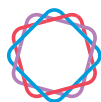




YOUR GUIDE TO

# Supraventricular Tachycardia (SVT) Study and Ablation



**IntraCare**

Electrophysiology



IntraCare's electrophysiology suite

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# About this procedure

This guide provides information about a supraventricular tachycardia (SVT) study and ablation procedure. It includes details about what is involved, how to prepare and what to expect during and after the procedure. Please use this in addition to information from your doctor and nurse.

An SVT study and ablation is performed in an electrophysiology (EP) suite at IntraCare in Epsom. Your cardiologist will be assisted by our team of nurses and other highly skilled personnel.

Both IntraCare and Allevia Hospital will be involved with your care for this procedure. Allevia Hospital are responsible for your admission, preparation and aftercare in the Cardiac Investigation Unit (CIU).

## What is supraventricular tachycardia (SVT)?

SVT is a general term describing a series of very rapid heartbeats (tachycardia) that begin in the atria (the upper chambers of the heart), due to abnormal electrical conduction. Specific types of SVT include:

- AV nodal re-entrant tachycardia (AVNRT)
- Wolff Parkinson White syndrome (WPW)
- Atrial tachycardia (AT)

## AV nodal re-entrant tachycardia (AVNRT)

AVNRT is the most common form of SVT and involves an electrical short circuit that occurs within the middle of the heart. The abnormal electrical circuit causes all four chambers of the heart to contract at the same time, resulting in poor blood flow and a rapid, regular heartbeat.

This form of tachycardia is most common in middle age but can happen at any age. It can cause symptoms such as palpitations, breathlessness, and dizziness. AVNRT can be quickly and successfully treated by locating the short circuit and performing radiofrequency or cryoablation on this small area of heart muscle.

## Atrioventricular reciprocating tachycardia (AVRT)

This tachycardia involves an abnormal bridge of tissue (an accessory pathway) that connects the top and bottom chambers of the heart (atria and ventricles). This accessory pathway makes it possible for electrical impulses to travel in a large continuous loop between the atria and ventricles at very rapid heart rates (AVRT). It may also allow other serious arrhythmias to occur. Not all accessory pathways can cause AVRT or serious arrhythmias, but this will be determined during your procedure.

The accessory pathway can cause a syndrome called WPW (Wolff Parkinson White). AVRT is usually treated with radiofrequency ablation but can also be treated with cryoablation depending on where in the heart the accessory pathway is located.

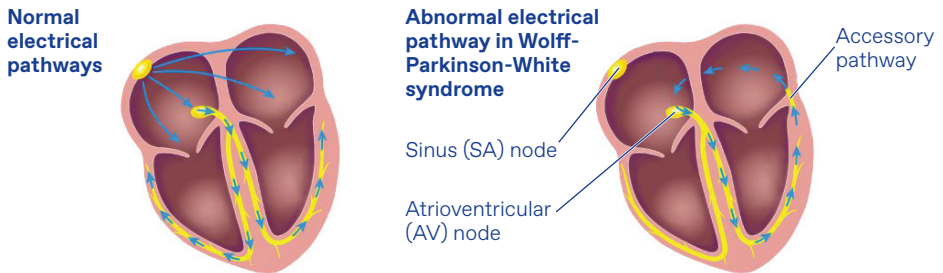


Image credit: Tom Lück

## Atrial tachycardia (AT)

During atrial tachycardia, an area of cells in the top chamber of the heart (atrium) can become irritable and begin to fire off electrical impulses that are much faster than the heart's normal pacemaker – the sinus node. This abnormal heart rhythm often occurs in response to stress or adrenaline and is often able to be treated with medication. If medication is unsuccessful, or for those that do not want to take ongoing medication, an EP procedure can be performed to locate and ablate the irritable area of cells with radiofrequency energy or cryoablation.

## Other supraventricular tachycardias (SVTs)

In addition to the above three common forms of SVT, there are a number of rare or unusual variations. The electrophysiologists and specialised cardiac physiologists at IntraCare are also highly trained and experienced in identifying and treating these uncommon variants.

## Why do I need an SVT study and ablation?

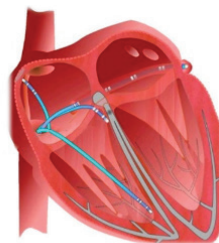
SVT is generally not life threatening unless you have previous heart damage. Some people with SVT have no symptoms at all, whilst others experience troublesome symptoms. These include palpitations, shortness of breath, dizziness, a pounding sensation in the neck and fainting, which can interfere with daily activities and quality of life. If SVT occurs frequently and/or the SVT event is prolonged, the heart's pumping function can be adversely affected. The aim of an SVT ablation procedure is to eliminate the SVT and the symptoms associated with it.

## What is an EP study and ablation?

An electrophysiology (EP) study is the initial diagnostic part of the procedure to confirm you have an SVT, and to diagnose the exact type of SVT. This involves placing electrode catheters in the heart and stimulating the heart to start the SVT rhythm.

By studying the signals recorded from the catheters in the heart, a diagnosis is made, and a target site for ablation identified.

SVTs are treated with ablation therapy. Ablation is where an electrode catheter is placed in the heart, and either radiofrequency energy (cauterising) or cryoablation (freezing) is used to treat a small area of target cells (about 2–3 mm). Following ablation, more heart stimulation is performed. If the SVT is unable to be re-started, then the procedure is successful.



Diagnostic catheters inside the heart

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## Before your procedure

### Pre procedure phone call

A nurse from IntraCare will call you 24–48 hours prior to your procedure to discuss the following information:

- Your admission time.
- When you should stop eating and drinking.
- Medication instructions.
- Allergies (including medications, contrast dye, dressings/plasters and food).
- Answer any further questions.

### Antiarrhythmic medication

If you are taking an antiarrhythmic medication e.g. bisoprolol, metoprolol, diltiazem or verapamil, you may need to withhold this 3–5 days prior to your procedure. This will be decided by your cardiologist and if applicable, communicated to you prior to your procedure.

### Anticoagulation (blood thinner)

If you are taking a blood thinner e.g. Dabigatran (Pradaxa), Rivaroxaban, Warfarin or Clexane, you may need to skip a dose on the morning of your procedure.

### Warfarin

If you are currently taking Warfarin, please inform IntraCare via email or phone as soon as possible. Our nurses will review your INR levels and advise any medication changes if necessary.

## Other regular medications

Please continue to take these unless advised otherwise by your cardiologist. If you are taking a diuretic or water pills (e.g. frusemide, spironolactone), you may need to withhold this on the morning of the procedure.

## Reminders for the day of your procedure

- If you are on regular medication, please bring this with you in its original packaging.
- Please leave all your jewellery and valuables at home. You are welcome to bring your mobile phone in with you.
- We recommend wearing loose-fitting clothing and shoes that are easy to slip on/off.
- You are encouraged to bring a friend or a family member as a support person before and after your procedure.
- This is commonly a day stay procedure, but please bring an overnight bag with you in case you are required to stay overnight.
- The planned procedure time is an estimate only and may vary. We will keep you informed of any unexpected delays on the day.

## Informed consent

As with any procedure, there are potential risks involved. Your cardiologist and anaesthetist will explain the procedure, discuss possible risks and answer any questions you may have. Your whānau or support person are welcome to be part of this discussion. You will then be asked to sign the consent form. This will occur either at an earlier appointment, or on the day of your procedure.

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# Your procedure

A SVT study is usually performed under conscious sedation and takes 1–2 hours.

## Preparation

Once you are in the EP suite, the staff will perform a safety check-in to confirm your name, date of birth and the procedure you are having. A small intravenous (IV) line will be inserted into a vein in your arm for medication to be injected. We may need to remove hair with clippers at the access site for sterile preparation. Please avoid shaving the area yourself as this may cause minor abrasions to the skin, increasing the risk of infection.

Several adhesive patches, small and large will be placed on your back and chest for monitoring and 3D mapping if required. Other devices for monitoring blood pressure, heart rate and oxygen levels will be fitted to ensure your safety during the procedure. We will carefully position and tuck your arms at your sides to ensure that sterility and safety are maintained.

## The procedure

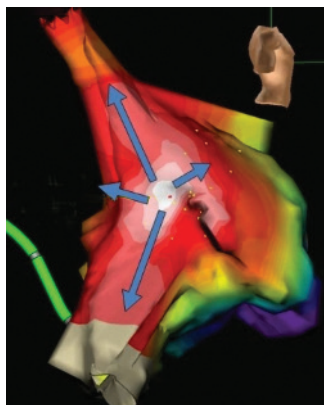
A SVT study and ablation is usually performed under local anaesthetic. The femoral veins in the groin area provide the easiest venous access into the heart. This area will be prepared with an antiseptic solution.

You will be covered with a large sterile drape and the area at the top of the leg will be completely numbed with local anaesthetic. This will sting for about thirty seconds. You may feel pressure but you should not feel any pain for the duration of the procedure. If at any time you feel pain or are uncomfortable, please let your doctor know and more local anaesthetic or medication to help you relax can be given.

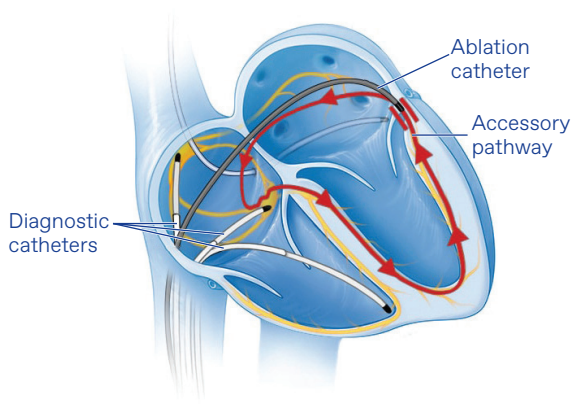
Small hollow tubes (sheaths) will be inserted into the femoral vein. Using X-ray and sometimes 3-dimensional (3D) mapping system guidance, electrode catheters are then advanced up into the heart via the sheaths in the vein. Your abnormal heart rhythm is induced, diagnosed and if safe to do so, treated with radiofrequency energy or cryoablation.

It is normal and expected during the initial EP study and again after the ablation to notice palpitations and thumping in the chest. This is from the heart stimulation, and when we induce your SVT rhythm. Some find the ablation uncomfortable, and additional pain relief and sedation will be given as required.

You may be given an infusion of adrenaline-like medication to further test the durability of the ablation treatment. This wears off quickly after it is stopped. Once the procedure is complete, the catheters and sheaths are removed from the vein.



**A 3D map of the site of origin of an atrial tachycardia (white spot)**



**Catheters in the heart during an AVRT ablation**



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# After your procedure

You will be transferred from IntraCare to CIU, where the Allevia Hospital team will look after you in your recovery. The nurses will monitor your progress, and if appropriate, you will be discharged home after 4–6 hours. Prior to your discharge, the nurses will provide instructions on medication, procedure site care, and resuming your usual daily activities.

## Recovery and discharge

- Following your procedure, it is important that you **do not drive for 48 hours**. Please ensure you have a family member or friend to drive you home from the hospital, as you may still be under the effects of anaesthesia or sedation.
- You will need to arrange someone to be at home with you on the day of your discharge and overnight to support you in your recovery.
- Due to the sedation, you may feel lethargic afterwards with reduced concentration. For this reason, for 24 hours after your procedure:
  - Do not do any activity requiring strength, concentration, or full alertness.
  - Do not make any legal decisions or sign legal documents.
- Due to the nature of ablation, it is common to experience some chest discomfort for a few days.
- For a few weeks after your ablation, you may experience, occasional skipped heart beats or brief palpitations. These symptoms are common and will decrease with time.

## Resuming activities

- You will be able to return to work within a week of having the procedure unless your job involves heavy lifting (>5kg).
- You can begin light exercise after 1 week.

## Medication

Your cardiologist will discuss any medication changes with you, if necessary. If you have any questions regarding your medications after your procedure, please contact your cardiologist.

## Follow up appointment

You will be seen in clinic at The Heart Group approximately 1–3 months following your SVT ablation. If you have minor concerns prior to your follow up appointment, please arrange to see your general practitioner (GP) or contact IntraCare.



## Femoral (groin) site care

It is normal to experience some bruising at the puncture site. During the first few days after your procedure:

- Do not do any heavy lifting (>5kg) or strenuous exercise.
- Try not to excessively cough, sneeze, or strain as this puts pressure on the puncture site which may cause it to bleed.
- Do not sit in a bath, hot tub or spa until the skin has healed.
- Do not cross your legs while sitting.
- You may resume walking if your puncture site is not painful.
- If applicable, remove the dressing on your groin once the skin has healed (approximately 3 days).

## Haematoma

A haematoma is a collection of blood under the skin that is sometimes painful. A small hard lump (similar in size to a pea) may also be felt under the skin and remain for several weeks:

- If a large lump (haematoma) occurs, lie down, and get another person to press down firmly on the centre of the haematoma for approximately 10 minutes.
- If after releasing pressure, the haematoma reoccurs, keep applying the pressure and go to your local accident and emergency department.

## Bleeding

- It is common for there to be a small amount of ooze. If this occurs, re-apply a sticking plaster and lightly press for a few minutes.
- If there is significant bleeding, you should lie flat, and another person will need to apply firm pressure for 10 minutes. If this does not stop the bleeding, call an ambulance.

**Seek immediate medical attention (dial 111 for an ambulance) if there is excessive bleeding from the puncture site or if you are experiencing severe chest pain.**

Please take this booklet and your discharge summary with you if visiting the GP, afterhours or hospital.

**If you have any concerns after your procedure, please contact IntraCare:  
Monday to Friday: 09 630 1961 (between 6:30am and 6:00pm).  
For after-hours, weekends, and public holidays, contact 027 482 0763.**

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# How to find us

## IntraCare Epsom

Both IntraCare and Allevia Hospital will be involved with your care for this procedure.

**When you arrive, please report to the Allevia Hospital reception desk (number 1 on the map).**

First Floor, Allevia Hospital Reception  
98 Mountain Rd, Epsom, Auckland 1023

P: +64 9 630 1961 (Monday to Friday 6:30am–6:00pm)

P: +64 27 482 0763 (after hours, weekends and public holidays)

E: [admin@intracare.co.nz](mailto:admin@intracare.co.nz)

W: [intracare.co.nz](http://intracare.co.nz)

## Where to park

A 10 minute patient 'drop off zone' is available on the level 1 carpark. Head up the ramp as you enter into the carpark from the Main Entrance on Mountain Road.

The first 30 minutes are free and apply only once the vehicle licence plate number has been entered into a payment terminal. Patient parking is available on all levels of the car park. Parking limits apply, and parking spaces are marked (P90, P180, and All Day Parking).

The Allevia Hospital parking is managed by a separate company, and a fine may be issued if your vehicle breaches any of the parking terms and conditions.

There is free 120 minute parking available nearby on Mountain Road, Gilgit Road and Almorah Road after 9am.



**Main entrance to patient and visitor car park**  
 ~ 250 spaces

**Walkway to main reception**  
 Pedestrian access to main reception from car park

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|--|--|
| 1 Allevia Hospital reception and Allevia Radiology 1 reception | 8 Allevia Radiology 2 (CT, ultrasound)         |
| 2 Canopy Cancer Care   | 9 The Heart Group                              |
| 3 ARO (Auckland Radiation Oncology)                            | 10 Allevia Radiology PET-CT Canopy Cancer Care |
| 4 Allevia Café and outdoor dining courtyard                    | 11 Allevia Specialist Centre                   |
| 5 Allevia Pharmacy   | 12 Allevia Radiology 1 (MRI/X-ray)             |
| 6 IntraCare  | A B C D E Allevia Specialist Centre entrances  |
| 7 Awanui Labs (blood tests)                                    |  |



# IntraCare

Intra Limited

E: [admin@intracare.co.nz](mailto:admin@intracare.co.nz)

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