



# Understanding your child's heart

## Supraventricular tachycardia



## About this factsheet

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This factsheet is for the parents of babies and children who have supraventricular tachycardia (SVT).

It explains

- what supraventricular tachycardia is and how it is diagnosed
- how supraventricular tachycardia is treated
- the benefits and risks of treatments.

This factsheet does not replace the advice that doctors or nurses may give you, but it should help you to understand what they tell you.

## What is SVT?

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Supraventricular tachycardia (SVT) is an abnormality of the heart's rhythm, when the heart suddenly beats much faster than normal.

When the heart beats much faster because of SVT this is called an **episode** of SVT.

Some children with SVT feel very well but others can be affected more severely. The symptoms of SVT will depend upon the age of your child and how long the episodes last.

Episodes of SVT often only last for a short time (a few minutes) and in most cases should not be regarded as serious.

## SVT in babies

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If an episode of SVT goes on for a long time your baby's heart muscle may get tired, which means that their heart won't pump as well as normal.

This can make your baby look pale or breathless, and make it hard for them to feed. So if your baby has long episodes of SVT, medication can be used to control their heart rhythm.

For most babies SVT goes away by the time they are 1 year old.

## SVT in older children

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Older children will usually be aware that their heart is beating faster than normal.

If an episode of SVT does not last long your child may have no symptoms other than being aware of their fast heart beat.

If it goes on for a long time it may make your child feel weak, breathless or a bit light headed. It might also make their chest ache or make them vomit.

## What causes SVT?

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The heart has an **electrical system** which controls heart rate. SVT is caused by a fault in this system.

In a normal heart:

- A group of special heart cells (called the sinus node) acts as the heart's natural pacemaker.
- These cells sit at the top right corner of the heart and let out a tiny pulse of electricity to tell the heart when to beat.
- The electrical impulse travels through the heart muscle to the upper part of the heart.
- When the impulse reaches the centre of the heart, it travels along to the main pumping chambers of the heart to make them beat.

Most children with SVT have an extra piece of heart tissue which allows the electrical impulse to "short circuit" and travel back up to the top of the heart to start its journey over again.

When the electrical impulse travels round and round the heart suddenly beats too fast.

Some people with SVT have an extra group of heart cells which act like a pacemaker but which let out too many electrical impulses, causing the heart to beat too fast.

## Wolff-Parkinson-White syndrome (or WPW)

One type of SVT is called Wolff-Parkinson-White syndrome. If your child has WPW the electrical activity of the 'short circuit' may be visible on an electrocardiogram (ECG) test even when your child's heart rhythm is normal. This is called **pre-excitation**.

## What causes each episode of SVT?

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In most cases there is no obvious reason what has triggered a particular episode of SVT.

## How is SVT diagnosed?

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Usually the only test that is needed to make the diagnosis is an **electrocardiogram (ECG)**, a painless test that records the rhythm and electrical activity of your child's heart.

- Small sticky patches called **electrodes** will be put onto your child's arms, legs and chest.
- These are connected to an ECG recording machine which picks up the electrical signals that make their heart beat.

The test will only take a few minutes and is painless, it won't hurt your child at all.

## How is SVT treated?

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If your child's episodes of SVT are short and not frequent enough to make them feel unwell, no treatment is necessary.

If an episode does go on long enough to make them unwell the SVT can, in almost all cases, be stopped either by medicines or by giving the heart a small electric shock (known as an **electrical cardioversion**).

## Self treatment for older children

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Older children can sometimes stop an episode themselves by doing one of the following things:

### **Valsalva manoeuvre**

Your child should take a deep breath in, shut their mouth tight, hold their nose tightly and blow out hard as though trying to make themselves go red in the face.

### **Diving reflex**

Fill a washing-up bowl full of cold water, and add some ice if you have some. Ask your child to hold their breath and put their whole face under the cold water for few seconds.

### **Vomit reflex**

Ask your child to put their finger down their throat as if they were trying to make themselves sick.

### **Headstand**

Get your child to stand on their head – but only if an adult is around to help them to do it safely

## Medicines

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If SVT is causing trouble it may be necessary for your child to take regular medicines to try to control it.

There are many different types of medicine available and your child may have to try several before they find the best one for them. Although medicines will not get rid of the 'short-circuit' in their heart, they can make it less of a problem.

## Electrical cardioversion treatment

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A treatment called **electrical cardioversion** can help to stop SVT by giving the heart a small electric shock.

- Your child will be given a short-acting general anaesthetic or heavy sedation.
- A doctor or nurse will put electrodes, stuck to large sticky pads, on their chest.
- The electrodes will be connected to a defibrillator machine.
- Your child will be given one or more controlled electric shocks to their chest wall.

The whole procedure usually lasts about 10 minutes. Complications with this treatment are not common.

Cardioversion doesn't always restore normal heart rhythm. Sometimes it's successful to start with, but then your child's abnormal heart rhythm comes back several days, weeks or even months later. If this happens, your doctor may want to repeat the treatment or they may consider another type of treatment for your child.

## Radiofrequency ablation treatment

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If SVT is still a problem in teenagers or adults it may be possible to cure it permanently by getting rid of the short circuit with a treatment called **radiofrequency ablation**.

- Your child will be given a local anaesthetic and sedation.
- Thin tubes called **catheters** will be inserted into the veins at the top of their leg or arm.
- The catheters will be guided to their heart, where they are used to pinpoint exactly where the unwanted electrical impulses are coming from.
- The end of one of the catheters will be heated and used to destroy the abnormal area of heart tissue.
- The catheters will be removed.

This treatment is successful in about 9 out of 10 cases. Occasionally, some people need more than one treatment.

There is a relatively low risk of complications with this treatment. However if the unwanted electrical impulses are coming from an area near the heart's normal electrical pathways, there is a small risk that this treatment may damage the normal electrical pathways. If this happens they may need to have a permanent pacemaker inserted.

The cardiologist will discuss these risks with you in detail before the treatment.

## What happens as my child grows up?

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Most children with SVT will remain completely well and lead a normal, active life after treatment. There is no need to restrict your child's physical activity and no special precautions are necessary.

As your child grows up, they might find that SVT can be made worse by caffeine (in strong coffee and some soft drinks), by excess alcohol, and by stimulants such as cannabis, ecstasy and other soft drugs.

## About the British Heart Foundation

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The British Heart Foundation is the nation's heart charity, saving lives through pioneering research, patient care and vital information.

### What you can do for us

We rely on donations to continue our vital work. If you'd like to make a donation, please ring our Supporter Care team on **0844 847 2787**, contact us through our website at [bhf.org.uk/donate](https://www.bhf.org.uk/donate) or send it to us at the address on the back cover.

### For more information

#### British Heart Foundation website

[bhf.org.uk](https://www.bhf.org.uk)

For up-to-date information on heart disease, the BHF and its services.

#### Heart HelpLine

0300 330 3311

For information and support on anything heart-related.

#### www.yheart.net

A website for young people with heart conditions.

## Other resources

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### Understanding your child's heart series

This factsheet is one of the titles in the Understanding your child's heart series. For a full list of booklets and factsheets available in this series, see our website [bhf.org.uk](https://www.bhf.org.uk) or call the Heart HelpLine on 0300 330 3311 (local rate number).

### Children with congenital heart disease (DVD)

Three families share their experiences from diagnosis to treatment, and staff at the Evelina Children's Hospital offer guidance on parents' common concerns.

### Operation Fix-it

A short story book about eight-year-old Tom's experience in hospital for a heart operation. Prepares children for their hospital visit in an interesting and sometimes humorous way.

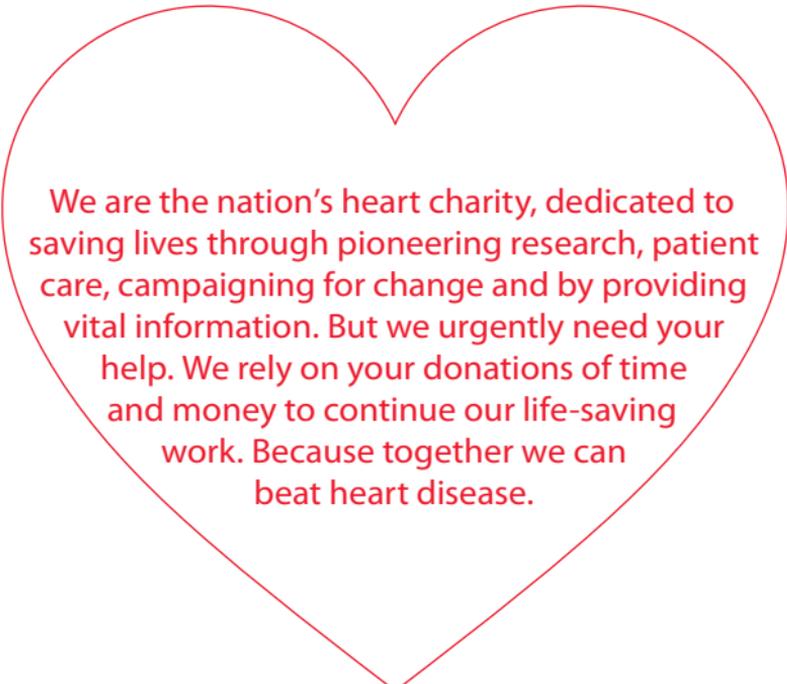
### Physical activity – What if my child has a congenital heart condition?

This short booklet contains advice and information for parents and carers to help you make it easy and enjoyable for your child to be physically active.

### To order any of our booklets:

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We are the nation's heart charity, dedicated to saving lives through pioneering research, patient care, campaigning for change and by providing vital information. But we urgently need your help. We rely on your donations of time and money to continue our life-saving work. Because together we can beat heart disease.

**bhf.org.uk/  
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 **Heart Helpline**  
**0300 330 3311**  
**bhf.org.uk**

Information & support on anything heart-related. Phone lines open 9am to 5pm Monday to Friday. Similar cost to 01 or 02 numbers.

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