



Cardiac Ablation – Single Service

Clinical Guidelines for Medical Necessity Review

Version: 2
Effective Date: July 29, 2024

Important Notices

Notices & Disclaimers:

GUIDELINES SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine medical necessity of services (the "**Guidelines**") for informational purposes only, and solely for use by Cohere's authorized "**End Users**". These Guidelines (and any attachments or linked third party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision making of any kind; their sole purpose and intended use is to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

©2024 Cohere Health, Inc. All Rights Reserved.

Other Notices:

HCPCS® and CPT® copyright 2024 American Medical Association. All rights reserved.

Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

HCPCS and CPT are registered trademarks of the American Medical Association.

Guideline Information:

Specialty Area: Cardiovascular Disease

Guideline Name: Cardiac Ablation (Single Service)

Literature review current through: 7/24/2024

Document last updated: 7/24/2024

Type: ☒ Adult (18+ yo) | ☒ Pediatric (0-17yo)

Table of Contents

Important Notices	2
Table of Contents	3
Medical Necessity Criteria	4
Service: Cardiac Ablation	4
General Guidelines	4
Medical Necessity Criteria	5
Indications	5
Non-Indications	7
Level of Care Criteria	8
Procedure Codes (HCPCS/CPT)	8
Medical Evidence	10
References	10
Clinical Guideline Revision History/Information	13

Medical Necessity Criteria

Service: Cardiac Ablation

General Guidelines

- **Units, Frequency, & Duration:** Single event, no applicable frequency.
- **Criteria for Subsequent Requests:** Unsuccessful initial procedure or recurrence of arrhythmia.
- **Recommended Clinical Approach:**
 - Cardiac ablation for atrial fibrillation (AF): Catheter ablation is a procedural approach to rhythm control for atrial fibrillation. As atrial fibrillation can become refractory to medication over time, ablation is often recommended for symptomatic patients who have become refractory to or intolerant of medical therapy or as a first-line therapy in selected patients. Ablation, at minimum, entails the isolation of tissue around pulmonary vein ostia using standard techniques such as radiofrequency or cryothermal energy or newer techniques such as pulsed field ablation (PFA). The approach to an ablation strategy should include a realistic risk-benefit analysis of outcomes. Ablation of atrial fibrillation is a higher-risk proposition for a patient who is unable to be treated with anticoagulant therapy before, during, and after the ablation.
 - For AV node ablation: AV nodal ablation in the context of atrial fibrillation is a palliative treatment for persistent or permanent atrial fibrillation, which is symptomatic, has failed rhythm and rate control, and may be causing tachyarrhythmia-induced heart failure. This procedure must be performed in patients with a pre-existing pacemaker or patients for whom a pacemaker implant is planned during the same procedure. AV node ablation is not considered a first-line treatment for rate control of atrial fibrillation.¹⁻³ AV nodal ablation is a palliative treatment performed and has distinct indications separate from other therapeutic cardiac ablations.
 - Cardiac ablation for atrial flutter (AFL): Catheter ablation is a procedural approach to rhythm control for atrial flutter. As atrial flutter is often symptomatic and can be a trigger for atrial fibrillation, ablation is often recommended for patients who have become refractory to medical therapy. Ablation of typical flutter at minimum entails isolation of tissue involved in the macroreentrant circuit rotating around the tricuspid annulus, using radiofrequency or cryothermal energy. Alternatively, an

atrial flutter circuit created by a past cardiac surgical scar can be identified using available mapping techniques, and an ablation line can be drawn through this circuit to disrupt continuity.⁴

Scar-mediated atrial flutter circuits can be located in either the right or left atrium, traverse across chambers, and be multiple in number.⁵ There are very few factors that make ablation of atrial flutter inappropriate. The ablation of typical atrial flutter is low risk and is a relatively straightforward procedure. Scar-mediated flutter ablations can be much more complex anatomically but still have good success rates with catheter ablation.

- Cardiac ablation for supraventricular tachycardia (SVT): Catheter ablation is an acceptable first-line therapy for the treatment of SVT. Catheter ablation can be used before any medication because of its high success and low complication rate. Arrhythmia substrate can be approached using radiofrequency or cryothermal energy, depending on location. Cryoablation has dramatically reduced the probability of inadvertent AV block during ablation procedures.⁶
- Cardiac ablation for ventricular arrhythmias: Catheter ablation of ventricular arrhythmias is a common approach to treatment, especially when the mechanism is refractory to antiarrhythmic therapy. VT can be due to a reentrant mechanism (often related to a scar-mediated circuit) or a focal area of excitability. PVCs with a high-frequency burden on monitoring are often the cause of diminished ventricular function, which can be reversed with catheter ablation.^{7,8} In certain forms of VT, an epicardial substrate can be identified. This often requires the insertion of a mapping/ablation catheter from a subxiphoid approach to access the area where the arrhythmia originates.⁹

- **Exclusions:** None.

Medical Necessity Criteria

Indications

→ **Cardiac Ablation** is considered appropriate if **ANY** of the following is **TRUE**:

- ◆ The procedure is **cardiac ablation for atrial fibrillation** and **ANY** of the following is **TRUE**^{10-12,17}:
 - In patients with symptomatic paroxysmal or persistent AF in whom Class I or III antiarrhythmic drugs have been ineffective, contraindicated, not tolerated or not preferred, and continued rhythm control is desired, catheter ablation is useful to improve symptoms; **OR**

- For recurrent episodes of symptomatic atrial fibrillation, which occur greater than three months after the initial procedure (ablation); **OR**
- In appropriate patients with AF and HFrEF who are on GDMT, and with reasonable expectation of procedural benefit, catheter ablation is beneficial to improve symptoms, QOL, ventricular function, and cardiovascular outcomes; **OR**
- In appropriate patients with symptomatic AF and HFpEF with reasonable expectation of benefit, catheter ablation can be useful to improve symptoms and improve QOL; **OR**
- ◆ The procedure is **atrioventricular node ablation** and **ALL** of the following are **TRUE**^{1,2,13}:
 - Persistent or permanent atrial fibrillation; **AND**
 - The patient is an unfavorable candidate for rhythm control, either by pharmaceutical or interventional means; **AND**
 - Pharmacologic rate control has been unsuccessful due to rhythm refractoriness or patient intolerance; **AND**
 - The patient has a permanent pacemaker implanted or is an appropriate candidate for ventricular pacing; **AND**
 - The patient is at-risk of developing or has a history of heart failure; **AND**
 - Suspected tachycardia-mediated cardiomyopathy; **OR**
- ◆ The procedure is **cardiac ablation for atrial flutter** and **ANY** of the following is **TRUE**^{1,2,10,11}:
 - The patient has symptomatic atrial flutter and has become refractory or cannot tolerate treatment with a Class I or III antiarrhythmic; **OR**
 - The patient has new-onset atrial flutter who is determined to be a favorable candidate for ablation as a first-line therapy vs antiarrhythmic medication; **OR**
 - Recurrence of atrial flutter with a reasonable expectation of success with a redo procedure; **OR**
 - Recurrent episodes of symptomatic atrial flutter; **OR**
- ◆ The procedure is an **electrophysiology study (EPS)/cardiac ablation for supraventricular tachycardia** and **ANY** of the following is **TRUE**:
 - Symptomatic or sustained SVT; **OR**
 - WPW pattern and syncope¹⁵; **OR**
 - After any episode of pre-excited atrial fibrillation¹⁵; **OR**
 - A focal atrial tachycardia which is the likely etiology of new cardiomyopathy; **OR**
 - For evaluation of asymptomatic patients with ventricular preexcitation pattern to determine **ANY** of the following:

- Inducibility of AVRT; **OR**
- Rapidity of antegrade conduction as a risk factor for sudden cardiac arrest; **OR**
- For the presence of manifest ventricular preexcitation which would interfere with certain types of employment (e.g., pilots, military service)¹⁵; **OR**
- ◆ The procedure is **cardiac ablation for ventricular arrhythmia** and **ANY** of the following is **TRUE**:
 - Symptomatic premature ventricular complexes (PVCs) with frequency of greater than 5% of beats in a patient refractory to or intolerant to antiarrhythmic therapy; **OR**
 - High PVC frequency (generally >15% of beats and predominately of 1 morphology⁷) is associated with symptoms or diminished LV function (LVEF less than 50%) on cardiac imaging; **OR**
 - When a PVC of similar morphology is a trigger for other arrhythmias, such as VF; **OR**
 - Frequent PVCs refractory to medical therapy, which are interfering with the effectiveness of biventricular pacing; **OR**
 - Sustained symptomatic monomorphic VT in the structurally normal heart; **OR**
 - Episodes of VT causing excess appropriate ICD shocks (e.g., in ARVC, Brugada syndrome, sarcoidosis); **OR**
 - Recurrent sustained monomorphic VT in a patient with structural heart disease that is refractory to or intolerant to antiarrhythmic therapy⁹; **OR**
 - In cardiomyopathy with VT storm; **OR**
 - Sustained monomorphic VT in repaired Tetralogy of Fallot⁸; **OR**
 - In other forms of adult congenital heart disease (ACHD) with sustained VT, which have undergone appropriate evaluation and treatment for anatomic and hemodynamic etiologies.^{8,16}

Non-Indications

→ **Cardiac Ablation** is not considered appropriate if **ANY** of the following is **TRUE**:^{1,2,11}

- ◆ The procedure is cardiac ablation for atrial fibrillation and there is recurrence of atrial fibrillation within three months of an ablation; **OR**
- ◆ The procedure is cardiac ablation for AV node ablation and **ANY** of the following is **TRUE**:
 - Paroxysmal atrial fibrillation; **OR**

- The patient is a candidate for pharmacologic or interventional rhythm control; **OR**
- The patient is taking a pharmacologic agent, which is successfully achieving rate control; **OR**
- The patient is not a candidate for permanent pacing; **OR**
- ◆ The procedure is an electrophysiology study/ablation for supraventricular tachycardia and the patient has nonsustained, asymptomatic supraventricular tachycardia; **OR**
- ◆ The procedure is cardiac ablation for ventricular arrhythmia and **ANY** of the following is **TRUE**:
 - The patient has infrequent nonsustained VT; **OR**
 - The patient has Torsades de Pointes or other sustained polymorphic VT; **OR**
 - After the patient has experienced VF arrest.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (HCPCS/CPT)

CPT/HCPCS Code	Code Description/Definition
+93462	Left heart catheterization by transseptal puncture through intact septum or by transapical puncture
+93613	Intracardiac electrophysiologic three- dimensional mapping
93631	Intraoperative epicardial and endocardial pacing and mapping to localize the site of tachycardia or zone of slow conduction for surgical correction
93650	Intracardiac catheter ablation of atrioventricular node function, atrioventricular conduction for creation of complete heart block
93653	Comprehensive electrophysiologic evaluation with insertion and repositioning of multiple electrode catheters, with attempted induction of arrhythmia, with right atrial pacing and recording, with treatment of supraventricular tachycardia by ablation
93654	Comprehensive electrophysiologic evaluation with

	insertion and repositioning of multiple electrode catheters, with attempted induction of arrhythmia, with right atrial pacing and recording, with focus of ventricular ectopy
+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
93656	Comprehensive electrophysiologic evaluation with transseptal catheterization, with insertion and repositioning of multiple electrode catheters, with attempted induction of arrhythmia, with atrial pacing and recording
+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
+93662	Intracardiac echocardiography during therapeutic/diagnostic intervention, including imaging supervision and interpretation

Medical Evidence

January et al. (2014) published an evidence-based, systematic review and subsequent guidelines for the American Heart Association, American College of Cardiology, and the Heart Rhythm Society, for Management of Patients with Atrial Fibrillation. A number of recommendations were made or revised for optimum management of atrial fibrillation. Atrioventricular (AV) nodal ablation with permanent ventricular pacing is recommended to control heart rate when pharmacological therapy has not been effective and rhythm control not achieved. Ablation not recommended as a first-line treatment; medications should be utilized first whenever possible.²

Calkins et al. (2017) published an expert consensus statement with the Heart Rhythm Society, the European Heart Rhythm Association (EHRA) and the European Cardiac Arrhythmia Society to update guidelines based on advances in atrial fibrillation ablation since their previous publication. It was recommended that the amount of time an individual spends in AF (24-hour AF burden) is essential to address when ablation is being considered. This is due largely to the increase in the use of implantable loop recorders, pacemakers, and ICDs.¹

A 2015 New England Journal of Medicine publication by Verma et al. describes catheter ablation procedures for persistent atrial fibrillation vs. paroxysmal atrial fibrillation. In this randomized trial of 589 patients, it was concluded that among patients with persistent atrial fibrillation, there was no reduction in the rate of recurrent atrial fibrillation when ablation was performed in addition to pulmonary vein isolation.¹⁰

Otto et al. (2021) published a Scientific Statement for the American Heart Association with recommendations for the management of valvular heart disease. Regarding intervention for secondary mitral regurgitation, successful ablation of atrial fibrillation may reduce or eliminate mitral regurgitation.¹²

Joglar et al. (2024) published an updated guideline addressing the diagnosis and management of atrial fibrillation. The guideline recognized lifestyle and risk factor modification as a pillar of AF management to prevent onset, progression, and adverse outcomes as well as emphasizing the

importance of early and continued management of patients with AF that should focus on maintaining sinus rhythm and minimizing AF burden. Catheter ablation of AF received a Class I indication as first-line therapy in selected patients based on recent randomized studies that have demonstrated the superiority of catheter ablation over drug therapy for rhythm control in appropriately selected patients.¹⁷

References

1. Calkins H, Hindricks G, Cappato R, et al. 2017 HRS/ EHRA/ ECAS/APHRS/ SOLAECE expert consensus statement on catheter and surgical ablation of atrial fibrillation: Executive summary. *J Arrhythm*. 2017 Oct;33(5):369–409.
2. January C, Wann L, Alpert J, et al. 2014 AHA/ACC/HRS guideline for the management of patients with atrial fibrillation: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines and the Heart Rhythm Society. *Circulation*. 2014;130(23):e199–267.
3. US Food and Drug Administration. Summary of Safety and Effectiveness Data. WATCHMAN left atrial appendage closure device with delivery system. https://www.accessdata.fda.gov/cdrh_docs/pdf13/P130013S035B.pdf.
4. Page R, Joglar J, Caldwell M, et al. 2015 ACC/AHA/HRS Guideline for the Management of Adult Patients With Supraventricular Tachycardia: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society [published correction appears in *Circulation*. 2016 Sep 13;134(11):e234–5]. *Circulation*. 2016;133(14):e506–e574.
5. Walsh E and Cecchin F. Arrhythmias in adults with congenital heart disease. *Circulation*. Jan 2007; 115: 534–545.
6. Hollanda Oliveira L, Viana M, Luize C, et al. Underuse of Catheter Ablation as First-Line Therapy for Supraventricular Tachycardia. *J Am Heart Assoc*. 2022;11(11):e022648. doi:10.1161/JAHA.121.022648
7. Al-Khatib S, Stevenson W, Ackerman M, et al. 2017 AHA/ACC/HRS guideline for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: Executive summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. *Heart Rhythm*. 2018 Oct;15(10):e190–e252.
8. Cronin E, Bogun F, Maury P, et al. 2019 HRS/EHRA/APHRS/LAHRS expert consensus statement on catheter ablation of ventricular arrhythmias: Executive summary. *J Arrhythm*. 2020 Jan 3;36(1):1–58. doi: 10.1002/joa3.12264.
9. Priori S, Blomström-Lundqvist C, Mazzanti A, et al. 2015 ESC Guidelines for the Management of Patients With Ventricular Arrhythmias and the

Prevention of Sudden Cardiac Death. *Rev Esp Cardiol (Engl Ed)*. 2016;69(2):176. doi:10.1016/j.rec.2016.01.001

10. Verma A, Jiang CY, Betts TR, et al. Approaches to catheter ablation for persistent atrial fibrillation. *N Engl J Med*. 2015;372(19):1812–1822. doi:10.1056/NEJMoa1408288
11. Morillo CA, Verma A, Connolly SJ, et al. Radiofrequency ablation vs antiarrhythmic drugs as first-line treatment of paroxysmal atrial fibrillation (RAAFT-2): a randomized trial [published correction appears in JAMA. 2014 Jun 11;311(22):2337] [published correction appears in JAMA. 2021 Jul 27;326(4):360]. *JAMA*. 2014;311(7):692–700. doi:10.1001/jama.2014.467
12. Otto CM, Nishimura RA, Bonow RO, et al. 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease. *J Am Coll Cardiol*. 2021;77(4):25–197.
13. Gopinathannair R, Chen L, Chung M, et al. Managing Atrial Fibrillation in Patients With Heart Failure and Reduced Ejection Fraction: A Scientific Statement From the American Heart Association [published correction appears in Circ Arrhythm Electrophysiol. 2021;14(11):e000080]. *Circ Arrhythm Electrophysiol*. 2021;14(6):HAE00000000000000078. doi:10.1161/HAE.00000000000000078
14. Hollanda Oliveira L, Viana M, Luize C, et al. Underuse of Catheter Ablation as First-Line Therapy for Supraventricular Tachycardia. *J Am Heart Assoc*. 2022;11(11):e022648. doi:10.1161/JAHA.121.022648
15. Delacrétaiz, E. Supraventricular tachycardia: which patient should be treated with radiofrequency ablation? *US Cardiol. Rev*. 2006;3(2):1–2.
16. van Zyl M, Kapa S, Padmanabhan D, et al. Mechanism and outcomes of catheter ablation for ventricular tachycardia in adults with repaired congenital heart disease. *Heart Rhythm*. 2016;13:1449–54
17. Joglar JA, Chung MK, Armbruster AL, Benjamin EJ, Chyou JY, et al. 2023 ACC/AHA/ACCP/HRS guideline for the diagnosis and management of atrial fibrillation: a report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *J Am Coll Cardiol*. 2024;83:109–279

Clinical Guideline Revision History/Information

Original Date: December 29, 2023		
Review History		
Version 2	July 29, 2024	Re-formatted document, updated indications and non-indications/references