

what you

NEED TO KNOW

about...

Supra-Ventricular Tachycardia (SVT)

What is SVT?

SVT is a problem with the rhythm of heart beats, caused by an electrical change in the heart. SVT can happen for the first time at any age. There may be years in between periods of SVT, or it may happen more often. SVT can last for a few seconds, hours or days.

With SVT:

- The heart beats faster than normal (tachycardia)
- The electrical signals (impulses) that cause the heart muscle to contract may start outside of the heart's usual pacemaker, or don't follow the usual pathway through the heart

Why is SVT a problem?

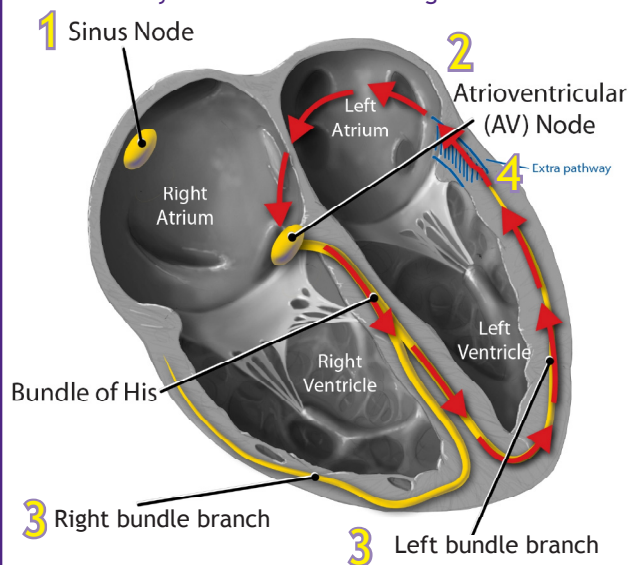
Extra heart beats are fairly common, and don't usually cause a problem. But if the heart is beating too fast for too long, the heart isn't able to pump as well. Blood can 'back up' into the lungs and other organs. This can cause:

- Racing heart beat
- Chest pain
- Light headedness
- Fainting
- Shortness of breath



Cardiology lesson!

Believe it or not, the heart is powered by electricity. Our natural pacemaker, the S-A node (sino-atrial node) sends electrical signals through special pathways (conduction system) to heart muscles. The electrical signals cause heart muscles to contract (squeeze, or tighten). The S-A node keeps the heart beating regularly and makes the heart beat faster or slower, depending on what the body needs. Follow the diagram to see how the electrical signals flow through the special pathways.




Normally, there is only one pathway for electrical signals to flow through the heart. But some children have extra pathways that carry signals between the upper and lower heart chambers. These are called 'accessory pathways'.


1. The S-A node sends a signal through the upper chambers of the heart (atria), causing them to contract.
2. The signal passes through the A-V node. The signal slows down here, giving the atria enough time to contract.
3. The signal flows through the right and left bundle branches. This causes the muscles in the lower heart chambers (ventricles) to contract, and blood gets pumped to the lungs, brain and body.
4. This extra pathway allows signals to flow down one pathway at a very high rate, and then back up the other pathway. This causes a circle pattern of signals that keeps the heart beating too fast.


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Are there different types of SVT?

Yes. Different types of SVT happen when electrical signals start outside the S-A node, or follow different 'accessory pathways'.

 **Accessory Pathway Tachycardia:** This happens when there is an accessory pathway between the upper and lower heart chambers (atria and ventricles). In some children, this may cause a specific pattern called Wolff-Parkinson-White syndrome.

 **Atrial Tachycardia:**
An area in the upper heart chamber (atrium) is 'excitable' and sends signals for a very fast heart rate.

 **Junctional Tachycardia:**
An area in the A-V node (or junction) is 'excitable' and sends signals for a very fast heart rate.



Children born with certain heart defects are more likely to have Atrial and Junctional Tachycardia. This can happen even more often if they have open heart surgery to fix the heart problem.

Taking care of a child or teen with SVT at home

1 Learn about your child's normal heart rate and rhythm. Closing your eyes while you count will help you focus. Try counting by groups of 10...for example, 1 2 3 4 5 6 7 8 9 **10**, 1 2 3 4 5 6 7 8 9 **20**, 1 2 3 4 5 6 7 8 9 **30**.....

Babies under 1 year:


Buy an inexpensive stethoscope (less than \$20) to listen to your baby's heartbeat through the chest. At first, check the heartbeat for 30-60 seconds every time you change your baby's diaper.

Children over 1 year:

Check your child or teen's heart rate for 30-60 seconds at the wrist.

Normal **resting** heart rates:

Newborns	130-200 beats per minute
Infants (under 1 year)	100-180 beats per minute
Children (1-11 years)	70-145 beats per minute
Teens (12-18 years)	50-120 beats per minute

 It is OK to have a higher heart rate if your child is sick, excited or has been really active just before checking the pulse. There may be a problem if your child's heart rate **stays** quite a bit higher than the rate listed for your child's age. You don't need to come to the emergency department for episodes of SVT that last less than 20 minutes.

2 Watch for signs of SVT. Use your pulse diary to record any episodes of SVT that stop on their own. Bring the diary to all clinic visits.

Babies under 1 year having SVT:

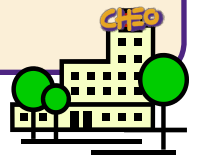
- Drink less, take more breaks while feeding or often fall asleep while feeding
- Breathe faster, work harder to breathe
- Can be more irritable
- Are more sleepy than usual
- Can be pale and sweaty
- Develop a new cough without other cold symptoms

Children over 1 year having SVT may:

- Tell you that they feel their heart is racing
- Feel light headed
- Have trouble catching their breath
- Say their chest hurts

Bring your child to the emergency department if:

- Your child's heart rate stays above normal for more than 20 minutes, and does not go up or down.
- You may need to come to the emergency department more often at first, until you are more familiar with your child's SVT



How to reach us

Call 613-737-7600 extension 3109 to leave a non urgent message for the Cardiology nurses. We will call you back the same day, Monday-Friday between 8:00 am and 4:00 pm. We will call you back on the next clinic day if you call on the weekend.

Check with us first! Do not give over the counter medication to your child unless you speak with your Cardiologist or Cardiology nurse.

401 Smyth Road, Ottawa K1H 8L1



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