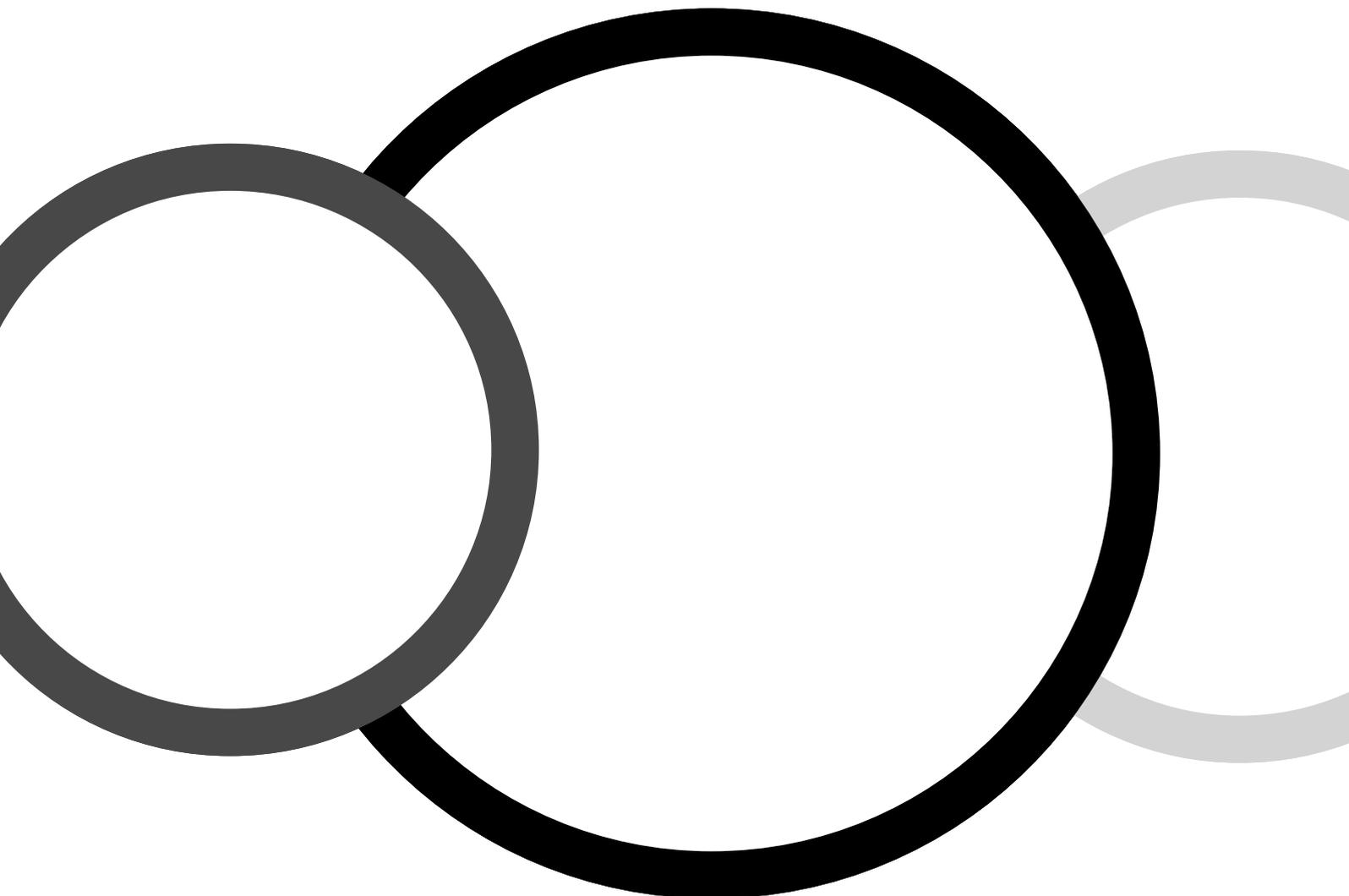


The Essex  
Cardiothoracic Centre

## Patient Information

# Electrophysiological study and catheter ablation



## **Electrophysiological study and catheter ablation**

You have been referred to The Essex Cardiothoracic Centre for a procedure called an electrophysiological study. You may also have catheter ablation. This leaflet describes both procedures, so that you know what to expect. If you have any questions, please do not hesitate to contact the arrhythmia nurses, their details are at the end of this leaflet.

### **What is an electrophysiological study?**

An electrophysiological study (EP study) is a procedure to test your heart's electrical system. It is the electrical system of the heart that generates the heartbeat.

The results of the study may help the electrophysiologist (a specialist in the electrical activity in the heart) to determine your further treatment. This could include inserting a pacemaker or defibrillator or performing catheter ablation.

### **What is catheter ablation?**

Catheter ablation is a procedure to treat some types of rapid heart beat by application of heat or cold to try to eradicate areas of heart tissue that may be causing rapid, un-coordinated heartbeats (also known as tachyarrhythmia).

The procedures are performed under local anaesthetic. You may be able to go home the same day or you may stay in hospital overnight.

### **How the heart works**

The heart is a muscular pump which delivers blood containing oxygen to the body. It is divided into two upper chambers (atria) which collect blood returning through the veins; and two lower chambers (ventricles) which pump blood out.

The heart has an electrical system.

This normally drives the heart to beat in a regular organised way, at a rate of 60-100 beats per minute. Each normal heart beat begins with an electrical impulse from a group of specialist cells called the sinus node (SA node). These electrical impulses travel across the top two chambers of the heart, down through the atrioventricular node (AV node), then spread across the bottom chambers, causing the heart to contract and pump.

When a heart is beating normally we refer to this as sinus rhythm, or normal rhythm.

Sometimes, the electrical system in the heart travels in a different direction. This can be due to extra electrical connections known as pathways, or extra electrical cells, within the heart. Often, these pathways or cells are present at birth but may only start to work in adulthood.

When the heart has an extra beat, it can travel up the pathway and down the normal conduction system. If this continues, palpitations can start. This means that the heart suddenly starts to race, causing an awareness of a fast heartbeat.

If the abnormal heart rhythm is from the upper chambers of the heart, this is known as supra-ventricular tachycardia (or SVT). This type of heart rhythm disturbance is not life threatening, but can cause unpleasant symptoms and interfere with your quality of life.

If the abnormal heart rhythm comes from the lower chambers of the heart (the ventricles) it can be dangerous, particularly if it is associated with fainting. These heart rhythm disturbances may be treated in a variety of ways, such as medication to suppress the fast heart beats or catheter ablation, which aims to destroy the pathway, or extra cells, which are causing the palpitations.

### **Points to note**

- A date will be arranged for you to have a pre-admission assessment. This will take place at The Essex Cardiothoracic Centre. A nurse will take some details to make sure you are well enough to have your procedure. Your blood pressure, ECG, weight and pulse will be checked.

- You will need to arrange for somebody to pick you up from hospital and collect you by car, or taxi. You will not be able to travel by public transport.
- If you have any special needs or requirements, please tell the nurse during your pre-admission assessment appointment.
- If you need hospital transport because of a medical condition, this can be arranged for you. Please contact the CTC Patient Activity Office on 01268 524900 ext 4191/4192.

On the day of your operation please remember to bring with you:

- All your medication, in its original container.
- Something to read or a personal stereo.
- Overnight bag with your preferred nightwear, dressing gown, slippers and toiletries (in case you need to stay).
- For security reasons, please do not bring jewellery, large amounts of money/credit or debit cards, mobile phones or anything of great value to you.

The hospital regrets that it cannot accept responsibility for loss or damage to property belongings to patients.

- Please do not wear jewellery, make-up or nail varnish. Your wedding ring may be left on if you wish and we will cover it with tape.
- Unless you are informed otherwise, you will be able to have an early light breakfast on the day of your procedure (such as a small bowl of cereal) no later than 6am. Once you have eaten your breakfast, you must not eat or drink thereafter.

### **Should I take my normal medication?**

Unless advised by the nurse at your pre-admission assessment appointment, you should take all your usual medication with a small sip of water.

You may be taking medications that need to be withheld prior to your procedure, if so this will be discussed and explained to you by the pharmacy technician and the arrhythmia nurses during your pre-admission assessment.

If you are diabetic, the management of your diabetes and your diabetic medication will be discussed with you during your pre-admission assessment.

### **What happens when I arrive at hospital?**

You will be admitted to the ward by a nurse. Please tell the nurse if you have had any allergic reactions in the past or if you think you might be pregnant.

The electrophysiologist who will perform the procedure will come to see you. They will explain the procedures, and any side-effects or possible complications. They will then ask you to sign a consent form. If there is anything you don't understand or if you have any questions please ask.

### **What happens during the procedure?**

- You will be taken to the cardiac catheter laboratory for your procedure. The room is similar to an operating theatre.
- There will be a team of people present, including electrophysiologist (a specialist in the electrical system of the

heart), physiologist, nurses and a radiologist who will assist with the x-ray equipment.

- You will be given a local anaesthetic and possibly a mild sedative to make you relax however you will remain conscious throughout the procedure.
- You will need to lay flat during the procedure and you will be asked to lie as still and relaxed as possible. If you have difficulty laying flat please discuss this with the arrhythmia nurses prior to your admission.
- A small plastic catheter (tube) will be inserted through a blood vessel in the top of your leg, and is advanced until it reaches your heart.
- Fine wires are then passed through the tubes and positioned within the heart. This is done with the guidance of an x-ray machine.
- Once the wires are positioned, extra heart beats are given using an external pacemaker, which may bring on your palpitations. This is necessary to see where the heart rhythm is coming from.

It is possible to put the heart back into normal rhythm within a few seconds, by delivering some extra beats.

- The electrophysiologist will then begin to ‘ablate’ the pathway, or extra electrical cells. This is done by delivering a form of energy down the wire to target the area within the heart.
- Most commonly the energy used is a heat source, called radio frequency energy, but other types may be used such as cryotherapy, which freezes the area.
- If you feel uncomfortable during this part of the procedure please inform the nurse and you can be given more sedative.
- When the procedure is finished, the wires and tubes will be removed and you will spend a few hours recovering on the ward.
- You may go home the same day, or you may need to stay in overnight. This will depend on the complexity of your procedure and how you feel.

## **What happens after the procedure?**

- You will need to be collected by car. Do not use public transport.
- You will need to rest for up to 24 hours. Most people recover quickly from the procedure and feel well enough to carry on with normal activities the following day. You are advised to take it easy for the next couple of days and avoid heavy lifting for two weeks.
- If you work you may want to take a few days off to recover, if necessary you can self-certificate or obtain a medical certificate from your GP.
- The DVLA state that you must not drive for two days after catheter ablation. You can access the DVLA guidelines at: [www.dvla.gov.uk](http://www.dvla.gov.uk).
- Following catheter ablation it is quite common to be aware of your own heartbeat, even in normal rhythm. Some people are aware of extra or ‘missed’ beats.

Try not to worry too much about these symptoms, which usually settle in time. If you experience palpitations or a racing heartbeat, you should report this to your arrhythmia nurse or doctor, as this may indicate that the procedure has not been completely successful.

- You will be seen in the outpatient clinic a few months after the procedure, to see how you are progressing.

### **Are there any side effects or possible complications?**

Bleeding from your wound site and infection. Both of these can be treated if they occur.

Other complication risks will be discussed in pre-admission clinic by the arrhythmia nurse.

There may be other complications specific to the type of ablation you are having. Your electrophysiologist will discuss these with you, and information will be available at your pre-admission assessment appointment. If you have any worries or concerns, please ask.

### **What will happen if I decide not to have this procedure?**

The benefit of having catheter ablation is that, in the vast majority of cases, the heart rhythm disturbance is cured. If you decide not to have the procedure, your medication may need to be adjusted. However, this is not a cure and will only control your symptoms and the frequency of your palpitations.

If you need to have further discussions with your consultant to help your decision, please do not hesitate to ask.

If you need to contact us regarding your procedure, please telephone The Essex Cardiothoracic Centre.

- Arrhythmia Nurses:  
01268 394021  
[arrhythmia.nurses@btuh.nhs.uk](mailto:arrhythmia.nurses@btuh.nhs.uk)

- Roding Ward:  
01268 524900 ext 4209  
(out of office hours)

[www.basildonandthurrock.nhs.uk](http://www.basildonandthurrock.nhs.uk)

Not to be photocopied

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☎ 01268 394440  
E [pals@btuh.nhs.uk](mailto:pals@btuh.nhs.uk)

W [www.basildonandthurrock.nhs.uk](http://www.basildonandthurrock.nhs.uk)

The Trust will not tolerate aggression, intimidation or violence directed towards its staff.

This is a smokefree Trust. Smoking is not allowed in any of our hospital buildings or grounds.

This information can be provided in a different language or format (for example, large print or audio version) on request.