Ambulatory External and Implantable Electrocardiographic Monitoring

Policy Number: PG0039
Last Review: 03/23/2021

GUIDELINES
This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder terms, conditions, exclusions and limitations contract. It does not constitute a contract or guarantee regarding coverage or reimbursement/payment. Self-Insured group specific policy will supersede this general policy when group supplementary plan document or individual plan decision directs otherwise. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This medical policy is solely for guiding medical necessity and explaining correct procedure reporting used to assist in making coverage decisions and administering benefits.

SCOPE
X Professional
_  Facility

DESCRIPTION
Cardiac arrhythmias are abnormal heart rhythms that can cause palpitations, weakness, dizziness, fainting, blood clots, cryptogenic stroke or death. There are a wide variety of treatments available for arrhythmias, however, obtaining an accurate diagnosis can be difficult since arrhythmias can occur infrequently and unpredictably and may not cause obvious symptoms.

A variety of ambulatory external and implantable EKG monitoring systems have been developed for the outpatient setting. 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. Ambulatory Holter electrocardiography (EKG), which is a noninvasive test used to continuously record an EKG over a specified period of time, usually 24 to 48 hours, is used to evaluate symptoms suggestive of cardiac arrhythmias. It is particularly useful if symptoms occur on a daily or near daily basis. However, Holter monitoring may be ineffective if the patient experiences infrequent symptoms.

Long-term Continuous Recorder, Event Monitoring and Mobile Cardiac Telemetry wearable electrocardiographic monitors were developed to provide longer periods of monitoring and may be useful when the initial evaluation by Holter monitoring is non-diagnostic or when symptoms are infrequent.

POLICY

<table>
<thead>
<tr>
<th>Device Class</th>
<th>Cardiovascular Monitoring Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holter Monitoring</td>
<td>Holter monitors are self-contained recording devices that provide a graphic representation of electrical activity within the heart. Holter monitors include up to 48 hours of continuous recording.</td>
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<tr>
<td>(93224-93227)</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Mobile (outpatient) Cardiac Telemetry Monitoring</td>
<td>Mobile cardiac telemetry monitors have the capability of continuously transmitting a tracing at any time and always have internal ECG analysis algorithms designed to detect major arrhythmias. Mobile cardiac outpatient telemetry monitors are worn continuously and are capable of</td>
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<tr>
<td><strong>real-time streaming, transmitting a loop, or a single-event electrogram directly to the reading center through a wireless link for up to 30 days</strong></td>
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<tr>
<td><strong>Event Monitoring (93268, 93270, 93271, 93272) (external (memory) loop recorders, include post event monitors, event/loop monitors and auto-triggered event recorders)</strong></td>
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<tr>
<td>Event monitors record segments of ECG’s with recording initiation triggered either by patient activation or by an internal automatic, pre-programmed detection algorithm (or both) and transmit the recorded electrocardiographic data when requested (but cannot transmit immediately based upon the patient or algorithmic activation rhythm) and require attended surveillance. Event monitors may be worn continuously or applied during symptoms for up to 30 days and include post event monitors, event/loop monitors and auto-triggered event recorders.</td>
<td></td>
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<tr>
<td><strong>Long-term (external) Continuous Recorder Monitoring (93241, 93242, 93243, 93244, 93245, 93246, 93247, 93248)</strong></td>
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<tr>
<td>Long-term continuous recorders continuously record and store for greater than 48 hours and up to 7 days or for greater than 7 days up to 15 days. Long-term continuous recording has been added to define intermediate wear time and to define current clinical practice and the associated time or work to monitor, detect, and identify cardiac disease. As the field of continuous cardiac monitoring and detection grows, Long-term continuous recording has been established to accommodate this expanding area, which allows for longer, uninterrupted recording technologies with longer periods of electrocardiographic (ECG) recording and higher detection rates. (also referred to as patch-type monitor, i.e. Ziopatch)</td>
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</tr>
<tr>
<td><strong>Implantable Loop Recorder Monitoring Device Evaluations (33285, 33286, 93285, 93290, 93291, 93297, 93298)</strong></td>
<td></td>
</tr>
<tr>
<td>Implantable devices are similar in design to external monitoring but implanted under the skin in the precordial region. Implantable hemodynamic monitoring devices (e.g. CardioMEMS™) have features that allow remote monitoring of hemodynamic data in patients with heart failure. The device is activated automatically according to programmed criteria or triggered by the patient.</td>
<td></td>
</tr>
</tbody>
</table>

**POLICY**

**HMO, PPO, Individual Marketplace, Elite/ProMedica Medicare Plan, Advantage**

**Effective 06/01/2021** procedure 33285 requires a Prior Authorization.

Procedures 0497T and 0498T are non-covered for ALL product lines.

**COVERAGE CRITERIA**

**HMO, PPO, Individual Marketplace, Elite/ProMedica Medicare Plan, Advantage**

**Continuous Recorder/ Holter Monitors (93224, 93225, 93226, 93227)**

The use of 24 to 48-hour continuous external cardiac monitoring and storage (e.g., Holter Monitor), are considered medically necessary when ANY of the following criteria are met:

- As a diagnostic tool to evaluate symptoms suggestive of cardiac arrhythmias (e.g., palpitations, arrhythmias, chest pain, unexplained vertigo (dizziness), near syncope, transient ischemic episodes and dyspnea)
- Assessment of patients with coronary artery disease with active symptoms, to correlate chest pain with ST-segment changes
- As a diagnostic tool for detecting ventricular arrhythmias, QT interval changes, or ST changes, to evaluate risk
- As a method to assess for paroxysmal atrial fibrillation following cryptogenic stroke
- Evaluation of idiopathic hypertrophic cardiomyopathy or dilated cardiomyopathies
- To detect arrhythmias post ablation procedures
• To assess pacemaker or implantable cardioverter defibrillator (ICD) function for any of the following indications:
  o In patients experiencing frequent symptoms of palpitation, syncope, or near syncope
  o When there is the need for assistance in programming parameters
  o When there is a suspected component failure or malfunction
  o To assess response to pharmacologic therapy in patients with an ICD
• To assess for myocardial ischemia in suspected variant angina or known coronary artery disease when such information will impact management
• To assess antiarrhythmic drug therapy in individuals with a treated arrhythmia

**Ambulatory External Cardiac Monitoring: Event Monitoring (93268, 93270, 93271, 93272)/ Long-term Continuous Recorder Monitoring (93241, 93242, 93243, 93244, 93245, 93246, 93247, 93248)**

Ambulatory external cardiac monitoring from 48 hours to 30 days, are considered medically necessary when ANY of the following criteria are met:

- To assess any of the above Holter Monitor medical indications that occur less frequently than every 48hrs, or if a Holter monitor fails to document a suspected arrhythmia
- To document symptoms of chest pain, syncope, presyncope, vertigo, or severe palpitations occurring less frequently than once per 24 hours are present
- To document symptoms of presyncope, syncope, or severe palpitations when there is clinical suspicion of a significant bradyarrhythmia or tachyarrhythmia
- To document ST segment depression for suspected ischemia
- Evaluation of acute and subacute forms of ischemic heart disease.
- To provide evaluation of atrial fibrillation for rhythm and/or rate control when the results will directly impact clinical decision-making
- Following cryptogenic stroke, for the detection of suspected paroxysmal atrial fibrillation when prior testing with Holter monitoring has yielded inconclusive results and when external ambulatory event monitoring is intended to guide medical management with anticoagulants
- To document the benefit after initiating drug therapy for an arrhythmia
- To document recurrence of an arrhythmia after discontinuation of drug therapy
- To document the results after an ablation procedure for an arrhythmia
- Evaluation of acute and subacute forms of ischemic heart disease by documenting ST segment depression in a patient with known or suspected coronary heart disease when a 24-hour Holter or hospital telemetry is non-diagnostic.

**Event Monitoring (93268, 93270, 93271, 93272)**

Cardiac Event Detection (CED) involves the use of a long-term monitor by patients to document a suspected or paroxysmal dysrhythmia. Following the recording of events, the patient transmits data via telephone to a physician's office, hospital facility, IDTF, or other specified station that is equipped and staffed to assess electrocardiographic data and to initiate appropriate management action. The device must be patient or event activated.

The services included require a 24-hour attended monitoring station to receive transmissions, and that the devices:

- are patient/event activated and intermittently record cardiac arrhythmic events;
- provide either presymptom memory loop or post-symptom recording; and
- are non-insertable (non-implanted).

- Although the service is a 30-day service, it is recognized that the event recorder may be discontinued once the symptom-producing arrhythmia has been documented and diagnosed or following multiple transmissions during symptoms, without arrhythmia. It is unlikely that the arrhythmias would always be diagnosed on the first day of recording, or that the service would always last only one day. The average duration of monitoring is anticipated to last 10-14 days, or more.

**Mobile Cardiac Telemetry Monitoring (MCOT or MCT) (93228, 93229) (e.g., Ziopatch®, CardioNet Mobile Cardiac Outpatient Telemetry (MCOT) Service; Cardiac Telecom and Health Monitoring Services of America’s Telemetry @ Home Service, etc.)**

Mobile cardiac outpatient telemetry is covered for 30 days as medically necessary when Holter monitoring and/or Ambulatory External Cardiac Monitoring is non-diagnostic.
And
ANY of the following criteria is met:

- To document infrequent symptoms (less frequently than every 48 hours) suggestive of cardiac arrhythmias (i.e., severe palpitations when there is clinical suspicion of a significant bradyarrhythmia or tachyarrhythmia), dizziness, presyncope, or syncope
- To evaluation of atrial fibrillation for rhythm and/or rate control when the results will directly impact clinical decision-making
- For diagnosis in patients who experienced a cryptogenic stroke and have a negative work-up for AF when the etiology of the symptoms/conditions of arrhythmia has not been determined after standard diagnostic workup (e.g., a complete clinical history and physical examination, standard 12-lead ECG, cardiac imaging), and not likely to be diagnosed with a Holter Monitor or Ambulatory External Cardiac Monitoring
- Patients with atrial fibrillation who have been treated with catheter ablation, and in whom discontinuation of systemic anticoagulation is being considered
- To evaluate function of pacemakers or implantable cardioverter defibrillators (ICDs) in order to assess any of the following:
  - Symptoms of palpitation, syncope, or near syncope to assess device function to exclude myopotential inhibition and pacemaker mediated tachycardia
  - Symptoms of palpitation, syncope, or near syncope to assist in programming parameters such as rate-responsivity and automatic mode switching
  - Suspected component failure or malfunction when device interrogation is not definitive in establishing a diagnosis
  - Response to adjunctive pharmacologic therapy in individuals receiving frequent ICD therapy
- A Mobile Receiving Station must be staffed on a 24-hour basis and should be able to direct the patient for the management of all emergencies. An answering service/answering machine would not fulfill this requirement

**Pediatric Ambulatory External Cardiac Monitoring Clinical Criteria**
In accord with the American College of Cardiology/American Heart Association (ACC/AHA), indications for pediatric monitoring, including MCOT monitoring, may be considered medically necessary for the evaluation of the following indications:

- To evaluate frequent, recurrent, and unexplained palpitations, unexplained dizziness, syncope or near syncope which are suggestive of cardiac arrhythmias or pacemaker dependency
- Hypertrophic or dilated cardiomyopathies
- Possible long QT syndromes
- Prior surgery for congenital heart disease related to palpitations
- To evaluate palpitations related to significant residual hemodynamic abnormalities i.e. syncope or near syncope associated with exertion
- Congenital heart disease accompanied by significant residual hemodynamic abnormalities when surgery is being considered
- To assess the adequacy of antiarrhythmic drug efficacy, during rapid somatic growth
- Asymptomatic nonpaced congenital complete atrioventricular (AV) block
- Evaluation of cardiac rhythm after transient (AV) block associated with heart surgery or catheter ablation
- Palpitations in individuals with prior surgery for congenital heart disease and significant residual hemodynamic abnormalities
- Evaluation of rate-responsive or physiological pacing function in children with persistent or recurrent cardiac symptoms

**Implantable Loop Recorder** (33285, 33286, 93285, 93290, 93291, 93297, 93298, C1764, E0616, G2066) (e.g., Reveal Insertable Loop Recorder by Medtronic, Inc.)
An implantable electrocardiographic event monitor (i.e., implantable loop recorder) is considered medically necessary for the evaluation of an unexplained syncopal episode, heart failure and/or cryptogenic stroke when a cardiac arrhythmia is suspected and EITHER of the following criteria are met:

- Noninvasive ambulatory monitoring failed to establish a definitive diagnosis because the symptoms occur so infrequently and unpredictably, occurring less frequently than once a month, that the length of the monitoring period may have been inadequate to capture a diagnostic electrocardiogram (ECG) rhythm disorder
- Ambulatory external cardiac monitoring is not expected to be diagnostic because the symptoms occur so infrequently and unpredictably that the length of the monitoring period would likely be inadequate to capture a diagnostic electrocardiogram (ECG) rhythm disorder
- To assess the results after an ablation procedure performed for an arrhythmia
- To assess a patient with cryptogenic stroke with whom atrial fibrillation is suspected to be the cause and a 24-hour Holter monitor or hospital telemetry is non-diagnostic
- Genetically based arrhythmia conditions (LongQT Syndrome, Short QT Syndrome, Brugada Syndrome, Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT) in whom:
  - There is suspicion of symptoms only while sleeping; or
  - The family history is that of cardiac arrest while sleeping
- Patients with developmental delays precluding accurate symptom description but in whom there is sufficient reason (clinical signs/symptoms, family history) to believe the patient is at risk for an arrhythmia
  - The replacement of an implantable electrocardiographic event monitor is considered medically necessary for an individual who meets ANY of the above criteria and the existing monitor is no longer under warranty and cannot be repaired.
  - The use of an implantable electrocardiographic event monitor (i.e., implantable loop recorder) for ANY other indication including routine monitoring of a documented arrhythmia or assessing the effectiveness of arrhythmia treatment is considered experimental, investigational or unproven.

**Documentation Requirements**

Documentation should include a history and physical exam. The record should document the evaluation, which focuses on the cause(s) of the presenting symptoms and/or the need for this testing.

- All documentation must be maintained in the patient’s medical record and available upon request.
- Every page of the record must be legible and include appropriate patient identification information (e.g., complete name, dates of service(s)). The record must include the physician or non-physician practitioner responsible for and providing the care of the patient.
- The submitted medical record should support the use of the selected ICD code(s). The submitted CPT/HCPCS code should describe the service performed.

**NON-COVERED**

Other Cardiac Event Monitors, not an all-inclusive:

Paramount does not cover ANY of the following for any indication because each is considered a convenience item and not medically necessary:

- Monitoring asymptomatic patients with risk factors for arrhythmia
- "Routine" continued monitoring in the absence of treatable symptoms is considered screening and is not medically necessary
- A Cardiac Event Monitor is medically unnecessary if it offers little or no potential for new clinical data beyond that which has been obtained from a previous test (e.g., a standard electrocardiogram has already established a diagnosis) or if other tests are better suited to obtain the clinical data relevant to the patient’s condition. The Cardiac Event Monitor should be coordinated with results from standard EKGs, Holter monitor tests, and stress tests.
- A self-monitoring combination device that includes an ECG monitor combined with a cellular telephone or other personal electronic device i.e. Pulse tachometers (pulse rate monitors, heart rate monitors, examples of brand names of pulse tachometers include the Exersentry, the Insta-Pulse, and the Mac Levy Omni Pulse.)
- Additional software or hardware required for downloading ECG data to a device such as personal computer, smart phone, or tablet

**CODING/BILLING INFORMATION**
The inclusion or exclusion of a code in this section does not necessarily indicate coverage. Codes referenced in this clinical policy are for informational purposes only.
Codes that are covered may have selection criteria that must be met.
Payment for supplies may be included in payment for other services rendered.

<table>
<thead>
<tr>
<th>CPT CODES</th>
<th>Description</th>
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<tbody>
<tr>
<td>33285</td>
<td>Insertion, subcutaneous cardiac rhythm monitor, including programming</td>
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<tr>
<td>33266</td>
<td>Removal, subcutaneous cardiac rhythm monitor</td>
</tr>
<tr>
<td>93224</td>
<td>External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; includes recording, scanning analysis with report, physician review and interpretation</td>
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<tr>
<td>93225</td>
<td>External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; recording (includes connection, recording, and disconnection)</td>
</tr>
<tr>
<td>93226</td>
<td>External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; scanning analysis with report</td>
</tr>
<tr>
<td>93227</td>
<td>External electrocardiographic recording up to 48 hours by continuous rhythm recording and storage; physician review and interpretation</td>
</tr>
<tr>
<td>93228</td>
<td>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; physician review and interpretation with report</td>
</tr>
<tr>
<td>93241</td>
<td>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 (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93242</td>
<td>External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; recording (includes connection and initial recording) (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93243</td>
<td>External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; scanning analysis with report (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93244</td>
<td>External electrocardiographic recording for more than 48 hours up to 7 days by continuous rhythm recording and storage; review and interpretation (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93245</td>
<td>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 (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93246</td>
<td>External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; recording (includes connection and initial recording) (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93247</td>
<td>External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; scanning analysis with report (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93248</td>
<td>External electrocardiographic recording for more than 7 days up to 15 days by continuous rhythm recording and storage; review and interpretation (Effective 01/01/2021)</td>
</tr>
<tr>
<td>93268</td>
<td>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, physician review and interpretation</td>
</tr>
</tbody>
</table>
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)

Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with physician analysis, review and report; implantable loop recorder system

Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; implantable cardiovascular monitor system, including analysis of 1 or more recorded physiologic cardiovascular data elements from all internal and external sensors

Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; implantable loop recorder system, including heart rhythm derived data analysis

Interrogation device evaluation(s), (remote) up to 30 days; implantable cardiovascular monitor system, including analysis of 1 or more recorded physiologic cardiovascular data elements from all internal and external sensors, physician analysis, review(s) and report(s)

Interrogation device evaluation(s), (remote) up to 30 days; implantable loop recorder system, including analysis of recorded heart rhythm data, physician analysis, review(s) and report(s)

External patient-activated, physician-or other qualified health care professional-prescribed, electrocardiographic rhythm derived event recorder without 24-hour attended monitoring; in-office connection

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

**HCPCS CODES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>C1764</td>
<td>Event recorder, cardiac (implantable)</td>
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<tr>
<td>E0616</td>
<td>Implantable cardiac event recorder with memory, activator and programmer</td>
</tr>
<tr>
<td>G2066</td>
<td>Interrogation device evaluation(s), (remote) up to 30 days; implantable cardiovascular monitor system, implantable loop recorder system, or subcutaneous cardiac rhythm monitor system, remote data acquisition(s), receipt of transmissions and technician review, technical support and distribution of results</td>
</tr>
</tbody>
</table>

Paramount reserves the right to review and revise our policies periodically when necessary. When there is an update, we will publish the most current policy to [https://www.paramounthealthcare.com/services/providers/medical-policies/](https://www.paramounthealthcare.com/services/providers/medical-policies/)

**REVISION HISTORY EXPLANATION**

**ORIGINAL EFFECTIVE DATE: 10/01/2011**

<table>
<thead>
<tr>
<th>Date</th>
<th>Explanation &amp; Changes</th>
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<tbody>
<tr>
<td>11/01/11</td>
<td>• Updated to combine PG-0122, PG-0222, PG-0223</td>
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<tr>
<td>07/18/14</td>
<td>• Codes removed 93279, 93280, 93281, 93282, 93283, 93284, 93286, 93287, 93288, 93289, 93292, 93293, 93294, 93295, 93296</td>
</tr>
<tr>
<td></td>
<td>• Added codes 0295T—0298T, 0302T—0307T</td>
</tr>
<tr>
<td>Date</td>
<td>Changes</td>
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</tbody>
</table>
| 07/11/17   | - Long-term Continuous (>48 hours) External Cardiac Monitoring Device (0295T-0298T) now covered for HMO, PPO, Individual Marketplace, Elite  
- Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee |
| 12/12/17   | - Effective 12/31/17 deleted codes 0302T-0307T                                                 
- Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee |
| 12/29/2020 | - Medical policy placed on the new Paramount Medical Policy Format                                |
| 03/23/2021 | - Changed the medical policy name from Cardiac Event Monitors/Cardiac Event Detection to ambulatory External and Implantable Electrocardiographic Monitoring  
- Updated to the latest Industry Standards/Criteria 
- Removed deleted codes 33282, 33284, 93299, 0295T-0298T, 0302T-0307T  
- Added codes 92341-93248 |

**REFERENCES/RESOURCES**

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services

Ohio Department of Medicaid


Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets

Hayes, Inc.

Industry Standard Review