

**ELECTROPHYSIOLOGY TESTING & CATHETER ABLATION  
FOR CARDIAC ARRHYTHMIAS**

**Effective Date:** February 1, 2017

**Review Dates:** 1/93, 12/99, 12/01, 12/02, 2/03, 1/04,  
3/04, 3/05, 2/06, 8/06, 2/07, 4/07, 4/08, 4/09, 4/10,  
4/11, 4/12, 4/13, 5/14, 5/15, 5/16, 5/17, 5/18, 11/18

**Date of Origin:** November 12, 1992

**Status:** Current

**Summary of Changes**

Clarifications:

- Pg. 2, Section IV. DESCRIPTION: Clarified that the Maze procedure can, in addition to being performed as an open procedure, be performed endoscopically. Also enhanced description of the convergent procedure which incorporates epicardial and endocardial ablation.

**I. POLICY/CRITERIA**

- A. Electrophysiology (EP) testing does not require prior authorization.
- B. Catheter ablation for cardiac arrhythmias is a covered benefit according to InterQual® criteria.
- C. High-intensity focused ultrasound (HIFU), (e.g. 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.

**II. MEDICAL NECESSITY REVIEW**

Required                       Not Required                       Not Applicable

**III. 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); if a coverage determination has not been adopted by CMS, this policy applies.*
- ❖ **MEDICAID/HEALTHY MICHIGAN PLAN:** *For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: [http://www.michigan.gov/mdch/0,1607,7-132-2945\\_42542\\_42543\\_42546\\_42551-159815--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html). If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: [http://www.michigan.gov/mdch/0,1607,7-132-2945\\_5100-87572--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html), the Michigan Medicaid Provider Manual will govern. If there is a discrepancy or lack of guidance in the Michigan Medicaid Provider Manual, the Priority Health contract with Michigan Medicaid will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.*

#### IV. 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, and cryotherapy or ultrasound technology. The Cox-maze IV, sometimes called a mini-maze, is a closed chest, minimally-invasive endoscopic procedure that creates epicardial scar lines or lesions on the epicardium (the outside of the heart) that work to divert the abnormal electrical impulses in the heart. (The Cox-maze III is an open approach typically utilized only in conjunction with valve repair or replacement.) In the convergent procedure, upon completion of a Cox-maze IV, endocardial ablation is performed, creating any additional necessary lesions on the interior walls of the heart. 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.

**V. CODING INFORMATION**

**ICD-10 Codes** that may apply:

I44.30 – I44.7	Other and unspecified atrioventricular block
I45.0 – I45.9	Other conduction disorders
I46.2	Cardiac arrest due to underlying cardiac condition
I46.9	Cardiac arrest, cause unspecified
I47.0 – I47.9	Paroxysmal tachycardia
I48.0 – I48.92	Atrial fibrillation and flutter
I49.0 – I49.9	Other cardiac arrhythmias
I97.190 – I97.191	Other postprocedural cardiac functional disturbances following surgery
I97.790 – I97.791	Other intraoperative cardiac functional disturbances during surgery

**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
- 93653 Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia with right atrial pacing and recording, right ventricular pacing and recording, His recording with intracardiac catheter ablation of arrhythmogenic focus; with treatment of supraventricular tachycardia by ablation of fast or slow atrioventricular pathway, accessory atrioventricular connection, cavo-tricuspid isthmus or other single atrial focus or source of atrial re-entry
- 93654 Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia with right atrial pacing and recording, right ventricular pacing and recording, His recording with intracardiac catheter ablation of arrhythmogenic focus; with treatment of ventricular tachycardia or focus of ventricular ectopy including intracardiac electrophysiologic 3D mapping, when performed, and left ventricular pacing and recording, when performed
- 93656 Comprehensive electrophysiologic evaluation including transeptal catheterizations, insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia with atrial recording and pacing, when possible, right ventricular pacing and recording, His bundle recording with intracardiac catheter ablation of arrhythmogenic focus, with treatment of atrial fibrillation by ablation by pulmonary vein isolation
- 93655 Intracardiac catheter ablation of a discrete mechanism of arrhythmia which is distinct from the primary ablated mechanism, including repeat diagnostic maneuvers, to treat a spontaneous or induced arrhythmia (List separately in addition to code for primary procedure)
- 93657 Additional linear or focal intracardiac catheter ablation of the left or right atrium for treatment of atrial fibrillation remaining after completion of pulmonary vein isolation (List separately in addition to code for primary procedure)
- 93613 Intracardiac electrophysiologic 3-dimensional mapping (List separately in addition to code for primary procedure)
- 33265 Endoscopy, surgical; operative tissue ablation and reconstruction of atria, limited (e.g., modified maze procedure), without cardiopulmonary bypass. (No PA required)**
- 33266 Endoscopy, surgical; operative tissue ablation and reconstruction of atria, extensive (e.g., maze procedure), without cardiopulmonary bypass (No PA required)**

**Not Covered**

- 93799 Unlisted cardiovascular service or procedure  
(Not covered when used for High-intensity focused ultrasound (HIFU) ablation. Explanatory notes must accompany claim)

C9734 Focused ultrasound ablation/therapeutic intervention, other than uterine leiomyomata, with magnetic resonance (MR) guidance

## VI. REFERENCES

- Morady F. Treatment of Paroxysmal Atrial Fibrillation by Pulmonary Vein Isolation. *Circulation* 2003; 67:567-571.
- Oral H, et al. Catheter Ablation of Paroxysmal Atrial Fibrillation Segmental Pulmonary Vein Ostial Ablation versus Left Atrial Ablation. *Circulation* 2003; 108:2355-2360.
- NASPE Policy Statement on Catheter Ablation; Personnel Policy Procedures and Therapeutic Recommendations. *PACE* 2003; 26:789-799.
- “Catheter Ablation of Arrhythmogenic Foci”, Blue Cross Blue Shield of Massachusetts, No: 123, 05/06.  
[http://www.bcbsma.com/common/en\\_US/medical\\_policies/123.htm](http://www.bcbsma.com/common/en_US/medical_policies/123.htm)
- “Cardiac Catheter Ablation Procedures” Aetna Coverage Policy Bulletin, No: 0165, April 11, 2006. <http://www.aetna.com/cpb/data/PrtCPBA0165.html>. (Retrieved March 16, 2009, February 24, 2010, March 28, 2011, August 7, 2012, February 18, 2013, April 8, 2014 & April 6, 2015)
- “Radiofrequency Catheter Ablation” HAYES, Inc. February 2001. Updated Search October 30, 2005.
- Edwardo Saad, et al. “Ablation of atrial fibrillation”, *Current Cardiology Reports*. September 2000; 4(5).
- Haissaguerre M, et al., “Electro physiological breakthroughs from the left atrium to the pulmonary veins”, *Circulation* 2000; 102: 2463-2465.
- Natalea, et al., “First Human Experience with Pulmonary Vein Isolation using a through-the-balloon circumferential ultrasound ablation system for recurrent atrial fibrillation”, *Circulation* 2000, 102: 1879-1882.
- Microwave Surgical Ablation System for Treatment of Atrial Fibrillation, Hayes Brief, July 17, 2005.
- Maze Procedure for Atrial Fibrillation, Hayes Directory Report, March 6, 2003. Updated Search January 24, 2006.
- Guidant Microwave Ablation System, Hayes Search & Summary March 30, 2005
- Radiofrequency Ablation (Isolation) of the Pulmonary Veins for the Treatment of Atrial Fibrillation, Hayes Search & Summary, June 2, 2006.
- Radiofrequency Catheter Ablation for Cardiac Arrhythmias, Cigna Healthcare Coverage Position, 4/15/2006. Available on World Wide Web @ [http://www.cigna.com/health/provider/medical/procedural/coverage\\_positions/medical/index.html](http://www.cigna.com/health/provider/medical/procedural/coverage_positions/medical/index.html) (Retrieved July 10, 2006, March 16, 2009, & February 24, 2010)

- Microwave Ablation for Treatment of Atrial Fibrillation, Cigna Healthcare Coverage Position, 11/15/2005. Available on World Wide Web @ [http://www.cigna.com/health/provider/medical/procedural/coverage\\_positions/medical/index.html%20](http://www.cigna.com/health/provider/medical/procedural/coverage_positions/medical/index.html%20) (Retrieved July 10, 2006)
- Fuster, V. et.al. ACC/AHA/ESC Guidelines for the Management of Patients with Atrial Fibrillation. Journal of the American College of Cardiology, Vol. 38, No. 4, 2001.
- Transcatheter Ablation of Arrhythmogenic Foci in the Pulmonary Veins as a Treatment of Atrial Fibrillation, The Regence Group Medical Policy, 11/01/2005. Available on the World Wide Web @ <http://www.regence.com/trgmedpol/surgery/sur138.html> (Retrieved July 12, 2006 & March 16, 2009).
- Epicor™ Cardiac Ablation System for the Treatment of Atrial Fibrillation, Hayes Search & Summary, February 15, 2006.
- Blomström-Lundqvist et al. Management of Patients with Supraventricular Arrhythmias  
J Am Coll Cardiol 2003;42:1493–531 ACC/AHA/ESC Guidelines for the Management of Patients With Supraventricular Arrhythmias A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Develop Guidelines for the Management of Patients With Supraventricular Arrhythmias)
- Atrial Fibrillation: ACC/AHA/ESC 2006 Guidelines for Management of Patients With Atrial Fibrillation (J Am Coll Cardiol 2006; 48:854-906)  
[Reddy VY](#), et.al. “Prophylactic catheter ablation for the prevention of defibrillator therapy”, [N Engl J Med](#). 2007 Dec 27; 357(26):2657-65.
- [Estes NA](#), “Ablation after ICD implantation--bridging the gap between promise and practice”, [N Engl J Med](#). 2007 Dec 27; 357(26):2717-9.
- Heart Rhythm. 2009 Jun; 6(6):886-933. EHRA/HRS Expert Consensus on Catheter Ablation of Ventricular Arrhythmias: developed in a partnership with the European Heart Rhythm Association (EHRA), a Registered Branch of the European Society of Cardiology (ESC), and the Heart Rhythm Society (HRS); in collaboration with the American College of Cardiology (ACC) and the American Heart Association (AHA), Aliot EM, Stevenson WG, Almendral-Garrote JM, Bogun F, Calkins CH, Delacretaz E, Della Bella P, Hindricks G, Jaïs P, Josephson ME, Kautzner J, Kay GN, Kuck KH, Lerman BB, Marchlinski F, Reddy V, Schalij MJ, Schilling R, Soejima K, Wilber D
- Wann LS, et. al. Heart Rhythm. 2011 Jan; 8(1):157-76. 2011 ACCF/AHA/HRS focused update on the management of patients with atrial fibrillation (Updating the 2006 Guideline): a report of the American College of



Cardiology Foundation/American Heart Association Task Force on Practice Guidelines.

High Intensity Focused Ultrasound (HIFU), Cigna Medical Coverage Policy, @ [https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm\\_0274\\_coveragepositioncriteria\\_magnetic\\_res\\_guided\\_thermal\\_ablat\\_fibroids.pdf](https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0274_coveragepositioncriteria_magnetic_res_guided_thermal_ablat_fibroids.pdf) (Retrieved April 8, 2014, April 6, 2015, March 23, 2017 & April 6, 2018)

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