

What is Paroxysmal Atrial Tachycardia?

Paroxysmal Atrial Tachycardia or P.A.T. is a condition where the heart beats too fast because there is an abnormality in the conduction system (electrical system) of the heart. Sometimes these episodes can be brief and just be an annoyance. Sometimes they can last for hours and be very serious. Fortunately, most of the time medical therapy can adequately control the problem. If need be, things can be done to cure the problem. This condition can sometimes be associated with structural abnormalities of the heart

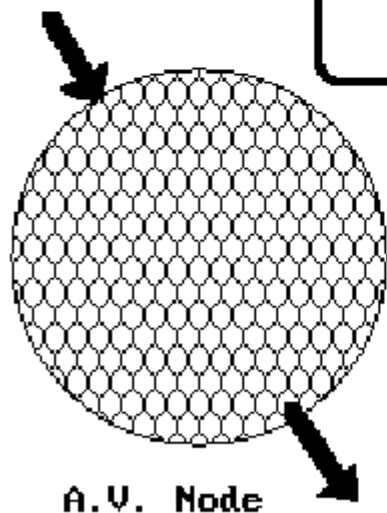
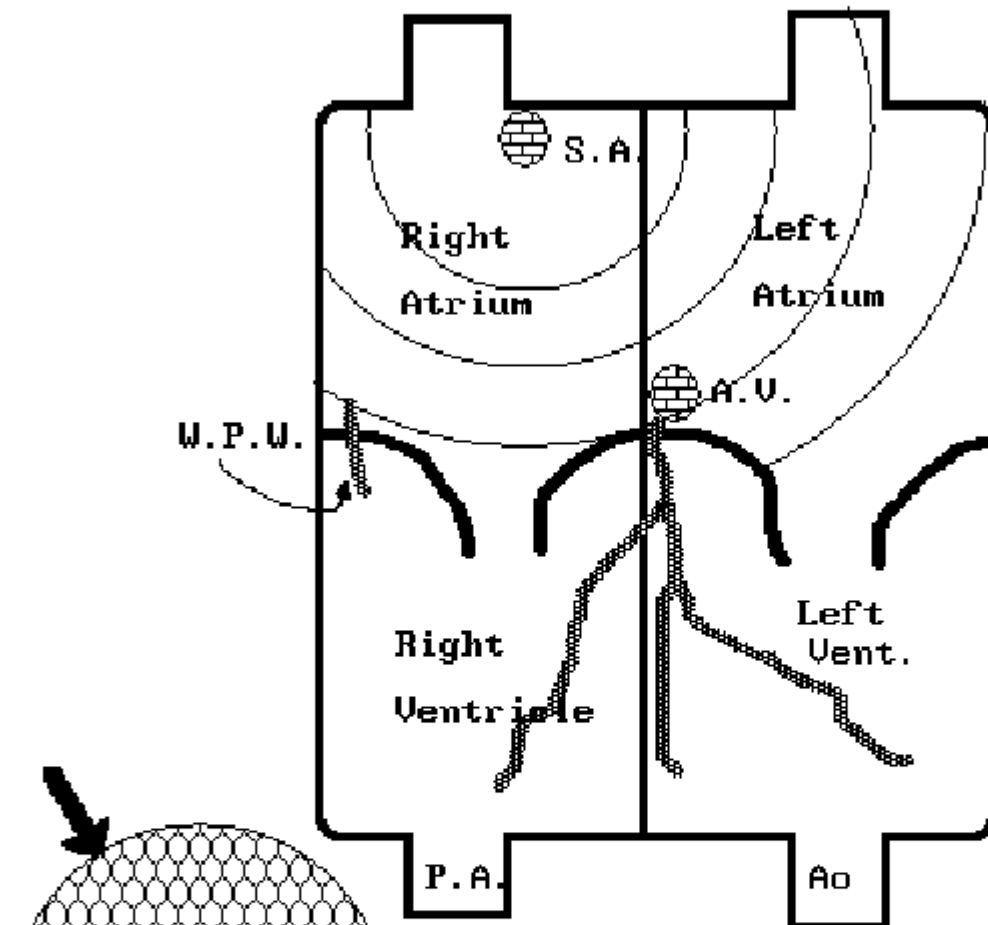
There are several types of P.A.T. The most common type is where there is an abnormality in the A-V Node. The A-V Node acts as a delay switch to allow time for the ventricles to fill. Normally the top chambers of the heart or atria contract first in order to fill the ventricles. This filling takes a certain amount of time. After the ventricles fill, the A-V Node then sends an electrical impulse to the ventricles (or lower chambers) causing them to contract. When a person has P.A.T. caused by the A-V Node, this area begins to give off electrical impulses very rapidly causing the ventricles to beat very rapidly (more than 200 beats per minute). Sometimes P.A.T. can be caused by an extra piece of tissue in the heart that acts to "short circuit" the electrical system and causes fast heart beats. This is called Wolff Parkinson White Syndrome or WPW. This is a more common cause of P.A.T. in the older child. This can sometimes be treated medically. Now days the most common treatment for this problem is called radio frequency ablation with a catheter. This is a non-surgical method that allows a doctor with the use of a catheter to actually map out the electrical system of the heart and burn the area of tissue causing the problem and cure it completely. Rarely, there may be a single spot on the atrial wall that is very excitable and causes the heart to beat rapidly. These can be hard to treat.

The reason P.A.T. can be dangerous is that when the heart is beating extremely fast (more than 200 beats per minute) it may not have enough time to fill or empty adequately. If this condition is allowed to persist for a long period of time (say four to six hours) the heart will begin to fail or not be able to pump enough blood. When this happens the patient will turn pale and possibly breath faster than normal. Babies tend to get irritable and won't eat. Older children will tell you that their heart is beating fast or feels funny. They may become short of breath or develop chest pain. The good news is that most patients that develop P.A.T. within the first six months of life who do not have WPW will out grow it. Patients with WPW will have about a 80% chance of recurrence after one year of life. Children with certain types of WPW are at risk for sudden death, especially with exercise because the heart can beat so fast (more than 400 beats per minute) that it doesn't pump blood at all.

There are several types of medication available to treat P.A.T. Remember these drugs will control the heart rate and do not "cure" the problem. Digoxin is the most commonly used drug. In normal doses it is quite safe with few side effects. Inderal (also Tenormin) is another type of drug, which is used when Digoxin alone is not enough. Other drugs sometimes used include Verapamil, Flecanide, Quinidine, Sotolol, Norpace and Amiodarone. These are more potent drugs and tend to have more side effects. In some children sometimes simple maneuvers such as coughing, doing sit-ups, headstands or ice water to the face may be enough to "break" a spell of PAT. In the emergency room we sometimes need to use electricity or an intravenous medicine called Adenosine to stop an episode of PAT.

If you have any questions please ask one of the doctors.

Paroxysmal Atrial Tachycardia



Normally the A.V. Node serves as a delay switch to allow time for the ventricles to fill. In P.A.T. caused by the A.V. Node a very rapid impulse is generated causing the ventricles to beat rapidly.