

Supraventricular Tachycardia (SVT)

Supraventricular Tachycardia or (SVT) SVT is an abnormal rhythm of the upper pumping chambers of the heart. During episodes of SVT, the heart dramatically elevates its usual beating levels to over 120bpm often because electrical signals become stuck in a loop and trigger frequent heart beats or depolarisation. This makes it difficult for the heart muscle to relax between contractions, causing an inefficient pumping ability, reducing cardiac output (circulating blood volume) and sometimes drops in blood pressure as a result. While SVT is common in patients of all ages, individuals who experience it often find it more uncomfortable or unpleasant than compromising as episodes of SVT can be sporadic and generally brief in nature. Due to this, SVT is not life threatening but can be uncomfortable or distressing for some individuals, making ablation an effective treatment where medications have proven ineffective.

In recommending this procedure, your doctor has made has determined that on balance, the benefits and risks of the procedure outweigh the benefits and risks of not proceeding. As such, your doctor believes there is a net benefit to you going ahead and that the procedure should be successful overall.

Symptoms

SVT is often experienced with a sudden onset and can resolve in many cases without any treatment or intervention, lasting anywhere from a few minutes or hours at times. Many patients report experiencing symptoms such as:

- Light-headedness
- Dizziness
- Chest pains
- Pounding heart or palpitations
- Rapid breathing
- Shortness of breath
- Fainting episodes (*In rare cases*)

What are the risks involved in an SVT ablation?

As with all procedures, SVT ablations carry their own risk profiles that can range from common occurrences, through to uncommon and rare instances. All Risks should be taken into consideration when considering an SVT ablation to determine if the procedure is an appropriate treatment option for yourself during consultation with your treating cardiologist.

Common risks and complications can include but are not limited to:

- Bruising to the surgical access site/puncture site and surrounding tissues that can take weeks to heal completely in some instances.

Uncommon risks and complications can include but are not limited to:

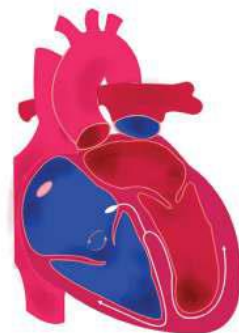
- Blood pooling around the heart (tamponade) that requires immediate drainage or surgical intervention in extreme cases.
- CVA or stroke symptoms (either temporary or permanent)
- Persistent or considerable bleeding to access site/puncture site or damage to an artery in the groin that can require surgical repair in some cases.
- Risk of needing a pacemaker following the procedure due to inadvertent damage to the AV node or sinus node

Types Of SVT

SVT is categorised based on the origin and mechanism of the abnormal electrical activity in the heart. SVT can be sub-divided into 3 main groups.

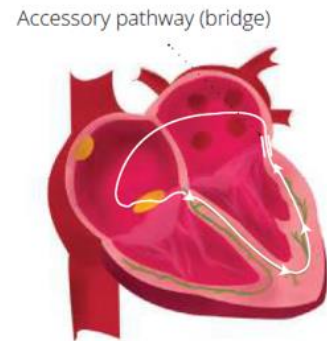
1. AV Node Re-entry Tachycardia (AVNRT)

Also referred to as AV Junctional Re-entry Tachycardia (AVJRT), this is the most common type of SVT. It occurs due to a re-entrant circuit within or around the atrioventricular (AV) node, causing the heart to beat rapidly and regularly.



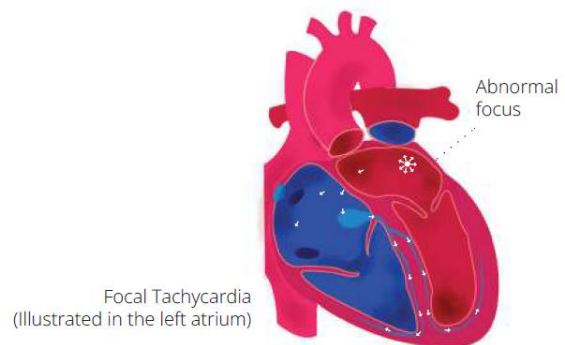
2. Accessory Pathway

Atrioventricular Re-entrant Tachycardia (AVRT) is a type of SVT that occurs due to an abnormal additional pathway connecting the atria and ventricles electrically, outside the normal AV node-His-Purkinje system. It allows electrical signals to bypass the AV node, creating a re-entrant circuit that causes a rapid heartbeat.



3. Focal Atrial Tachycardia

Focal Atrial Tachycardia (FAT) is a type of SVT that originates from a single ectopic focus in the atria, outside the sinoatrial (SA) node. It is less common than AVNRT or AVRT and can be either paroxysmal (sudden onset and termination) or persistent.



Radio Frequency Ablation

Radio frequency ablation for SVT is a curative treatment available in the cardiac catheterisation laboratory (cath lab). The aim of this procedure is to locate and define the abnormal electrical circuit then create a small area of scar tissue in the abnormal electrical pathway. This is achieved by introducing cardiac catheters into the right atrium, through the right femoral vein at the patient's groin. Radio Frequency energy is then delivered through the ablation catheter to create scars that block the abnormal electrical pathway of the arrhythmia. The successful ablation of the additional electrical pathway will prevent the recurrence of SVT and restore normal heart rhythm without the need for medications.

What Can I expect during the procedure?

Once checked into hospital for your procedure, you will be taken through an admission process where a detailed medical history is taken, preprocedural blood tests are collected and your body is prepared by shaving off any hair to your groin, chest and back. This is undergone to ensure a sterile surgical field can be created to reduce any chance of infection and ensure that any cardiac mapping pads or electrodes can be appropriately placed on your chest or back in a way that is both effective for use and easy to comfortably remove.

You will then be taken to the anaesthetic holding bay where your anaesthetist will discuss their part in the procedure and discuss any queries or concerns you may. This procedure is generally performed under sedation, so you may have some awareness of the procedure but will be comfortable.

Upon entering the cardiac catheter laboratory, you will be prepared for your procedure by the cardiac scientists who will position you on the table and apply mapping pads, defibrillation pads and various electrodes to your body prior to anaesthetic administration.

At the commencement of the procedure, the doctor will insert two to three small access sheaths or tubes into your right groin under ultrasound guidance before passing a catheter up through your femoral vein and into the right atrium of the heart. This is performed under x-ray guidance.

Once the catheters have been advanced into position, the heart is visualised into a 3D model through the use of a mapping catheter before a series of electrical measurements are taken to pinpoint the exact location of the electrical impulses to be ablated away. Once the doctor and the cardiac scientists are satisfied with the location of the ablation catheter, radiofrequency energy is delivered and an area of scar is created to block the transmission of unwanted signals that cause the.

The entire procedure is generally reasonably quick, taking around 90 minutes to complete in most cases however can take longer if SVT signals are difficult to detect, locate and ablate away.

At the completion of the procedure, the catheters are withdrawn the patient is then awoken from their anaesthetic and transferred to the post anaesthetic recovery area for observation. Once the catheters have been removed, patients generally remain flat without moving their hips/legs for up to 2-4 hours depending on whether they experience any bleeding postoperatively. Provided no complications are observed post-operatively, patients are generally discharged either several hours later once the recovery process is complete or the following day.

Before Your Procedure

It is important that you fast prior to your procedure in line with your anaesthetists instructions. Generally, a fast time of 6 hours for solid food and 2 hours for water is required in order to prevent any complications with the use of anaesthesia during your procedure.

For patients taking Ozempic, Trulicity, Saxenda, Wegovy or Mounjaro, the anaesthetic guidelines require you to continue your medication as normal, commence a clear fluid diet 24 hours prior to your procedure and completely fast for 6 hours immediately prior to your procedure to minimise the potential for anaesthetic related complications.

Note: Clear fluids includes: water, apple juice, broths, black coffee and black tea. Any non-transparent fluids such as milk, smoothies, juice containing pulp or soups are not considered clear fluids and can cause a delay in your procedure time if consumed.

After Discharge Process

Prior to discharge from hospital, patients are advised of any changes to their regular medications by their discharging doctor and advised of their follow up process. This usually consists of an investigative holter monitor appointment to assess the effectiveness of the ablation by observing cardiac activity for 24h hours, followed by an in-clinic appointment with Doctor Hunt in 6-8 weeks. If you are unsure if an appointment has been made, please contact the clinic to ensure all pre-appointment testing can be completed in a timely manner.