carelon

Status: Reaffirmed
Doc ID: CAR10-0724.1-R0725
Effective Date: 07/01/2024
Last Review Date: 07/17/2025

Approval and implementation dates for specific health plans may vary. Please consult the applicable health plan for more details.

Clinical Appropriateness Guidelines

Cardiovascular

Appropriate Use Criteria: Transcatheter Ablation for Management Supraventricular and Ventricular Arrhythmias

Proprietary

Table of Contents

Description and Application of the Guidelines

The Carelon Clinical Appropriateness Guidelines (hereinafter “the Carelon Clinical Appropriateness Guidelines” or the “Guidelines”) are designed to assist providers in making the most appropriate treatment decision for a specific clinical condition for an individual. The Guidelines establish objective and evidence-based criteria for medical necessity determinations, where possible, that can be used in support of the following:

- To establish criteria for when services are medically necessary
- To assist the practitioner as an educational tool
- To encourage standardization of medical practice patterns
- To curtail the performance of inappropriate and/or duplicate services
- To address patient safety concerns
- To enhance the quality of health care
- To promote the most efficient and cost-effective use of services

The Carelon guideline development process complies with applicable accreditation and legal standards, including the requirement that the Guidelines be developed with involvement from appropriate providers with current clinical expertise relevant to the Guidelines under review and be based on the most up-to-date clinical principles and best practices. Resources reviewed include widely used treatment guidelines, randomized controlled trials or prospective cohort studies, and large systematic reviews or meta-analyses. Carelon reviews all of its Guidelines at least annually.

Carelon makes its Guidelines publicly available on its website. Copies of the Guidelines are also available upon oral or written request. Additional details, such as summaries of evidence, a list of the sources of evidence, and an explanation of the rationale that supports the adoption of the Guidelines, are included in each guideline document.

Although the Guidelines are publicly available, Carelon considers the Guidelines to be important, proprietary information of Carelon, which cannot be sold, assigned, leased, licensed, reproduced or distributed without the written consent of Carelon.

Carelon applies objective and evidence-based criteria, and takes individual circumstances and the local delivery system into account when determining the medical appropriateness of health care services. The Carelon Guidelines are just guidelines for the provision of specialty health services. These criteria are designed to guide both providers and reviewers to the most appropriate services based on a patient’s unique circumstances. In all cases, clinical judgment consistent with the standards of good medical practice should be used when applying the Guidelines. Guideline determinations are made based on the information provided at the time of the request. It is expected that medical necessity decisions may change as new information is provided or based on unique aspects of the patient’s condition. The treating clinician has final authority and responsibility for treatment decisions regarding the care of the patient and for justifying and demonstrating the existence of medical necessity for the requested service. The Guidelines are not a substitute for the experience and judgment of a physician or other health care professionals. Any clinician seeking to apply or consult the Guidelines is expected to use independent medical judgment in the context of individual clinical circumstances to determine any patient’s care or treatment.

The Guidelines do not address coverage, benefit or other plan specific issues. Applicable federal and state coverage mandates take precedence over these clinical guidelines, and in the case of reviews for Medicare Advantage Plans, the Guidelines are only applied where there are not fully established CMS criteria. If requested by a health plan, Carelon will review requests based on health plan medical policy/guidelines in lieu of the Carelon Guidelines. Pharmaceuticals, radiotracers, or medical devices used in any of the diagnostic or therapeutic interventions listed in the Guidelines must be FDA approved or conditionally approved for the intended use. However, use of an FDA approved or conditionally approved product does not constitute medical necessity or guarantee reimbursement by the respective health plan.

The Guidelines may also be used by the health plan or by Carelon for purposes of provider education, or to review the medical necessity of services by any provider who has been notified of the need for medical necessity review, due to billing practices or claims that are not consistent with other providers in terms of frequency or some other manner.

General Clinical Guideline

Clinical Appropriateness Framework

Critical to any finding of clinical appropriateness under the guidelines for a specific diagnostic or therapeutic intervention are the following elements:

- Prior to any intervention, it is essential that the clinician confirm the diagnosis or establish its pretest likelihood based on a complete evaluation of the patient. This includes a history and physical examination and, where applicable, a review of relevant laboratory studies, diagnostic testing, and response to prior therapeutic intervention.
- The anticipated benefit of the recommended intervention is likely to outweigh any potential harms, including from delay or decreased access to services that may result (net benefit).
- Widely used treatment guidelines and/or current clinical literature and/or standards of medical practice should support that the recommended intervention offers the greatest net benefit among competing alternatives.
- There exists a reasonable likelihood that the intervention will change management and/or lead to an improved outcome for the patient.

Providers may be required to submit clinical documentation in support of a request for services. Such documentation must a) accurately reflect the clinical situation at the time of the requested service, and b) sufficiently document the ordering provider's clinical intent.

If these elements are not established with respect to a given request, the determination of appropriateness will most likely require a peer-to-peer conversation to understand the individual and unique facts that would justify a finding of clinical appropriateness. During the peer-to-peer conversation, factors such as patient acuity and setting of service may also be taken into account to the extent permitted by law.

Simultaneous Ordering of Multiple Diagnostic or Therapeutic Interventions

Requests for multiple diagnostic or therapeutic interventions at the same time will often require a peer-to-peer conversation to understand the individual circumstances that support the medical necessity of performing all interventions simultaneously. This is based on the fact that appropriateness of additional intervention is often dependent on the outcome of the initial intervention.

Additionally, either of the following may apply:

- Current literature and/or standards of medical practice support that one of the requested diagnostic or therapeutic interventions is more appropriate in the clinical situation presented; or
- One of the diagnostic or therapeutic interventions requested is more likely to improve patient outcomes based on current literature and/or standards of medical practice.

Repeat Diagnostic Intervention

In general, repeated testing of the same anatomic location for the same indication should be limited to evaluation following an intervention, or when there is a change in clinical status such that additional testing is required to determine next steps in management. At times, it may be necessary to repeat a test using different techniques or protocols to clarify a finding or result of the original study.

Repeated testing for the same indication using the same or similar technology may be subject to additional review or require peer-to-peer conversation in the following scenarios:

- Repeated diagnostic testing at the same facility due to technical issues
- Repeated diagnostic testing requested at a different facility due to provider preference or quality concerns

- Repeated diagnostic testing of the same anatomic area based on persistent symptoms with no clinical change, treatment, or intervention since the previous study
- Repeated diagnostic testing of the same anatomic area by different providers for the same member over a short period of time

Repeat Therapeutic Intervention

In general, repeated therapeutic intervention in the same anatomic area is considered appropriate when the prior intervention proved effective or beneficial and the expected duration of relief has lapsed. A repeat intervention requested prior to the expected duration of relief is not appropriate unless it can be confirmed that the prior intervention was never administered. Requests for on-going services may depend on completion of previously authorized services in situations where a patient's response to authorized services is relevant to a determination of clinical appropriateness.

Transcatheter Ablation for Management of Supraventricular and Ventricular Arrhythmias

General Information

Guideline Scope

This guideline addresses the medical necessity of transcatheter cardiac ablation in the management of supraventricular and ventricular arrhythmias. This includes ablation of accessory pathway(s), fast or slow AV pathway, or arrhythmogenic atrial or ventricular foci. Ablation for treatment of atrial flutter is also addressed. Although, from an anatomical origin perspective, the term supraventricular tachycardia includes atrial fibrillation (AF), ablation for management of AF is not discussed here (*see the Carelon Clinical Appropriateness Guidelines for Transcatheter Ablation for Management of Atrial Fibrillation*). Surgical ablation for management of cardiac arrhythmia is beyond the scope of these guidelines.

Description

Transcatheter ablation for management of supraventricular tachycardia

Supraventricular tachycardia (SVT) is a term encompassing a wide variety of rhythm abnormalities which either originate above or within the atrioventricular (AV) node or use AV nodal or atrial tissue as a component of the arrhythmia circuit. Atrial fibrillation, although supraventricular in origin, is usually not included in the scope of SVT and is discussed separately. The presentation of SVT is widely varied ranging from incidental discovery of an asymptomatic arrhythmia to sudden cardiac death. The specific manifestation depends on many factors, including the specific type of rhythm disturbance, its duration, the ventricular rate in response to the SVT, underlying cardiac disease, patient age, state of hydration, etc. In addition to the acute hemodynamic consequences of the arrhythmia, management must also include consideration of tachycardia-induced cardiomyopathy, and (in the case of atrial flutter) need for anticoagulation. Patients contemplating pregnancy and those with congenital heart disease present additional management challenges. It is assumed that a known precipitating causes of SVT (e.g., hyperthyroidism or acute pulmonary disease) will be addressed before chronic management decisions are made.

In general, the role of ablation in management of SVT is predicated upon the balance of risks and benefits, the likelihood of success, and the patient's willingness to use medication long term. SVT ablation is an invasive procedure, and it is not without potential complications. As with any invasive cardiac procedure, vascular access complications are not uncommon. Major complications are fortunately less common but include cardiac perforation with pericardial tamponade, atrial esophageal fistula, embolic events, and even death. Procedural success is high for most SVT ablations and complication rates are low (usually quoted at <2%). Mortality rates are very low but not nonexistent—0.2% for ablation of typical flutter, 0.1% for atrioventricular reentrant tachycardia (AVRT), and 0.01% for atrioventricular node reentrant tachycardia (AVNRT). Ablation is usually performed with fluoroscopic guidance which exposes the patient to ionizing radiation. This exposure can be avoided using electroanatomical mapping systems if available.

Transcatheter accessory pathway ablation for asymptomatic preexcitation

Patients with accessory pathways may have ventricular preexcitation which for most leads to no more than an abnormal EKG finding. However, accessory pathways can also lead to symptomatic AVRT, LV dysfunction or potential for accelerated conduction of an atrial arrhythmia with cardiac arrest. Management of episodic AVRT is addressed with other SVTs. Some patients with asymptomatic LV dysfunction or potential for other serious arrhythmia may benefit from accessory tract ablation.

Transcatheter ablation for management of ventricular arrhythmias

Pharmacotherapy, device therapy, and ablation are all options in the long-term management of ventricular arrhythmias (VA). Over the past several decades, advances in mapping techniques and ablation catheters have led to broadening of the indications for ablation. The most common application of ablation for ventricular arrhythmia has been in patients with ischemic cardiomyopathy and recurrent monomorphic ventricular tachycardia (VT). Success in non-ischemic cardiomyopathy is less predictable presumably because of variation in etiology and therefore in the arrhythmic substrate. Ablation also has a role in patients with a high burden of premature ventricular depolarization (PVD) resulting in cardiomyopathy. Even with the recent expansion of indications, ablation is almost always reserved for patients who have recurrent symptomatic ventricular arrhythmia despite (or with contraindication to) pharmacologic management. In this context, pharmacological management is broader than antiarrhythmic agents alone. Treatment of underlying conditions which might precipitate arrhythmia, including optimization of heart failure management and electrolyte imbalance, is considered part of standard pharmacological management. The use of ablation in addition to implantable cardioverter defibrillator (ICD) in patients with recurrent ICD-terminated arrhythmic events has been the subject of recent research. While it seems clear that ablation reduces the frequency of ICD therapy, it is unclear what frequency of ICD-treated events should prompt referral for ablation, whether ablation has any mortality benefit compared to ICD alone, and whether antiarrhythmic agents can be discontinued following ablation. Ablation as an alternative to ICD has also been considered but not widely studied. That approach may have a role in limited situations or when patients who meet criteria for ICD therapy have contraindications to (or refuse) implantation.

Definitions

Sustained SVT **–** SVT lasting longer than 30 seconds

Clinical Indications

Transcatheter ablation for management of supraventricular tachycardia

Transcatheter ablation is considered medically necessary for management of supraventricular tachycardia (SVT) in **ANY** of the following scenarios:

- Arrhythmia has caused sudden cardiac death, syncope, or tachycardia mediated cardiomyopathy
- Symptomatic arrhythmia requiring emergency room visit with pharmacological or electrical cardioversion
- Symptomatic arrhythmia correlating temporally with documented sustained SVT
- Individual planning to become pregnant who has recurrent symptomatic episodes or is pharmacologically controlled (with a view to stopping medications)
- Individual with congenital heart disease

Transcatheter ablation of accessory pathway for management of asymptomatic preexcitation

Transcatheter ablation of accessory pathway is considered medically necessary for management of asymptomatic preexcitation in the following scenario:

- Individual with high-risk EP study

Transcatheter ablation for management of ventricular arrhythmia

Transcatheter ablation is considered medically necessary for management of ventricular arrhythmia (VA) when **ANY** of the following apply:

- Recurrent symptomatic sustained VT in an individual with structural heart disease including prior myocardial infarction, congenital heart disease, hypertrophic cardiomyopathy despite (or with contraindications to) antiarrhythmic therapy
- Recurrent sustained monomorphic VT in an individual with non-ischemic cardiomyopathy, despite (or with contraindications to) antiarrhythmic therapy
- Recurrent symptomatic sustained VT in an individual with arrhythmogenic right ventricular cardiomyopathy, despite (or with contraindications to) beta blockers
- Recurrent ICD shocks for ventricular tachycardia
- Symptomatic VA in an individual with spontaneous type 1 Brugada syndrome who is not a candidate for (or declines) ICD therapy
- Symptomatic outflow tract VA in an individual with an otherwise normal heart despite (or with contraindications to) antiarrhythmic therapy or when antiarrhythmic therapy is declined
- Symptomatic VA arising from the papillary muscles despite (or with contraindications to) antiarrhythmic therapy or when antiarrhythmic therapy is declined
- Idiopathic verapamil-sensitive sustained left VT related to interfascicular reentry, despite (or with contraindications to) antiarrhythmic therapy or when antiarrhythmic therapy is declined
- Recurrent idiopathic VT or ventricular fibrillation (VF) triggered by PVCs with a consistent QRS morphology
- Symptomatic frequent unifocal PVCs (>10% of total beats) despite (or with contraindications to) antiarrhythmic therapy or when antiarrhythmic therapy is declined
- LV systolic dysfunction due to frequent unifocal PVCs (>20% of total beats) despite (or with contraindications to) antiarrhythmic therapy or when antiarrhythmic therapy is declined
- Syncope due to VT
- Symptomatic individual with bundle branch reentrant VT

References

1. Al-Khatib SM, Stevenson WG, Ackerman MJ, et al. 2017 AHA/ACC/HRS Guideline for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. J Am Coll Cardiol. 2018;72(14):e91-e220.
2. Andrade JG, Aguilar M, Atzema C, et al. The 2020 Canadian Cardiovascular Society/Canadian Heart Rhythm Society Comprehensive Guidelines for the Management of Atrial Fibrillation. Can J Cardiol. 2020;36(12):1847-948.
3. Baumgartner H, De Backer J, Babu-Narayan SV, et al. 2020 ESC Guidelines for the management of adult congenital heart disease. Eur Heart J. 2021;42(6):563-645.
4. Brignole M, Moya A, de Lange FJ, et al. 2018 ESC Guidelines for the diagnosis and management of syncope. Eur Heart J. 2018;39(21):1883-948.
5. Brugada J, Katritsis DG, Arbelo E, et al. 2019 ESC Guidelines for the management of patients with supraventricular tachycardia: The Task Force for the management of patients with supraventricular tachycardia of the European Society of Cardiology (ESC). Eur Heart J. 2020;41(5):655-720.
6. 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. Europace. 2018;20(1):e1-e160.
7. Deyell MW, AbdelWahab A, Angaran P, et al. 2020 Canadian Cardiovascular Society/Canadian Heart Rhythm Society Position Statement on the Management of Ventricular Tachycardia and Fibrillation in Patients With Structural Heart Disease. Can J Cardiol. 2020;36(6):822-36.
8. Elliott PM, Anastasakis A, Borger MA, et al. 2014 ESC Guidelines on diagnosis and management of hypertrophic cardiomyopathy: the Task Force for the Diagnosis and Management of Hypertrophic Cardiomyopathy of the European Society of Cardiology (ESC). Eur Heart J. 2014;35(39):2733-79.
9. Glikson M, Nielsen JC, Kronborg MB, et al. 2021 ESC Guidelines on cardiac pacing and cardiac resynchronization therapy. Eur Heart J. 2021;42(35):3427-520.

10. Gopinathannair R, Chen LY, Chung MK, et al. Managing Atrial Fibrillation in Patients With Heart Failure and Reduced Ejection Fraction: A Scientific Statement From the American Heart Association. Circ Arrhythm Electrophysiol. 2021;14(6):Hae0000000000000078.
11. Halvorsen S, Mehilli J, Cassese S, et al. 2022 ESC Guidelines on cardiovascular assessment and management of patients undergoing non-cardiac surgery. Eur Heart J. 2022;43(39):3826-924.
12. Heidenreich PA, Bozkurt B, Aguilar D, et al. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. J Am Coll Cardiol. 2022;79(17):e263-e421.
13. Hindricks G, Potpara T, Dagres N, et al. 2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS): The Task Force for the diagnosis and management of atrial fibrillation of the European Society of Cardiology (ESC) Developed with the special contribution of the European Heart Rhythm Association (EHRA) of the ESC. Eur Heart J. 2021;42(5):373-498.
14. January CT, Wann LS, Alpert JS, 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. J Am Coll Cardiol. 2014;64(21):e1-76.
15. January CT, Wann LS, Calkins H, et al. 2019 AHA/ACC/HRS Focused Update of the 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 Clinical Practice Guidelines and the Heart Rhythm Society. J Am Coll Cardiol. 2019;74(1):104-32.
16. Khairy P, Van Hare GF, Balaji S, et al. PACES/HRS expert consensus statement on the recognition and management of arrhythmias in adult congenital heart disease: developed in partnership between the Pediatric and Congenital Electrophysiology Society (PACES) and the Heart Rhythm Society (HRS). Endorsed by the governing bodies of PACES, HRS, the American College of Cardiology (ACC), the American Heart Association (AHA), the European Heart Rhythm Association (EHRA), the Canadian Heart Rhythm Society (CHRS), and the International Society for Adult Congenital Heart Disease (ISACHD). Can J Cardiol. 2014;30(10):e1-e63.
17. Lip GYH, Coca A, Kahan T, et al. Hypertension and cardiac arrhythmias: executive summary of a consensus document from the European Heart Rhythm Association (EHRA) and ESC Council on Hypertension, endorsed by the Heart Rhythm Society (HRS), Asia-Pacific Heart Rhythm Society (APHRS), and Sociedad Latinoamericana de Estimulación Cardíaca y Electrofisiología (SOLEACE). Eur Heart J Cardiovasc Pharmacother. 2017;3(4):235-50.
18. National Institute for Health and Clinical Excellence (NICE). Atrial fibrillation: diagnosis and management. London (UK): National Institute for Health and Clinical Excellence; 2021. p. 387.
19. Ommen SR, Mital S, Burke MA, et al. 2020 AHA/ACC Guideline for the Diagnosis and Treatment of Patients With Hypertrophic Cardiomyopathy: Executive Summary: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. J Am Coll Cardiol. 2020;76(25):3022-55.
20. Page RL, Joglar JA, Caldwell MA, 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. J Am Coll Cardiol. 2016;67(13):e27-e115.
21. Regitz-Zagrosek V, Roos-Hesselink JW, Bauersachs J, et al. 2018 ESC Guidelines for the management of cardiovascular diseases during pregnancy. Eur Heart J. 2018;39(34):3165-241.
22. Scottish Intercollegiate Guidelines Network (SIGN). Cardiac arrhythmias in coronary heart disease sign 152. SIGN. Edinburgh (UK)2018. p. 69.
23. Skelly A, Hashimoto R, Al-Khatib S, et al. AHRQ Technology Assessments. Catheter Ablation for Treatment of Atrial Fibrillation. Rockville (MD): Agency for Healthcare Research and Quality (US); 2015.
24. Stout KK, Daniels CJ, Aboulhosn JA, et al. 2018 AHA/ACC Guideline for the Management of Adults With Congenital Heart Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. 2019;73(12):e81-e192.
25. Windram J, Grewal J, Bottega N, et al. Canadian Cardiovascular Society: Clinical Practice Update on Cardiovascular Management of the Pregnant Patient. Can J Cardiol. 2021;37(12):1886-901.
26. Zeppenfeld K, Tfelt-Hansen J, de Riva M, et al. 2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death. Eur Heart J. 2022;43(40):3997-4126.

Codes

The following code list is not meant to be all-inclusive. Authorization requirements will vary by health plan. Please consult the applicable health plan for guidance on specific procedure codes.

Specific CPT codes for services should be used when available. Nonspecific or not otherwise classified codes may be subject to additional documentation requirements and review.

CPT/HCPCS

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 with insertion and repositioning of multiple electrode catheters, induction or attempted induction of an arrhythmia with right atrial pacing and recording and catheter ablation of arrhythmogenic focus, including intracardiac electrophysiologic 3-dimensional mapping, right ventricular pacing and recording, left atrial pacing and recording from coronary sinus or left atrium, and His bundle recording, when performed; 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 with insertion and repositioning of multiple electrode catheters, induction or attempted induction of an arrhythmia with right atrial pacing and recording and catheter ablation of arrhythmogenic focus, including intracardiac electrophysiologic 3-dimensional mapping, right ventricular pacing and recording, left atrial pacing and recording from coronary sinus or left atrium, and His bundle recording, when performed; with treatment of **ventricular** tachycardia or focus of ventricular ectopy including left ventricular pacing and recording, when performed
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)

History

Status	Review Date	Effective Date	Action
Reaffirmed	07/17/2025	Unchanged	Independent Multispecialty Physician Panel (IMPP) review. Guideline reaffirmed.
Created	04/15/2024, 07/18/2023	07/01/2024	IMPP review. Original effective date.