Catheter Ablation for Supra-Ventricular Tachycardia (SVT)

This leaflet explains what happens during your procedure called a catheter or radiofrequency ablation for supra-ventricular tachycardia (SVT). 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.

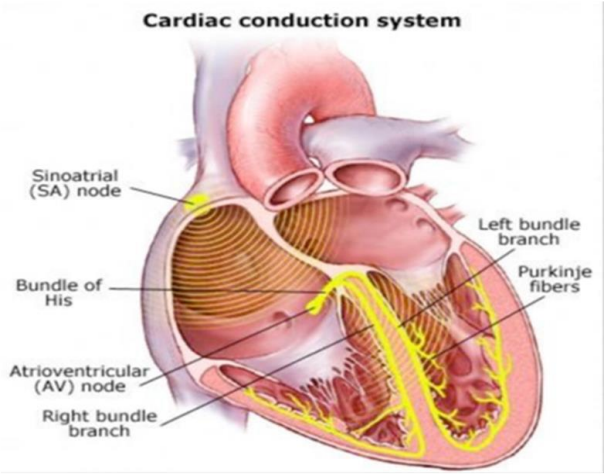


Image: Boston Scientific

What is Supraventricular Tachycardia (SVT)?

Supraventricular Tachycardia (SVT) is a type of abnormal heart rhythm, also known as an arrhythmia. It occurs when there is an extra electrical connection, or "pathway," in the atria, which are the upper chambers of your heart. This extra pathway can interfere with the normal electrical signals that control your heart rhythm, causing your heart to suddenly beat much faster than usual, often over 100 beats per minute. This rapid heartbeat can start and stop abruptly and can happen whether you are resting or exercising.

Many people are born with this extra pathway but it might not cause any symptoms until adulthood. While SVT can make you feel quite unwell, it is usually not dangerous.

Symptoms of SVT can include:

- Palpitations (a feeling that your heart is racing or pounding)
- Feeling tired or fatigued
- Shortness of breath
- Chest pain or tightness
- Feeling dizzy or light-headed.

How is SVT treated?

SVT can sometimes be cured or significantly improved by a procedure called Radiofrequency Catheter Ablation. This involves carefully damaging (disrupting) very small areas of tissue around the extra electrical pathway. To do this, a very thin wire, called an ablation catheter, is threaded through a blood vessel in your groin and guided up to your heart. The tip of this wire can be heated to create small scars in the heart tissue, which block the abnormal electrical signals.

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 risks associated with catheter ablation are generally very small. However, it is important to discuss any concerns with your doctors or nurses before the procedure. Potential risks include:

- Minor bruising and tenderness in your groin
- Damage to the blood vessels in your leg, which could cause a large bruise and possibly bleeding. This is usually treated by applying extra pressure, but sometimes a small operation may be needed to repair the damage.
- Palpitations during the procedure, which will be monitored and treated as necessary.
- If the extra pathway is close to the normal one (the AV node), there is a 0.5% risk that the procedure could make you more likely to need a permanent pacemaker. If your doctor thinks you are at a particularly high risk, they will discuss this with you and may reconsider the need for an ablation.
- Very rarely, heart damage or stroke is caused by inserting the catheters into your heart. This happens in less than 0.1% of cases.
- In the unlikely event of an emergency during the procedure, the medical team will do everything possible to treat it, which could include open-heart surgery, although this is extremely rare.

What are the benefits?

The main benefit of catheter ablation is the potential to cure SVT or significantly improve symptoms, thereby enhancing your quality of life.

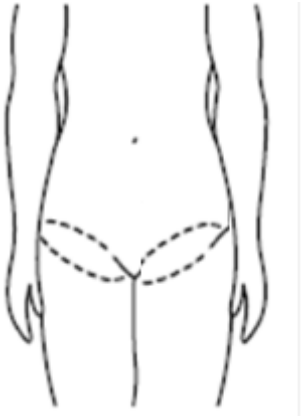
Are there any alternatives?

Treatment options depend on the type of arrhythmia you have. Sometimes, simply understanding what you are feeling and why can be enough. For example, many people experience extra heartbeats (ectopic beats) from time to time, which are usually harmless and do not require treatment. Knowing that these are not dangerous and trying not to focus on them can help you feel better. There are also several medications that can help manage your symptoms.

Will I have to stay in hospital?

The procedure is normally done as a day case and you do not have to stay in hospital overnight.

Do I need to prepare for the procedure?



- The night before you come into hospital, please shave the groin areas at the top of your right and left legs.
- On the morning of your admission, please shower. Avoid using oils and moisturisers.
- Bring all your medications to hospital with you.
- Please note we may ask you stop taking certain medications that can affect your heart rhythm before you come in for your procedure.

X-rays: important information

You will have x-rays during this procedure. If there is any chance you are pregnant, please let the doctor or nurse know before the procedure begins.

What happens before the procedure?

Pre-assessment

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

Eating and drinking: We would like you to stop eating and drinking at least six hours before you come in for your procedure. You may take any tablets with a small sip of water. If you wear dentures, you can keep them in if they fit well.

Consent: We must by law obtain your written consent to any operation 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 your procedure: When you arrive at the cardiac catheter suite, we will give you a hospital gown to wear and put a small plastic tube into a vein in your arm using a needle (cannula). We will use this to give you any medication you need.

You will be taken into the cardiac catheter laboratory and will meet the team looking after you. This consists of your electrophysiologist (a consultant who specialises in heart rhythm problems), a cardiac physiologist, a radiographer and nurses.

What happens during the procedure?

You will be awake during the procedure but we may give you sedation that can make you feel drowsy. Please let us know if you are uncomfortable at any time during the procedure or if you feel very anxious.

We will ask you to lie as flat and relaxed as you can on the x-ray table, with a pillow on which to rest your head. If you find it hard to lie flat, please tell one of the arrhythmia nurses before you come in for your operation.

The cardiac physiologist will put some stickers on your chest, a blood pressure cuff on your arm and a probe on your finger. This will allow them to check your heart rate, blood pressure and oxygen levels during the procedure. You may also be given an oxygen mask to wear over your face.

We will clean your groin with antiseptic solution and inject it with a local anaesthetic.
The anaesthetic will sting for a short while and then your groin will feel numb.
The electrophysiologist will put some thin plastic tubes (catheters) into the main vein in your groin. This should not be painful but you may feel some pushing.

They will then put the long thin wires to record electrical signals from inside your heart into the tubes and thread them until they reach your heart. The wires are guided into position using x-ray equipment. The x-ray machine will move around you to take pictures from different angles.

Once the wires are in the correct place, the doctor will look at your heart’s electrical system to find the extra electrical pathway that is causing your SVT. They do this by recording the electrical signals on a computer.

We use a special machine (an artificial pacemaker) to give your heart small electrical impulses and to make it beat at different rates. You may be aware of your heart racing or missing beats but do not worry: the electrophysiologist is making this happen. If you feel uncomfortable, please let the electrophysiologist or the nurse know.

You may be given a drug to make your heartbeat abnormally fast. This will be given through the cannula in your arm. You may be aware of your heart racing and feel flushed for a few minutes.

When the electrophysiologist has found the problem electrical pathway, they will do the ablation. They usually do this using radiofrequency energy, which heats the tip of one of the wires in your heart and damages (disrupts) the problem area. You must stay still when they are doing this and you may be aware of a slight discomfort in your chest. This usually goes away after the ablation has stopped.

The electrophysiologist often needs to repeat this process several times during the procedure. There is often a waiting time of up to 20 minutes at the end of the procedure to ensure it has worked.

How long does the procedure take?

The shortest ablation can take as little as 15 minutes with an overall planning time included to ninety minutes to two hours. However, a more difficult and complex procedure can take three or four hours. However, this usually includes preparation before and a recovery period afterwards.

We closely monitor each patient for 15 to 30 minutes after the procedure to make sure it has been a success before returning them to the recovery ward.

What happens after the procedure?

The wires and catheters will be taken out. A small plaster will be put on the wound.
You will then be moved to the recovery ward for close observation before discharge home.

You will need to lie flat for about two hours to allow the wound in your groin to heal.
Your nurse will check your blood pressure, pulse and wound, give you a drink and make sure that you are comfortable. Once you can sit up a little, they may give you something to eat. You will have an electrocardiogram (heart tracing) and be encouraged to rest.
Your doctor or arrhythmia nurse will discuss the results of your procedure with you later in the day and you should be able to go home by early evening.

What happens when I go home?

Going home: You must have someone to collect you from the ward and stay with you for the first night in case your wound bleeds or you feel unwell. We do not advise using public transport to travel home.

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.

Medications: Keep taking your medications as prescribed unless told otherwise by your medical team. In some cases, you may be asked to take aspirin for up to one month following the procedure.

Follow-up appointment: you will be reviewed in the outpatient / telephone clinic about three to six months after the procedure.

Chest ache: You may have mild chest ache for a few weeks after the procedure. This is a normal part of recovery and you can ease it by taking a painkiller such as paracetamol.

Will I still have any symptoms?

It is quite common to have some extra or missed heartbeats and this can happen for a few months after your procedure but if you have your original palpitations again 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.

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