



CATHETER ABLATION FOR CARDIAC ARRHYTHMIAS

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Date of Origin: November 12, 1992

Status: Current

I. DESCRIPTION

Atrial fibrillation (AF) is the most commonly diagnosed cardiac rhythm disturbance, with an incidence of 0.4% in the general population. AF occurs in a high percentage of patients with mitral valve (MV) disease, although it can also occur in individuals with no associated cardiac abnormalities. It is characterized by loss of normal sinoatrial electrical signal and rapid, fine, uncoordinated contraction of the atria.

Atrial fibrillation is associated with morbidity and mortality despite therapy with current antiarrhythmic drugs. Even the best available medical therapy only yields a 50-60 percent annual success rate in maintaining sinus rhythm. Side effects of these drugs can be problematic. Catheter ablation of arrhythmogenic foci can be performed using radiofrequency, microwave, cryotherapy or ultrasound technology. The Maze (or Cox-Maze) procedure is an open surgical ablative procedure for atrial fibrillation that can be done alone or in conjunction with valve repair or replacement. High-intensity focused ultrasound (HIFU), the Epicor™ system, may also be used for ablation in conjunction with other open heart procedures.

Initial experience with catheter ablation procedures based on a creation of linear lesions in both atria was disappointing but led to the key observation that focal triggers localized in the pulmonary veins were responsible for initiation of atrial fibrillation and are thus suitable targets for catheter ablation.

Electrical isolation of all four pulmonary veins from the left atrium provides the highest cure rates for atrial fibrillation. However, the procedure is operator dependent and is associated with a small but significant risk of pulmonary vein stenosis. Given the complexity and difficulties in ablating multiple pulmonary veins, **ablation of atrial fibrillation is not considered the initial treatment of choice or the standard of care for the treatment of atrial fibrillation.**

The optimal treatment method for patients who have idiopathic paroxysmal fibrillation appears to be left atrial catheter ablation as opposed to segmental ostial catheter ablation. Patients with chronic or persistent atrial fibrillation and patients with vago-tonic type of paroxysmal atrial fibrillation pulmonary vein isolation have a low success rate. In these subgroups and in patients with paroxysmal atrial fibrillation that does not respond to pulmonary vein isolation, an approach that



involves ablation within the left atrium, it is likely but not proven to yield better results.

Future Studies:

It is expected that with further advances in technology and simplification of techniques, radio frequency ablation of atrial fibrillation will become a widespread procedure. Methods to reduce the risk of pulmonary veins stenosis are under development. These technological developments primarily focus on design of the catheter tip, including diameter of the catheter tip and method for delivering ablative energy. Balloon-based, ultra-sound catheters using laser and cryoablation are currently being designed, as are circular catheters through which either radiofrequency or cryo lesions can be delivered.

II. POLICY/CRITERIA

A. Catheter ablation **is covered as primary therapy** for the following arrhythmias:

1. Idiopathic ventricular tachycardia (VT) with frequent PVCs
2. Wolfe-Parkinson-White (WPW) patients who have symptomatic tachycardia
3. Bundle branch block with re-entrant tachycardia
4. Atrial flutter
5. Paroxysmal Supraventricular Tachycardia (PSVT). For patients with documented PSVT by EKG, Holter monitor, etc., electrophysiology (EP) study may be required to demonstrate the specific diagnosis. Priority Health will cover EP studies and ablation if EP testing indicates one of the following three common PSVT diagnoses:
 - a. Atrioventricular nodal reentrant tachycardia (AVNRT)
 - b. Atrioventricular reentrant tachycardia (AVRT)
 - c. Focal atrial tachycardia

B. Catheter ablation **is covered as secondary therapy** for the following arrhythmias:

1. Atrial fibrillation, or
2. Non-ischemic or ischemic ventricular tachycardia (VT): for patients with chronic, recurrent VT undergoing ablation of an identifiable focus
3. Inappropriate sinus tachycardia

AND one of the following:

1. Drug refractory, symptomatic patient, *or*
2. Intolerable side effects to anti-arrhythmic drugs, *or*
3. Contraindications to anticoagulation



- C. Catheter ablation of ventricular arrhythmogenic foci is covered after ICD placement when either of the following conditions is met:
 1. Failure of ICD defined as ICD-resistant ventricular arrhythmias, or
 2. Excessively frequent ICD-terminated arrhythmias resistant to re-institution of maximal doses of anti-arrhythmic medications.

- D. High-intensity focused ultrasound (HIFU), the Epicor™ system as a stand-alone ablative procedure for atrial fibrillation is considered investigational and is not a covered benefit. The Epicor™ procedure was reviewed by Priority Health’s Technology Assessment Committee in June 2006 and this policy reflects the recommendations of the committee.

III. MEDICAL NECESSITY REVIEW

- Required Not Required Not Applicable

IV. APPLICATION TO PRODUCTS

Coverage is subject to member’s specific benefits. Group specific policy will supersede this policy when applicable.

- ❖ **HMO/EPO:** *This policy applies to insured HMO/EPO plans.*
- ❖ **POS:** *This policy applies to insured POS plans.*
- ❖ **PPO:** *This policy applies to insured PPO plans.*
- ❖ **ASO:** *For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.*
- ❖ **INDIVIDUAL:** *For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.*
- ❖ **MEDICARE:** *Coverage is determined by the Centers for Medicare and Medicaid Services (CMS).*
- ❖ **MEDICAID:** *Coverage is determined by the Michigan Medicaid Provider Manual and the Michigan Medicaid Fee Schedule at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html.*
- ❖ **MICHILD:** *For MICHILD members, this policy will apply unless MICHILD certificate of coverage limits or extends coverage.*

V. CODING INFORMATION

ICD-9 Codes that may support medical necessity

These Diagnoses may support medical necessity:

- 426.10 Atrioventricular block, unspecified
- 426.11 First degree atrioventricular block
- 426.12 Mobitz (type) II atrioventricular block



- 426.13 Other second degree atrioventricular block
- 426.2 Left bundle branch hemiblock
- 426.3 Other left bundle branch block
- 426.4 Right bundle branch block
- 426.50 Bundle branch block, unspecified
- 426.51 Right bundle branch block and left posterior fascicular block
- 426.52 Right bundle branch block and left anterior fascicular block
- 426.53 Other bilateral bundle branch block
- 426.54 Trifascicular block
- 426.6 Other heart block
- 426.7 Anomalous atrioventricular excitation (Wolff Parkinson-White)
- 426.81 Lown-Ganong-Levine syndrome

- 427.0 Paroxysmal supraventricular tachycardia
- 427.1 Paroxysmal ventricular tachycardia
- 427.2 Unspecified paroxysmal tachycardia
- 427.31 Atrial fibrillation
- 427.32 Atrial flutter
- 427.41 Ventricular fibrillation
- 427.42 Ventricular flutter
- 427.5 Cardiac arrest
- 427.61 Supraventricular premature beats
- 427.81 Sinoatrial node dysfunction
- 427.89 Other specified cardiac dysrhythmias
- 427.9 Cardiac dysrhythmia, unspecified

- 780.2 Syncope and collapse

CPT/HCPCS Codes

- 93650 Intracardiac catheter ablation of atrioventricular node function, atrioventricular conduction for creation of complete heart block, with or without temporary pacemaker placement
- 93651 Intracardiac catheter ablation of arrhythmogenic focus; for treatment of supraventricular tachycardia by ablation of fast or slow atrioventricular pathways, accessory atrioventricular connections or other atrial foci, singly or in combination
- 93652 Intracardiac catheter ablation of arrhythmogenic focus; for treatment of ventricular tachycardia

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