01-93000-05

Original Effective Date: 11/15/01

Reviewed: 06/25/20

Revised: 01/01/21

Subject: Cardiac Monitoring Devices

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

DESCRIPTION:

Various devices are available for outpatient cardiac rhythm monitoring. These devices differ in the types of monitoring leads used, the duration and continuity of monitoring, the ability to detect arrhythmias without patient intervention, and the mechanism of delivering the information from patient to clinician. These devices may be used to evaluate symptoms suggestive of arrhythmias (eg, syncope, palpitations), and may be used to detect atrial fibrillation (AF) in patients who have undergone cardiac ablation of AF or who have a history of cryptogenic stroke.

Ambulatory event monitors (AEMs) were developed to provide longer periods of monitoring. In this technique the recording device is worn continuously and activated only when the patient experiences symptoms or is carried by the patient and applied and activated when symptoms are present. The recorded EKGs are then stored for future analysis or transmitted by telephone to a receiving station, e.g., a doctor's office, hospital, or cardiac monitoring service, where the EKGs can then be analyzed. AEMs can be used for extended periods of time, typically up to a month until the patient experiences symptoms. Since the EKGs are recorded only during symptoms, there is good correlation with any underlying arrhythmia. Conversely, if no EKG abnormality is noted, a noncardiac etiology of the patient's symptoms can be sought.

Real-time Continuous Attended Remote Cardiac Monitoring Systems: Unlike ambulatory event monitors that store the recorded data, which are ultimately transmitted either to a physician's office or to a central recording station, real-time continuous attended remote cardiac monitoring systems automatically record and transmit arrhythmia event data from the patient to a qualified healthcare professional attending the monitor at a clinic or hospital. These systems allow automatic wireless transmission of abnormal ECG waveforms from the patient's home to an attended monitoring center at the time of the arrhythmia event.

Omnicardiogram/Cardiointegram (CIG): An omnicardiogram/cardiointegram device consists of a microcomputer, which receives output from a standard electrocardiogram (ECG) and transforms it to produce a graphic representation of heart electrophysiologic signals. This procedure is used primarily as a substitute for Exercise Tolerance Testing with Thallium Imaging in patients for whom a resting ECG may be inadequate to identify changes compatible with coronary artery disease.

Implantable Pulmonary Artery Pressure Sensor Devices: The FDA approved the CardioMEMS™ Heart Failure Monitoring System through the premarket approval (PMA) process in May 2014. The system was approved for the ambulatory management of heart failure patient. The CardioMEMS device is implanted using a heart catheter system fed through the femoral vein and generally requires patients have an overnight hospital admission for observation after implantation. Several other devices that monitor cardiac output by measuring pressure changes in the pulmonary artery or right ventricular outflow tract have been investigated in the research setting but have not received FDA approval.

POSITION STATEMENT:

The use of patient-activated or auto-activated (i.e., auto-triggered) external ambulatory event monitors or continuous ambulatory monitors that record and store information for periods longer than 48 hours **meets the definition of medical necessity** as a diagnostic alternative to Holter monitoring in the following situations:

- Members who experience infrequent symptoms (less frequently than every 48 hours) suggestive of cardiac arrhythmias (i.e., palpitations, dizziness, presyncope, or syncope);
- Members with atrial fibrillation who have been treated with catheter ablation, and in whom discontinuation of systemic anticoagulation is being considered; **OR**
- Members with cryptogenic stroke who have a negative standard work-up for atrial fibrillation including a 24-hour Holter monitor.

The use of implantable ambulatory event monitors, either patient-activated or auto-activated, **meets the definition of medical necessity** in the following situations:

- In the small subset of members who experience recurrent symptoms so infrequently that a prior trial of other external ambulatory event monitors has been unsuccessful; **OR**
- In members who require long-term monitoring for atrial fibrillation or possible atrial fibrillation.

The use of mobile cardiac outpatient telemetry (MCOT) (also known as outpatient cardiac telemetry or mobile cardiovascular telemetry/MCT) **meets the definition of medical necessity** when the following criteria are met:

- The member has had a previous (within the last 60 days) non-diagnostic trial of external ambulatory event monitoring; **AND**
- The member has **ONE** of the following:
    1. A history of cryptogenic stroke; or
    2. Recurrent, unexplained episodes of syncope or presyncope of suspected arrhythmic etiology.

The use of mobile cardiac outpatient telemetry (MCOT) **does not meet the definition of medical necessity** for all other indications including, but not limited to, ongoing management after diagnosis, medication management, screening, or monitoring members with life-threatening arrhythmias.

Other uses of ambulatory event monitors, including mobile applications, are considered **experimental or investigational**, including but not limited to monitoring asymptomatic members with risk factors for arrhythmia, monitoring the effectiveness of antiarrhythmic medications, and detection of myocardial ischemia by detecting ST-segment changes. The evidence is insufficient to determine the effects of the technology on health outcomes.

Omnicardiogram/Cardiointegram (CIG), a technique intended to detect abnormalities in the standard 12-lead electrocardiogram that are beyond the standard, routine interpretation in members at risk of risk of cardiac ischemia, is considered **experimental or investigational.** There is insufficient evidence to support conclusions regarding its efficacy, sensitivity and value as a diagnostic tool.

The use of implantable pulmonary artery pressure sensor devices (i.e. CardioMEMS™ HF System) is considered **experimental or investigational** for the management of heart failure and all other indications. The evidence is insufficient to determine the effects of the technology on health outcomes.

BILLING/CODING INFORMATION:

CPT Coding:

33285	Insertion, subcutaneous cardiac rhythm monitor, including programming
33286	Removal, subcutaneous cardiac rhythm monitor
33289	Transcatheter implantation of wireless pulmonary artery pressure sensor for long-term hemodynamic monitoring, including deployment and calibration of the sensor, right heart catheterization, selective pulmonary catheterization, radiological supervision and interpretation, and pulmonary artery angiography, when performed (**Investigational**)
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
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; recording (includes connection and initial recording)
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
93264	Remote monitoring of a wireless pulmonary artery pressure sensor for up to 30 days, including at least weekly downloads of pulmonary artery pressure recordings, interpretation(s), trend analysis, and report(s) by a physician or other qualified health care professional (**Investigational**)
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 electrocardiographic rhythm derived event recording with pre-symptom memory loop, 24-hour attended monitoring, per 30-day period of time; 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; transmissions, 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
0497T	External patient-activated, physician- or other qualified health care professional-prescribed, electrocardiographic rhythm derived event recorder without 24 hour attended monitoring; in-office connection **(Investigational)**
0498T	External patient-activated, physician- or other qualified health care professional-prescribed, electrocardiographic rhythm derived event recorder without 24 hour attended monitoring; review and interpretation by a physician or other qualified health care professional per 30 days with at least one patient-generated triggered event **(Investigational)**

HCPCS Coding:

E0616	Implantable cardiac event recorder with memory, activator and programmer
S9025	Omnicardiogram/cardiointegram (**Investigational**)

ICD-10 Diagnosis Codes That Support Medical Necessity for codes 33285, 33286, 93241-93248, 93268, 93270, 93271, 93272, and E0616:

I44.0 – I44.7	Atrioventricular and left bundle-branch block
I45.0 – I45.9	Other conduction disorders
I47.0 – I47.9	Paroxysmal tachycardia
I48.0 – I48.19	Atrial fibrillation and flutter

I49.01 – I49.9	Other cardiac arrhythmias
I63.9	Cerebral infarction, unspecified
R00.2	Palpitations
R42	Dizziness and giddiness
R55	Syncope and collapse

ICD-10 Diagnosis Codes That Support Medical Necessity for codes 93228 and 93229:

I63.9	Cerebral infarction, unspecified
I69.30-I69.398	Sequelae of cerebral infarction
R42	Dizziness and giddiness
R55	Syncope and collapse
Z86.73	Personal history of transient ischemic attack (TIA), and cerebral infarction without residual deficits

LOINC Codes:

The following information may be required documentation to support medical necessity: physician history and physical, conservative treatment plan, physician progress notes, and all laboratory studies.

Documentation Table	LOINC Codes	LOINC Time Frame Modifier Code	LOINC Time Frame Modifier Codes Narrative
Physician history and physical	28626-0,	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Attending physician progress note	18741-9	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Medication Current	19009-0	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Current, Discharge, or administered medications	34483-8	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.

REIMBURSEMENT INFORMATION:

Refer to sections entitled **POSITION STATEMENT**

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products:

The following National Coverage Determinations (NCDs) were reviewed on the last guideline reviewed date and are located at cms.gov: Electrocardiographic Services (20.15) and Cardiointegram (CIG) as an Alternative to Stress Test or Thallium Stress Test (20.27).

The following were reviewed on the last guideline reviewed date and are located at fcso.com: Local Coverage Determination (LCD):Long-Term Wearable Electrocardiographic Monitoring (WEM) (L33380), Local Coverage Determination (LCD):Noncovered Services (L33777), and Local Coverage Article:Billing and Coding: Noncovered Services (A57743).

DEFINITIONS:

None applicable.

RELATED GUIDELINES:

None applicable.

OTHER:

None applicable.

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7. Blue Cross Blue Shield Association Evidence Positioning System®.2.02.24 Cardiac Hemodynamic Monitoring for the Management of Heart Failure in the Outpatient Setting, 06/20.
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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy & Coverage Committee on 06/25/20.

GUIDELINE UPDATE INFORMATION:

11/15/01	Medical Coverage Guideline Reformatted.
01/01/02	HCPCS coding changes.
01/01/03	HCPCS coding changes.
03/15/03	Reviewed; no changes.
03/15/04	Review and revision of guideline consisting of updating references, adding description and coverage criteria for implantable loop recorder, and converting MCG to “Guideline No Longer Scheduled For Routine Review”. Also changed the title to “Ambulatory Event Monitors”.
04/01/06	HCPCS coding update consisting of the addition of S0345-S0347 and investigational statement for outpatient cardiac telemetry.
06/15/07	Review and revision of guideline consisting of updated references and reformatted guideline.
07/15/08	Review and revision of guideline consisting of updated references.
01/01/09	Annual HCPCS coding update: added codes 93228, 93229, 93285, 93291, 93298 and 93299. Revised codes 93268, 93270, 93271 and 93272. Deleted code 93727.
09/15/09	Scheduled review; no change to position statement; references updated.
01/01/10	Annual HCPCS coding update: revised descriptor for 93285; deleted S0345, S0346, and S0347.
08/15/10	Scheduled review; position statement unchanged; references updated.
01/01/11	Revision; Annual HCPCS coding update: revised descriptors for 93228, 93229, 93268, 93270, 93271, and 93272; related ICD-10 codes added; formatting changes.
08/15/11	Annual review; position statement unchanged; references updated; formatting changes.
09/15/11	Revision; formatting changes.
01/01/12	Annual HCPCS coding update: revised code descriptor for 93271.
03/15/11	Scheduled review; position statement unchanged; CPT codes 0295T – 0298T added; references updated.
09/01/12	Revision: updated billing and coding section to add coding instructions and remove deleted codes 93012 and 93014.
01/01/13	Annual HCPCS coding update: revised descriptors for 93228, 93229, 93268, 93272, 93285, 93291, and 93298.
03/15/13	Scheduled review; position statement unchanged; Program Exception added for Medicare Advantage products; references updated.
07/15/14	Scheduled review; position statement unchanged; Program Exception section updated; references updated.
09/15/15	Revision; guideline title, description section, position statement, program exception, and references updated; formatting changes.
11/01/15	Revision: ICD-9 Codes deleted.
09/15/16	Revision; description, position statements, coding/billing, and references updated; formatting changes.
01/01/18	Annual CPT/HCPCS update. Added codes 0497T and 0498T.
08/15/18	Revision; Position statements, description, coding, and references updated.

10/01/18	Program exception and references updated.
01/01/19	Annual CPT/HCPCS coding update. Added codes 33285-33289, 93264; deleted codes 33282 & 33284.
07/15/19	Review; MCOT position statements, coding, and references updated.
10/01/19	Annual ICD-10 update. Revised I48 code range.
07/15/20	Review; Maintain position statements and update references.
01/01/21	Annual CPT/HCPCS update. Codes 93241-93248 added; codes 0295T-0298T deleted.