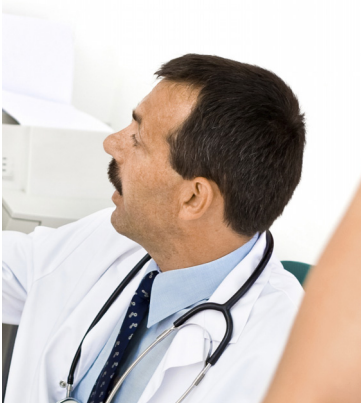
Arrhythmia Alliance
www.heartrhythmalliance.org

Catheter ablation for SVT



Working together to improve the diagnosis, treatment and quality of life for all those affected by arrhythmias

Glossary

Ablation A procedure that is used to treat areas of the heart that may be involved in heart rhythm problems. It aims to get rid of the abnormal electrical signals or rhythms moving through the heart

Atria The two upper chambers of the heart

AV node Part of the electrical pathway between the atria and the ventricles

Catheter A long, thin, flexible tube or wire that is put into a blood vessel and threaded to your heart

Electrophysiologist A cardiologist who has specialized in the electrical aspects of the heart, meaning the heart's rhythm

Sinus node This is the natural pacemaker of the heart

Supraventricular Tachycardia (SVT) A term given to a variety of an abnormal heart rhythms arising from the upper chambers of the heart

Tachycardia Fast heartbeat of more than 100 beats per minute

Contents

Important information

This booklet is intended for use by people who wish to understand more about catheter ablation for cardiac arrhythmias other than atrial fibrillation. The information comes from research and previous patients' experiences and should be used in addition to the information given to you by your doctors, nurses and physiologists. If you have any questions about the information given in this publication, please ask your nurse, doctor or cardiac physiologist.

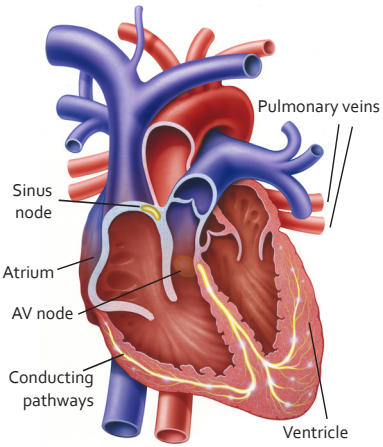
The heart during normal rhythm (sinus rhythm)

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

Normally, the heart beats in a regular, organized way, at a rate of 60-100 beats per minute. This is because it is driven by the 'sinus node', a clump of specialized cells, which emits electrical impulses and is situated in the atria. These electrical impulses spread through the atria and then into the ventricles via a connecting area of tissue, the AV node.

The sinus node controls the timing of the heart according to the needs of the body. An example of this is during exercise, when the heart rate speeds up. When the heart is beating normally like this, we refer to it as 'sinus rhythm', or 'normal sinus rhythm'.

The heart and normal conduction



Heart rhythm disturbances

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

When the heart has an extra beat (an ectopic beat), it can travel up the pathway and travel 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 arising from the upper chambers of the heart, this is known as SVT, or supraventricular tachycardia.

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 pumping 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 heartbeats or by a catheter ablation procedure.

Catheter ablation aims to cure the abnormal heart rhythm by destroying the area of heart cells responsible for the arrhythmia without affecting the rest of the heart.

The ablation procedure

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

The doctor, or electrophysiologist, 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, and often a radiographer who will control the x-ray equipment.

Catheter ablation is a minimally invasive procedure, which is usually performed using local anaesthetic and sedation, although in some cases, such as in children or adolescents, a general anaesthetic may be used.

If sedation is used, it makes you feel relaxed and you may go to sleep for a while, but you will still be able to respond to the doctor and nurses.

Please Note: Information on ablation for atrial fibrillation is available from the AF Association
www.afa.org.us ✆ 843 415 1886
@ info@afa.org.us

Possible complications

Requirement for a pacemaker = 1:100-200

(this may be higher or lower, as the risk depends upon the type of rhythm disturbance and is difficult to predict until the catheters are put into the heart)

Vascular damage/ cardiac perforation leading to bleeding = 1:100-200

Stroke = 1:1000-2000

Death (SVT) = Less than 1:2000

Cardiac catheter laboratory (The Cath Lab)

During the procedure you will be required to lie flat and still. Some local anesthetic will be administered in your groin(s). Then one or more catheters will be inserted into a blood vessel underneath the skin, which has been numbed by the anesthetic.

Each catheter is then passed along your blood vessels and directed to your heart; this is done with the guidance of an x-ray machine. Once the wires are positioned within the heart, extra beats are delivered using an external pacemaker, which may bring on your palpitations. This is necessary to see the area of the heart where the abnormal rhythm is coming from. It is possible to put the heart back into normal rhythm within a few seconds, by delivering some extra beats, so completely under the control of the doctor and their team.

Once the abnormality has been found and if it is felt to be necessary, the doctor performing the procedure will then begin to ablate the pathway or area of extra electrical cells. This is done by delivering a form of energy down the catheter wire to the target area within the heart. Most commonly the energy used is a heat source, called radiofrequency energy, but other types may be used such as cryotherapy, which freezes the area.

This part of the procedure may be a bit uncomfortable, so usually more sedation is given. Once the procedure has finished, the catheter(s) will be removed and you will spend a few hours recovering in the hospital.

After the ablation

Most people recover quickly from the procedure and feel well enough to carry on with simple normal activities of daily life the following day. You should avoid heavy lifting and more strenuous exercise such as long walks or going to the gym for about 2 weeks afterwards. Time off work will depend upon your profession but often people will take one to two weeks off.

Following the 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 down with the passage of time. If you experience your palpitations or a racing heartbeat, you should report this to your doctor, as this may indicate that the procedure has not been completely successful.

It is common practice for you to be seen a few months after the procedure, to see how you are progressing.

Risks and benefits

One reason why it has become a popular treatment in recent years is that it has a very good safety record. However, risks include bleeding, infection, damage to normal electrical pathways of the heart requiring a pacemaker, and stroke.

The mortality risk of catheter ablation is believed to be < 1:2000 for most types of ablation. The benefit of having a catheter ablation is that your heart rhythm disturbance is potentially cured and your symptoms (palpitations, fainting, fatigue, breathlessness etc) resolved. This is possible in the vast majority of cases. Your local hospital will be able to give you exact figures, depending on the type of ablation and your individual case. A small number of individuals will need more than one session of treatment. There is no procedure in medicine with zero risk and catheter ablation is no exception. More specific risks and benefits will be discussed with you at your local hospital.

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www.fingeronyourpulse.org

Please remember that this publication provides general information. You should always discuss and seek advice from your healthcare professional what is most appropriate for you.

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If you would like further information please contact info-us@heartrhythmalliance.org.