Catheter Ablation for Atrial Fibrillation

This leaflet explains what happens during a procedure called Catheter Ablation or Radiofrequency Ablation for the treatment and management of Atrial Fibrillation. It includes the benefits, the risks and the alternatives. If you have any questions or concerns, please do not hesitate to speak with the doctors and nurses caring for you.

Confirming your identity

Before your treatment or procedure our staff will ask you to confirm your name and date of birth and check your ID band. If you do not have an ID band, we will ask you to confirm your address.

If we don't ask these questions, then please ask us to check.
Ensuring your safety is our primary concern.

How does my heart's electrical system work?

Your heart is an amazing organ that pumps blood throughout your body. It has four chambers: two on the top and two on the bottom. The right side of your heart receives blood from your organs and sends it to your lungs to pick up oxygen. This oxygen-rich blood then returns to the left side of your heart, which pumps it back to your organs.

Each side of your heart has two chambers: the atrium on the top and the ventricle on the bottom. The atria receive blood and the ventricles pump it out.

For your heart to beat, it needs an electrical signal. In a healthy heart, this signal starts in the heart's natural pacemaker, called the sinoatrial (SA) node, located in the right atrium. The SA node generates an electrical impulse that travels through the heart muscle, causing it to contract and pump blood.

The electrical impulse moves from the atria to the ventricles through a special pathway called the atrioventricular (AV) node. This node acts like a gatekeeper, ensuring the signal is transmitted in an orderly manner, allowing the atria to contract first, followed by the ventricles.

When you are at rest, your heart typically beats between 50 to 100 times per minute. This rhythm ensures that your body gets the oxygen and nutrients it needs to function properly.

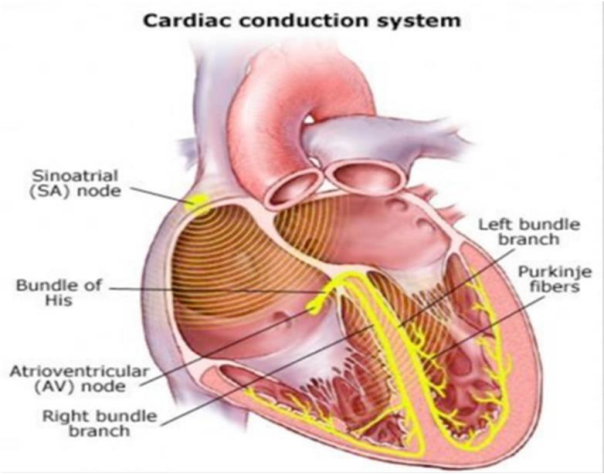

Image: Boston Scientific

What is atrial fibrillation (AF)?

It is a type of abnormal heart rhythm (arrhythmia) in which your heart beats irregularly and too fast (above 100 beats a minute). A fast and chaotic electrical rhythm in the upper chambers of your heart (atria) means that the atria no longer contract in an organised way, so they do not pump as well. The bottom chambers of your heart (ventricles) beat irregularly and often at a faster rate than normal, even at rest. You may have periods of AF followed by a normal heart rhythm or you may be in AF all the time.

AF is usually caused by rapid electrical impulses coming from your heart muscle near your pulmonary veins, which return blood from your lungs to your left atrium.

Symptoms can include:

- palpitations
- feeling tired
- shortness of breath
- dizziness or light-headedness
- chest pain or tightness.

How is AF treated?

We can sometimes cure – or at least greatly improve – the symptoms by carefully damaging (disrupting) your heart muscle at the junctions of the pulmonary veins and left atrium. To do this, we thread a very thin ablation wire into your groin and guide it up to the left atrium of your heart. The end of this wire can be heated to cause the damage. We also make a tiny hole between the right and left atria. This hole seals by itself after the procedure. This often takes longer than most other ablation procedures and the risks are slightly greater. Your doctor will discuss these risks with you before your procedure.

Why do I need this procedure?

Catheter ablation is a drug-free solution for treating a wide range of abnormal heart rhythms (arrhythmias). It is usually recommended when the arrhythmia causes symptoms that interfere with your quality of life, such as preventing you from doing your job or normal daily activities and when other treatments, like medications, have not been effective.

What are the risks?

The risk of any of the following complications is about four per cent. Before having your procedure, please feel free to discuss any concerns with the doctors or nurses caring for you.

- Damage to your groin or a blood vessel.
- Bleeding from your groin or around your heart.
- Stroke or heart attack.
- Need for a pacemaker.
- Severe narrowing of veins in your lungs.
- Damage to the nerve that makes your diaphragm work.
- Damage to your oesophagus (gullet).

There is about a 0.2% risk of a complication that will cause death. If an emergency happens during the procedure, we will do whatever is possible to treat it. Although extremely rare, emergency treatment could include open-heart surgery.

What are the benefits?

The aim is to reduce AF related symptoms and improve quality of life, however some patients may require more than one procedure to achieve this.

Are there any alternatives?

This ablation is for symptom control. If you are anticoagulated to reduce your risk of stroke and well rate controlled, then medications are an acceptable alternative.

Will I have to stay in hospital?

You may need to stay in hospital overnight after the procedure. We will assess whether you can have the procedure as a day case prior to your admission.

What happens before the procedure?

Pre-assessment

You will have a pre-assessment before your procedure where your nurse or / and doctor will explain the procedure and what to expect and obtain your consent. They will also send / request several necessary investigations such as blood test**,** ECG, MRSA etc.

Eating and drinking: Do not eat or drink for at least six hours before your procedure. You may take any tablets with a few sips of water.
Consenting: We must by law obtain your written consent to perform any operation / procedures and some other procedures beforehand. Staff will explain the risks, benefits and alternatives before they ask you to sign the consent form. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to speak with a senior member of staff again.

Preparing for your procedure

When you arrive at the cardiac catheter suite, we will give you a hospital gown to wear and will put a needle (cannula) into a vein in your arm. We will use this to take some blood and give you fluids if required. You will be taken into the cardiac catheter laboratory and meet the team looking after you. This consists of your electrophysiologist (a consultant who specialises in heart rhythm problems), a cardiac physiologist, a radiographer, a nurse and the anaesthetic team.

What happens during the procedure?

This procedure is normally preformed under general anaesthetic. Once you are asleep, the electrophysiologist will put small plastic tubes (catheters) into one or both blood vessels in the top of your legs (your groin). The wires used to record electrical signals from inside your heart will then be put into the catheters and threaded until they reach your heart. The wires are guided into position using x-ray equipment.

Once the wires are in the right place, your doctor will look at your heart rhythm disturbance by recording the electrical signals on a computer. The ablation is done using radiofrequency energy, which heats the tip of one of the wires in your heart and damages (disrupts) the problem area.

How long does the procedure take?

It usually takes approximately three to six hours but can be less at times.

What happens after the procedure?

The wires and tubes will be taken out and you will spend a few hours recovering on the ward. You will lie flat for two hours and after this, if there is no bleeding from the groin, we will allow you to sit for a further two hours. If all has gone well you will be able to walk four hours after the procedure.

During the first four hours after the procedure, you will be attached to a heart monitor and regular checks of your blood pressure and groin will be carried out. Your doctor will come and discuss the outcome of your procedure and check your recovery. You will have an ECG and an ultrasound of the heart which will be reviewed by your doctor. If you are being discharged the same day this will be around 6 or 7 o’clock in the evening. If you are staying

overnight, you will be discharged early the next morning. You will be advised on any medication changes on discharge.

What happens when I go home?

Going home: You must have someone to collect you from the ward. We do not advise using public transport.
Driving: The DVLA states that you must not drive for two days after this procedure.
Going back to work: You will need to take one week off work after the catheter ablation.
Pain and bruising: You may have some chest discomfort for up to one week after the procedure. You may also have some bruising in your groin which will take a few days to ease.
Tiredness: It is normal to feel tired for some time after the procedure.
Medications: Keep taking your medications as normal, unless instructed otherwise.
Follow-up appointment: You will be reviewed in the outpatient / telephone clinic in approximately three to six months after the procedure.

Will I still have any symptoms?

You may continue to have some AF for a while after having the ablation but this does not necessarily mean that the procedure has failed. However, some patients will need to have the procedure more than once. It can take a while for your heart to settle down after the ablation and for us to know how successful it has been.

We may also ask you to have a portable heart monitor fitted as an outpatient after the ablation.

If your heartbeat remains irregular, it is important to try to have an ECG when this is happening. You can have one at your GP surgery or in the Emergency Department (A&E). If you have these symptoms, please call the arrhythmia nurse specialists or tell your doctor at your next clinic appointment.

If you have any new medical concerns when you return home, please contact your GP (home doctor). If it is an emergency, please go to your nearest Emergency Department (A&E) or call 999.

Who can I contact with queries or concerns?

If you or your family have any general queries or concerns about this procedure, contact the Arrhythmia clinical nurse specialists' team. Please leave a message and they will return your call as soon as possible.

Tel: 020 8725 4140, 9am to 5pm, Monday to Friday
Email: stg.arrhythmianurses@stgeorges.nhs.uk
In an emergency, call 999 and ask for an ambulance.

Useful sources of information

- Home - AF Association - UK (heartrhythmalliance.org)
- www.arrhythmiaalliance.org.uk/
- www.bhf.org.uk
- www.gov.uk/government/organisations/driver-and-vehicle-licensing-agency

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you advice and information when you have comments or concerns about our services or care. You can contact the PALS team on the advisory telephone line Monday, Tuesday, Thursday and Friday from 2pm to 5pm.

A Walk-in service is available:
Monday, Tuesday and Thursday between 10am and 4pm
Friday between 10am and 2pm.

Please contact PALS in advance to check if there are any changes to opening times.

The Walk-in and Advisory telephone services are closed on Wednesdays.

PALS is based within the hospital in the ground floor main corridor between Grosvenor and Lanesborough wings.

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS UK

The NHS provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health. **Web:** www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency.
NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones. **Tel:** 111

AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website (www.accessable.co.uk). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.