nearest A&E for assessment.
- Once you get home you will need to rest for a few days up to a week after the procedure. You can go about your normal routine but there are a number of activities that should be avoided to allow the groin to heal:
  - Avoid lifting heavy objects for two weeks.
  - Avoid rigorous exercise for two months.The DVLA recommends that you do not drive for two days for Group 1 (domestic) licence holders. If you have HGV licence or Group 2 (professional) license holders, driving may resume after 2 weeks provided there is no other disqualifying condition with heart pumping function at least 40% and provided you were not incapacitated by your arrhythmia. **If you were incapacitated, you can drive after six weeks if ablation was successful, provided there are no other disqualifying conditions. Your doctor can discuss this in more detail with you.**
  - You should not fly within seven days.
- You will be seen routinely in the arrhythmia clinic outpatients usually with a 24-hour heart monitor beforehand with a view to reviewing your medications. Most patients are discharged at that point.

### What are the risks of EP studies/catheter ablation?

EP studies are deemed very safe, but as with any medical procedure it is not completely risk-free.

Serious complications occur in less than 0.1% of cases. The additional risks of ablation will have been explained in full by your doctor or nurse before the procedure. They include an up to 1% risk of damaging the heart's conducting system, resulting in permanent pacemaker implant.

## How to find Cardiac day ward

The Cardiac day ward is open Monday to Friday, 8am - 6pm. Cardiac day ward can be found in Acute Admission Unit (AAU), on level 2 of the AAU's block. It is signposted from all the entrances to the hospital.

If you cannot contact the cardiac specialist nurse, the nurses on the Cardiac Care Unit (AAU Level 3) will be able to advise you at any other time on 01923 217159.

Arrhythmia Nurse Tel: 01923 244366 Ext: 3365

Cardiac Day Ward Tel 01923 436636

(Where your pre-assessment, procedure and recovery will take place.)

**For further advice / support contact:**

Arrhythmia Alliance Tel: 01789 450787

Email: [info@arrhythmiaalliance.org.uk](mailto:info@arrhythmiaalliance.org.uk)

Arrhythmia Alliance - the heart rhythm charity offers information and support to individuals with cardiac arrhythmias.

The British Heart Foundation Tel: 0300 330 3311

Email: [www.bhf.org.uk](http://www.bhf.org.uk)

British Cardiac Patient Association Tel: 01499 837070

Email: [www.bcpa.co.uk](http://www.bcpa.co.uk)

## DVLA Medical Enquiries

## Cars, motorcycles

Tel: 0300 790 6806

Buses, coaches, lorries

Tel: 0300 790 6807

How to contact us

Cardiac Day Ward, AAU level 2  
[Watford General Hospital](#)  
Vicarage Road  
Watford  
Hertfordshire, WD18 0HB  
Email: [westherts.cardionursing@nhs.net](mailto:westherts.cardionursing@nhs.net)  
Hospital switchboard: 01923 244366 Ext: 3365

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