



Catheter Ablation for Atrial Flutter

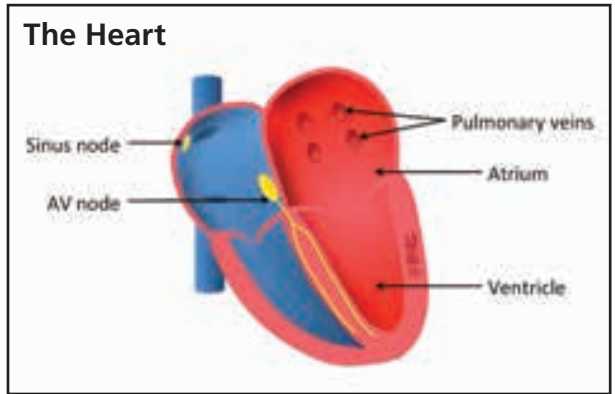
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About this patient information leaflet

This patient information leaflet is about atrial flutter, one of the main heart rhythm problems we treat with catheter ablation procedures. It is one of a series of leaflets that we have produced, written in everyday language that explains what a particular heart rhythm condition is, what its symptoms are, why it occurs and how it is treated.



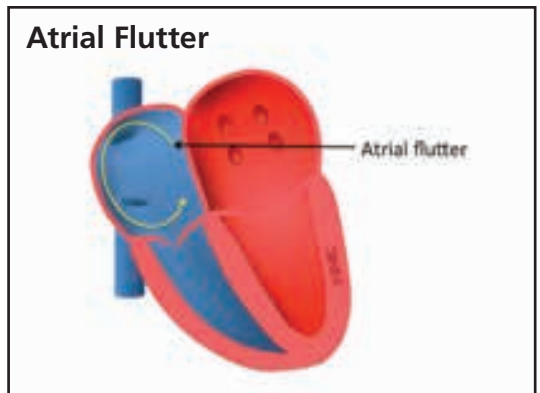
This booklet has been prepared for individuals preparing to undergo one of the procedures described or for individuals looking for more information about these procedures. The information provided within this booklet does not replace the consultation that takes place between the patient and the doctor.

Atrial flutter

What is atrial flutter?

During normal heart rhythm the heart contracts in an organised and controlled way resulting in regular blood flow through the heart. Atrial flutter is an abnormal heart rhythm that results in the heart beating faster than normal. Atrial flutter occurs in the upper chambers of the heart (called atria). The rapid heart rate produces palpitations,

breathlessness, tiredness or light-headedness. Sometimes patients do not feel these symptoms and don't know they have this condition. Individuals can experience atrial flutter continuously or in occasional attacks that may last for days. Atrial flutter increases the risk of having a stroke so some individuals may need to take oral anticoagulants, such as warfarin, to reduce this risk.



Is atrial flutter dangerous?

Atrial flutter is not life threatening. Individuals may feel unwell during the attacks or may also be breathless if the atrial flutter is continuous. Patients who are older or have other medical problems such as diabetes and high blood pressure have a higher chance of developing a stroke if they have atrial flutter. Individuals with atrial flutter can also have another rhythm abnormality called atrial fibrillation (AF).

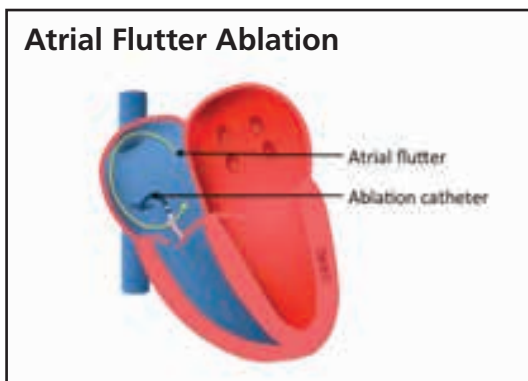
How is atrial flutter diagnosed?

Individuals with palpitations often see their doctor or attend the emergency department where they have a recording of their heart rhythm (electrocardiogram or ECG) performed during their symptoms. The ECG may show that the heart has atrial flutter. Alternatively, your doctor may have arranged for you to take a heart rhythm monitor (Holter monitor or loop recorder) home to record your palpitations. Occasionally atrial flutter is also detected during a routine medical check at your GP surgery.

Catheter ablation for atrial flutter

What is catheter ablation for atrial flutter?

Catheter ablation is a term that describes the process of modifying the heart muscle so that it no longer transmits electrical signals. Catheter ablation for atrial flutter is an operation on the heart that aims to stop the atrial flutter. In the majority of cases the abnormal electrical connection that needs to be ablated is found in the right atrium.



Who benefits from having catheter ablation for atrial flutter?

Individuals that suffer from the symptoms of atrial flutter can expect an improvement in their quality of life after flutter ablation. In some cases where medication is effective but produces side effects then ablation may be a better option than living with the side effects. Patients with atrial flutter who don't suffer from the symptoms are unlikely to see any benefit from ablation. At the moment there has been no certain research to show that performing atrial flutter ablation reduces the risk of a stroke or prolongs a

person's life. It is possible that in the future research will show these added benefits to the procedure.

How successful is catheter ablation for atrial flutter?

Atrial flutter ablation is very effective at stopping or preventing the abnormal heart rhythm from recurring. Almost 100% of patients that have the procedure will be successfully cured although about 5% may need to have the procedure repeated. Approximately 5% may require repeat procedure because the abnormal electrical connection that has been ablated has healed or the ablation may have missed a small area. Approximately 50% of individuals that have had atrial flutter successfully ablated will develop a different heart rhythm abnormality in the future called atrial fibrillation which is easier to treat than atrial flutter with medication. Atrial fibrillation can also be treated by ablation.

What does catheter ablation for atrial flutter involve?

The procedure involves passing long fine wires (called catheters) into the heart via the blood vessels. Strong sedatives and local anaesthetic are used to make it comfortable and virtually painless. The procedure is performed as a keyhole operation through small punctures in the skin. The punctures are made in the groin. Once in the heart, the catheter ends are placed in contact with the heart muscle.

The wires are used to seek out the abnormal heart muscle that is responsible for causing the atrial flutter. The ablation energy (heat or freezing) is applied through the tip of one of the wires onto the abnormal heart muscle. This process of finding the abnormality and then delivering the energy can take anything from 1–2 hours.

Are there any alternatives to having catheter ablation for atrial flutter?

As flutter ablation it is not able to cure all patients of their symptoms and some patients may choose not to have atrial flutter ablation, alternatives are available:

- Continuing to find a medication that is effective at controlling the atrial flutter
- Continuing with medication that is controlling the atrial flutter but is producing side effects
- Inserting a permanent pacemaker after catheter ablation of the AV node
- Alternative non-medical therapies such as hypnosis or aromatherapy

What happens before the procedure?

Once you have decided to have catheter ablation, your cardiologist will explain the procedure to you in detail, go through the potential risks and answer all your questions. Individuals with continuous atrial flutter will need to start taking warfarin or an alternative oral anticoagulant to thin the blood. If you are not already taking an oral anticoagulant then we will ask that you commence this medication ideally 6 weeks before the procedure. Your GP or the hospital anti-coagulation clinic should arrange this medication for you. As you start to take the warfarin you will have regular blood tests (called the international normalised ratio or INR) to establish what dose of warfarin you need to thin the blood adequately. Your INR level should be between 2.5 and 3.5, preferably nearer 3.5.

During the week prior to your planned procedure you will be asked to attend a pre-admission clinic at the Queen Elizabeth Hospital. At this visit you will be asked what medication you are taking, your heart will be examined briefly and blood tests will be done. You will be given further instructions in preparation for your procedure and you will have the opportunity to ask any questions. This is also a good time to inform the medical team of any of your allergies.

On the day before your procedure it is helpful if you can prepare the right groin area by carefully shaving an area of about 15cm x 15cm (6in x 6in) as in the diagram. If you are unable to do this then we will do it either beforehand on the ward or at the time of the procedure.

If you have been taking oral anticoagulation medication then it is important that you continue to take this medication on this day at the usual time that you would be taking it. You may be nervous but try and get some good rest when you go to bed.



What happens on the day of my procedure?

Please take your medication on the morning as you would normally at home unless we have specifically asked you not to take certain drugs. On the day of your procedure you should go to the Ambulatory Care Ward unless your appointment letter has requested you go to a different ward. We ask you to be there early, usually between 07:30 and 08:00. If you have not previously signed the consent form then you will have the opportunity to read it and ask questions before you sign it.

Unless you have been instructed differently, please ensure that you do not eat anything after 04:00 on the morning of your procedure. You may drink water up to 06:00.

Once you are at your bed and changed into a hospital gown, a small cannula (or tube) will be inserted into the back of your hand or arm veins. This is used to administer the sedative and any other medication needed before, during and after the procedure.

We are unable to give you an exact time your procedure will start as procedures are undertaken throughout the day and we cannot predict how long each will take. Although you may be admitted in the morning, you might only have your procedure in the afternoon. The team on the ward will keep you updated while you wait for your procedure.

What happens at the start of my procedure?

A nurse or doctor will come and fetch you from the ward and either walk with you or take you on your bed to the operating room. You will notice that the theatre has large-scale X-ray equipment and many computer screens that are used for the procedure. The theatre staff will introduce themselves and help you onto the operating table. Usually a nurse, a radiographer, a cardiac physiologist and one or two doctors are present in the room with you. When you are lying down you will be attached to a heart monitoring system (ECG).

The nurse will begin to give you the pain control medication and sedation using the cannula in your arm. An oxygen mask will be placed over your mouth and nose. The skin over the top of the right leg where you shaved will be exposed and cleaned with alcohol fluid. A sheet will be draped over you which will cover you from the neck to your feet and only the small shaved area will be exposed. Local anaesthetic will be injected into your right groin as the sedative begins to take effect. The nurse will remain with you throughout the procedure ensuring that you are as comfortable as possible. You will more than likely sleep through most of the procedure following the sedation that was given to you.

Once your skin in the groin is numb, two or three tiny punctures will be made with a needle into your vein. This will allow the insertion and movement of the catheters up into the heart under X-ray guidance. When all the wires are positioned in the heart we will start to identify the abnormal heart tissue and ablate it. We will check that you are free from pain at regular intervals during the procedure.

When the ablation is complete the catheters will be withdrawn from the heart and removed from the groin. It is at this stage that you may start to wake up and feel us putting gentle pressure on the puncture sites. This

is done for a few minutes to stop the bleeding. When the bleeding has stopped a small plaster will be placed on the groin. From this point onwards we ask that you lie on your back for a few hours and avoid bending your legs, particularly the right leg as the groin punctures may still bleed. We will help you move back onto your bed from the operating table by sliding you on a sheet so that you don't need to bend your leg.

What will happen after the procedure?

You will be returned to the ward where you were admitted. It is possible that you may not remember anything from the operating room and might only wake up fully when you are back on the ward. This is normal. The person who accompanied you to the hospital can visit you as soon as you get back to the ward. You may feel sleepy for the rest of the evening as the sedative continues to wear off. We can give you more pain relief medication if you have any pain.

Once you are back on the ward you should lie on your back for 2 hours and after this, if there is no bleeding from the groin, we will allow you to sit up for a further 2 hours. If all has gone well you will be able to walk 4 hours after the procedure. You can drink water (through a straw) within the first hour after the procedure and then you can eat and have other drinks after that as long as you are not too drowsy.

During the first 4 hours after the procedure you will be attached to a heart monitor and regular checks of your blood pressure and puncture sites will be carried out. Your doctor will come and talk to you about the outcome of your procedure and check your recovery. If you have been taking oral anticoagulation medication then you will need to continue taking this in the evening after the procedure, unless you have had a bleeding complication.

The following day you may have a heart scan to check for fluid around the heart. Your doctor will advise you about your medication and answer any questions you may have about the procedure.

You will be able to go home the following morning after your procedure if you are well enough to be discharged. A discharge letter with an updated list of your medication will be given to you to take to the GP. We will give you a supply of any new medication. One of the nursing team will discuss your medication with you again before you leave. We will make arrangements for a follow up consultation.

What can I expect when I go home?

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If your puncture site starts to ooze, then lie down to help slow the bleeding, and press firmly on the puncture site for 10 minutes. If the wound continues to bleed after 10 minutes of firm pressure, go to your nearest Emergency Department.

If your puncture site starts spurting a lot of blood, lie down and call an ambulance immediately.

You may notice a small pea-sized lump develop under the puncture to the skin – this is normal. If the lump becomes larger than this, becomes tender or starts to develop a redness or discharge, contact Ambulatory Care on 0121 371 3125.

You can have a shower the day after you get home, and can remove your dressing at this point. You will only need to put a dressing back on if the wound starts to bleed. Avoid taking a hot bath for 2–3 days as this could cause further bleeding.

What can I do when I get home?

Once you get home 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 7 days
- Avoid rigorous exercise for 5 days. We suggest walking if you wish to exercise
- The DVLA recommends that you do not drive for 2 days
- You should not fly within 7 days

During this recovery period patients complain of feeling lethargic and tired. We expect that it will take up to 2 weeks to feel back to normal after the procedure.

What if I have atrial flutter after my procedure?

The chance of the atrial flutter returning is low, about 1 in 20 (5%). The atrial flutter returns because the heart muscle that has been ablated has healed itself or because a part of the abnormal heart muscle was overlooked at the time of the procedure.

The procedure can be repeated if the flutter returns. The repeat procedure is usually shorter as the doctor will already have a clear knowledge of where the problem is. If your symptoms return then you can inform your GP or your local cardiologist and they will refer you back to us. It would be helpful but not essential to get an ECG whilst you are having symptoms of atrial flutter

and to bring it along to the consultation. In the meantime, the medication that you were taking before the procedure to control the atrial flutter can be restarted while you are waiting for the consultation.

What symptoms should make me seek urgent medical help?

If you experience any of the following and this is of concern to you, then we urge you to contact your local hospital or GP:

- Increased swelling, pain or bleeding from the groin
- Increased shortness of breath
- Severe chest pain

If these occur you may need to be admitted to hospital for tests and observation. Your local hospital or GP should be able to deal with these in the first instance. If you get admitted to another hospital we would be very happy to give any advice to the doctors that are treating you at the time and we encourage them to contact our team to let us know what has happened to you.

What are the possible complications of catheter ablation for atrial flutter?

Although this procedure can be considered a “keyhole” procedure, it involves the heart and unfortunately, sometimes things can go wrong. Common complications are not dangerous but can be uncomfortable for a period of time. Dangerous complications are rare. If something goes wrong you may need to stay in hospital for a few more days.

Common but not dangerous complications

Pain

Pain in the centre of the chest can occur during the ablation as a result of the heat produced by the catheter. Usually this is adequately controlled by the pain medication given to you before and during the procedure. Pain in the chest can also start after the procedure and remain for a few days. This is because there may be inflammation around the heart caused by the ablation. The areas where the punctures were made can also be painful after the procedure. Pain after the ablation can be controlled with paracetamol or anti-inflammatory medication such as ibuprofen.

Bleeding (haemorrhage)

A small amount of blood oozing from the groin immediately after the procedure is common. Very rarely when the bleeding takes a little longer to stop we may need to push on the groin to stop the bleeding. By the time you are discharged the bleeding should have stopped.

Groin bruising and swelling (haematoma)

Bruising is common because the anticoagulation medication makes the bleeding from the punctures in the groin take longer to stop. The bruise may increase in size after you have been discharged. If you have a large bruise then the whole thigh may become black and blue and look unsightly. It may take up to 3 weeks to improve or disappear and the bruising may change colour as time passes, usually to green and yellow. If you are worried about your bruise then contact your GP who will be able to advise you.

Allergic reactions (anaphylaxis)

During the procedure some patients may develop a rash from the medication or from the monitoring stickers that have been placed on the skin. If this happens then we can give you medication during the procedure to counteract the allergic reaction.

Uncommon but more serious complications

Groin problems (haematoma and false aneurysm)

In about 1 in 200 (0.5%) of cases there is more bleeding than we would expect in the groin where we performed the punctures. We may need to place tight bandages or a pressure clamp to control the bleeding until it stops. This may be because the artery next to the vein was inadvertently punctured. The bleeding may also spread under the skin and form a blood clot making a lump under the skin. Very rarely an operation, in less than 1 in 1000 (0.1%) cases, is needed to repair the blood vessels in the groin. Although these groin problems are noticed and treated before you go home, a swelling can occur once you are back home. You will need to be seen by a doctor should this happen.

Blood around the heart (pericardial effusion)

Sometimes blood leaks out of the heart through a puncture made by one of the catheters. The blood accumulates around the heart. If the puncture does not seal off spontaneously and the blood leak is large then the blood must be removed. A thin tube is introduced through the skin in the front of the chest using local anaesthetic and placed near the heart to drain the

accumulated blood. This drain can be removed 24 to 48 hours later. Should we recognise that blood has leaked out during the ablation procedure we will insert the drain while you are asleep. In most cases we are able to complete the ablation despite this leak.

Occasionally the blood leak is noticed later when you are back on the ward and a drain will be inserted then. The risk of needing a drain around the heart is about 1 in 500 (0.2%).

Permanent pacemaker

Rarely, during flutter ablation, the normal electrical system of the heart that controls the heartbeat becomes damaged. The electrical system may recover during the following days but in other cases implanting a pacemaker will be necessary to prevent the heart from beating too slowly. The risk of needing a pacemaker following flutter ablation is about 1 in 200 (0.5%).

Stroke

This is a very rare complication during ablation of atrial flutter. It happens in less than 1 in 1000 (0.1%) cases and occurs because a small clot or a small bubble of air blocks the blood supply to a part of the brain. During the procedure small clots can form on the catheters or become dislodged from inside the heart. The clots travel in the blood circulation to the brain.

Should you develop a stroke, in most cases, it will get better within 24 hours to a week. However, it can have permanent effects such as reduced mobility on the one side of the body or difficulty with speech. In some cases it may lead to coma or even death. If a stroke occurs we will ask stroke specialists to help with your treatment and recovery.

Death

The risk of dying from this procedure or from one of the above complications is less than 1 in 10 000 (0.01%). Although all the complications can be treated, in very rare cases the treatment may not be successful.

Making comments or complaints

We hope that you have no cause for complaint during your stay at the Queen Elizabeth Hospital, however, should you have any problems please do not hesitate to tell the nurse, and we will try to resolve the matter there and then.

Alternatively, the Patient Advice and Liaison Service (PALS) will be happy to resolve any problems, concerns or complaints that you might have. The contact details for PALS are printed at the end of this booklet.

How to contact us

Queen Elizabeth Hospital Birmingham

Ambulatory Care Ward	0121 371 3115 0121 371 3125
Ward 304	0121 371 3049
Patient Advice and Liaison Service (PALS)	0121 371 3280
Cardiology Booking Clerk	0121 371 4037

Where can I get more information?

Arrhythmia Alliance	www.arrythmiaalliance.org.uk
Atrial Fibrillation Association	www.afa.org.uk
The British Heart Foundation	www.bhf.org.uk
Age UK	www.ageuk.org.uk
British Cardiac Patients Association	www.bcpa.co.uk
DVLA Medical Enquiries	0300 790 6806 (car, motorcycle) 0300 790 6807 (bus, coach, lorry) 0845 850 0095 (fax)



The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit www.uhb.nhs.uk/health-talks.htm or call 0121 371 4323.

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