

Patient Resources: Heart Rhythm Disorders

Heart rhythm abnormalities can run from irregular heart beats due to premature beats to fast heart beats originating from the top or the bottom of the heart. These irregularities may or may not signify a true heart problem.

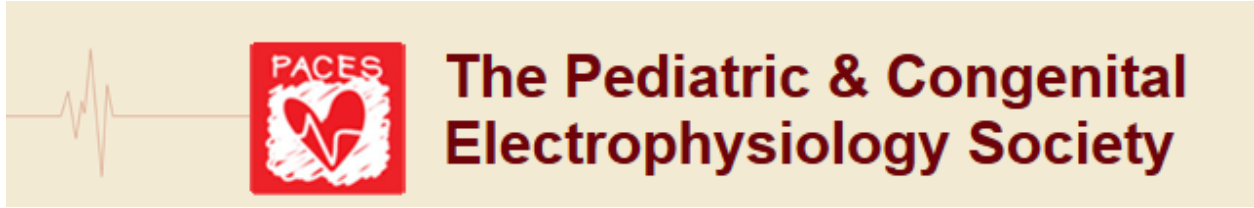
Irregular heart beats may be due to premature beats coming from the top or the bottom of the heart. If they come from the top chamber of the heart, they are called premature atrial contractions. There are a variety of causes for these and the significance of these may vary from patient to patient.

Extra heart beats coming from the bottom chamber of the heart are called premature ventricular contractions. The significance of these premature beats will depend upon a number of factors generally dealing with how normal the heart is and whether there are signs of viral infection attacking the heart. The medical analysis of pediatric patients with premature ventricular contractions may vary depending upon the circumstance.

The number one type of fast heart beat in children is called supraventricular tachycardia. The onset of this type of tachycardia is usually sudden and congenitally cannot be predicted. The rate is generally between 220 and 240 beats per minute in the child but may be as fast as 300 beats per minute in an infant. The diagnosis of this type of tachycardia generally requires the "capture" of these fast heart beats on an electrocardiographic tracing. This may require an event recorder which allows an individual to record the rapid heart beat at a setting other than in the hospital. Treatment with medications may be necessary if there are frequent episodes of this tachycardia. A technique called radiofrequency ablation has been developed which is a catheter procedure which can cure patients with this type of tachycardia. The indications and timing of this vary from patient to patient.

Ventricular tachycardia is a rapid rhythm disturbance which occurs in the bottom chambers of the heart. This is a more significant rhythm problem and depending upon the circumstance can lead to sudden death. However, there are various types of ventricular tachycardia that have varying degrees of significance. Once again, the work up and treatment will vary depending upon the circumstances and the rate of the ventricular tachycardia.

In addition to irregular or fast heart beats, children can also have problems with slow heart beats. The most common significant slow heart beat is complete heart block. Normally the electrical system of the heart starts with the heart beat occurring at the top, moving through the middle of the heart, and then to the bottom. The top beats then lead and control the rate as it goes through the heart to the bottom chamber. With complete heart block, there is a lack of electrical connection between the top and bottom chambers of the heart. Each beat separately at their own intrinsic or native rate. Individuals who have this disorder may have uncommonly slow heart rates. This may then require a permanent pacing system to achieve appropriate



heart rates in these patients. The timing and type of pacemaker therapy will vary from individual to individual. It will also depend upon whether the patient has structural or functional heart disease as well.