

Catheter Ablation Therapy
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October 7, 2002

Ablation Therapy is a procedure that corrects arrhythmias in the heart by destroying the tissues in the area of the abnormal signals. The area that is causing the signals is pinpointed by endocardial mapping, then small incisions are made to destroy or stop the tissue from sending signals, or a catheter is used in a non-surgical procedure by using radiofrequency waves, laser, microwave or cryotherapy (freezing). Usually the catheter ablation technique is used unless the patient is undergoing open-heart surgery for another medical condition.

Catheter ablation therapy was first introduced in the early 1980's generally as a treatment for Atrial Fibrillation, AV Nodal reentry tachycardia, Accessory pathway tachycardias and Ventricular tachycardia.

Atrial fibrillation is the most common type of arrhythmia. The impulse does not travel in an orderly fashion through the atria. Instead, impulses begin and spread through the atria and compete for a chance to travel through the AV node. The impulses originate from tissues other than the heart's electrical system. These impulses cause very rapid and disorganized heartbeats. The rate of impulses through the atria can range from 300 to 600 beats per minute. The AV node limits the number of impulses it allows to travel to the ventricles, so the pulse rate is usually less than 150 beats per minute.

AV nodal reentrant tachycardia is a rapid heart rate due to more than one pathway through the AV node. It can cause heart palpitations, fainting or heart failure.

Accessory pathway tachycardias cause a rapid heart rate due to an extra abnormal pathway or connection between the atria and the ventricles. The impulses travel through the extra pathways as well as the usual route. This allows the impulses to travel around the heart very quickly, causing the heart to beat unusually fast.

Ventricular tachycardia is a rapid heart rhythm originating from the ventricles. The rapid rate prevents the heart from filling with blood; therefore, less blood is able to pump through the body. This can be a serious arrhythmia, especially in people with heart disease, and may be associated with more symptoms.

During the ablation procedure, radiofrequency, laser, microwaves or cryotherapy energy is delivered through a catheter to the area of tissue inside the heart that causes the arrhythmia. The energy destroys the pathway of the abnormal signals. Ablation is often combined with other treatments.

After the procedure some patients notice extra heartbeats on and off for a few weeks. Some feel an abnormal rhythm returning, but then it stops. Some patients are given medication to help with these (usually) temporary effects.

Catheter Ablation Therapy is a standard for treating many types of arrhythmias. The risks are generally low, lower than those of open-heart surgery and the success rate is high.