



## ATRIAL FIBRILLATION — RHYTHM CONTROL

### PUTTING YOU BACK INTO RHYTHM — CARIOVERSION

In many instances the doctor will recommend that you be "cardioverted" or put back into a normal rhythm and attempt to keep you in a normal rhythm. There are two ways in which you can be converted to normal rhythm:

- **Electrical Cardioversion:** This treatment involves an electrical shock delivered to the heart through pads placed over the chest. The shock causes the electrical impulses to stop and reorganize back into normal rhythm. You receive sedation and anesthesia during this procedure to prevent you from being aware of the shock. Once your heart has been converted, you may be placed on a medication to keep your heart in normal rhythm (anti-arrhythmic medication ). (See also: Cardioversion preprocedure/postprocedure instructions )
- **Chemical Cardioversion:** This treatment involves giving a medication either through a vein or in pill form to try to convert the heart rhythm back to normal. Because these medications are powerful, you will often be in the hospital during this treatment so that your heart can be monitored. (See also: Cardioversion preprocedure/postprocedure instructions )

### ANTIARRHYTHMIC (MEDICINE)

**Maintaining your heart in normal rhythm:** Once you are back in normal rhythm, there are treatments to keep you in rhythm. These may include medical therapy with anti-arrhythmic medications or a procedure such as catheter ablation, surgical ablation, or device implantation.

Anti-arrhythmic medications:

These are medications aimed at treating the AF by maintaining the normal rhythm. Such medications include: Amiodarone, Flecainide, Sotalol, Dofetilide, or Propafenone.

Anti-arrhythmic medications act on heart tissues at a cellular level to stop or prevent atrial fibrillation. These medications can be effective at keeping you in sinus rhythm and may need to be taken one or more times a day. Each of the medications has possible side effects. Side effects are usually rare but may include headache, constipation, shortness of breath and, less often, arrhythmias.

### SPECIAL ISSUES:

Dofetilide requires hospitalization for 72 hours for heart rhythm monitoring while you are being started (or loaded) on the medication.

Amiodarone requires periodic blood tests to monitor your thyroid and liver function as it may cause problems with these organs. Amiodarone can also cause lung problems, or a bluish grey skin discoloration.

Flecainide may also require occasional blood tests to monitor levels in your blood stream.

## ABLATION FOR AF

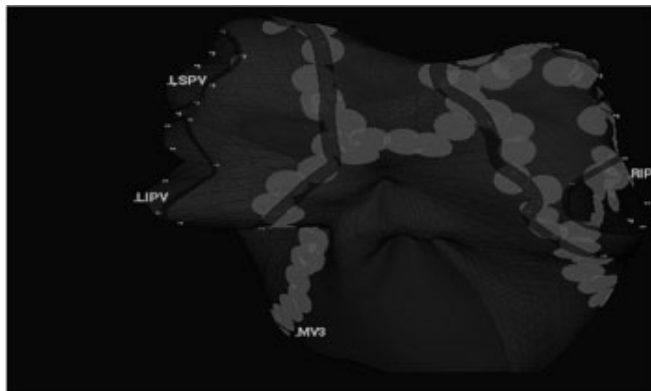
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### **Pulmonary Vein Isolation:**

This procedure is used in patients who have paroxysmal lone AF or atrial fibrillation with minimal heart disease. The goal of this procedure is to find the area in the atria that is causing the AF to occur and spread throughout the atria. The physician looks at various areas within the top chambers of the heart to find the source of the abnormal electrical impulses. Often these impulses come from an area in and around the pulmonary veins (4 large veins that bring blood back to the heart from the lungs).

Once the catheters are in place, the doctor will start to record the electrical signals from the heart and "map" these veins as well as other areas in the atrium. Once the source is located, the radiofrequency energy (electrical current) will be passed through the catheter and heat the tissue at the tip of the catheter. This will inactivate or scar the tissue. Your doctor may refer to these as "burns". The doctor may create a ring or circle around one or more of the large veins that enter the left atrium. This creates a barrier to stop the AF.

### **Left Atrial Catheter Ablation:**



This procedure is used to try to prevent AF in patients who have more persistent forms of AF and structural heart disease. The atrial tissue itself often allows the AF to spread or propagate. The goal of this procedure is to change or modify the atrial tissue (substrate) so that can no longer happen. Ablation is usually aimed at an area around the pulmonary veins and connecting structures.

The radiofrequency energy (electrical current) will be passed through the catheter and heat the tissue at the tip of the catheter. This creates a barrier so that the AF can no longer spread.

## **SURGICAL ABLATION FOR AF**

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### **Surgical Ablation**

Another way to treat AF is to break the circuit by creating barriers on the outside surface of the heart. The surgical MAZE procedure was used which involved an open-heart procedure to expose the heart so that incisions could be made in the atrial tissue to create scars to disrupt the AF circuit.

Today, if a patient is having an open-chest procedure for another medical reason (bypass, or valve replacements), a procedure to create these scars may be done. Now, this procedure is being refined with the use of either radiofrequency waves, microwave energy or cryoablation (freezer-burn) applied to the outside of the heart.

## **PACEMAKER**

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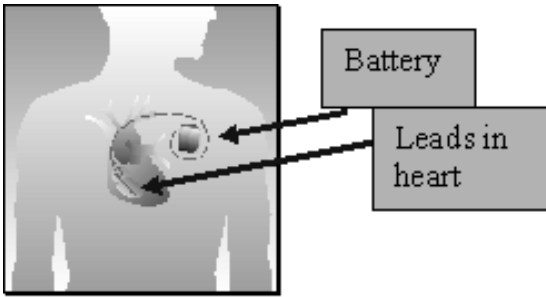
### **Pacemaker Implantation**

Certain pacemakers have special features, which attempt to maintain normal rhythm. If you have an indication for a pacemaker (slow heart rate) and atrial fibrillation then your doctor may implant a device which may help maintain a normal rhythm.



A pacemaker is a small silver dollar sized device that sends out an electrical impulse down through a special wire that is resting against the heart tissues. This impulse causes the heart muscle to contract and beat in much the same way your own body's electrical system worked.

The doctor will make a small incision (about 2-3 inches long) in the skin beneath the collarbone. A thin flexible coated wire or "lead" will be passed down through one of the large veins that lead into the heart until it reaches the chamber of the heart that will be paced by the pacemaker.



Depending on your needs, the doctor may decide to pace the right atrium (upper chamber), right ventricle (bottom chamber) and sometimes the left ventricle. Once the leads have good contact with the heart tissue, the doctor will test the leads to be sure that they are able to pace your heart (cause it to contract or squeeze). After connecting the leads to the pacemaker, the doctor will slide the pacemaker into the pocket he made under the skin. This small incision will heal in about a couple of weeks.

Available from the Atrial Fibrillation Center, [www.afibcenter.org](http://www.afibcenter.org). For questions call 434-924-0393.