Ambulatory Electrocardiographic (AECG) Monitoring

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➲ Instructions for Use

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Related Medicare Advantage Medical Policy
- Cardiovascular Diagnostic and Therapeutic Procedures

Related Medicare Advantage Reimbursement Policy
- Time Span Codes Policy, Professional

Related Commercial Policy
- Implantable Loop Recorders and Wearable Heart Rhythm Monitors

Coverage Rationale

Overview

Ambulatory electrocardiographic (AECG) diagnostic procedures provide a record of the heart rhythm during daily activities. AECG can often identify the existence and determine the frequency of clinically significant rhythm disturbances and waveform abnormalities that are missed on a standard electrocardiogram (ECG).

AECG continues to advance at a rapid pace and incorporates various monitoring devices and indications for use. These devices range from Holter monitors, event recorders/monitors, patch recorders, external loop recorders, mobile cardiovascular telemetry, mobile cardiovascular outpatient telemetry, and insertable cardiac monitor/implantable loop recorders. They are differentiated by capabilities and the varying technical components among devices, such as intermittent/continuous recording, patient/rhythm activated recording, number of leads, time frames of use, and whether the rhythm is interpreted in real time (attended surveillance) or if it is transferred from the device and interpreted at a later time.

CMS National Coverage Determinations (NCDs)

A National Coverage Determination (NCD) exists for electrocardiographic services. **For coverage guidelines**, refer to the NCD for Electrocardiographic Services (20.15).

CMS Local Coverage Determinations (LCDs) and Articles

Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for Ambulatory Electrocardiographic (AECG) Monitoring.

For coverage guidelines for states/territories with no LCDs/LCAs, for uses of event monitors, Holter monitors, outpatient cardiac telemetry, and patch recorders not specifically addressed by the NCD for Electrocardiographic Services (20.15), refer to the rationale below:

- AECG monitoring, when performed with a device that has FDA clearance, will be considered reasonable and necessary in any of the following situations:
  - A standard 12-lead electrocardiograph (ECG), complete cardiac history, and cardiac exam has not satisfactorily explained the patient's cardiac complaints and AECG testing will provide diagnostic information that will assist in developing a treatment plan or changing a treatment plan for patients that are at risk for cardiac arrythmias

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- For patients experiencing unexplained syncope (lightheadedness), near syncope, vertigo (dizziness), chest pain, palpitations, and/or dyspnea (shortness of breath)
- For patients experiencing nocturnal arrhythmias
- To assess documented or suspected bradycardia
- To assess the average heart rate and adequacy of rate control in a patient with atrial fibrillation
- To evaluate patient response to initiation, revision, or discontinuation of arrhythmic drug therapy
- To detect arrhythmias post ablation procedures
- To evaluate prognosis following Acute Coronary Syndrome
- Pre/post implantable cardiac defibrillator reprogramming
- To assess for Silent Myocardial Ischemia in a patient with known or suspected coronary heart disease
- To assess for asymptomatic ventricular premature beats or non-sustained ventricular tachycardia in patients with hypertrophic cardiomyopathy, arrhythmogenic right ventricular cardiomyopathy, long QT syndrome, dilated or restrictive cardiomyopathy, congenital heart disease, or Brugada syndrome
- To evaluate for occult atrial fibrillation (A-Fib) as a potential cause of cardio-embolism in patients with cryptogenic stroke
- Monitoring for arrhythmic events pre/post-TAVR

Note: A 24-48 hour monitor is most appropriate for patients with daily or near daily symptoms. Otherwise, providers should order the most appropriate type of AECG for the patient based on their evaluation of the patient, the patient's symptoms, and the devices' labeled indications.

- The following are considered not reasonable and necessary:
  - Devices that do not have FDA clearance
  - Any 24-Hour Monitoring Station that does not meet the definition in the Definitions section

For coverage guidelines for implantable loop recorders, refer to the UnitedHealthcare Commercial Medical Policy titled Implantable Loop Recorders and Wearable Heart Rhythm Monitors for clinical coverage guidance.

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service; however, language may be included in the listing below to indicate if a code is non-covered. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other policies and guidelines may apply.

CPT Code	Description
Event Monitor	
93268	External patient and, when performed, auto activated electrocardiographic rhythm derived event recording with symptom-related memory loop with remote download capability up to 30 days, 24-hour attended monitoring; includes transmission, review and interpretation by a physician or other qualified health care professional
93270	External patient and, when performed, auto activated electrocardiographic rhythm derived event recording with symptom-related memory loop with remote download capability up to 30 days, 24-hour attended monitoring; recording (includes connection, recording, and disconnection)
93271	External patient and, when performed, auto activated electrocardiographic rhythm derived event recording with symptom-related memory loop with remote download capability up to 30 days, 24-hour attended monitoring; transmission and analysis
93272	External patient and, when performed, auto activated electrocardiographic rhythm derived event recording with symptom-related memory loop with remote download capability up to 30 days, 24-hour attended monitoring; review and interpretation by a physician or other qualified health care professional
Holter Monitor	
93224	External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; includes recording, scanning analysis with report, review and interpretation by a physician or other qualified health care professional

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CPT Code	Description
Holter Monitor	
93225	External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; recording (includes connection, recording, and disconnection)
93226	External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; scanning analysis with report
93227	External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; review and interpretation by a physician or other qualified health care professional
Implantable Loop Recorder	
33285	Insertion, subcutaneous cardiac rhythm monitor, including programming
Outpatient Cardiac Telemetry	
93228	External mobile cardiovascular telemetry with electrocardiographic recording, concurrent computerized real time data analysis and greater than 24 hours of accessible ECG data storage (retrievable with query) with ECG triggered and patient selected events transmitted to a remote attended surveillance center for up to 30 days; review and interpretation with report by a physician or other qualified health care professional
93229	External mobile cardiovascular telemetry with electrocardiographic recording, concurrent computerized real time data analysis and greater than 24 hours of accessible ECG data storage (retrievable with query) with ECG triggered and patient selected events transmitted to a remote attended surveillance center for up to 30 days; technical support for connection and patient instructions for use, attended surveillance, analysis and transmission of daily and emergent data reports as prescribed by a physician or other qualified health care professional
Patch Recorder	
0937T	External electrocardiographic recording for greater than 15 days up to 30 days by continuous rhythm recording and storage; including recording, scanning analysis with report, review and interpretation by a physician or other qualified health care professional (Effective 01/01/2025)
0938T	External electrocardiographic recording for greater than 15 days up to 30 days by continuous rhythm recording and storage; recording (including connection and initial recording) (Effective 01/01/2025)
0939T	External electrocardiographic recording for greater than 15 days up to 30 days by continuous rhythm recording and storage; scanning analysis with report (Effective 01/01/2025)
0940T	External electrocardiographic recording for greater than 15 days up to 30 days by continuous rhythm recording and storage; review and interpretation by a physician or other qualified health care professional (Effective 01/01/2025)
93241	External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; includes recording, scanning analysis with report, review and interpretation
93242	External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; recording (includes connection and initial recording)
93243	External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; scanning analysis with report
93244	External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; review and interpretation
93245	External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; includes recording, scanning analysis with report, review and interpretation
93246	External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; recording (includes connection and initial recording)
93247	External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; scanning analysis with report
93248	External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; review and interpretation

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HCPCS Code	Description
Implantable Loop Recorder	
E0616	Implantable cardiac event recorder with memory, activator, and programmer

Diagnosis Code	Description
For CPT Codes 93224, 93225, 93226, 93227, 93228, 93229, 93241, 93242, 93243, 93244, 93245, 93246, 93247, 93248, 93268, 93270, 93271, and 93272	
G45.0	Vertebro-basilar artery syndrome
G45.1	Carotid artery syndrome (hemispheric)
G45.2	Multiple and bilateral precerebral artery syndromes
G45.3	Amaurosis fugax
G45.4	Transient global amnesia
G45.8	Other transient cerebral ischemic attacks and related syndromes
G45.9	Transient cerebral ischemic attack, unspecified
G46.0	Middle cerebral artery syndrome (Effective 06/21/2026)
G46.3	Brain stem stroke syndrome (Effective 06/21/2026)
G46.4	Cerebellar stroke syndrome (Effective 06/21/2026)
G46.5	Pure motor lacunar syndrome (Effective 06/21/2026)
G46.6	Pure sensory lacunar syndrome (Effective 06/21/2026)
G90.01	Carotid sinus syncope
H34.01	Transient retinal artery occlusion, right eye (Effective 06/21/2026)
H34.02	Transient retinal artery occlusion, left eye (Effective 06/21/2026)
H53.121	Transient visual loss, right eye (Effective 06/21/2026)
H53.122	Transient visual loss, left eye (Effective 06/21/2026)
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.81	Angina pectoris with coronary microvascular dysfunction
I20.89	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified (Effective 06/21/2026)
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.9	Acute myocardial infarction, unspecified
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I21.B	Myocardial infarction with coronary microvascular dysfunction
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction

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I24.1	Dressler's syndrome
I24.81	Acute coronary microvascular dysfunction
I24.89	Other forms of acute ischemic heart disease
I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.112	Atherosclerotic heart disease of native coronary artery with refractory angina pectoris
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.2	Old myocardial infarction
I25.3	Aneurysm of heart
I25.41	Coronary artery aneurysm
I25.5	Ischemic cardiomyopathy
I25.6	Silent myocardial ischemia
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
I25.702	Atherosclerosis of coronary artery bypass graft(s), unspecified, with refractory angina pectoris
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.712	Atherosclerosis of autologous vein coronary artery bypass graft(s) with refractory angina pectoris
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.722	Atherosclerosis of autologous artery coronary artery bypass graft(s) with refractory angina pectoris
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.730	Atherosclerosis of non-autologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of non-autologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.732	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with refractory angina pectoris
I25.738	Atherosclerosis of non-autologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.752	Atherosclerosis of native coronary artery of transplanted heart with refractory angina pectoris
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm

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I25.762	Atherosclerosis of bypass graft of coronary artery of transplanted heart with refractory angina pectoris
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.792	Atherosclerosis of other coronary artery bypass graft(s) with refractory angina pectoris
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I25.82	Chronic total occlusion of coronary artery
I25.83	Coronary atherosclerosis due to lipid rich plaque
I25.84	Coronary atherosclerosis due to calcified coronary lesion
I25.85	Chronic coronary microvascular dysfunction
I25.89	Other forms of chronic ischemic heart disease
I42.0	Dilated cardiomyopathy (Deleted 09/30/2026)
I42.00	Dilated cardiomyopathy, unspecified (Effective 10/01/2026)
I42.01	Familial-genetic dilated cardiomyopathy (Effective 10/01/2026)
I42.09	Other dilated cardiomyopathy (Effective 10/01/2026)
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I42.3	Endomyocardial (eosinophilic) disease
I42.4	Endocardial fibroelastosis
I42.5	Other restrictive cardiomyopathy
I42.6	Alcoholic cardiomyopathy
I42.7	Cardiomyopathy due to drug and external agent
I42.8	Other cardiomyopathies
I42.81	Arrhythmogenic cardiomyopathy (Effective 10/01/2026)
I42.89	Other cardiomyopathies not elsewhere classified (Effective 10/01/2026)
I43	Cardiomyopathy in diseases classified elsewhere
I44.0	Atrioventricular block, first degree
I44.1	Atrioventricular block, second degree
I44.2	Atrioventricular block, complete
I44.39	Other atrioventricular block
I44.4	Left anterior fascicular block
I44.5	Left posterior fascicular block
I44.69	Other fascicular block
I44.7	Left bundle-branch block, unspecified
I45.0	Right fascicular block
I45.19	Other right bundle-branch block
I45.2	Bifascicular block
I45.3	Trifascicular block

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I45.4	Nonspecific intraventricular block
I45.5	Other specified heart block
I45.6	Pre-excitation syndrome
I45.81	Long QT syndrome
I45.89	Other specified conduction disorders
I46.2	Cardiac arrest due to underlying cardiac condition
I46.8	Cardiac arrest due to other underlying condition
I47.0	Re-entry ventricular arrhythmia
I47.10	Supraventricular tachycardia, unspecified
I47.11	Inappropriate sinus tachycardia, so stated
I47.19	Other supraventricular tachycardia
I47.20	Ventricular tachycardia, unspecified
I47.21	Torsades de pointes
I47.22	Catecholaminergic polymorphic ventricular tachycardia [CPVT] (Effective 10/01/2026)
I47.29	Other ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I48.0	Paroxysmal atrial fibrillation
I48.11	Longstanding persistent atrial fibrillation
I48.19	Other persistent atrial fibrillation
I48.20	Chronic atrial fibrillation, unspecified
I48.21	Permanent atrial fibrillation
I48.3	Typical atrial flutter
I48.4	Atypical atrial flutter
I48.91	Unspecified atrial fibrillation
I48.92	Unspecified atrial flutter
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.1	Atrial premature depolarization
I49.2	Junctional premature depolarization
I49.3	Ventricular premature depolarization
I49.40	Unspecified premature depolarization (Effective 06/21/2026)
I49.49	Other premature depolarization
I49.5	Sick sinus syndrome
I49.8	Other specified cardiac arrhythmias (Deleted 09/30/2026)
I49.81	Brugada syndrome (Effective 10/01/2026)
I49.82	Ventricular bigeminy (Effective 10/01/2026)
I49.89	Other specified cardiac arrhythmias not elsewhere classified (Effective 10/01/2026)
I5A	Non-ischemic myocardial injury (non-traumatic)
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery (Effective 06/21/2026)
I63.011	Cerebral infarction due to thrombosis of right vertebral artery (Effective 06/21/2026)
I63.012	Cerebral infarction due to thrombosis of left vertebral artery (Effective 06/21/2026)
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries (Effective 06/21/2026)
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery (Effective 06/21/2026)

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I63.02	Cerebral infarction due to thrombosis of basilar artery (Effective 06/21/2026)
I63.031	Cerebral infarction due to thrombosis of right carotid artery (Effective 06/21/2026)
I63.032	Cerebral infarction due to thrombosis of left carotid artery (Effective 06/21/2026)
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries (Effective 06/21/2026)
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery (Effective 06/21/2026)
I63.09	Cerebral infarction due to thrombosis of other precerebral artery (Effective 06/21/2026)
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery
I63.111	Cerebral infarction due to embolism of right vertebral artery
I63.112	Cerebral infarction due to embolism of left vertebral artery
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery
I63.12	Cerebral infarction due to embolism of basilar artery
I63.131	Cerebral infarction due to embolism of right carotid artery
I63.132	Cerebral infarction due to embolism of left carotid artery
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries
I63.139	Cerebral infarction due to embolism of unspecified carotid artery
I63.19	Cerebral infarction due to embolism of other precerebral artery
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries (Effective 06/21/2026)
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral artery (Effective 06/21/2026)
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral artery (Effective 06/21/2026)
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries (Effective 06/21/2026)
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral artery (Effective 06/21/2026)
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery (Effective 06/21/2026)
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries (Effective 06/21/2026)
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries (Effective 06/21/2026)
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries (Effective 06/21/2026)
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid artery (Effective 06/21/2026)
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries (Effective 06/21/2026)
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery (Effective 06/21/2026)
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery (Effective 06/21/2026)
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery (Effective 06/21/2026)
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries (Effective 06/21/2026)
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery (Effective 06/21/2026)
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery (Effective 06/21/2026)
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery (Effective 06/21/2026)
I63.323	Cerebral infarction due to thrombosis of bilateral anterior cerebral arteries (Effective 06/21/2026)

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I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery (Effective 06/21/2026)
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery (Effective 06/21/2026)
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery (Effective 06/21/2026)
I63.333	Cerebral infarction due to thrombosis of bilateral posterior cerebral arteries (Effective 06/21/2026)
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery (Effective 06/21/2026)
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery (Effective 06/21/2026)
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery (Effective 06/21/2026)
I63.343	Cerebral infarction due to thrombosis of bilateral cerebellar arteries (Effective 06/21/2026)
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery (Effective 06/21/2026)
I63.39	Cerebral infarction due to thrombosis of other cerebral artery (Effective 06/21/2026)
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery
I63.411	Cerebral infarction due to embolism of right middle cerebral artery
I63.412	Cerebral infarction due to embolism of left middle cerebral artery
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery
I63.441	Cerebral infarction due to embolism of right cerebellar artery
I63.442	Cerebral infarction due to embolism of left cerebellar artery
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery
I63.49	Cerebral infarction due to embolism of other cerebral artery
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery (Effective 06/21/2026)
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery (Effective 06/21/2026)
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery (Effective 06/21/2026)
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle cerebral arteries (Effective 06/21/2026)
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery (Effective 06/21/2026)
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery (Effective 06/21/2026)
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery (Effective 06/21/2026)
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior cerebral arteries (Effective 06/21/2026)

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I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery (Effective 06/21/2026)
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery (Effective 06/21/2026)
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery (Effective 06/21/2026)
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior cerebral arteries (Effective 06/21/2026)
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery (Effective 06/21/2026)
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery (Effective 06/21/2026)
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery (Effective 06/21/2026)
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries (Effective 06/21/2026)
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery (Effective 06/21/2026)
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery (Effective 06/21/2026)
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic (Effective 06/21/2026)
I63.81	Other cerebral infarction due to occlusion or stenosis of small artery (Effective 06/21/2026)
I63.89	Other cerebral infarction
I63.9	Cerebral infarction, unspecified
I74.2	Embolism and thrombosis of arteries of the upper extremities (Effective 06/21/2026)
I74.3	Embolism and thrombosis of arteries of the lower extremities (Effective 06/21/2026)
I74.4	Embolism and thrombosis of arteries of extremities, unspecified (Effective 06/21/2026)
I74.8	Embolism and thrombosis of other arteries (Effective 06/21/2026)
I97.120	Postprocedural cardiac arrest following cardiac surgery
I97.121	Postprocedural cardiac arrest following other surgery
I97.190	Other postprocedural cardiac functional disturbances following cardiac surgery
I97.191	Other postprocedural cardiac functional disturbances following other surgery
Q20.3	Discordant ventriculoarterial connection
Q20.5	Discordant atrioventricular connection
Q20.8	Other congenital malformations of cardiac chambers and connections
Q20.9	Congenital malformation of cardiac chambers and connections, unspecified
Q21.11	Secundum atrial septal defect
Q21.12	Patent foramen ovale
Q21.13	Coronary sinus atrial septal defect
Q21.21	Partial atrioventricular septal defect
Q21.22	Transitional atrioventricular septal defect
Q21.23	Complete atrioventricular septal defect
Q21.3	Tetralogy of Fallot
Q24.6	Congenital heart block
R00.0	Tachycardia, unspecified
R00.1	Bradycardia, unspecified

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Diagnosis Code	Description
For CPT Codes 93224, 93225, 93226, 93227, 93228, 93229, 93241, 93242, 93243, 93244, 93245, 93246, 93247, 93248, 93268, 93270, 93271, and 93272	
R00.2	Palpitations
R00.8	Other abnormalities of heart beat
R06.00	Dyspnea, unspecified
R06.01	Orthopnea
R06.02	Shortness of breath
R06.03	Acute respiratory distress
R06.09	Other forms of dyspnea
R06.2	Wheezing
R06.3	Periodic breathing
R06.4	Hyperventilation
R06.81	Apnea, not elsewhere classified
R06.82	Tachypnea, not elsewhere classified
R06.83	Snoring
R06.89	Other abnormalities of breathing
R07.1	Chest pain on breathing
R07.2	Precordial pain
R07.82	Intercostal pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R10.13	Epigastric pain
R29.5	Transient paralysis
R40.4	Transient alteration of awareness
R42	Dizziness and giddiness
R55	Syncope and collapse
Z45.010	Encounter for checking and testing of cardiac pacemaker pulse generator [battery] (Effective 06/21/2026)
Z45.018	Encounter for adjustment and management of other part of cardiac pacemaker (Effective 06/21/2026)
Z45.02	Encounter for adjustment and management of automatic implantable cardiac defibrillator (Effective 06/21/2026)
Z79.85	Long-term (current) use of injectable non-insulin antidiabetic drugs
Z79.891	Long term (current) use of opiate analgesic
Z79.899	Other long term (current) drug therapy
Z86.73	Personal history of transient ischemic attack (TIA), and cerebral infarction without residual deficits
Z86.74	Personal history of sudden cardiac arrest
Z95.0	Presence of cardiac pacemaker (Effective 06/21/2026)
Z95.810	Presence of automatic (implantable) cardiac defibrillator (Effective 06/21/2026)
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
G45.0	Vertebro-basilar artery syndrome (Effective 06/21/2026)
G45.2	Multiple and bilateral precerebral artery syndromes (Effective 06/21/2026)
G45.3	Amaurosis fugax
G45.8	Other transient cerebral ischemic attacks and related syndromes
G45.9	Transient cerebral ischemic attack, unspecified
G46.0	Middle cerebral artery syndrome (Effective 06/21/2026)

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
G46.3	Brain stem stroke syndrome (Effective 06/21/2026)
G46.4	Cerebellar stroke syndrome (Effective 06/21/2026)
G46.5	Pure motor lacunar syndrome (Effective 06/21/2026)
G46.6	Pure sensory lacunar syndrome (Effective 06/21/2026)
G90.01	Carotid sinus syncope
H34.01	Transient retinal artery occlusion, right eye (Effective 06/21/2026)
H34.02	Transient retinal artery occlusion, left eye (Effective 06/21/2026)
H53.121	Transient visual loss, right eye (Effective 06/21/2026)
H53.122	Transient visual loss, left eye (Effective 06/21/2026)
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.81	Angina pectoris with coronary microvascular dysfunction
I20.89	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified (Effective 06/21/2026)
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I21.B	Myocardial infarction with coronary microvascular dysfunction
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction (Effective 06/21/2026)
I24.81	Acute coronary microvascular dysfunction
I24.89	Other forms of acute ischemic heart disease
I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.112	Atherosclerotic heart disease of native coronary artery with refractory angina pectoris
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.2	Old myocardial infarction
I25.3	Aneurysm of heart
I25.41	Coronary artery aneurysm
I25.5	Ischemic cardiomyopathy
I25.6	Silent myocardial ischemia
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.712	Atherosclerosis of autologous vein coronary artery bypass graft(s) with refractory angina pectoris
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.722	Atherosclerosis of autologous artery coronary artery bypass graft(s) with refractory angina pectoris
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.730	Atherosclerosis of non-autologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of non-autologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.732	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with refractory angina pectoris
I25.738	Atherosclerosis of non-autologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.752	Atherosclerosis of native coronary artery of transplanted heart with refractory angina pectoris
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
I25.762	Atherosclerosis of bypass graft of coronary artery of transplanted heart with refractory angina pectoris
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.792	Atherosclerosis of other coronary artery bypass graft(s) with refractory angina pectoris
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I25.82	Chronic total occlusion of coronary artery
I25.83	Coronary atherosclerosis due to lipid rich plaque
I25.84	Coronary atherosclerosis due to calcified coronary lesion
I25.85	Chronic coronary microvascular dysfunction
I25.89	Other forms of chronic ischemic heart disease
I42.0	Dilated cardiomyopathy (Deleted 09/30/2026)
I42.00	Dilated cardiomyopathy, unspecified (Effective 10/01/2026)
I42.01	Familial-genetic dilated cardiomyopathy (Effective 10/01/2026)

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
I42.09	Other dilated cardiomyopathy (Effective 10/01/2026)
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I42.3	Endomyocardial (eosinophilic) disease
I42.4	Endocardial fibroelastosis
I42.5	Other restrictive cardiomyopathy
I42.6	Alcoholic cardiomyopathy
I42.7	Cardiomyopathy due to drug and external agent
I42.8	Other cardiomyopathies
I42.81	Arrhythmogenic cardiomyopathy (Effective 10/01/2026)
I42.89	Other cardiomyopathies not elsewhere classified (Effective 10/01/2026)
I43	Cardiomyopathy in diseases classified elsewhere
I44.0	Atrioventricular block, first degree
I44.1	Atrioventricular block, second degree
I44.2	Atrioventricular block, complete
I44.39	Other atrioventricular block
I44.4	Left anterior fascicular block
I44.5	Left posterior fascicular block
I44.69	Other fascicular block
I45.0	Right fascicular block
I45.19	Other right bundle-branch block
I45.2	Bifascicular block
I45.3	Trifascicular block
I45.5	Other specified heart block
I45.6	Pre-excitation syndrome
I45.81	Long QT syndrome
I45.89	Other specified conduction disorders
I46.2	Cardiac arrest due to underlying cardiac condition
I46.8	Cardiac arrest due to other underlying condition
I47.0	Re-entry ventricular arrhythmia
I47.11	Inappropriate sinus tachycardia, so stated
I47.19	Other supraventricular tachycardia
I47.21	Torsades de pointes
I47.22	Catecholaminergic polymorphic ventricular tachycardia [CPVT] (Effective 10/01/2026)
I47.29	Other ventricular tachycardia
I48.0	Paroxysmal atrial fibrillation
I48.11	Longstanding persistent atrial fibrillation
I48.19	Other persistent atrial fibrillation
I48.20	Chronic atrial fibrillation, unspecified
I48.21	Permanent atrial fibrillation
I48.3	Typical atrial flutter
I48.4	Atypical atrial flutter
I48.91	Unspecified atrial fibrillation
I48.92	Unspecified atrial flutter

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.1	Atrial premature depolarization
I49.2	Junctional premature depolarization
I49.3	Ventricular premature depolarization
I49.40	Unspecified premature depolarization (Effective 06/21/2026)
I49.49	Other premature depolarization
I49.5	Sick sinus syndrome
I49.8	Other specified cardiac arrhythmias (Deleted 09/30/2026)
I49.81	Brugada syndrome (Effective 10/1/2026)
I49.82	Ventricular bigeminy (Effective 10/1/2026)
I49.89	Other specified cardiac arrhythmias not elsewhere classified (Effective 10/1/2026)
I5A	Non-ischemic myocardial injury (non-traumatic)
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery (Effective 06/21/2026)
I63.011	Cerebral infarction due to thrombosis of right vertebral artery (Effective 06/21/2026)
I63.012	Cerebral infarction due to thrombosis of left vertebral artery (Effective 06/21/2026)
I63.013	Cerebral infarction due to thrombosis of bilateral vertebral arteries (Effective 06/21/2026)
I63.019	Cerebral infarction due to thrombosis of unspecified vertebral artery (Effective 06/21/2026)
I63.02	Cerebral infarction due to thrombosis of basilar artery (Effective 06/21/2026)
I63.031	Cerebral infarction due to thrombosis of right carotid artery (Effective 06/21/2026)
I63.032	Cerebral infarction due to thrombosis of left carotid artery (Effective 06/21/2026)
I63.033	Cerebral infarction due to thrombosis of bilateral carotid arteries (Effective 06/21/2026)
I63.039	Cerebral infarction due to thrombosis of unspecified carotid artery (Effective 06/21/2026)
I63.09	Cerebral infarction due to thrombosis of other precerebral artery (Effective 06/21/2026)
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery (Effective 06/21/2026)
I63.111	Cerebral infarction due to embolism of right vertebral artery (Effective 06/21/2026)
I63.112	Cerebral infarction due to embolism of left vertebral artery (Effective 06/21/2026)
I63.113	Cerebral infarction due to embolism of bilateral vertebral arteries (Effective 06/21/2026)
I63.119	Cerebral infarction due to embolism of unspecified vertebral artery (Effective 06/21/2026)
I63.12	Cerebral infarction due to embolism of basilar artery (Effective 06/21/2026)
I63.131	Cerebral infarction due to embolism of right carotid artery (Effective 06/21/2026)
I63.132	Cerebral infarction due to embolism of left carotid artery (Effective 06/21/2026)
I63.133	Cerebral infarction due to embolism of bilateral carotid arteries (Effective 06/21/2026)
I63.139	Cerebral infarction due to embolism of unspecified carotid artery (Effective 06/21/2026)
I63.19	Cerebral infarction due to embolism of other precerebral artery (Effective 06/21/2026)
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries (Effective 06/21/2026)
I63.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral artery (Effective 06/21/2026)
I63.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral artery (Effective 06/21/2026)
I63.213	Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries (Effective 06/21/2026)
I63.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral artery (Effective 06/21/2026)

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery (Effective 06/21/2026)
I63.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries (Effective 06/21/2026)
I63.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries (Effective 06/21/2026)
I63.233	Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries (Effective 06/21/2026)
I63.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid artery (Effective 06/21/2026)
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries (Effective 06/21/2026)
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery (Effective 06/21/2026)
I63.311	Cerebral infarction due to thrombosis of right middle cerebral artery (Effective 06/21/2026)
I63.312	Cerebral infarction due to thrombosis of left middle cerebral artery (Effective 06/21/2026)
I63.313	Cerebral infarction due to thrombosis of bilateral middle cerebral arteries (Effective 06/21/2026)
I63.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery (Effective 06/21/2026)
I63.321	Cerebral infarction due to thrombosis of right anterior cerebral artery (Effective 06/21/2026)
I63.322	Cerebral infarction due to thrombosis of left anterior cerebral artery (Effective 06/21/2026)
I63.323	Cerebral infarction due to thrombosis of bilateral anterior cerebral arteries (Effective 06/21/2026)
I63.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery (Effective 06/21/2026)
I63.331	Cerebral infarction due to thrombosis of right posterior cerebral artery (Effective 06/21/2026)
I63.332	Cerebral infarction due to thrombosis of left posterior cerebral artery (Effective 06/21/2026)
I63.333	Cerebral infarction due to thrombosis of bilateral posterior cerebral arteries (Effective 06/21/2026)
I63.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery (Effective 06/21/2026)
I63.341	Cerebral infarction due to thrombosis of right cerebellar artery (Effective 06/21/2026)
I63.342	Cerebral infarction due to thrombosis of left cerebellar artery (Effective 06/21/2026)
I63.343	Cerebral infarction due to thrombosis of bilateral cerebellar arteries (Effective 06/21/2026)
I63.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery (Effective 06/21/2026)
I63.39	Cerebral infarction due to thrombosis of other cerebral artery (Effective 06/21/2026)
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery (Effective 06/21/2026)
I63.411	Cerebral infarction due to embolism of right middle cerebral artery (Effective 06/21/2026)
I63.412	Cerebral infarction due to embolism of left middle cerebral artery (Effective 06/21/2026)
I63.413	Cerebral infarction due to embolism of bilateral middle cerebral arteries (Effective 06/21/2026)
I63.419	Cerebral infarction due to embolism of unspecified middle cerebral artery (Effective 06/21/2026)
I63.421	Cerebral infarction due to embolism of right anterior cerebral artery (Effective 06/21/2026)
I63.422	Cerebral infarction due to embolism of left anterior cerebral artery (Effective 06/21/2026)
I63.423	Cerebral infarction due to embolism of bilateral anterior cerebral arteries (Effective 06/21/2026)
I63.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery (Effective 06/21/2026)
I63.431	Cerebral infarction due to embolism of right posterior cerebral artery (Effective 06/21/2026)
I63.432	Cerebral infarction due to embolism of left posterior cerebral artery (Effective 06/21/2026)
I63.433	Cerebral infarction due to embolism of bilateral posterior cerebral arteries (Effective 06/21/2026)
I63.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery (Effective 06/21/2026)
I63.441	Cerebral infarction due to embolism of right cerebellar artery (Effective 06/21/2026)
I63.442	Cerebral infarction due to embolism of left cerebellar artery (Effective 06/21/2026)
I63.443	Cerebral infarction due to embolism of bilateral cerebellar arteries (Effective 06/21/2026)

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
I63.449	Cerebral infarction due to embolism of unspecified cerebellar artery (Effective 06/21/2026)
I63.49	Cerebral infarction due to embolism of other cerebral artery (Effective 06/21/2026)
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery (Effective 06/21/2026)
I63.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery (Effective 06/21/2026)
I63.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery (Effective 06/21/2026)
I63.513	Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle cerebral arteries (Effective 06/21/2026)
I63.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery (Effective 06/21/2026)
I63.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery (Effective 06/21/2026)
I63.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery (Effective 06/21/2026)
I63.523	Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior cerebral arteries (Effective 06/21/2026)
I63.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery (Effective 06/21/2026)
I63.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery (Effective 06/21/2026)
I63.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery (Effective 06/21/2026)
I63.533	Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior cerebral arteries (Effective 06/21/2026)
I63.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery (Effective 06/21/2026)
I63.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery (Effective 06/21/2026)
I63.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery (Effective 06/21/2026)
I63.543	Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries (Effective 06/21/2026)
I63.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery (Effective 06/21/2026)
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery (Effective 06/21/2026)
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic (Effective 06/21/2026)
I63.81	Other cerebral infarction due to occlusion or stenosis of small artery (Effective 06/21/2026)
I63.89	Other cerebral infarction (Effective 06/21/2026)
I63.9	Cerebral infarction, unspecified
I74.2	Embolism and thrombosis of arteries of the upper extremities (Effective 06/21/2026)
I74.3	Embolism and thrombosis of arteries of the lower extremities (Effective 06/21/2026)
I74.4	Embolism and thrombosis of arteries of extremities, unspecified (Effective 06/21/2026)
I74.8	Embolism and thrombosis of other arteries (Effective 06/21/2026)
I97.120	Postprocedural cardiac arrest following cardiac surgery
I97.121	Postprocedural cardiac arrest following other surgery

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Diagnosis Code	Description
For CPT Codes 0937T, 0938T, 0939T, and 0940T	
I97.190	Other postprocedural cardiac functional disturbances following cardiac surgery
I97.191	Other postprocedural cardiac functional disturbances following other surgery
Q20.3	Discordant ventriculoarterial connection
Q20.5	Discordant atrioventricular connection
Q20.8	Other congenital malformations of cardiac chambers and connections
Q20.9	Congenital malformation of cardiac chambers and connections, unspecified
Q21.11	Secundum atrial septal defect
Q21.12	Patent foramen ovale
Q21.13	Coronary sinus atrial septal defect
Q21.21	Partial atrioventricular septal defect
Q21.22	Transitional atrioventricular septal defect
Q21.23	Complete atrioventricular septal defect
Q21.3	Tetralogy of Fallot
Q24.6	Congenital heart block
R00.0	Tachycardia, unspecified
R00.1	Bradycardia, unspecified
R00.2	Palpitations
R00.8	Other abnormalities of heart beat
R06.00	Dyspnea, unspecified
R06.01	Orthopnea
R06.02	Shortness of breath
R06.09	Other forms of dyspnea
R07.1	Chest pain on breathing
R07.2	Precordial pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R10.13	Epigastric pain
R40.4	Transient alteration of awareness
R42	Dizziness and giddiness
R55	Syncope and collapse
Z45.010	Encounter for checking and testing of cardiac pacemaker pulse generator [battery] (Effective 06/21/2026)
Z45.018	Encounter for adjustment and management of other part of cardiac pacemaker (Effective 06/21/2026)
Z45.02	Encounter for adjustment and management of automatic implantable cardiac defibrillator (Effective 06/21/2026)
Z86.73	Personal history of transient ischemic attack (TIA), and cerebral infarction without residual deficits
Z86.74	Personal history of sudden cardiac arrest
Z95.0	Presence of cardiac pacemaker (Effective 06/21/2026)
Z95.810	Presence of automatic (implantable) cardiac defibrillator (Effective 06/21/2026)

Definitions

Acute Coronary Syndrome (ACS): Applies to patients with suspicion or confirmation of acute myocardial ischemia or infarction. It describes a large array of signs and symptoms that range from atypical chest discomfort, nonspecific

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electrocardiographic changes, normal cardiac biomarkers, non-ST-elevation myocardial infarction (NSTEMI), large ST-segment elevation myocardial infarction (STEMI), and cardiogenic shock (Scirica, 2010).

Silent Myocardial Ischemia: Objective documentation of myocardial ischemia in the absence of angina or anginal equivalents (Cohn, 2003).

24-Hour Monitoring Station: A facility in operation 24-hours per day, seven days a week, with a receiving station staffed with EKG technicians or other non-physician staff on a 24-hour per day basis. The technicians should have immediate 24-hour access to a physician to review transmitted data that falls outside of set parameters. The technicians should know how to contact available facilities to assist in any cardiac emergencies.

Centers for Medicare and Medicaid Services (CMS) Related Documents

After checking the table below and searching the Medicare Coverage Database, if no NCD, LCD, or LCA is found, refer to the criteria as noted in the Coverage Rationale section above.

NCD	LCD	LCA	Contractor Type	Contractor Name
Ambulatory Electrocardiographic (AECG) Monitoring				
NCD for Electrocardiographic Services (20.15)	L33952 Cardiac Event Detection **Retired 06/27/2026**	A56452 Billing and Coding: Cardiac Event Detection **Retired 06/27/2026**	Part A and B MAC	CGS
	L40244 Temporary Nontherapeutic Ambulatory Cardiac Monitoring Devices	A60292 Billing and Coding: Temporary Nontherapeutic Ambulatory Cardiac Monitoring Devices	Part A and B MAC	CGS
	L39492 Ambulatory Electrocardiograph (AECG) Monitoring	A59270 Billing and Coding: Ambulatory Electrocardiograph (AECG) Monitoring	Part A and B MAC	First Coast
	L40255 Temporary Nontherapeutic Ambulatory Cardiac Monitoring Devices	A60279 Billing and Coding: Temporary Nontherapeutic Ambulatory Cardiac Monitoring Devices	Part A and B MAC	Noridian
	L39490 Ambulatory Electrocardiograph (AECG) Monitoring	A59268 Billing and Coding: Ambulatory Electrocardiograph (AECG) Monitoring	Part A and B MAC	Novitas**
	L34573 Cardiac Event Detection **Retired 06/27/2026**	A56606 Billing and Coding: Cardiac Event Detection **Retired 06/27/2026**	Part A MAC	Palmetto**
	L40257 Temporary Nontherapeutic Ambulatory Cardiac Monitoring Devices	A60286 Billing and Coding: Temporary Nontherapeutic Ambulatory Cardiac Monitoring Devices		
	L34636 Electrocardiographic (EKG or ECG) Monitoring (Holter or Real-Time Monitoring)	A57476 Billing and Coding: Electrocardiographic (EKG or ECG) Monitoring (Holter or Real-Time Monitoring)	Part A and B MAC	WPS*

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Medicare Administrative Contractor (MAC) With Corresponding States/Territories	
MAC Name (Abbreviation)	**States/Territories**
CGS Administrators, LLC (CGS)	KY, OH
First Coast Service Options, Inc. (First Coast)	FL, PR, VI
Noridian Healthcare Solutions, LLC (Noridian)	AS, AK, AZ, CA, GU, HI, ID, MT, NV, ND, Northern Mariana Islands, OR, SD, UT, WA, WY
Novitas Solutions, Inc. (Novitas)	AR, CO, DC, DE, LA, MD, MS, NJ, NM, OK, PA, TX, VA**
Palmetto GBA (Palmetto)	AL, GA, NC, SC, TN, VA**, WV
Wellpoint Federal (Wellpoint)	CT, IL, ME, MA, MN, NH, NY, RI, VT, WI
Wisconsin Physicians Service Insurance Corporation (WPS)*	IA, IN, KS, MI, MO, NE
Notes	
*Wisconsin Physicians Service Insurance Corporation: Contract Number 05901 applies only to WPS Legacy Mutual of Omaha MAC A Providers. **For the state of Virginia: Part B services for the city of Alexandria and the counties of Arlington and Fairfax are excluded for the Palmetto GBA jurisdiction and included within the Novitas Solutions, Inc. jurisdiction.	

CMS Benefit Policy Manual

Chapter 15, § 80 Coverage of Diagnostic X-ray, Diagnostic Laboratory, and Other Diagnostic Tests

Clinical Evidence

Six non-randomized studies of an intervention (NRSI) reported on the incidence, duration, and type (e.g., atrial fibrillation (AF), bradycardia, high-degree atrioventricular block) of arrhythmic events identified by temporary nontherapeutic ambulatory cardiac monitoring devices (TNACMD) either before and/or after implantation of a transcatheter aortic valve replacement (TAVR) device. One methodologically weak study found arrhythmic events were diagnosed in almost half of patients. The other 5 studies reported on a more narrow range (7.3%–10%) of new arrhythmic events. Prolonged cardiac monitoring with TNACMD is more effective than standard of care (SOC) in the detection of AF in patients after stroke or TIA, or with symptoms associated with an increased risk of AF. For patients with the ability to comply with the use of TNACMD, a 30-day duration can capture a significant proportion of AF and should be considered in lieu of implantable loop recorders (ILRs). Patients using TNACMD are more likely to receive guideline-concordant anti-coagulant treatment compared to those undergoing SOC. In contrast, individuals with implantable cardiac monitors (ICMs) are more likely to be prescribed timely anti-coagulant therapy than those wearing TNACMD. There were no significant differences between SOC, ICMs and TNACMD in the reduction of mortality, or the recurrence of stroke or TIA. The likelihood of AF detection steadily increases with the duration of monitoring and patient age. It is uncertain whether any type of TNACMD is clinically superior to other externally wearable devices. TNACMD may improve the detection of conduction disturbances pre/post-TAVR, which may then result in meaningful changes in therapeutic management (Asmarats et al. 2020; Natarajan et al. 2022; Ream et al. 2019; Skaf et al. 2020; Tian et al. 2019; Winter et al. 2020).

Janmohamadi et al. (2025) conducted a systematic review and meta-analysis to compare implantable loop recorders (ILRs) with usual care for detecting atrial fibrillation (AF) and their impact on mortality and secondary stroke prevention in individuals with prior stroke or high-risk profiles. The review included 12 studies, four randomized controlled trials (RCTs), and eight cohort studies, encompassing 72,846 individuals. ILR use was associated with a significantly higher AF detection rate [hazard ratio (HR), 3.13; 95% CI, 1.97-4.97] compared with controls. However, reductions in embolic events were not statistically significant (HR, 0.81; 95% CI, 0.65-1.02), and mortality remained unchanged (HR, 1.01; 95% CI, 0.77-1.31). A subgroup analysis indicated greater AF detection in RCTs than in cohort studies ($p = 0.035$). While publication bias was minimal, heterogeneity across studies was substantial. The authors concluded that ILRs markedly improve AF diagnosis, about three-fold compared with conventional care, highlighting their potential role in guiding anticoagulation for secondary stroke prevention. Limitations include the variability in study design, stroke subtypes, control monitoring methods, lack of cause-specific mortality data, and inconsistent reporting of adjusted vs. unadjusted ratios.

Jiang et al. (2022) conducted a meta-analysis and systematic review to evaluate the current modalities used for extended ECG monitoring in the detection of AF following a cryptogenic stroke. Overall, 47 studies, with a total of 6,448 individuals with cryptogenic stroke, were included in the review. The pooled AF rate for ILRs increased from 4.9% (3.0%-7.9%) at 1 month to 38.4% (20.4%-60.2%) at 36 months. Mobile cardiac outpatient telemetry (MCOT) had a significantly higher pooled AF detection rate of 12.8% (8.9%-17.9%) vs. 4.9% (3.0%-7.9%) for ILRs at 1 month ($p < 0.0001$). Predictors for AF

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detection include duration of monitoring ($p < 0.0001$) and age ($p < 0.0001$) for ILRs but only age for MCOTs ($p < 0.020$). The authors concluded that for individuals who have the cognitive and physical capacity to use ECG monitoring daily for 1 month, MCOT is effective in detecting a significant proportion of AF and should be considered in place of ILRs. However, ILRs may be considered for individuals needing extended monitoring, if MCOT does not detect AF after 4 weeks, or if adherence issues are expected. Limitations include significant unexplained heterogeneity, poor reporting of features of the study population, and risk underestimation of AF detection rates in MCOT studies.

Ha et al. (2021) conducted the multicenter SEARCH-AF RCT, evaluating whether 30-day continuous ECG monitoring improved detection of AF or AFL after cardiac surgery compared with usual care. The study included adults undergoing coronary artery bypass grafting (CABG) or valve surgery who had no prior AF/AFL and only brief (< 24 hours) postoperative episodes, along with elevated CHA_2DS_2-VASc scores and additional POAF risk factors. Participants with prior or sustained POAF/AFL, current AF/AFL at randomization, prolonged hospitalization, mechanical valves, or other indications for anticoagulation were excluded. The primary end point was the occurrence of AF or AFL lasting at least 6 minutes within 30 days, detected by continuous monitoring or a 12-lead ECG. The secondary end points included longer AF episodes (≥ 6 hours or ≥ 24 hours) as well as rates of death, myocardial infarction, ischemic stroke, non-central nervous system thromboembolism, major bleeding, and new oral anticoagulation therapy. Among the 336 randomized participants, 307 (91%) completed the study. In the intention-to-treat analysis, the primary end point occurred in 19.6% of participants in the monitoring group compared with 1.7% in the usual-care group, with an absolute difference of 17.9% ($p < 0.001$). AF episodes lasting at least 6 hours were detected in 8.6% of monitored participants and in none of the usual-care participants (absolute difference, 8.6%; $p < 0.001$). The authors concluded that in participants who were post cardiac surgery, were at a high risk for stroke, with no prior history of AF, and experienced only brief POAF episodes lasting less than 24 hours during hospitalization, continuous monitoring identified substantially more post discharge AF than usual care. They emphasized that additional studies are needed to determine whether these participants would benefit from starting oral anticoagulation therapy. Limitations include the short 30-day follow-up, which limits the understanding of long-term POAF risk, and the incomplete characterization of AF burden due to the lack of detailed in-hospital AF duration and absence of preoperative monitoring to rule out subclinical AF.

Noubiap et al. (2021) conducted a systematic review and meta-analysis to evaluate data on AF detection rates and predictors comparing different rhythm monitoring strategies in individuals with embolic stroke of undetermined source (ESUS) or cryptogenic stroke. PubMed/MEDLINE, Embase, and Web of Science were searched to identify all cohort studies or RCTs reporting primary data on the rates and predictors of AF detection in individuals with cryptogenic stroke or ESUS, published by July 6, 2020, and a random-effects meta-analysis method was used to pool estimates. Overall, 47 studies, with a total of 8,215 individuals with cryptogenic stroke or ESUS, were included. Using an implantable cardiac monitor (ICM), the pooled rate of AF was 12.2% at 3 months, 16.0% at 6 months, 18.7% at 12 months, 22.8% at 24 months, and 28.5% at 36 months. AF rates were significantly higher in individuals with ESUS vs cryptogenic stroke (22.0% vs. 14.2%; $p < 0.001$) at 6 months and in studies using Reveal LINQ vs Reveal XT ICM (19.1% vs. 13.0%; $p = 0.001$) at 12 months. Using MCOT, the pooled rate of AF was 13.7% at 1 month. Predictors of AF detection with ICM included older age, P-wave maximal duration, CHA2DS2-VASc score, prolonged PR interval, and left atrial enlargement. The authors concluded that more than one-quarter of individuals with cryptogenic stroke or ESUS were diagnosed with AF during follow-up, and approximately one in seven individuals had AF detected within 1 month of MCOT, suggesting that a noninvasive rhythm monitoring strategy should be considered before invasive monitoring. There are limitations, including differences across studies in participant clinical characteristics, extent of etiologic investigation before cryptogenic stroke diagnosis, and criteria used to define embolic stroke of undetermined source. Etiologic work-up was not always standardized within studies, and the timing between index stroke and monitoring was inconsistently reported or performed differently across studies.

Eysenck et al. (2020) conducted a randomized controlled trial (RCT) to compare three cardiac rhythm monitoring devices, ZIO XT monitor (ZM), NUUBO vest (NV), and Carnation Ambulatory Monitor (CAM), with the 'gold standard' Novacor 'R' Test 4 (RT) in patients with an implanted dual chamber rate adaptive permanent pacemaker (DDDRP PPM) and known atrial fibrillation (AF). Twenty-one participants wore each of the four external cardiac monitors (ECMs) for 14 days in randomized order, with at least seven days between each of the ECM applications. RT AF burden was less accurate than the ZM, NV or CAM ($p < 0.05$). Probability of inaccurate AF diagnosis was higher for RT than ZM or CAM OR 12.31 and 5.85, respectively ($p = 0.025$ and $p = 0.042$). ZM wear time was longer than the RT: 307 h vs. 224 h; $p = 0.02$. Acceptability was greater for CAM than RT (1.86 ±2.63 compared with 0.57 ±1.17 for CAM; $p = 0.024$). The authors concluded the ZM, NV and CAM are all more accurate than the standard practice RT device in AF burden assessment and the RT was more likely to give inaccurate diagnoses than ZM or CAM. Additionally, performance of all ECMs improved with longer duration AF episodes. Limitations include small sample size and all participants in the study had DDDRP PPMs in situ which may limit generalizability of findings with other cardiac pathology.

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Fredriksson et al. (2020) studied intermittent ambulatory electrocardiographic (AECG) recordings versus continuous event recording in detecting A-Fib for patients 75-76 years of age. Two-hundred and sixty-nine patients that were included in this analysis were from the STROKESTOP II study from Europe. This study was conducted over a two-week period with 55 days on average for the intermittent recorders and 13 days on average for the continuous recorders. The devices were R-test 4® and Novocaor® (for continuous recording) and a 30 second handheld device Zenicor II® (for intermittent recording). All devices had activation buttons for symptomatic arrhythmias, and patients were given a symptom diary as well. Within the study, A-Fib was defined by the European Society of Cardiology (ESC) as "absolute irregular rate-to-rate intervals, no discernable distinct p-waves, and duration of at least 30 seconds" and recordings were manually inspected and validated on computerized algorithms. After the review of data, it was determined that continuous event recordings identified three times more cases of A-Fib (6%; n = 15/269) than the intermittent AECG recordings (2%; n = 5/269) (p = 0.002). On average, continuous recordings identified a 1-8 interquartile range (IQR) on day four and a 4-14 IQR on day eight for intermittent monitoring (p = 0.135). These IQR's were analyzed using the Mann-Whitney U test and Chi-square tests in relation to proportions. While comparisons between the two monitoring methods were performed, the use of the McNemar's test resulted in $p < 0.05$, which was considered significant when testing for dichotomous variables and paired sample t-test for continuous variables. Surprisingly, only six percent of the patients reported symptoms within their diaries when having verified A-Fib and none of the patients had reported palpitations. Limitations of the study include: patients that were part of a larger study (STROKESTOP II) and were thus highly motivated and possibly healthier than peers, use of one-lead AECGs that potentially complicate the analysis of the p-waves, possible bias by misclassification case, and conflicts of interest for those study team members receiving grants from companies such as Bayer, Pfizer, Sanofi, AstraZeneca, and Medtronic.

In the early prolonged ambulatory cardiac monitoring in stroke (EPACS) open-label randomized controlled trial (RCT) conducted by Kaura et al. (2019), the authors compared a 14-day electrocardiogram (ECG) monitoring patch (Zio® Patch, iRhythm Technologies) to a short-duration Holter monitoring for the detection of paroxysmal atrial fibrillation (PAF) in patients with cryptogenic ischemic stroke or transient ischemic attack (TIA) early after the index event. The primary outcome was the detection of one or more episodes of ECG-documented PAF lasting at least 30 seconds within 90 days of the stroke or TIA in each of the study arms. The study included 116 patients from two sites in the UK who were randomly assigned in a 1:1 ratio with 56 patients in the patch-based monitoring group and 60 patients in the short-duration Holter monitoring group. All patients underwent short-term Holter monitoring for the duration determined by their treating physician (usually 24 hours) with a mean time of 2.1 + 1.2 days from time of the stroke or TIA event. The patients in the patch-based group then had the patch applied with a mean time of 38.9 + 33.6 days from the stroke or TIA event and wore the patch for 14 days. The patients were followed up on day 28 and day 90 via electronic medical record data search and a telephonic outreach to each patient. Data collected included PAF documented on the ECG monitoring devices or detected incidentally during usual clinical practice. The rate of detection of PAF reported by the authors at 28 days was 14% in the patch-based monitoring group and 2.1% in the Holter monitoring group. All patients who were newly diagnosed with PAF were started on anticoagulation therapy by day 90. There was no difference in the rate of recurrent ischemic stroke or TIA between the two groups. The authors concluded that early, prolonged patch-based monitoring after an index stroke or TIA is superior to short-duration Holter monitoring in the detection of PAF with an associated greater use of anticoagulation. Limitations noted by the authors included a 20% drop out rate due to Holter ECG service provision, the lack of comparison to other extended monitoring systems such as implantable loop recorders and the lack of a control group with healthy individuals who had not had an ischemic stroke or TIA.

Sposato et al. (2015) conducted a systematic review and meta-analysis of 50 studies (n = 11,658) to estimate the proportion of individuals with newly diagnosed atrial fibrillation (AF) following transient ischaemic attack (TIA) or stroke. The studies noted diagnostic methods including electrocardiogram (ECG), continuous inpatient ECG monitoring, Holter monitoring, continuous inpatient cardiac telemetry, outpatient mobile cardiac telemetry, external loop recording and implantable loop recorders. Phase one was assessment in the emergency room with ECG. Phase two (inpatient stay) comprised serial ECG, continuous ECG, inpatient cardiac telemetry and inpatient Holter monitoring. In phase three, the first ambulatory period, Holter monitoring was utilized. The fourth phase was the second ambulatory period, which consisted of mobile cardiac telemetry, external loop, and implantable loop recording. Phase four revealed AF in 16.9% of patients; the overall AF detection after all four phases was 23.7%. The authors concluded that combined cardiac monitoring methods may lead to newly detected AF in nearly a quarter of patients with stroke or TIA.

Barrett et al. (2014) conducted a prospective analysis of cardiac arrhythmias using the Holter monitor and the Zio patch between April 2012 and July 2012. The goal was to compare arrhythmia detections over the course of 14 days to the arrhythmia events detected in the first 24 hours of monitoring. One hundred and forty-six patients between the ages of 22 and 94 participated in the study. The average wear time of the ambulatory electrocardiographic (AECG) monitors ranged between one day for the Holter monitor and eleven days for the patch monitor. Both devices were activated simultaneously and monitored for 24 hours for the Holter monitor and up to 14 days for the patch monitor. All arrhythmias were evaluated by the Scripps Translational Science Institute and the McNemar's test was implemented to compare if

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arrhythmias were clinically significant and what type of arrhythmias were detected by each monitor. Arrhythmia detection was placed into six categories: supraventricular tachycardia (SVT) (> 4 beats, not including A-Fib or A-Flutter), A-Fib/A-Flutter (> 4 beats), pause > 3 seconds, atrioventricular block [Mobitz type II or third-degree atrioventricular (AV) block], ventricular tachycardia (VT) (> 4 beats), or polymorphic ventricular tachycardia/ventricular fibrillation. The results demonstrated that the "patch monitor detected 96 arrhythmia events compared with 61 arrhythmia events by the Holter monitor ($p < 0.001$)." The patch monitor and Holter monitor detected the same number of events, but "14 clinically significant arrhythmia events were detected by the adhesive patch monitor that went undetected by the Holter monitor." The secondary effect was to determine the arrhythmias that were detected in the first 24 hours. It was noted that the Holter monitor detected 61 arrhythmias compared to 52 arrhythmias detected by the patch monitor ($p = 0.013$). In review of the arrhythmia types three events were considered 'clinically significant' and were ultimately detected by the patch monitor beyond the first 24 hours. In conclusion, the first seven days of AECG monitoring has the greatest detection of arrhythmias.

Kishore et al. (2014) conducted a systematic review and meta-analysis to determine the frequency of newly detected atrial fibrillation (AF) using noninvasive or invasive cardiac monitoring after ischemic stroke or transient ischaemic attack (TIA). Prospective observational studies or randomized controlled trial (RCTs) of patients with ischemic stroke, TIA, or both, who underwent any cardiac monitoring for a minimum of 12 hours, were included. A total of 32 studies were analyzed, the majority of which used inpatient, Holter, or external loop recorder monitoring. The primary outcome was detection of any new AF during the monitoring period. The investigators performed a subgroup analysis of selected (prescreened or cryptogenic) versus unselected patients and according to duration of monitoring. The overall detection rate of any AF was 11.5%, although the timing, duration, method of monitoring and reporting of diagnostic criteria used for paroxysmal AF varied. Detection rates were higher in selected (13.4%) than in unselected patients (6.2%). In cryptogenic strokes, the new AF detection rate was 15.9%. The authors concluded that detection of AF after TIA or ischemic stroke was highly variable. The results support initial inpatient telemetry and suggest that prolonged noninvasive monitoring greater than 24 hours is likely to increase yield of AF detection. The optimal method and duration of monitoring is unclear, and future appropriately designed studies are recommended.

Clinical Practice Guidelines

American College of Cardiology (ACC)

Spooner et al. (2024) developed a consensus decision pathway for the ACC regarding arrhythmia monitoring after stroke. For those with large- or small-vessel disease or cryptogenic stroke, cardiac monitoring may be considered, preferably for 14 days or more. An ICM may be considered in selected high-risk patients.

American College of Cardiology (ACC)/American Heart Association (AHA)/American College of Clinical Pharmacy (ACCP)/Heart Rhythm Society (HRS)

Joglar et al. (2023a) developed a guideline for the diagnosis and management of patients with AF using evidence-based methodologies. Recommendations from the "2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation" and the "2019 AHA/ACC/HRS Focused Update of the 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation" were updated with new evidence. Recommendations of the guideline are summarized as follows (not all inclusive):

- In patients with AF-induced cardiomyopathy who have recovered left ventricular function, long-term surveillance can be beneficial to detect recurrent AF in view of the high risk of recurrence of arrhythmia-induced cardiomyopathy (class of recommendation, 2a-moderate, quality of evidence, B-NR-moderate/nonrandomized).
- For patients who have had a systemic thromboembolic event without a known history of AF and in whom maximum sensitivity to detect AF is sought, an ICM is reasonable (class of recommendation, 2a-moderate, quality of evidence, B-R-moderate/randomized).
- Among patients with a diagnosis of AF, it is reasonable to infer AF frequency, duration, and burden using automated algorithms available from ECG monitors, ICMs, and cardiac rhythm devices with an atrial lead, recognizing that periodic review can be required to exclude other arrhythmias (class of recommendation, 2a-moderate, quality of evidence, B-NR-moderate/nonrandomized).
- Patients with typical AFL who have undergone successful CTI ablation and are deemed to be at a high thromboembolic risk, without any known previous history of AF, should receive close follow-up and arrhythmia monitoring to detect silent AF if they are not receiving ongoing anticoagulation in view of a significant risk of AF (class of recommendation, 1-stong, quality of evidence, B-NR-moderate/nonrandomized).
- In patients with an onset of AF before 45 years of age, without obvious risk factors for AF, referral for genetic counseling, genetic testing for rare pathogenic variants, and surveillance for cardiomyopathy or arrhythmia syndromes may be reasonable (strength of recommendation, 2b-weak, quality of evidence, B-NR-moderate/nonrandomized).

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- In patients with AF-induced cardiomyopathy who have recovered left ventricular function, long-term surveillance can be beneficial to detect recurrent AF in view of the high risk of recurrence of arrhythmia-induced cardiomyopathy (class of recommendation, 2a-moderate, quality of evidence, B-NR-moderate/nonrandomized).
- In patients with AF who are identified in the setting of acute medical illness or surgery, outpatient follow-up for thromboembolic risk stratification and decision-making on oral anticoagulant initiation or continuation as well as AF surveillance can be beneficial given a high risk of AF recurrence (class of recommendation, 2a-moderate, quality of evidence, B-NR-moderate/nonrandomized). Of note, no randomized trials have directly compared outpatient monitoring strategies for acute AF, but studies such as CRYSTAL-AF and SEARCH-AF demonstrate that longer-term monitoring substantially improves AF detection.
- In patients with stroke or TIA of undetermined cause, initial cardiac monitoring and, if needed, extended monitoring with an ILR are reasonable to improve detection of AF (class of recommendation, 2a-moderate, quality of evidence, B-R-moderate/randomized).
- Use and applicability of consumer-based wearable heart-monitoring devices: These devices are now widespread and are used to diagnose and monitor response to therapy in patients with AF. Validation on the accuracy of the most common available technologies is needed. How to best use these devices in practice, including for AF screening, must be better defined (future research needs).

American College of Cardiology (ACC)/American Heart Association (AHA)/Heart Rhythm Society (HRS)

The ACC/AHA/HRS guidelines on the evaluation and management of patients with bradycardia and cardiac conduction delay state that for those with daily symptoms, a 24- or 48-hour continuous ambulatory ECG (Holter monitor) is appropriate. Less frequent symptoms are best evaluated with more prolonged ambulatory ECG monitoring that can be accomplished with a broad array of modalities. In patients with infrequent symptoms (> 30 days between symptoms) suspected to be caused by bradycardia, long-term ambulatory monitoring with an ICM is reasonable if an initial noninvasive evaluation is nondiagnostic (Kusumoto et al., 2019).

The ACC/AHA/HRS guidelines (Shen et al., 2017) on the evaluation and management of patients with syncope address several ambulatory ECG monitoring options. The guidelines recommend that the choice of a specific monitoring system and duration should be determined on the basis of the frequency and nature of syncope events, and for evaluation of selected ambulatory patients with syncope of suspected arrhythmic etiology, an ICM can be useful. The authors noted that while the diagnostic yield of an external loop recorder may be lower than that of an ICM, using the noninvasive strategy as an initial approach is reasonable. Furthermore, the guidelines indicate that patients with recurrent, infrequent, unexplained syncope (or suspected atypical reflex syncope) of suspected arrhythmic origin, after a nondiagnostic initial workup, with or without structural heart disease, are suitable candidates for implantable cardiac monitoring.

The AHA/ACC/HRS guidelines for the management of patients with ventricular arrhythmias and prevention of sudden cardiac death state that ICMs can be useful for detecting ventricular arrhythmias in patients with sporadic symptoms, including syncope. When the suspicion of ventricular arrhythmia is high, outpatient ambulatory monitoring is inappropriate, as prompt diagnosis and prevention of ventricular arrhythmia are warranted (Al-Khatib et al., 2017).

American Heart Association (AHA)/American College of Cardiology (ACC)

Joint guidelines on the diagnosis and treatment of hypertrophic cardiomyopathy (HCM) state that in the presence of symptoms, ambulatory ECG monitoring should be continued until a patient has symptoms while wearing the monitor. In some patients with infrequent symptoms, portable event monitors or implantable monitors may be warranted (Ommen et al., 2020).

American Heart Association (AHA)/American College of Cardiology (ACC)/American Medical Society for Sports Medicine (AMSSM)/Heart Rhythm Society (HRS)/Pediatric & Congenital Electrophysiology Society (PACES)/Society for Cardiovascular Magnetic Resonance (SCMR)

Ommen et al. (2024) developed the AHA/ACC/AMSSM/HRS/PACES/SCMR guidelines for the management of HCM. The guidelines' recommendations for heart rhythm assessment include (not all inclusive):

- In patients with HCM, 24- to 48-hour ambulatory ECG monitoring is recommended in the initial evaluation and as part of periodic follow-up (every 1-2 years) to identify patients who are at risk for sudden cardiac death and to guide management of arrhythmias (strength of recommendation, 1-strong, level of evidence, B-NR-nonrandomized).
- In patients with HCM who develop palpitations or lightheadedness, extended (> 24 hours) ECG monitoring or event recording is recommended for arrhythmia diagnosis and clinical correlation (strength of recommendation, 1-strong, level of evidence, B-NR-nonrandomized).

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- In patients with HCM who are deemed to be at a high risk for developing AF based on the presence of risk factors or as determined by a validated risk score and who are eligible for anticoagulation, extended ambulatory monitoring is recommended to screen for AF as part of an initial evaluation and annual follow-up (strength of recommendation, 1 strong, level of evidence, B-NR-nonrandomized).
- In adult patients with HCM without risk factors for AF and who are eligible for anticoagulation, extended ambulatory monitoring may be considered to assess for asymptomatic paroxysmal AF as part of an initial evaluation and periodic follow-up (every 1-2 years) (strength of recommendation, 2B-weak, level of evidence, B-NR-nonrandomized).

American Heart Association (AHA)/American Stroke Association (ASA)

The AHA and ASA have issued guidelines for preventing stroke in patients with a history of stroke and TIA. The guideline highlights that AF is a common and high-risk factor for secondary ischemic strokes and suggests heart rhythm monitoring for occult AF when no other cause of stroke is identified. The guideline recommends that for those with cryptogenic stroke who are not contraindicated for anticoagulation, it is reasonable to use long-term rhythm monitoring, such as MCOT, ILRs, or other methods, to detect intermittent AF. The authors also recommend further research to clarify the optimal duration of heart rhythm monitoring (Kleindorfer et al., 2021).

A joint scientific statement on the prevention of stroke in patients with silent cerebrovascular disease recommends that for patients with an embolic-appearing pattern of infarction, prolonged rhythm monitoring for AF should be considered (Smith et al., 2017).

Canadian Cardiovascular Society (CCS)

Crean et al. (2024) developed a practice update for the CCS regarding the management of HCM. The update states that those with HCM should be routinely screened for AF and nonsustained ventricular tachycardia. Ambulatory ECG monitoring for 24 to 48 hours is recommended at diagnosis and annually thereafter. For patients at a higher risk of AF, such as those with severe left atrial enlargement, frequent atrial ectopy, palpitations suggestive of AF, or unexplained embolic events, extended monitoring should be considered. Additionally, an ILR may be appropriate in cases of unexplained syncope when an implantable cardiac defibrillator is not indicated, offering long-term rhythm surveillance.

Canadian Cardiovascular Society (CCS)/Canadian Heart Rhythm Society (CHRS)

The CCS and CHRS developed a guideline for the management of AF that recommends at least 24 hours of ambulatory ECG monitoring to identify AF in patients with nonlacunar cryptogenic stroke. The guideline additionally suggests monitoring for AF detection with an external loop recorder or implantable cardiac monitoring for patients with nonlacunar cryptogenic stroke in whom AF is suspected but unproven (Andrade et al., 2020).

European Heart Rhythm Association (EHRA)/Heart Rhythm Society (HRS)/Asia Pacific Heart Rhythm Society (APHRS)/Latin American Heart Rhythm Society (LAHRS)

Tzeis et al. (2024) published a consensus statement for the European Heart Rhythm Association and Heart Rhythm Society on catheter and surgical ablation of AF, emphasizing that post ablation rhythm monitoring should be tailored to the context and routine clinical care vs. clinical research. Monitoring during routine clinical care is generally less rigorous than in clinical trials because detecting asymptomatic arrhythmia recurrences rarely influences post ablation management. Exceptions include patients being considered for anticoagulation discontinuation or those with impaired ventricular function. For routine care, rhythm status should be checked within 2 to 3 months after ablation using at least a 12-lead ECG, followed by annual evaluations if the patient remains asymptomatic. Symptomatic patients should undergo intermittent monitoring, with the intensity and method individualized based on symptom burden, tool availability, and patient preference. In clinical trials and when invasive monitoring is not used, a minimum of 24-hour Holter monitoring every 3 months during the first year is recommended, ideally combined with symptom-based monitoring. Longer continuous recordings (7-14 days) are preferred when feasible.

European Society of Cardiology (ESC)

The 2024 ESC guideline for the management of AF in collaboration with the European Association for Cardio-Thoracic Surgery updates and replaces the previous 2020 version. The guidelines recommend that for those with an embolic stroke of unknown source, invasive or noninvasive ECG for prolonged monitoring would be appropriate. Per the guidelines, many new devices, such as fitness bands and smartwatches, have entered the market to monitor heart rhythm. While clinical evidence of their effectiveness is limited, these devices may help detect AF, but further study is required (Van Gelder et al., 2024).

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The ESC guidelines for the diagnosis and management of syncope state that as a general rule, ECG monitoring is indicated only when there is a high pretest probability of identifying an arrhythmia associated with syncope. Some studies have shown that implementing remote monitoring increases the diagnostic yield and achieves diagnosis earlier than without remote monitoring (Brignole et al., 2018).

European Stroke Organisation (ESO)

The ESO guideline on screening subclinical AF after stroke or TIA of undetermined origin recommends prolonged cardiac monitoring instead of the standard 24-hour monitoring to increase the detection of subclinical AF in adult patients. The guideline also suggests the use of implantable devices for cardiac monitoring instead of nonimplantable devices to increase the detection of subclinical AF (Rubiera et al., 2022).

Heart Rhythm Society (HRS)

The HRS consensus statement regarding arrhythmias in the athlete by Lampert et al. (2024) includes the following recommendation (not all inclusive):

- For diagnosis and monitoring of syncope in athletes with a high suspicion of arrhythmic etiology, unexplained after initial testing, and/or whose symptoms are rare, loop recorder implantation can be useful (class of recommendation, 2a-moderate, level of evidence, B-NR-moderate, nonrandomized).

Joglar et al. (2023b) developed an HRS consensus statement regarding cardiac arrhythmia management during pregnancy. The statement recommends (not all inclusive):

- Pregnant patients with suspected arrhythmic etiology of unexplained palpitations who have concerning symptoms or suspected electrical or structural heart disease on initial evaluation should undergo ambulatory monitoring, as clinically indicated, in consultation with a cardiologist or electrophysiologist with expertise in cardiovascular diseases in pregnancy (strength of recommendation, 1-strong, quality of evidence, B-NR-moderate/nonrandomized).
- In pregnant patients with suspected arrhythmic etiology of palpitations unexplained after noninvasive cardiac evaluation, especially in the presence of syncope and/or electrical or structural heart disease, consideration of an ICM is reasonable (strength of recommendation, 2a-moderate, quality of evidence, C-LD-limited data).
- In pregnant patients with recurrent syncope unexplained after comprehensive noninvasive evaluation, including an external monitor, insertion of an ICM is recommended (strength of recommendation, 1-strong, quality of evidence, C LD-limited data).

Heart Rhythm Society (HRS)/International Society for Holter and Noninvasive Electrocardiology (ISHNE)

The HRS, in collaboration with the ISHNE, published a consensus statement on ambulatory ECG and external cardiac monitoring. The document summarizes the advantages and limitations of various ambulatory ECG techniques. The guidelines note that Holter monitors are typically worn for 24 to 48 hours, patch monitors are worn for 7 to 14 days, event/loop monitors are worn for 30 days, and ambulatory cardiac telemetry monitors are worn for up to 30 days. The frequency of symptoms should dictate the type of recording; longer-term ECG monitoring is required for more infrequent events. The most appropriate clinical workflow may include continuous (short term, 24 hours and up to 7 days) ambulatory ECG monitoring, which, if unsuccessful, is followed by intermittent external loop recording (long term, from weeks to months). For those patients remaining undiagnosed after prolonged noninvasive monitoring, an ILR may be necessary (Steinberg et al., 2017).

International Society for Holter and Noninvasive Electrocardiology (ISHNE)/Heart Rhythm Society (HRS)/European Heart Rhythm Association (EHRA)/Asia Pacific Heart Rhythm Society (APHRS)

In a collaborative statement on mobile health technologies in arrhythmia management, the ISHNE, HRS, EHRA, and APHRS describe the range of digital medical tools and heart rhythm disorders to which they may be applied. The current status, limitations, and benefits of mobile health-based modalities, including wearable patches, Holter, MCOT, and ILRs, are reviewed (Varma et al., 2021).

National Institute for Health and Care Excellence (NICE)

In a guideline on the management of atrial AF, NICE recommends the following in patients with suspected paroxysmal AF undetected by 12-lead ECG recording:

- A 24-hour ambulatory ECG monitor should be used in those with suspected asymptomatic episodes or symptomatic episodes less than 24 hours apart.

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- An ambulatory ECG monitor, event recorder, or other ECG technology should be used in those with symptomatic episodes more than 24 hours apart (NICE, 2021).

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

For information on ambulatory electrocardiography devices, cardiac telemetry, or implantable loop recorders, refer to the following website (use product codes DSI, MXD, and DXH):
http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm.

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Policy History/Revision Information

Date	Summary of Changes
11/01/2026	**Applicable Codes** ***Diagnosis Codes*** For CPT Codes 93224, 93225, 93226, 93227, 93228, 93229, 93241, 93242, 93243, 93244, 93245, 93246, 93247, 93248, 93268, 93270, 93271, and 93272 ***and*** For CPT Codes 0937T, 0938T, 0939T, and 0940T • Added I42.00, I42.01, I42.09, I42.81, I42.89, I47.22, I49.81, I49.82, and I49.89 • Added notation to indicate I42.0 and I49.8 were “deleted Sep. 30, 2026” **Centers for Medicare and Medicaid Services (CMS) Related Documents** • Updated list of documents available in the *Medicare Coverage Database* to reflect the most current information **Supporting Information** • Archived previous policy version MMP109.19

Instructions for Use

The Medicare Advantage Medical Policy documents are generally used to support UnitedHealthcare coverage decisions. It is expected providers retain or have access to appropriate documentation when requested to support coverage. This document may be used as a guide to help determine applicable:

- Medical necessity coverage guidelines; including documentation requirements, and/or
- Medicare coding or billing requirements.

Medicare Advantage Medical Policies are applicable to UnitedHealthcare Medicare Advantage Plans offered by UnitedHealthcare and its affiliates. This Medical Policy is provided for informational purposes and does not constitute medical advice. It is intended to serve only as a general reference and is not intended to address every aspect of a clinical situation. Physicians and patients should not rely on this information in making health care decisions. Physicians and patients must exercise their independent clinical discretion and judgment in determining care. Treating physicians and healthcare providers are solely responsible for determining what care to provide to their patients. Members should always consult their physician before making any decisions about medical care.

Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The member specific benefit plan document identifies which services are covered, which are excluded, and which are subject to limitations. In the event of a conflict, the member specific benefit plan document supersedes this policy. For more information on a specific member's benefit coverage, call the customer service number on the back of the member ID card or refer to the Administrative Guide.

Medicare Advantage Medical Policies are developed as needed, are regularly reviewed, and updated, and are subject to change. They represent a portion of the resources used to support UnitedHealthcare coverage decision making. UnitedHealthcare may modify these Medical Policies at any time by publishing a new version on this website. Medicare source materials used to develop these policies may include, but are not limited to, CMS statutes, regulations, National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), and manuals. This document is not a replacement for the Medicare source materials that outline Medicare coverage requirements. The information presented in this Medical Policy is believed to be accurate and current as of the date of publication. Where there is a conflict between this document and Medicare source materials, the Medicare source materials apply. Medicare Advantage Medical Policies are the property of UnitedHealthcare. Unauthorized copying, use, and distribution of this information are strictly prohibited.

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UnitedHealthcare follows Medicare coverage guidelines found in statutes, regulations, NCDs, and LCDs to determine coverage. The clinical coverage criteria governing certain items or services referenced in this Medical Policy have not been fully established in applicable Medicare guidelines because there is an absence of any applicable Medicare statutes, regulations, NCDs, or LCDs setting forth coverage criteria and/or the applicable NCDs or LCDs include flexibility that explicitly allows for coverage in circumstances beyond the specific indications that are listed in an NCD or LCD. As a result, in these circumstances, UnitedHealthcare applies internal coverage criteria as referenced in this Medical Policy. The internal coverage criteria in this Medical Policy was developed through an evaluation of the current relevant clinical evidence in acceptable clinical literature and/or widely used treatment guidelines. UnitedHealthcare evaluated the evidence to determine whether it was of sufficient quality to support a finding that the items or services discussed in the policy might, under certain circumstances, be reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.

Providers are responsible for submission of accurate claims. Medicare Advantage Medical Policies are intended to ensure that coverage decisions are made accurately. UnitedHealthcare Medicare Advantage Medical Policies use Current Procedural Terminology (CPT®), Centers for Medicare and Medicaid Services (CMS), or other coding guidelines. References to CPT® or other sources are for definitional purposes only and do not imply any right to reimbursement or guarantee claims payment.

For members in UnitedHealthcare Medicare Advantage plans where a delegate manages utilization management and prior authorization requirements, the delegate's requirements need to be followed.

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