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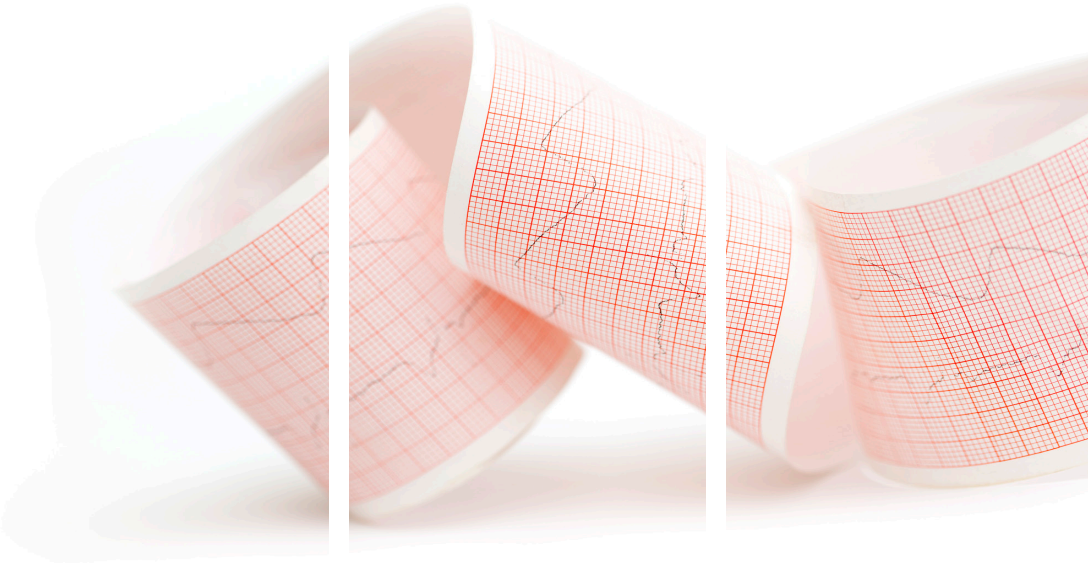
Supraventricular Tachycardia (SVT) patient information



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

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Glossary

Electrocardiogram (ECG) An ECG is a simple, non-invasive test that records the electrical activity of the heart

Syncope A temporary loss of consciousness (faint) due to a fall in blood pressure

Tachycardia An abnormally fast heart rate

Important Information

This booklet is intended for use by people who wish to understand more about supraventricular tachycardia (SVT). The information within this booklet comes from research and previous patients' experiences.

Contents

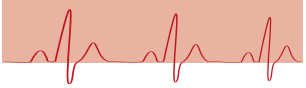
What is Supraventricular Tachycardia (SVT)?

Supraventricular tachycardia (SVT) is a rapid abnormal heart rhythm that begins in the upper chambers of the heart. The atria are above the ventricles, hence the term supraventricular. The term tachycardia refers to a rapid heartbeat of over 100 beats per minute.

Typically, patients have varying degrees of symptoms, but occasionally they may have no symptoms. Palpitations are a common symptom during SVT or a sensation that the heart is beating rapidly, fluttering, or racing. This may last for a few seconds or several hours. Occasionally, you may feel short of breath or feel a pressure or pain in your chest. Sometimes patients will feel lightheaded or dizzy, and may lose consciousness (also known as syncope) but this is a rare occurrence. Although such symptoms may raise concern, in general, the majority of SVTs are not life threatening Nonetheless, if any of these symptoms develop, immediate medical attention should be sought.

Symptoms you may experience during SVT

- Palpitations
- Chest pain
- Lightheadedness
- Shortness of breath
- Dizziness
- Loss of consciousness (rare)



How is SVT diagnosed?

An electrocardiogram (ECG) provides a tracing of the heart rhythm and is recorded by placing stickers and leads on the chest and limbs. If the patient is experiencing SVT during the ECG, a clear diagnosis can be made.

It is sometimes not possible to get a full ECG done during the SVT because an ECG can only be performed in places like the hospital, sometimes in the GP surgery, or increasingly by paramedic crews in ambulances. There are external monitors that can be used to record the heart rhythm and it may be possible to document the rhythm at the time of symptoms and diagnose SVT using one of these. Some of these use a smaller number of ECG leads attached to the body, and a small recording box to record the heart rhythm continuously for a period of time. These tend to be used for between 24 hours and 1 week The limitation of these is that the individual cannot wash whilst wearing this, and they must have the box either attached to a belt or in a pocket. There are also monitors that are like large plasters that can be attached to the chest. Some of these can even be attached for several weeks. The person can also shower whilst wearing them and they are more discrete than the larger monitors with wires and a box. These again can continuously record the heart rhythm for periods of time, and the person wearing the monitor records when they experience symptoms so this can be correlated with the analysis of the monitor and its recording. It is also possible for a person to buy devices for themselves that can be used to take a heart rhythm tracing. Some of these work with smart phones, some are stand-alone devices, and some watches can now also record an ECG trace. Some GP surgeries and hospitals are now starting to offer these types of devices as well. The clinical team assessing you will be able to advise you on the most appropriate form of monitoring, and way to record the rhythm at the time of your symptoms. The aim of all of these strategies is to capture a tracing that potentially confirms SVT as the cause of symptoms.

What treatment options are available for SVT?

Once SVT is diagnosed your doctor or nurse specialist will discuss your treatment options. If your symptoms are very infrequent, you may decide to have no treatment for your SVT, and your doctor and nurse specialist will advise you if this is an appropriate course of action.

Medications may be used to treat patients with SVT. Your doctor will discuss with you the most commonly used medications, the benefits and side effects.

A procedure called an electrophysiology study allows the doctor to detect any abnormalities in the electrical system within your heart that have been causing your symptoms. Once the abnormality is found the doctor may then perform a catheter ablation as an alternative to medications for some patients with SVT. This aims to cure the abnormal heart rhythm by destroying the area of extra cells which is causing the palpitations.

See Arrhythmia Alliance booklet: Catheter Ablation for SVT. Your doctor and nurse specialist will give you information on the risks and benefits of this procedure and let you know if it is an appropriate treatment for you.

What can I do when I develop SVT?

Fast heart rhythms that come on suddenly can often be stopped by performing some simple tricks called physiological manoeuvres. These are easy and safe to perform in any setting and may stop the fast rhythm and return the heart to normal. This helps avoid having to go to a hospital or call an ambulance. Below you will find descriptions of these physiological manoeuvres to stop SVTs.

If you feel unwell when SVT begins, for example you have (bad) chest pain, feel very faint or find breathing difficult, call for an ambulance without delay by dialling 999.

It may be useful to keep a record of how frequent your SVT occurs. If you find that your symptoms worsen or the method you use to stop them no longer works, do not worry. Talk to your GP who should be able to recommend a heart rhythm specialist that you can be referred to, to discuss further treatment options.

Physiological manoeuvres

These are 'tricks' which alter nerve reflexes in the body for a few seconds. Many types of heart rhythm disorders are triggered by changes in these nerve reflexes and can also be stopped by them. They are listed in order of how often they are effective and how easy they are to perform.

Valsalva manoeuvres

This is a way of briefl y increasing the pressure inside the chest. Lie or sit down, take a breath in and then 'strain' – as if you were constipated and trying to open your bowels.

If you are not familiar with this, some people achieve the same effect by taking a breath in and then placing the tip of their thumb in their mouth and blowing hard against their thumb trying to let as little air escape as possible. Whichever method you use, try to do this through a mental count of about twenty seconds and then breathe out normally.

It is important that you do this lying or sitting down. If you attempt whilst standing up, it may make you feel very faint. Most commonly, if this works, it does so just after breathing out. If it doesn't work the first-time round, then try again for a longer period if you can.

Carotid sinus massage

This is actually more eff ective if done to you by someone else. It should not be done on anyone who is known to have disease in their arteries or in older people, especially if they have ever had a stroke. NEVER MASSAGE BOTH CAROTID ARTERIES AT THE SAME TIME, as you may cause yourself to blackout!

At the side of the neck there is a pulse of the carotid artery. To find this, put your fingers on one side of the neck at the angle at the back of the jaw and then move the fingers slightly backwards and down to the side of the neck.

If you keep your fingers still in this position for a few seconds, you should feel the pulse. Gently, but firmly massage this pulse using a circular motion with the fingers for about fifteen seconds. It is usually done on the right side of the neck. Remove fingers and re-assess.

If palpitations still continue, try again.

Diving reflex

This is a reflex which causes a slight decrease in our heart rates when we dive into water. It is sometimes enough to stop a fast rhythm. Fill a sink or bowl with cold water and then immerse your face fully into the water for a second or two.

Gagging/retching/vomiting

One of the most powerful ways of provoking a reflex change is to induce vomiting. This, however, may not be necessary. Just tickling the back of the throat enough to make you 'gag' may be enough to stop the fast rhythm. Use something blunt and smooth like the handle end of a toothbrush to touch the back of your throat behind the tongue. Of course, this should be done very gently, and no pressure exerted in this sensitive area.

Another technique that works occasionally for some people but may be less powerful than the methods listed previously, is to take a good 'glug' of very cold water. However, don't drink too much because if the rhythm does not stop and you have to go to hospital, it is best not to have a stomach full of water when you arrive.

These are the most common methods used, but individual people often find other methods that work well for them. Sometimes, a cough or just taking a deep breath as soon as the sensation of the fast rhythm starts is enough.

If you do use one of these techniques and it works with your heart going back into normal rhythm, remember to tell your doctor about it as it helps to indicate the type of fast rhythm that was causing the problem. Generally, these techniques work well for many fast REGULAR heart rhythms, but are usually ineffective for fast IRREGULAR heart rhythms, such as atrial fibrillation.

What is Paroxysmal Supraventricular Tachycardia (PSVT)?

PSVT is a condition characterised by episodes of a very fast heart rate that originate in an area of the heart above the ventricles. Paroxysmal means from time to time.

Background

The heart has four chambers – two upper chambers (referred to as the atria) and two lower chambers (referred to as the ventricles). Normally the chambers contract in a coordinated way, starting with an electrical signal originating at the sinoatrial node (SAN). This signal moves the atria causing them to contract and empty blood into the lower ventricles. The signal passes through the atrio ventricular node (AVN) and down to the ventricles, which then contract and move blood into the arterial system of the body.

In PSVT, an abnormal electrical pathway causes the heart to beat much faster than normal, up to as high as 250 beats per minute (a normal heart rate is 60-100 beats per minute). These episodes can be short-lived for just a few minutes, or last several hours.

Causes

There are two types of PSVT that account for roughly 90% of cases; AV node re-entrant tachycardia (AVNRT) and Wolff-Parkinson- White syndrome (WPW). Both of these are reentrant tachycardias. However, WPW is likely to be more common in children. These arrhythmias can be exacerbated by some environmental factors including dehydration, alcohol intake, caffeine intake and non-cardiac illness.

Symptoms

Symptoms are intermittent, starting and stopping suddenly with little or no warning. Chest tightness, palpitations (awareness of the heartbeat), shortness of breath, dizziness and fainting are most commonly experienced.

Investigations

If you think you are suffering from PSVT, a doctor will examine you and will feel your pulse to measure your heart rate.

An electrocardiogram (ECG) will be done to gather more information about your heart rate and rhythm. Electrophysiology studies (EPS) may be done to give an accurate diagnosis and treatment options.

This involves more invasive investigations including inserting a catheter containing small flexable wires into a blood vessel in your groin and threading it up to your heart. The heart's rate and rhythm can then be evaluated more accurately.

Since PSVT occurs intermittently, the abnormal heart rate may not be captured on a standard ECG recording. Therefore a monitor may be worn at home for 24/48/72 hours, or even longer, to try to get an accurate diagnosis.

Treatment

Treatment for PVST are as aggressive as symptoms demand. If PVST occurs very infrequently, it may be that no treatment is needed. There are self-help manoeuvres that can be done to try to terminate an episode of PSVT:

- Valsalva manoeuvre- This involves holding your breath and straining at the same time, as if you were trying to have a bowel movement
- Coughing
- Cold water splashed to face and neck
- Avoid smoking, caffeine (and other stimulants)

There are several available treatments that can restore normal rhythm. These include electrical cardioversion (delivery of an electrical shock to the heart that resets the rhythm) and chemical cardioversion through administration of medications, such as adenosine (a controlled electric shock is delivered to try and reset the heart into a normal rhythm).

For people with more regularly occurring episodes of PSVT, treatment options include medications such as flecainide or propafenone, Cardiac Ablation, pacemakers, and/or surgery. See treatment options for arrhythmias booklet for more information on these procedures.

Prognosis

PSVT itself is not usually life threatening, but if present with other heart disorders or disease, it can lead to congestive heart failure or angina.

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"Thank you for the helpful tips of managing SVT Symptoms"

Suzi, Somerset

To view our patient resources, scan the QR code below:

Please remember that this publication provides general guidelines only. Individuals should always discuss their condition with a healthcare professional. If you would like further information or would like to provide feedback, please contact Arrhythmia Alliance.

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If you would like further information or would like to provide feedback please contact Arrhythmia Alliance.