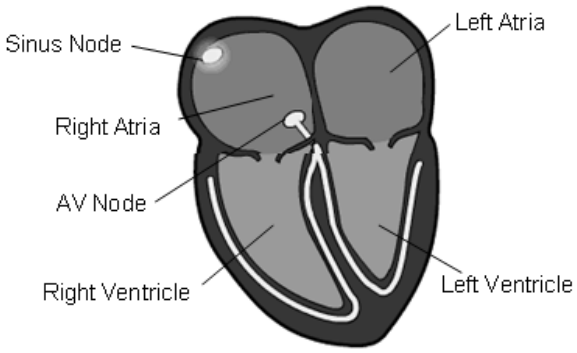
healthylivingNT

Atrial Fibrillation

The normal rhythm of the heart is called sinus rhythm. In sinus rhythm, the sinus node (an area in the top right chamber of your heart) generates an electrical signal, which travels across both the right and left atria (top chambers), causing these chambers of the heart to contract. This contraction pumps blood from the right and left atria, into the right and left ventricles (bottom chambers).

In a normal heart, the only point where an electrical signal can pass from the top chambers to the bottom chambers is called the atrioventricular node (AV node). This node acts as a time delay (approximately 0.2 seconds) which gives the blood enough time to be pumped into the ventricles. After the delay it sends the electrical signal through to cause both the bottom chambers to contract which pumps the blood out to either the lungs or through the aorta to the body.

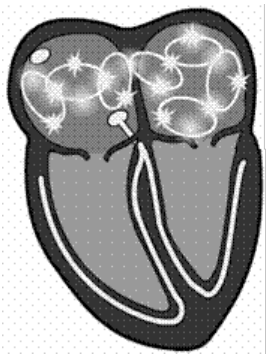


Picture from www.aboutatrialfibrillation.com

This whole cycle is 1 heart beat which we can hear as the Lub Dub sound of the heart.

While normally all heart beats originate from the sinus node, every area of muscle in the heart can generate an electrical signal of its own. This is useful if the sinus node is not working properly, but it also means that other rhythms can take over causing arrhythmia's (irregular or abnormal heart rhythms). In atrial fibrillation (AF), other areas of heart muscle in the atria send off their own electrical signals which not only compete with each other but also the sinus node. This means that instead of one coordinated contraction of the atria, the muscle is contracting chaotically (irregularly). This lack of coordinated contraction means the atria cannot pump the blood through to the ventricles and instead, trembles (fibrillates). The AV node also receives these chaotic signals instead of the regular signal from the sinus node, and sends through to the ventricles irregular electrical signal, often at a much faster rate than what comes from the SA node. The ventricles respond by contracting normally, pumping the blood out to the lungs or the body, but doing so irregularly. This can be felt as an irregular pulse.

AF can be treated through medications, sometimes requires electrical cardioversion and if these aren't effective other treatments are available.


Extra electrical signals

More information about medications and the cardioversion procedure can be obtained by speaking with the Cardiac Educator, Healthy Living NT or on the website.

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