



2018 CODING AND REIMBURSEMENT FOR

Cardiac Surgical Ablation and Left Atrial Appendage Management

AtriCure

2018 Coding and Reimbursement Considerations

Introduction

This information is shared for educational purposes and current as of January 2018. Healthcare providers are solely responsible for the accuracy of codes selected for the services rendered and reported in the patient's medical record. AtriCure does not assume responsibility for coding decisions nor recommend codes for specific cases. Items and services that are billed to payers must be medically necessary and supported by appropriate documentation. AtriCure does not promote the off-label use of its devices. While a code may exist describing certain procedures and/or technologies, this does not guarantee payment by payers.

Product Offerings

AtriCure product offering includes: Bipolar Radiofrequency (RF) and Cryoablation surgical ablation devices, the AtriClip® Left Atrial Appendage Management System (LAAM), and cryoICE® Cryoanalgesia. These therapies are indicated as part of surgical treatment with either coronary artery bypass graft surgery (CABG), Mitral valve replacement (MVR), Aortic valve replacement (AVR), or in combination with an epicardial ablation procedure.

Table 1. Physician Coding and Reimbursement

Current Procedure Terminology (CPT®) are codes describing the procedure during the patient visit. CPT codes that may be appropriate for procedures used in conjunction with cardiac ablation surgery and LAAM include but are not limited to:

CPT*	Description	CY 2018 Total Facility Relative Value Units (RVUs)**	CY 2018 National Payment Rates
Cardiac Surgical Ablation			
33250	Operative ablation of supraventricular arrhythmogenic focus or pathway without cardiopulmonary bypass	42.43	\$1,527.06
33251	Operative ablation of supraventricular arrhythmogenic focus or pathway with cardiopulmonary bypass	46.96	\$1,690.09
33254	Operative tissue ablation and reconstruction of atria, limited (e.g., modified Maze procedure)	39.41	\$1,418.37
33255	Operative tissue ablation and reconstruction of atria, extensive (e.g., Maze procedure); without cardiopulmonary bypass	47.44	\$1,707.37
33256	Operative tissue ablation and reconstruction of atria, extensive (e.g., Maze procedure); with cardiopulmonary bypass	56.30	\$2,026.24
*33257	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac procedure(s), limited (e.g., modified Maze procedure)	16.84	\$606.07
*33258	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac procedure(s), extensive (e.g., Maze procedure); without cardiopulmonary bypass	19.03	\$684.89
*33259	Operative tissue ablation and reconstruction of atria, performed at the time of other cardiac procedure(s), extensive (e.g., Maze procedure), with cardiopulmonary bypass	24.43	\$879.24
33265	Endoscopy, surgical; operative tissue ablation and reconstruction of atria, limited (e.g., modified Maze procedure), without cardiopulmonary bypass	39.31	\$1,414.77
33266	Endoscopy, surgical; operative tissue ablation and reconstruction of atria, extensive (e.g., Maze procedure), without cardiopulmonary bypass	53.59	\$1,921.51

Table 1. Physician Coding and Reimbursement *continued*

CPT*	Description	CY 2018 Total Facility Relative Value Units (RVUs)**	CY 2018 National Payment Rates
Mitral Valve Surgery			
33420	Valvotomy mitral valve; closed heart	52.32	\$1,883.00
33422	Valvotomy mitral valve; open heart, with cardiopulmonary bypass	48.52	\$1,746.23
33425	Valvuloplasty, mitral valve, with cardiopulmonary bypass	79.10	\$2,846.81
33426	Valvuloplasty, mitral valve, with cardiopulmonary bypass; with prosthetic ring	68.91	\$2,480.07
33427	Valvuloplasty, mitral valve, with cardiopulmonary bypass; radical reconstruction, with or without ring	70.74	\$2,545.93
33430	Replacement, mitral valve, with cardiopulmonary bypass	80.90	\$2,911.59
Aortic Valve Surgery			
33390	Valvuloplasty, aortic valve, open, with cardiopulmonary bypass; simple (i.e., valvotomy, debridement, debulking, and/or simple commissural resuspension)	54.95	\$1,977.65
33391	Valvuloplasty, aortic valve, open, with cardiopulmonary bypass; complex (i.e., leaflet extension, leaflet resection, leaflet reconstruction, or annuloplasty)	65.19	\$2,346.19
33404	Construction of apical-aortic conduit	50.99	\$1,835.13
33405	Replacement, aortic valve, open, with cardiopulmonary bypass; with prosthetic valve other than homograft or stentless valve	65.62	\$2,361.66
33406	Replacement, aortic valve, open, with cardiopulmonary bypass with allograft valve (freehand)	83.04	\$2,988.61
33410	Replacement, aortic valve, open, with cardiopulmonary bypass with stentless tissue valve	73.60	\$2,648.86
33411	Replacement, aortic valve; with aortic annulus enlargement, noncoronary sinus	96.94	\$3,488.87
33412	Replacement, aortic valve with transventricular aortic annulus enlargement (Konno procedure)	91.94	\$3,308.92
33413	Replacement, aortic valve; by translocation of autologous pulmonary valve with allograft replacement of pulmonary valve (Ross procedure)	94.04	\$3,384.50
CABG			
33533	Coronary artery bypass, using arterial graft(s); single arterial graft	54.06	\$1,945.62
33534	Coronary artery bypass, using arterial graft(s); 2 arterial grafts	63.60	\$2,288.96
33535	Coronary artery bypass, using arterial graft(s); 3 arterial grafts	70.86	\$2,550.25
33536	Coronary artery bypass, using arterial graft(s); 4 or more arterial grafts	76.11	\$2,739.20
33542	Myocardial resection	75.85	\$2,729.84
33545	Repair of postinfarction ventricular septal defect, with or without myocardial resection	89.51	\$3,221.46
33548	Surgical ventricular restoration procedure, includes prosthetic patch, when performed	86.13	\$3,099.82
Surgical LAAM			
33999	Unlisted procedure, cardiac surgery	At payer discretion	

Table 1. Physician Coding and Reimbursement *continued*

CPT*	Description	CY 2018 Total Facility Relative Value Units (RVUs)**	CY 2018 National Payment Rates
Electrophysiology Cardiac Ablation			
*93613	Intracardiac EP 3-dimensional mapping	9.38	\$337.76
93631	Intra-operative epicardial and endocardial pacing and mapping to localize the site of tachycardia or zone of slow conduction for surgical correction	11.51	\$414.35
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 (when necessary), His bundle recording (when necessary) 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	24.33	\$875.64
*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	12.40	\$446.28
93656	Comprehensive electrophysiologic evaluation including transseptal catheterizations, insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia including left or right atrial pacing/recording when necessary, right ventricular pacing/recording when necessary, and His bundle recording when necessary with intracardiac catheter ablation of atrial fibrillation by pulmonary vein isolation	32.68	\$1,176.15
*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	12.39	\$445.92

*Source: American Medical Association. CPT 2018 Professional Edition.

** The facility payment is the physician's professional fee in a facility setting. Average national rates are unadjusted by Geography Practice Cost Index. Payment rates reflect a conversion factor of \$35.9996 (effective first quarter 2018).

*Indicates a secondary add-on procedure code to be listed with primary procedure code.

Limited operative ablation: Surgical isolation of triggers of supraventricular dysrhythmias by operative ablation that isolates the pulmonary veins or other anatomically defined triggers in the left or right atrium.

Extensive operative ablation: Services in limited ablation definition and additional ablation of atrial tissue to eliminate supraventricular dysrhythmias. This must include operative ablation that involves either the right atrium, the atrial septum or left atrium in continuity with the atrioventricular annulus.

Table 2. Inpatient Facility Coding and Reimbursement

The site of service depends on the patient's chief complaint, clinical presentation and is solely determined by the admitting physician. The ICD-10-CM (Internal Classification of Disease, Tenth Revision, Clinical Modification) Diagnosis Code(s) and primary ICD-10-PCS procedure code(s) determine the MS-DRG (Medicare Severity Diagnosis Related Group).

MS-DRG*	Description	Weight	Arithmetic mean LOS	CY 2018 Inpatient National Standardized Prospective Payment
Cardiac Surgical Ablation**				
228	Other cardiothoracic procedures with MCC	6.594	9.8	\$36,267.73
229	Other cardiothoracic procedures without MCC	4.581	4.8	\$25,199.81
Cardiac Valve				
216	Cardiac valve and other major cardiothoracic procedures with cardiac catheterization with MCC	9.497	14.4	\$52,232.17
217	Cardiac valve and other major cardiothoracic procedures with cardiac catheterization with CC	6.2785	8.9	\$34,530.87
218	Cardiac valve and other major cardiothoracic procedures with cardiac catheterization without CC/MCC	5.685	5.9	\$31,266.20
219	Cardiac valve and other major cardiothoracic procedures without cardiac catheterization with MCC	7.6046	11.2	\$41,824.24
220	Cardiac valve and other major cardiothoracic procedures without cardiac catheterization with CC	5.1391	6.8	\$28,264.33
221	Cardiac valve and other major cardiothoracic procedures without cardiac catheterization without CC/MCC	4.5842	5	\$25,212.46
CABG*				
231	Coronary bypass with PTCA with MCC	8.113	12	\$44,620.36
232	Coronary bypass with PTCA without MCC	5.8397	8.5	\$32,117.53
233	Coronary bypass with cardiac catheterization with MCC	7.3437	12.9	\$40,389.32
234	Coronary bypass with cardiac catheterization without MCC	5.0569	8.7	\$27,812.24
235	Coronary bypass without cardiac catheterization with MCC	5.7784	10.1	\$31,780.39
236	Coronary bypass without cardiac catheterization without MCC	3.8836	6.5	\$21,359.26

CC = comorbidity or complication, MCC = major complication or comorbidity, w/o = without, PTCA = percutaneous transluminal coronary angioplasty.

*Source: Optum 360. DRG Expert 2018

Table 3. Outpatient Hospital and Ambulatory Surgery Center Reimbursement

When a percutaneous ablation procedure is performed, the corresponding APC (ambulatory payment classification, similar to DRG for inpatient) for in hospital outpatient prospective payment system (HOPPS) may include:

CPT	Definition	APC	Title	CY 2018 Medicare National Standardized APC Payment (HOPPS)
Percutaneous AF Ablation				
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 (when necessary), and His bundle recording (when necessary) 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 atria re-entry	5213	Level 3 EP Procedure	\$18,514.85
93656	Comprehensive electrophysiologic evaluation including transeptal catheterizations, insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia including left or right atrial pacing/recording when necessary, right ventricular pacing/recording when necessary, and His bundle recording when necessary with intracardiac catheter ablation of atrial fibrillation by pulmonary vein isolation	5213	Level 3 EP Procedure	\$18,514.85

*Source: FY18 Medicare outpatient rates based upon Final Rule release.

Table 4. Common ICD-10 codes used during cardiac surgery and EP ablation procedures

ICD-10 CM	Diagnosis Description
I48	Atrial fibrillation and flutter
I48.1	Persistent atrial fibrillation
I48.2	Chronic atrial fibrillation
I48.91	Unspecified atrial fibrillation
ICD-10 PCS	Procedure Description
02563ZZ	Destruction of right atrium, percutaneous
02564ZZ	Destruction of right atrium, percutaneous endoscopic
02560ZZ	Destruction of right atrium, open
02573ZZ	Destruction of left atrium, percutaneous
02574ZZ	Destruction of left atrium, percutaneous endoscopic
02570ZZ	Destruction of left atrium, open
025T0ZZ	Destruction of left pulmonary vein, open
025T3ZZ	Destruction of left pulmonary vein, percutaneous
025T4ZZ	Destruction of left pulmonary vein, percutaneous endoscopic
02B70ZK	Excision of left atrial appendage, open approach
02B74ZK	Excision of left atrial appendage, percutaneous endoscopic approach
02L70CK	Occlusion of left atrial appendage with extraluminal device, open approach
02L74CK	Occlusion of left atrial appendage with extraluminal device, percutaneous endoscopic approach, concomitant

*Source: FY18 AMA ICD-10 PCS codebook

Peer-Reviewed Evidence

Clinical evidence in support of surgical cardiac ablation and left atrial appendage surgical closure includes but is not limited to the following peer-reviewed publications. Citations are available upon request.

Cardiac surgical ablation with/without concomitant cardiac surgery (CABG, MVR, AVR)

- Ad et al. Surgical ablation of atrial fibrillation trends and outcomes in North America. *J Thorac Cardiovasc Surg.* 2012 144(5):1051-60.
- Badhwar et al. The Society of Thoracic Surgeons 2017 Clinical Practice Guidelines for the Surgical Treatment of Atrial Fibrillation. *Ann Thorac Surg.* 2017 103(1):329-341.
- Badhwar et al. Surgical Ablation of Atrial Fibrillation in the United States: Trends and Propensity Matched Outcomes. *Ann Thorac Surg.* 2017 104(2):493-500.
- Gillinov et al. Surgical ablation of atrial fibrillation during mitral-valve surgery. *N Engl J Med.* 2015 372(15):1399-409.
- Philpott et al. The ABLATE Trial: Safety and Efficacy of Cox Maze-IV Using a Bipolar Radiofrequency Ablation System. *Ann Thorac Surg.* 2015 100(5):1541-8.
- Rankin et al. One-year mortality and costs associated with surgical ablation for atrial fibrillation concomitant to coronary artery bypass grafting. *Eur J Cardiothorac Surg.* 2017 52(3):471-47

Concomitant cardiac surgery with either (CABG, MVR, AVR) and surgical left atrial appendage management

- Aryana et al. Association between incomplete surgical ligation of left atrial appendage and stroke and systemic embolization. *Heart Rhythm.* 2015 12(7):1431-7.
- Caliskan et al. Epicardial left atrial appendage AtriClip occlusion reduces the incidence of stroke in patients with atrial fibrillation undergoing cardiac surgery. *Europace.* 2017 Jul 18. doi: 10.1093/europace/eux211. [Epub ahead of print]
- Elbadawi et al. Impact of Left Atrial Appendage Exclusion on Cardiovascular Outcomes in Patients With Atrial Fibrillation Undergoing Coronary Artery Bypass Grafting (From the National Inpatient Sample Database). *Am J Cardiol.* 2017 120(6):953-958.
- García-Fernández et al. Role of left atrial appendage obliteration in stroke reduction in patients with mitral valve prosthesis. *JACC* 2003 42(7):1253-8.
- Onalan et al. Left atrial appendage exclusion for stroke prevention in patients with nonrheumatic atrial fibrillation. *Stroke.* 2007 38(2 Suppl):624-30.

For questions and/or additional information, please contact AtriCure's Health Policy HelpLine Phone: (888)-347-6403.

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