Having AV node ablation

NHS
Royal Berkshire
NHS Foundation Trust

This leaflet explains what having ablation to control atrial fibrillation entails and what you can expect before, during and after the procedure.

What is atrial fibrillation?

Atrial fibrillation occurs when abnormal electrical impulses suddenly start firing in the atria (upper chambers of the heart). These impulses override the heart's natural pacemaker, which can no longer control the rhythm of the heart. This causes you to have a highly irregular and often fast pulse rate. The AV node ablation procedure stops the fast, irregular impulses from the atria reaching the ventricles (lower chambers).

What is an AV node ablation?

AV node ablation is a procedure used to treat atrial fibrillation that has not responded to complex ablation or medication. An AV node ablation and insertion of a permanent pacemaker aims to regulate your heart rate and provide relief from the symptoms you have been experiencing.

During the procedure, your doctor will use a special ablation catheter to deliver radiofrequency energy (heat) to block the pathway between the upper and lower chambers of your heart (the AV node). This creates a very small area of scar, which stops the fast, irregular impulses reaching the ventricles.

After the procedure, your underlying heart rate will be too slow, and you will need a permanent pacemaker. This will usually be implanted six weeks before your ablation procedure. (A pacemaker is a small battery-operated device that sends out electrical signals to start a heartbeat when your heart is beating too slowly). More information about insertion of a pacemaker can be found in the Trust leaflet called 'Having a pacemaker implant'.

It is important to remember that an AV node ablation will not fix your underlying arrhythmia (irregular rhythm of your heartbeat) or convert atrial fibrillation to 'normal' heart rhythm (known as 'sinus rhythm'). It will only control the number of impulses reaching the ventricles, and your atria will still 'fibrillate' (beat too quickly and irregularly). During this time the atria are unable to completely empty all of the blood they receive into the ventricles. This can cause blood to pool and potentially, clots can form. Therefore, to prevent you being at an increased risk of stroke your doctor will prescribe you a blood-thinning drug (anticoagulant). It is very important that you continue to take your anticoagulant medication following the procedure.

The doctor will carry out the procedure with the help of a physiologist, who gives technical support. There will also normally be at least one nurse present, who will look after you and assist the doctor, as well as a radiographer who will control the X-ray equipment.

What are the benefits of AV node ablation?

The benefit of having an AV node ablation is that your heart rhythm disturbance is potentially cured and your symptoms (palpitations, fainting, fatigue, breathlessness etc.) resolved.

What are the risks of AV node ablation?

This procedure is generally safe. Complications are rare (around 1% or 1 in every 100 cases) but may include:

- Arrhythmias (irregular heartbeat)
- Bleeding at the site where the catheter is inserted
- Infection
- Blood clots
- Heart or blood vessel damage
- Damage to the artery where the catheter was inserted

The risk of death is believed to be just under 1 in every 2000 cases for most types of ablation.

What happens before the procedure?

On the day of the procedure you should come to the cardiac day ward having bathed or showered at home before admission. The cardiac day ward is known as the 'Jim Shahi Unit' (JSU) and is located on level 1 in Battle Block. The JSU is an emergency unit and there may be unforeseen delays if the team need to treat urgent cases. Please bring something to occupy yourself while you wait.

You should nothing to eat from midnight. This includes sweets. You can drink clear fluids up to two hours before your admission time.

Most people can continue to take their regular medications. Please refer to the accompanying letter, which will contain any specific instructions regarding your medications. If you have any concerns regarding your medication, please ring the JSU, 0118 322 6502, for clarification.

If you are pregnant or think you may be pregnant, you should notify a member of the clinical admin team prior to the procedure (contact details at the end of this leaflet).

Please tell the nurses if you have any allergies.

What happens during the AV node ablation procedure?

A consultant cardiologist doctor with special training performs the procedure along with a team of nurses and technicians.

AV node ablation is carried out in a cardiac catheter laboratory, a room which is similar to an operating theatre.

- The physiologist will interrogate your pacemaker to check the pacing leads and to programme device in a safe mode during ablation.
- The nurse will clean the area where the doctor will be working. This is usually in your groin but could be your arm, neck or upper thigh.
- The physiologist will place ECG dots on your chest, a cold patch on your back, blood pressure cuff on your arm and oxygen probe on your finger, to monitor you during the procedure.
- You may also get a medicine (sedative) to help you relax and pain relief such as morphine, but you will be awake (but sleepy) during the procedure.

- The doctor will inject some local anaesthetic to numb the site.
- Once numb, the doctor will make a needle puncture through your skin and into the blood vessel (typically a vein, but sometimes an artery) in your groin (or other area being used). A small straw-sized tube (called a sheath) will be inserted into the blood vessel. The doctor will gently guide a catheter (a long, thin tube) into your vessel through the sheath. A video screen will show the position of the catheter. You may feel some pressure in the area, but you shouldn't feel any pain.
- The doctor inserts several long, thin tubes with wires, called electrode catheters, through the sheath and feeds these tubes into your heart.
- You may feel some sensation in your groin and chest while this is happening but the pain relief and sedation will help you tolerate this.
- To locate the abnormal tissue causing the arrhythmia, the doctor sends a small electrical impulse through the electrode catheter. This activates the abnormal tissue that is causing your arrhythmia. Other catheters record the heart's electrical signals to locate the abnormal sites.
- The doctor places the catheter at the exact site inside your heart where the abnormal cells are. Then, a mild, painless radiofrequency energy is sent to the tissue. This destroys heart muscle cells in a very small area that are responsible for the extra impulses that caused your rapid heartbeats.
- After the ablation the device will be checked and optimised. The pacemaker rate will be programmed to 80bpm to help suppress arrhythmias and stabilise the rhythm. You will have a pacemaker device check after six weeks, to check the function and to reduce the pacemaker rate gradually.
- AV node ablation can take 2-3 hours or longer. You are likely to be discharged the same day; however, occasionally you may be required to stay in overnight.

What happens after AV node ablation?

You will be moved to a recovery area and monitored by nursing staff. The sheath is usually removed in the procedure room or in the recovery area. You will be required to lie flat for one hour after the sheath is removed. A nurse can help you with pillows and repositioning if you have neck or back problems and find it difficult to lie flat for any length of time.

After the sheath is removed:

- A nurse will put pressure on the puncture site to stop the bleeding.
- You should keep your leg straight for one hour after the doctor or nurse removes the sheath. You will be informed when you can get out of bed.
- Your heartbeat and vital signs (pulse and blood pressure) will be monitored.
- Tell your doctor or nurse right away if you notice any swelling, pain or bleeding at the puncture site, or if you have chest pain. You will be discharged four hours after the procedure if everything is satisfactory.
- Before you leave the hospital, you'll be given instructions about what to do at home.

- Along with your regular medications, you may be prescribed other medication to assist in your recovery after the procedure.
- You will get a letter in the post for your six week pacemaker follow-up appointment.

What happens after I get home?

Follow the instructions you were provided with before leaving the hospital. Most people can return to their normal activities the day after they leave the hospital, with a few exceptions. For the first week after the procedure:

- **If you've had an AV node ablation you cannot drive for one week.**
- Avoid heavy physical activity for the first few days after you get home.
- Don't do any heavy lifting for the first week.
- Don't take a bath, swim or submerge the puncture site in water for at least 24 hours but you can take a warm shower.
- Keep the puncture site clean and dry. Speak to either a nurse on the JSU or your GP if you have any concerns regarding your wound.
- If the site starts to bleed, lie flat and press firmly on top of it. Seek advice from NHS 111, or if bleeding is heavy or not stopping, dial 999 for an ambulance.

Useful contact numbers

Jim Shahi Unit on 0118 322 6662.
CAT 11 Clinical Admin Team: 0118 322 6679 or email: rbb-tr.CAT11@nhs.net to amend your appointments or let us know if you may be pregnant prior to the procedure) Monday to Friday (9am-5pm)
Cardiac Care Unit: 0118 322 6528 (emergency advice only out of hours)
Cardiac Support: 0118 322 6638.

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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