HEALTHHELP®

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Implantable Loop Recorder (ILR)

Cardiology Services

P_9845, P_9852

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Implantable Loop Recorder (ILR)

NCD 20.15
See also, **NCD 20.15**: Electrocardiographic Services at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

Guideline

An implantable loop recorder may be medically appropriate when there is **NO** other concurrent cardiac monitoring and the medical record demonstrates **ANY** of the following:

- Atrial fibrillation (AFib) when **ALL** of the following: [13]
  - **ANY** of the following:
    - Ablation postprocedure monitoring for dysrythmia. [20]
    - Anticoagulation discontinuation (to ensure absence of A-fib prior to stopping) or when transition to oral anticoagulant therapy. [5] [33]
  - Arrhythmia was **NOT** detected on inpatient telemetry and long-term external ambulatory cardiac monitoring, and further evaluation is warranted for treatment planning. [10]
- Palpitations evaluation when arrhythmia is suspected and **ALL** of the following: [2] [4] [17] [21] [27] [30] [41] [6]
  - Symptoms are infrequent (30 days between symptoms) and recurrent (less often than in 48 hour intervals). [24]
  - Evaluation included: history, physical exam, ECG, tilt-table test and orthostatic blood pressure measurements, and was non-diagnostic or indeterminate .
  - Long-term external ambulatory cardiac event monitoring was nondiagnostic.
- Stroke, cryptogenic or transient ischemic attack (TIA) that was recent (within 90 days) with suspected paroxysmal atrial fibrillation and **ALL** of the following: [10] [12] [13] [14] [22] [35] [44] [23]
  - Anticoagulation candidacy (anticoagulants are not contraindicated or refused).

- Arrhythmia was **NOT** detected on inpatient telemetry and long-term external ambulatory cardiac monitoring, and further evaluation is warranted for formal diagnosis and treatment
- Atrial fibrillation (subclinical) is suspected.
- CHA2DS2-Vasc score is 2 or higher.
- Initial evaluation including CT or MRI Brain, electrocardiogram (ECG), echocardiography and neurological workup were indeterminate for the etiology of the stroke or stroke symptoms. [6] [27]

- Syncope that is unexplained, when **ANY** of the following:
  - Arrhythmic etiology is suspected and **ALL** of the following: [3] [4] [9] [19]
    - Syncope is of uncertain origin, infrequent (30 days between symptoms) and recurrent (in less than 48 hour intervals). [24] [25] [27] [28] [37]
    - Evaluation included: history, physical exam, ECG, tilt-table test and orthostatic blood pressure measurements **AND** it was nondiagnostic or indeterminate for syncope etiology or did **NOT** lead to specific treatment indications for primary prevention ICD or a pacemaker. [27]
    - Cardiac arrhythmia was **NOT** detected on trial of external ambulatory cardiac event monitoring for at least 30 days.
  - High-risk syncope and external ambulatory cardiac event monitoring (for a minimum of 30 days) was nondiagnostic.[1][6] [32]

Contraindications to an Implantable Loop Recorder (ILR)

An implantable loop recorder (ILR) may be contraindicated for **ANY** of the following situations: [31]

- Bleeding disorder
- Clinical status makes procedure inappropriate (eg, active infection)
- Remote monitoring inaccessible

[1]High-risk syncope may be considered when syncope: occurs during exertion or while in supine position; there are palpations at time of syncope; there is a family history of sudden (cardiac) death; signs of Brugada, signs of arrhythmogenic right ventricular dysplasia; and diagnoses that include: non-sustained ventricular tachycardia, bundle branch block with QRS duration of more than 120 msec, Wolff-Parkinson-White syndrome, prolonged or short QT interval, severe structural heart disease with signs of impaired left ventricular ejection fraction, and hypertrophic cardiomyopathy. [32]

Implantable Loop Recorder (ILR) Removal

Removal of an implantable loop recorder (ILR) may be medically appropriate when the medical record supports the need for ILR removal (eg, device failure, infection, monitoring completed for treatment planning).

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Procedure Codes

Table 1. Implantable Loop Recorder (ILR) Associated Procedure Codes

CODE	DESCRIPTION
33285	Insertion, subcutaneous cardiac rhythm monitor, including programming
33286	Removal, subcutaneous cardiac rhythm monitor
C1764	Event recorder, cardiac (implantable)
E0616	Implantable cardiac event recorder with memory, activator, and programmer

Definitions/Key Terms

Arrythmia is an irregular or abnormal heart rhythm. Arrhythmia refers to any change from the normal sequence of electrical impulses of the heart, causing abnormal heart rhythms. The electrical impulses may happen too fast, too slowly or erratically – causing the heart to beat too fast, too slowly or erratically.

Arrhythmogenic right ventricular dysplasia (ARVD) (also called arrhythmogenic right ventricular cardiomyopathy, right ventricular cardiomyopathy or right ventricular dysplasia) is a rare type of cardiomyopathy that occurs when the muscle tissue in the right ventricle dies and is replaced with scar tissue. This disrupts the heart's electrical signals and causes arrhythmias. Symptoms include palpitations and fainting after physical activity. ARVD usually affects teens or young adults and can cause sudden cardiac arrest (SCA) in young athletes. Researchers believe that arrhythmogenic right ventricular dysplasia is an inherited disease.
[2]

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, and 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.

Brugada syndrome is a rare inherited cardiovascular disorder characterized by disturbances affecting the electrical system of the heart. The main symptom is irregular heartbeat and, without treatment, may result in sudden death.

Bundle branch block is a type of conduction disorder involving partial or complete interruption of the flow of electrical impulses through the right or left bundle branches. Normally, electrical impulses travel down the right and left branches of the ventricles at the same speed, allowing both ventricles to contract simultaneously. When there is a "block ” in one of the branches, electrical signals have to take a different path through the ventricle and one ventricle contracts a fraction of a second slower than the other, causing an arrhythmia.
[3,4]

Cardiac event monitor is a device used to record heart rate and rhythm for long-term monitoring of symptoms that occur less than daily. The time frame for use can be up to 30 days.

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Catheter ablation is a procedure performed in a cardiac catheterization laboratory during an electrophysiology study (EPS) for the purpose of destroying myocardial tissue by delivery of radio-frequency energy, electrical or cryo-energy. The procedure is used to correct heart arrhythmias.

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.

Cryptogenic stroke is a brain infarction not clearly attributable to a definite cardioembolism, large artery atherosclerosis, or small artery disease despite extensive investigation.

Embolic stroke of undetermined source (ESUS) is the classification of cerebral vascular accident used to describe a non-lacunar ischemic stroke, suspected to be embolic but with no identifiable etiology (cryptogenic).

Implantable loop recorder (ILR) is a subcutaneous, single-lead electrocardiographic (ECG) monitoring device used for future treatment planning.

Ischemic stroke occurs when blood flow through an artery that supplies oxygen-rich blood to the brain becomes blocked, causing the sudden death of localized brain cells. The blockage is often the result of a blood clot and less often due to an embolus.

Syncope is a transient loss of consciousness and postural tone (ability to maintain or change position intentionally) due to insufficient cerebral perfusion. The loss of consciousness is associated with prompt recovery, not needing resuscitation.

Transient ischemic attack (TIA) is a brief interruption of the blood supply to the brain that causes a temporary impairment of vision, speech or movement. Usually, the episode lasts for just a few moments but may be a warning sign of a full scale stroke.

Wolff-Parkinson-White (WPW) is a congenital condition involving abnormal electrical conduction via an accessory pathway between the atria and the ventricles, which causes ventricular pre-excitation. The electrocardiogram (ECG) shows a short PR interval and a widened QRS with an initial delta wave, that reflects the accelerated ventricular contraction. WPW results in a predisposition to atrioventricular reentry tachycardia, atrial fibrillation and atrial flutter.

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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.

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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.

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