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2025 Left Atrial Appendage Closure (LAAC)

Cardiology

CARD-CLAA-HH

Last Review Date: 05/08/2025
Previous Review Date: 09/23/2024
Guideline Initiated: 06/30/2019

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Left Atrial Appendage Closure (LAAC) Related National Coverage Determination (NCD)/Local Coverage Determination (LCD)

Please refer to https://www.cms.gov/medicare-coverage-database/search.aspx if applicable to the individual's health plan membership.

Type/ID Number	Title
NCD 20.34	Percutaneous Left Atrial Appendage Closure (LAAC)

Clinical Judgment

These medical policies are designed to provide clinical guidance and do not supplant a provider's independent professional judgment. Physicians retain full and independent authority to determine appropriate care based on each patient's individual clinical circumstances. Although services may be subject to documentation requirements, medical necessity review, or coverage limitations, nothing in this policy is intended to restrict or interfere with a physician's independent medical judgment.

Preamble: Pediatric Cardiology Preamble

HealthHelp's clinical guidelines for the Cardiology program, are intended to apply to both adults and pediatrics (21 years of age or younger), unless otherwise specified within the criteria.

LAAC Guideline

Left atrial appendage closure (LAAC) for non-valvular atrial fibrillation (NVAF) is considered medically appropriate when the documentation demonstrates **ALL** of the following: (***NOTE:** *A formal shared decision making interaction with an independent non-interventional physician using an evidence-based decision tool on oral anticoagulation in patients with NVAF prior to LAAC. Additionally, the shared decision making interaction must be documented in the medical record.*)

1. **Anticoagulant therapy is contraindicated** (eg, recurrent falls, prior intracranial hemorrhage, intolerance of direct-acting oral anticoagulants [DOACs] or warfarin) or individual is **NOT** a candidate for long-term therapy due to high-bleeding risk or lifestyle (eg, drug intolerance, drug non-adherence, propensity for bleeding).
   References: [1] [5] [2] [4] [3]
2. Intraprocedural imaging guidance with TEE or intracardiac echocardiography is recommended.

Reference: [5]

3. Life expectancy is greater than 1 year (life expectancy calculator can be found at: https://www.lifeexpectancy.org/asp/Calculator/)[1].
   References: [1] [5] [2] [4]
4. Pre-procedural transesophageal echocardiography (TEE) or cardiac computerized tomography angiography (CCTA) is planned just prior to LAAC, to ensure there are **NO** contraindications[2].
   References: [1] [5] [2] [4]
5. Stroke risk increased based on **ANY** of the following:
   a. CHA2DS2-VASc score is 2 or more in men (stroke risk, bleeding risk, and tools for evaluating anticoagulant therapy for NVAF can be found at: https://tools.acc.org/anticoag/#!/content/calculator/
   b. CHA2DS2-VASc score is 3 or more in women.

   References: [1] [5] [2] [4] [6]

LAAC Procedure Codes

Table 1. Left Atrial Appendage Closure (LAA/LAAC) Associated Procedure Codes

CODE	DESCRIPTION
33340	Percutaneous transcatheter closure of the left atrial appendage with endocardial implant, including fluoroscopy, transseptal puncture, catheter placement(s), left atrial angiography, left atrial appendage angiography, when performed, and radiological supervision and interpretation

LAAC Summary of Changes

Left Atrial Appendage Closure (LAAC) clinical guidelines from 2024 to 2025 had the following version changes:

- Added the indication below to keep in line with current research:
  - Intraprocedural imaging guidance with TEE or intracardiac echocardiography is recommended as baseline imaging.
- Removed "Life expectancy indication". Removed because it is an assumed parameter if the test is ordered
- Citations updated per the evidence.

[1]Other life expectancy calculators can be found at http://info.eecs.northwestern.edu/FiveYearLifeExpectancyCalculator and https://apps.goldensoncenter.uconn.edu/HLEC/

[2]Contraindications include thrombus, previous repair, presence of patent foramen ovale (PFO) repair or closure device.

LAAC Definitions

Anticoagulant is a substance that is used to prevent and treat blood clots in blood vessels and the heart.

Atrial fibrillation (AF) is a cardiac rhythm disorder characterized by uncontrolled atrial activation without effective atrial contraction. On the electrocardiogram (ECG), P waves are absent. AF is characterized by rapid oscillations or fibrillatory waves that vary in amplitude, shape and timing associated with an irregular ventricular response.

- **Paroxysmal AF** terminates spontaneously or with intervention within 7 days of onset. Episodes typically convert back to sinus rhythm within 48 hours.
- **Persistent AF** is continuous AF sustained beyond 7 days.

CHADS2 Score is an acronym for **C**ongestive heart failure, **H**ypertension, **A**ge 75 and older, **D**iabetes, and **S**troke [double weight], a score developed to more accurately predict the risk of stroke in individuals with nonrheumatic atrial fibrillation.

CHA_2DS_2-VASc Score is the expansion of CHADS2 (**C**ongestive heart failure, **H**ypertension, **A**ge ≥75, **D**iabetes, **S**troke) to include three additional independent risk factors: **V**ascular disease, age between 65-74, and female sex. This score provides a better discriminated stroke risk in nonvalvular atrial fibrillation (AF) subjects with a baseline CHADS2 score of 0 to 1.

Coronary computed tomography angiography (CCTA) is a non-invasive test that uses a computed tomography (CT) scanner to obtain a 3-dimensional image of the heart, including blood vessels that supply blood to the heart muscle (coronary arteries). During the CCTA, contrast dye is injected into the vein so that the coronary arteries can be seen. CCTA provides images to identify a narrowing or blockage of the coronary arteries caused by plaque and allows for accurate visualization of the 3-dimensional heart structure (to include the valves of the heart).

High bleeding risk (HBR) is a medical term used to describe a patient's increased likelihood of bleeding. It's defined as a risk of major bleeding or intracranial hemorrhage (ICH) within one year.

Left Atrial Appendage (LAA) is a small, ear-shaped sac in the muscle wall of the left atrium of the heart.

Left Atrial Appendage Closure (LAAC) is a procedure performed to prevent stroke in individuals who have atrial fibrillation by sealing off the left atrial appendage (LAA). This prevents blood from flowing into the LAA, where clots can form.

Patent Foramen Ovale (PFO) is a tunnel-like opening in the septum of the heart between the atria that remains open after birth. The small, flap-like foramen ovale is found between the right and left atria of the fetal heart and allows blood to bypass the lungs prior to birth.

Stroke risk is the likelihood of having a stroke, which occurs when blood flow to the brain is interrupted. Risk factors for stroke can be nonmodifiable or modifiable. Nonmodifiable risk factors Age, Sex, Race and ethnicity, Family history, and Genetic factors. Modifiable risk factors,

High blood pressure, High cholesterol, Smoking, Excessive alcohol use, Physical activity, Poor diet, Obesity, Diabetes.

Thrombus is a blood clot that forms on the wall of a blood vessel or in the heart when blood platelets, proteins and cells stick together. A thrombus may block the flow of blood.

Transesophageal echocardiography (TEE) uses high-frequency sound waves (ultrasound) to make detailed pictures of the heart and the blood vessels that lead to and from it. Unlike a standard echocardiogram, the echo transducer that produces the sound waves for TEE is attached to a thin tube that passes through the mouth and throat, and into the esophagus. The esophagus is close to the upper chambers of the heart and clear images of the heart structures and valves can be obtained.

LAAC References

[1] Hindricks, G., Potpara, T., . . . Watkins, C.L. (2020). 2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS). *European Heart Journal, 42*(5), 373-498.

[2] Joglar, J.A., Chung, M.K., . . . Van Wagoner, D.R. (2024). 2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation. *Journal of the American College of Cardiology, 83*(1), 110-178.

[3] Kleindorfer, D.O., Towfighi, A., . . . Williams, L.S. (2021). 2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack: A Guideline From the American Heart Association/American Stroke Association. *Stroke, 52*(7), e364-e467.

[4] Potpara, T., Grygier, M., . . . Camm, A.J. (2024). Practical guide on left atrial appendage closure for the non-implanting physician: an international consensus paper. *Europace, 26*(4), euae035.

[5] Saw, J., Holmes, D.R., . . . Whisenant, B.K. (2023). SCAI/HRS Expert Consensus Statement on Transcatheter Left Atrial Appendage Closure. *Journal of the American College of Cardiology, 16*(11), 1384-1400.

[6] Sen, J., Tonkin, A., . . . Amerena, J. (2021). Risk stratification of cardiovascular complications using CHA2DS2-VAScand CHADS2 scores in chronic atherosclerotic cardiovascular disease. *International Journal of Cardiology, 337*, 9-15.

Disclaimer section

Purpose

The purpose of the HealthHelp's clinical guidelines is to assist healthcare professionals in selecting the medical service that may be appropriate and supported by evidence to safely improve

outcomes. Medical information is constantly evolving, and HealthHelp reserves the right to review and update these clinical guidelines periodically. HealthHelp reserves the right to include in these guidelines the clinical indications as appropriate for the organization's program objectives. Therefore the guidelines are not a list of all the clinical indications for a stated procedure, and associated Procedure Code Tables may not represent all codes available for that state procedure or that are managed by a specific client-organization.

Clinician Review

These clinical guidelines neither preempt clinical judgment of trained professionals nor advise anyone on how to practice medicine. Healthcare professionals using these clinical guidelines are responsible for all clinical decisions based on their assessment. All Clinical Reviewers are instructed to apply clinical indications based on individual patient assessment and documentation, within the scope of their clinical license.

Payment

The use of these clinical guidelines does not provide authorization, certification, explanation of benefits, or guarantee of payment; nor do the guidelines substitute for, or constitute, medical advice. Federal and State law, as well as member benefit contract language (including definitions and specific contract provisions/exclusions) take precedence over clinical guidelines and must be considered first when determining eligibility for coverage. All final determinations on coverage and payment are the responsibility of the health plan. Nothing contained within this document can be interpreted to mean otherwise.

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National and Local Coverage Determination (NCD and LCD)

NOTICE
To ensure appropriate review occurs to the most current NCD and/or LCD, always defer to https://www.cms.gov/medicare-coverage-database/search.aspx.

Background

National Coverage Determinations (NCD) and Local Coverage Determinations (LCD) are payment policy documents outlined by the Centers for Medicare and Medicaid Services (CMS) and the government's delegated Medicare Audit Contractors (MACs) that operate regionally in jurisdictions.

CMS introduced variation between different jurisdictions/Medicare Audit Contractors (MACs) and their associated covered code lists with the transition to ICD 10. The variation resulted in jurisdictions independently defining how codes are applied for exclusions, limitations, groupings, ranges, etc. for the medical necessity indications outlined in the NCD and LCD. Due to this variation, there is an inconsistent use/application of codes and coverage determinations across the United States between the different MACs.

In addition, **WITHOUT** notice, CMS can change the codes that indicate medical necessity and the format of the coverage determinations/associated documents (eg, Articles). This is an additional challenge for organizations to keep up with ongoing, unplanned changes in covered codes and medical necessity indications.

Medical Necessity Codes

Due to the variation in code application between jurisdictions/MACs and that updates can happen without notification, HealthHelp is not able to guarantee full accuracy of the codes listed for any Coverage Determination, and advises that prior to use, the associated Coverage Determination Articles are reviewed to ensure applicability to HealthHelp's programs and any associated NCDs and LCDs.

For Internal Use Only:

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