



# **Evolut Clinical Guideline 7304 for Intra Cardiac Echocardiography (ICE)**

<b><u>Guideline Number:</u></b> <b><u>Evolut CG 7304</u></b>	<b><u>Applicable Codes</u></b>	
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## **STATEMENT**

### **General Information**

- **It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.**
- **Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.**
- **The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice recommendations.**

### **Purpose**

**Indications for determining medical necessity for Intracardiac Echocardiography (ICE).**

### **Special Note**

**In order to review a request for medical necessity, the following items must be submitted for review:**

- **Cardiologist or Electrophysiologist note that prompted request**

### **Clinical Reasoning**

**All criteria are substantiated by the latest evidence-based medical literature. To enhance transparency and reference, Appropriate Use (AUC) scores, when available, are diligently listed alongside the criteria.**

**This guideline first defaults to AUC scores established by published, evidence-based guidance endorsed by professional medical organizations. In the absence of those scores, we adhere to a standardized practice of assigning an AUC score of 6. This score is determined by considering variables that ensure the delivery of patient-centered care in line with current guidelines, with a focus on achieving benefits that outweigh associated risks. This approach aims to maintain a robust foundation for decision-making and underscores our commitment to upholding the highest standards of care.** (1-5)

## **INDICATIONS**

**Intracardiac echocardiography (ICE) is indicated for:**

- **ICE is the preferred imaging modality during percutaneous closure of patent foramen ovale (PFO) or atrial septal defect (ASD) (AUC Score 8) <sup>(6)</sup>**
- **Intraprocedural guidance for a left atrial appendage occlusion device (AUC Score 6) <sup>(6)</sup>**
- **Preprocedural screening before intracardiac percutaneous interventions to detect emboli that may become dislodged during the procedure <sup>(7)</sup>**
- **As an alternative imaging module when TEE is infeasible <sup>(8,9)</sup> or conscious sedation is desired <sup>(9)</sup>**
- **Transseptal puncture and catheterization <sup>(10-12)</sup>**
- **Endomyocardial biopsy <sup>(10-12)</sup>**
- **Mitral and aortic valvuloplasty <sup>(10-12)</sup>**
- **Ablation of atrial <sup>(10)</sup> or ventricular <sup>(11)</sup> arrhythmias**
- **For positioning of left atrial appendage occlusive devices <sup>(10-12)</sup>**

## **CODING AND STANDARDS**

### **Codes**

**93662**

### **Applicable Lines of Business**

<input checked="" type="checkbox"/>	<b><u>CHIP (Children’s Health Insurance Program)</u></b>
<input checked="" type="checkbox"/>	<b><u>Commercial</u></b>
<input checked="" type="checkbox"/>	<b><u>Exchange/Marketplace</u></b>
<input checked="" type="checkbox"/>	<b><u>Medicaid</u></b>
<input checked="" type="checkbox"/>	<b><u>Medicare Advantage</u></b>

## **BACKGROUND**

### **Definitions**

**Intracardiac echocardiography (ICE) is a unique imaging modality able to provide high-resolution real time visualization of cardiac structures, continuous monitoring of catheter**

location within the heart, and early recognition of procedural complications, such as pericardial effusion or thrombus formation.

## **AUC Score**

A reasonable diagnostic or therapeutic procedure can be defined as that for which the expected clinical benefits outweigh the associated risks, enhancing patient care and health outcomes in a cost-effective manner. <sup>(3)</sup>

- Appropriate Care- Median Score 7-9
- May be Appropriate Care- Median Score 4-6
- Rarely Appropriate Care- Median Score 1-3

## **Acronyms/Abbreviations**

ASD: Atrial septal defect

AUC: Appropriate use criteria

ICE: Intra cardiac echocardiography

PFO: Patent foramen ovale

TEE: Transesophageal echocardiography

## **SUMMARY OF EVIDENCE**

ACC/AATS/AHA/ASE/ASNC/HRS/SCAI/SCCT/SCMR/STS 2019 Appropriate Use Criteria for Multimodality Imaging in the Assessment of Cardiac Structure and Function in Nonvalvular Heart Disease <sup>(6)</sup>

Study Design: The document is a report by the American College of Cardiology Appropriate Use Criteria Task Force and other associated organizations. It uses a standardized methodology to develop clinical scenarios (indications) that represent patient presentations encountered in everyday practice. These scenarios were evaluated and rated by an independent rating panel using a modified Delphi exercise. The primary objective is to provide a framework for the assessment of these scenarios to improve and standardize physician decision-making.

Target Population: The target population includes patients with nonvalvular heart disease, encompassing a wide range of conditions such as heart failure, diseases of the aorta and pericardium, and any disorder involving an abnormality of cardiac structure or function, excluding valvular diseases. The document also addresses patients undergoing transcatheter interventions for structural heart disease.

Key Factors: The document includes 102 clinical scenarios that were developed based on the most current clinical practice guidelines and key publications. These scenarios cover a broad spectrum of patient conditions and imaging needs. The document evaluates multiple imaging modalities, including transthoracic echocardiography (TTE), transesophageal echocardiography (TEE), cardiac magnetic resonance (CMR), computed

tomography (CT), and intracardiac echocardiography (ICE). ICE is specifically mentioned for its role in intraprocedural guidance for the closure of atrial septal defects and patent foramen ovale. The criteria are intended to inform clinicians, patients, and health policy makers about the reasonable use of imaging technologies to improve patient outcomes. The document emphasizes the importance of using imaging modalities that provide the most benefit while minimizing risks.

### Use of Intracardiac Echocardiography in Interventional Cardiology <sup>(11)</sup>

Study design: State-of-the-art review that provides guidance on conducting comprehensive ICE surveys and summarizes the main applications of ICE in various structural and electrophysiology procedures.

Target population: Patients undergoing catheter-based structural and electrophysiological procedures. These procedures have expanded to more complex scenarios where accurate definition of individual cardiac anatomy is crucial for optimal results.

Key factors: ICE provides high-resolution real-time visualization of cardiac structures, continuous monitoring of catheter location within the heart, and early recognition of procedural complications such as pericardial effusion or thrombus formation. ICE has largely replaced transesophageal echocardiography for guiding certain procedures, such as atrial septal defect closure and catheter ablation of cardiac arrhythmias. The study also discusses the benefits of ICE, including excellent patient tolerance, reduction of fluoroscopy time, and the lack of need for general anesthesia or a second operator. Overall, the study emphasizes the importance of ICE in improving outcomes and reducing risks in interventional cardiology procedures.

## ANALYSIS OF EVIDENCE

### Analysis <sup>(6,11)</sup>

Both articles provide strong evidence supporting the use of ICE in various cardiac procedures. They emphasize the benefits of real-time imaging, continuous monitoring, and early detection of complications, which contribute to improved procedural outcomes and patient safety.

### Shared Conclusions:

Both articles emphasize the importance and utility of intracardiac echocardiography (ICE) in various cardiac procedures. They highlight the advantages of ICE, such as real-time visualization of cardiac structures, continuous monitoring of catheter location, and early recognition of procedural complications like pericardial effusion or thrombus formation.

## POLICY HISTORY

<u>Date</u>	<u>Summary</u>
<u>July 2025</u>	<ul style="list-style-type: none"> <li>• <u>No substantial clinical content changes</u></li> <li>• <u>Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices</u></li> <li>• <u>Added a Summary of Evidence and Analysis of Evidence</u></li> </ul>
<u>November 2024</u>	<ul style="list-style-type: none"> <li>• <u>This guideline replaces UM CARDIO 1358 for Intra Cardiac Echocardiography (ICE)</u></li> </ul>

## **LEGAL AND COMPLIANCE**

### **Guideline Approval**

#### **Committee**

**Reviewed / Approved by Evolent Specialty Clinical Services Guideline Review Committee**

### **Disclaimer**

**Evolent Clinical Guidelines do not constitute medical advice. Treating health care professionals are solely responsible for diagnosis, treatment, and medical advice. Evolent uses Clinical Guidelines in accordance with its contractual obligations to provide utilization management. Coverage for services varies for individual members according to the terms of their health care coverage or government program. Individual members' health care coverage may not utilize some Evolent Clinical Guidelines. Evolent clinical guidelines contain guidance that requires prior authorization and service limitations. A list of procedure codes, services or drugs may not be all inclusive and does not imply that a service or drug is a covered or non-covered service or drug. Evolent reserves the right to review and update this Clinical Guideline in its sole discretion. Notice of any changes shall be provided as required by applicable provider agreements and laws or regulations. Members should contact their Plan customer service representative for specific coverage information.**

**Evolent Clinical Guidelines are comprehensive and inclusive of various procedural applications for each service type. Our guidelines may be used to supplement Medicare criteria when such criteria is not fully established. When Medicare criteria is determined to not be fully established, we only reference the relevant portion of the corresponding Evolent Clinical Guideline that is applicable to the specific service or item requested in order to determine medical necessity.**

## REFERENCES

1. Bonow RO, Douglas PS, Buxton AE, et al. ACCF/AHA Methodology for the Development of Quality Measures for Cardiovascular Technology. *J Am Coll Cardiol.* 2011;58(14):1517-1538. doi:10.1016/j.jacc.2011.07.007
2. Fitch Kathryn, Bernstein SJ, Aguilar MD, et al. *The RAND/UCLA Appropriateness Method User's Manual.* RAND.; 2001. Accessed October 8, 2024. [https://www.rand.org/pubs/monograph\\_reports/MR1269.html](https://www.rand.org/pubs/monograph_reports/MR1269.html)
3. Hendel RC, Lindsay BD, Allen JM, et al. ACC Appropriate Use Criteria Methodology: 2018 Update. *J Am Coll Cardiol.* 2018;71(8):935-948. doi:10.1016/j.jacc.2018.01.007
4. Hendel RC, Patel MR, Allen JM, et al. Appropriate Use of Cardiovascular Technology: 2013 ACCF appropriate use criteria methodology update. *J Am Coll Cardiol.* 2013;61(12):1305-1317. doi:10.1016/j.jacc.2013.01.025
5. Patel MR, Spertus JA, Brindis RG, et al. ACCF Proposed Method for Evaluating the Appropriateness of Cardiovascular Imaging. *J Am Coll Cardiol.* 2005;46(8):1606-1613. doi:10.1016/j.jacc.2005.08.030
6. Doherty JU, Kort S, Mehran R, et al. ACC/AATS/AHA/ASE/ASNC/HRS/SCAI/SCCT/SCMR/STS 2019 Appropriate Use Criteria for Multimodality Imaging in the Assessment of Cardiac Structure and Function in Nonvalvular Heart Disease. *J Am Coll Cardiol.* 2019;73(4):488-516. doi:10.1016/j.jacc.2018.10.038
7. Saric M, Armour AC, Arnaout MS, et al. Guidelines for the Use of Echocardiography in the Evaluation of a Cardiac Source of Embolism. *Journal of the American Society of Echocardiography.* 2016;29(1):1-42. doi:10.1016/j.echo.2015.09.011
8. Otto CM, Kumbhani DJ, Alexander KP, et al. 2017 ACC Expert Consensus Decision Pathway for Transcatheter Aortic Valve Replacement in the Management of Adults With Aortic Stenosis. *J Am Coll Cardiol.* 2017;69(10):1313-1346. doi:10.1016/j.jacc.2016.12.006
9. Wunderlich NC, Beigel R, Ho SY, et al. Imaging for Mitral Interventions. *JACC Cardiovasc Imaging.* 2018;11(6):872-901. doi:10.1016/j.jcmq.2018.02.024
10. Silvestry FE, Kerber RE, Brook MM, et al. Echocardiography-Guided Interventions. *Journal of the American Society of Echocardiography.* 2009;22(3):213-231. doi:10.1016/j.echo.2008.12.013
11. Enriquez A, Saenz LC, Rosso R, et al. Use of Intracardiac Echocardiography in Interventional Cardiology. *Circulation.* 2018;137(21):2278-2294. doi:10.1161/CIRCULATIONAHA.117.031343
12. Alkhouli M, Hijazi ZM, Holmes DR, Rihal CS, Wieggers SE. Intracardiac Echocardiography in Structural Heart Disease Interventions. *JACC Cardiovasc Interv.* 2018;11(21):2133-2147. doi:10.1016/j.jcin.2018.06.056