HEART
RHYTHM
CLINIC

SUPRAVENTRICULAR TACHYCARDIA

Patient Information Booklet

SUPRAVENTRICULAR TACHYCARDIA (SVT)

SVT is an abnormal rhythm of the upper pumping chambers of the heart.

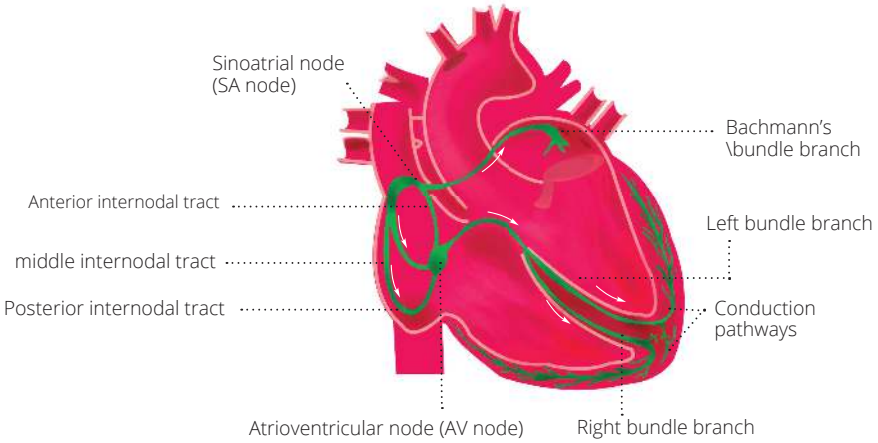
The heart usually beats around 40 - 90 beats per minute at rest and increases with exercise. A heart rate faster than 100 beats per minute is considered tachycardia. During SVT the heart beats so fast that the heart muscle cannot relax between contractions. This inefficient contraction of the heart decreases cardiac output (blood and oxygen circulation) and may cause blood pressure to drop.

SYMPTOMS

Symptoms may come on suddenly and may go away without treatment.
They can last a few moments, minutes, hours or until treated. A patient can experience the following symptoms which are caused for a reason other than stress, exercise or emotion.

- Light-headedness
- Dizziness
- Chest pain
- Pounding heart
- Rapid breathing
- Shortness of breath
- Fainting episodes (syncope which is rare)

CARDIAC ELECTRICAL PATHWAY

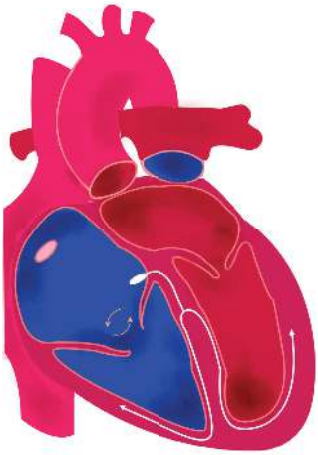


The heart is usually controlled by the sinoatrial node (SA node). Electrical impulses travel from the SA node to the atrioventricular node (AV node) before travelling down fibres which activate the ventricles. Sinus rhythm describes a normally beating heart.

SVT is caused when the electrical impulses take a different pathway. There are three different types of SVT:

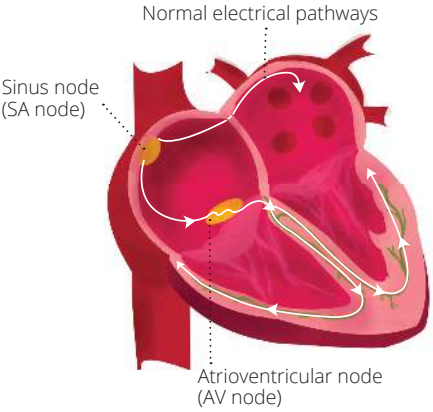
1. AV Junctional Re-entry Tachycardia (AVJRT)

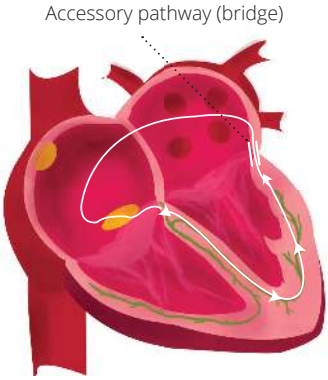
Sometimes referred to as AV Node Re-entry Tachycardia (AVNRT), this type of SVT is caused when the electrical impulse travels through a pathway close to the AV node using extra fibres in and around the AV node. The electrical impulse finds it way back into the atria, upsetting the hearts natural rhythm.



2. Accessory Pathway

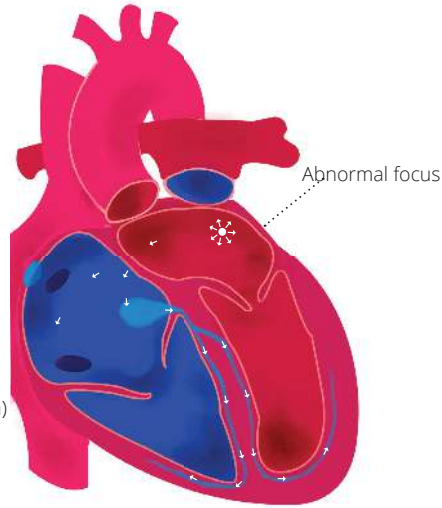
This type of SVT is caused as a result of electrical conduction via extra fibres between the atria and the ventricles. These extra fibres create an unnecessary additional connection between the atria and the ventricles. This pathway may not only cause the ventricles to contract prematurely, but also at times allows the electrical impulse to travel back to the atria, upsetting the hearts natural rhythm.





3. Focal

This type of SVT occurs when one or more localized regions in the atria develop the ability to fire rapidly on their own. These are also called ectopic foci and they can upset the hearts natural rhythm.



Focal Tachycardia
(Illustrated in the left atrium)

TREATMENT

SVT can be found in people of all ages. Most people who experience SVT live a normal life without restrictions. SVT usually occurs with stretches of normal rhythm in between. In general SVT is not life threatening, however episodes should be treated or prevented.

Episodes of SVT can be treated with medication (anti arrhythmic drugs and AV nodal blocking agents) or radio frequency ablation. In some patients these episodes can be prevented using vagal manoeuvres (physical manoeuvres involving the vagus nerve).

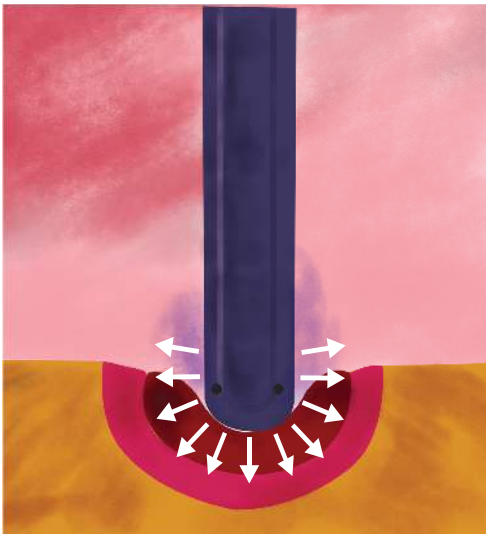
Radio Frequency Ablation

Radio frequency ablation for SVT is a curative treatment available in the catheterization laboratory (cath lab). The aim of this procedure is to locate and create a small area of scar tissue in the abnormal electrical pathway or focus.

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 lesions to block the abnormal electrical pathway or focus initiating the arrhythmia.

If the cause of the arrhythmia is located in the left side of the heart a transseptal puncture is required to access the left atrium. During transseptal puncture a hole is created between the top chambers of the heart. This hole is usually healed four weeks post procedure.

The successful ablation of the pathway will prevent the recurrence of SVT. The major goal of this procedure is to restore normal heart rhythm without the need for medications.



BEFORE THE PROCEDURE

After a consultation with Professor Weerasooriya, the patient may be asked to have some blood tests.

The procedure will be performed under a local anaesthetic and the patient will be asked not to eat or drink for 6 hours prior to the procedure.

DAY OF THE PROCEDURE

The patient will be admitted to hospital and will be asked to change into a surgical gown in preparation for the procedure. A Patient Service Assistant (PSA) or nurse will wheel the patient to the cath lab where the procedure will take place.

They will then be introduced to the team of medical staff who will care for them during the procedure including Professor Weerasooriya, a specialist anaesthetist, an anaesthetic technician, a radiographer (who assists the cardiologist with the use of x-ray equipment), a nurse, an assistant physician and a cardiac technician.

During the procedure a team approach is required. Technicians and the assisting physician help to interpret and record electrical signals from the patient's heart.
The specialist anaesthetist and anaesthetic technician keep the patient comfortable, and the other nurses assist Professor Weerasooriya.

Professor Rukshen Weerasooriya

The procedure takes 1-2 hours.

DISCHARGE FROM HOSPITAL AND POST OPERATIVE CARE

Typically the patient is returned to the cardiac ward after the procedure and is expected to be walking within 5 hours. Most patients are discharged from hospital the following day.

It is important to rest for 2-3 days following the ablation. Exercise should then be gradually re-commenced after the first post operative week.

POST-PROCEDURE PATIENT INSTRUCTIONS FOLLOWING SVT CATHETER ABLATION

Congratulations on completing your SVT catheter ablation procedure. We hope that this treatment brings you relief from your symptoms and improves your quality of life. Following the procedure, it's important to take good care of yourself to ensure a smooth recovery and the best possible outcome. Below are some instructions to guide you during this post-procedure period:

1. Rest and Recovery:

- It's normal to feel a bit tired and fatigued after the procedure. Allow yourself time to rest and recuperate.
- Avoid strenuous activities, heavy lifting, and intense exercises for the first 2 days after the procedure. Gradually resume your normal activities.

2. Incision Care:

- Keep the groin puncture sites clean and dry.
- Remove the dressing the day following your procedure
- Please note that there are no stitches to remove.
- If you notice any signs of infection such as redness, swelling, warmth, or drainage from the incision site, contact your Professor Weerasooriya on 9386 4782.
- It is normal to see bruising at the puncture sites for a few weeks following procedure.

3. Medication Management:

- In most cases, you will remain off antiarrhythmic medications following a successful SVT ablation procedure as the procedure is usually curative.

4. Hydration and Diet:

- Drink plenty of fluids to stay hydrated, unless otherwise advised by your healthcare provider.
- Follow a heart healthy diet – see the National Heart Foundation of Australia website for recommendations.

5. Monitoring and Follow-up:

- Keep track of your symptoms and any changes you experience post-procedure.
- A followup appointment will usually be made at 6 weeks following ablation. This is usually by teleconference.
- If you experience any concerning symptoms such as chest pain, shortness of breath, dizziness, or palpitations, seek medical attention immediately at the Hollywood Hospital emergency department.

6. Emotional Support:

- It's normal to have mixed emotions following a medical procedure. If you're feeling anxious, worried, or overwhelmed, don't hesitate to reach out to your Professor Weerasooriya or a trusted support person for emotional support.

7. Driving Restrictions:

- Don’t drive a vehicle for 24 hours after the procedure.

Remember that everyone's recovery process is unique, and it's important to follow the specific instructions provided by your healthcare provider. If you have any questions or concerns during your recovery, don't hesitate to reach out for assistance.

We wish you a speedy recovery and improved health following your SVT catheter ablation procedure.

RISKS ASSOCIATED WITH SVT ABLATION

SVT ablation is a low risk procedure. The most common problem is pain and bruising at the site of the groin which will usually disappear after 4-6 weeks without treatment. If oozing, swelling or pain of the groin site occurs, please contact Professor Weerasooriya.

However, as with any procedure complications can occur. These can be summarised as follows:

- Bleeding into the pericardial sac surrounding the heart (cardiac tamponade)

- Pulmonary embolism

- Accidental damage to the conduction system of the heart

- Death (1 in 5000 cases)

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