Electrocardiogram and Holter Monitoring Tests
Medicare’s Coverage Guidelines

The following guidelines were obtained from CMS Internet Only Manuals (IOM) including the National Coverage Determinations, Benefit Policy, Claims Processing along with various Medicare Administrative Contractor’s (MACs), the American Academy of Professional Coders (AAPC) and the American Radiology Association policies. Resources are provided after each topic.

Electrocardiogram (EKG or ECG) Services

An electrocardiogram is a graphic representation of electrical activity within the heart. Electrodes placed on the body in predetermined locations sense this electrical activity, which is then recorded by various means for review and interpretation. EKG recordings are used to diagnose a wide range of heart disease and other conditions that manifest themselves by abnormal cardiac electrical activity.

EKG services are covered diagnostic tests when there are documented signs and symptoms or other clinical indications for providing the service. Coverage includes the review and interpretation of EKGs only by a physician. There is no coverage for EKG services when rendered as a screening test or as part of a routine examination unless performed as part of the one-time, “Welcome to Medicare” (Initial Preventive Physical Examination (IPPE)) under section 611 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. As of CY 2009, screening EKGs are not a mandatory service for the IPPE, but can be performed with a referral from the IPPE.

Electrocardiograms are indicated for diagnosis and patient management purposes involving symptoms of the heart, pericardium, thoracic cavity and system diseases which produce cardiac abnormalities. Electrocardiography may be useful in management of diseases that are not primarily cardiac but which frequently affect the heart either directly or indirectly. The following are examples of when EKG is appropriate:

- Patients that present with complaints of symptoms such as chest pain, palpitations, dyspnea, dizziness, syncope, etc., which may suggest a cardiac origin.
- Evaluation and management of a patient:
  - With systemic disease involving the heart (i.e. hypertension).
  - With myocardial infarction, pericarditis, cardiac rhythm disturbances, heart failure.
  - On cardiac medication for conditions which affect the electrical conduction system of the heart.
- With a pacemaker.
- After CABG, PTCA and/or stent placement.
- Use of medications or exposure to toxic substances that affect the heart.

**THIS IS NOT AN ALL-INCLUSIVE LIST.** Refer to CMS and MAC guidelines.

**EKG (ECG) Coding**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>93000©</td>
<td>Electrocardiogram, routine ECG with at least 12 leads: with interpretation and report</td>
</tr>
<tr>
<td>93005©</td>
<td>tracing only, without interpretation and report</td>
</tr>
<tr>
<td>93010©</td>
<td>interpretation and report only</td>
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**EKG (ECG) Interpretation**

For EKGs, the interpretation must include appropriate comments on any three of the following six elements: (1) the rhythm or rate (2) axis, (3) intervals, (4) segments, (5) notation of a comparison with a prior EKG if one was available to the physician, and (6) summary of clinical condition.

An EKG with interpretation must have the full graphic tracings with formal written or printed interpretation on file for review. The interpretation should appear on the designated sections of a page formatted EKG or written in the clinical records. Interpretations should include appropriate comments on rhythm, axis intervals, acute or chronic changes and a comparison with the most recent tracing. While every single parameter is not required for each tracing, the appropriate measurements must be mentioned if the purpose of repeated EKGs is to monitor the effects of a given parameter (e.g., the QT interval).

**Example:**

- EKG reveals normal sinus rhythm, no axis deviation, no acute changes.
- EKG reveals atrial fibrillation, rapid ventricular response, non-specific ST-T wave changes.
- EKG reveals normal sinus rhythm, normal axis, T-wave inversion in V3 and V4 and T-wave flattening and high laterally. No EKG was available for comparison.

**Common Question Regarding Electrocardiogram (EKG) and Computer Generated Reports**

**Question:**

The EKG equipment we use not only provides the strip showing the rhythm, but also generates a report on the findings. Can I bill for the interpretation (whether as a global service or the professional component only) for this computer-generated report?
Answer:

A provider may use the computer-generated report as the basis of his/her interpretation and report of the test. However, a provider may only submit a claim for the professional component of this service when the situation meets certain qualifications.

1) There must be a notation of the physician's opinion of the computer decision - whether he/she agrees or disagrees.

2) If the physician disagrees with the computer decision or has additional information to supply, he/she must notate the disagreement or additional information. He/she can mark out or cross through the part he/she disagrees with, indicating the correct information. A common error seen in the computer-generated decision is that it indicates "RBBB" but the rhythm is actually a completely paced rhythm. Medicare would expect to see something similar to "Disagree with RBBB. Completely paced rhythm with ventricular rate of 72; agree with rest."

3) The physician must sign his or her notation.

Question resource: WPS Medicare

**Multiple (Serial) EKGs**

Serial EKGs, performed over either the short term (acute condition) or over long term (for chronic conditions) may be appropriate when performed at a reasonable frequency. Documentation must show that the tests are necessary for monitoring an evolving pathologic process for which the therapy will be altered based on the findings of the EKG. The interval between EKGs should be determined by the physician responsible for the patient’s care based on severity of underlying conditions, recent changes in condition or onset of new symptoms. Documentation must demonstrate that the findings of the test affect management of the condition.

**Coding:**

Multiple EKGs performed on the same day:

- Submit multiple 'identical' services on the same claim. If the services can or cannot be submitted on a single claim, use CPT modifier 76 (same provider) or 77 (different provider) and specify the exact times of each service.

- On electronic claims use the documentation record to specify the exact times that each EKG was done.

- On electronic claims use the documentation record to explain why more than one diagnostic service was done on the same date by the same/different provider.
Example:

Multiple EKGs performed due to patient receiving cardiac drug and physician’s need to access effectiveness.

EKG in the Emergency Room

The following information is from CMS IOM 100-04, chapter 13 section 100 and CMS MLN SE1134:

The professional component of a diagnostic procedure furnished to a beneficiary in a hospital includes an interpretation and written report for inclusion in the beneficiary’s medical record maintained by the hospital. (See 42 CFR 415.120(a).)

Carriers generally distinguish between an “interpretation and report” of an x-ray or an EKG procedure and a “review” of the procedure. A professional component billing based on a review of the findings of these procedures, without a complete, written report similar to that which would be prepared by a specialist in the field, does not meet the conditions for separate payment of the service. This is because the review is already included in the emergency department evaluation and management (E/M) payment. For example, a notation in the medical records saying “fx-tibia” or EKG-normal would not suffice as a separately payable interpretation and report of the procedure and should be considered a review of the findings payable through the E/M code. An “interpretation and report” should address the findings, relevant clinical issues, and comparative data (when available).

- The professional component of a diagnostic procedure furnished to a beneficiary in a hospital includes an interpretation and written report for inclusion in the beneficiary’s medical record maintained by the hospital. (See CFR 415.120 (a) at http://www.gpo.gov/fdsys/pkg/CFR-2010-title42-vol3/pdf/CFR-2010-title42-vol3-sec415-120.pdf on the Internet.)

- Medicare Carriers and MACs generally distinguish between an “interpretation and report” of an EKG procedure and a ‘review’ of the procedure. A professional
component billing based on a review of the findings of these procedures, without a complete, written report similar to that which would be prepared by a specialist in the field, does not meet the conditions for separate payment of the service.

- Medicare Carriers and MACs pay for only one interpretation of an EKG or X-ray procedure furnished to an emergency room patient. They pay for a second interpretation (which may be identified through the use of modifier “-77”) only under unusual circumstances (for which documentation is provided) such as a questionable finding for which the physician performing the initial interpretation believes another physician’s expertise is needed or changed diagnosis resulting from a second interpretation of the results of the procedure.

- When Medicare Carriers or MACs receive multiple claims for the same interpretation, they must generally pay for the first bill received. They must pay for the interpretation and report that directly contributed to the diagnosis and treatment of the individual patient.

- The physician specialty isn’t a primary factor during the claims decision process/cycle.

Medicare does not reimburse for re-reads for quality assurance purposes.

**Pre-Operative Testing**

The use of diagnostic testing as part of a pre-operative examination, where there is an absence of signs or symptoms indicating a need for the test, is not covered under the Medicare benefit. Such studies will be considered not reasonable and medically necessary, or routine screening.

The coverage of services defined as “reasonable and necessary” applies to all diagnostic procedures, with the exception of Medicare covered preventative and screening services. The existence of policies or protocols in hospitals or other providers, requiring the routine use of these tests, in and of themselves, does not justify coverage.

Example: Electrocardiograms performed pre-operatively, when there are no indications for this test.

Medicare coverage of pre-operative EKGS is limited to those patients who possess one or more patient-specific indicators of increased risk for perioperative cardiac morbidity and who will undergo surgery of high or intermediate risk of cardiac morbidity/mortality. Surgery-specific risks relate to the type of surgery and its associated degree of hemodynamic stress. Documentation of pre-operative EKG studies must indicate the underlying cardiac condition or risks, as well as the proposed operation for which cardiac evaluation is being performed. The EKG must be performed reasonably proximate to the proposed surgery to be considered medically necessary.
Claims submitted for these tests performed solely as part of a pre-operative examination, without additional diagnoses indicating medical necessity, will be denied as not reasonable and necessary.

**Rhythm Strip and National Correct Coding Initiative (NCCI) Edits**

**Coding**

93040© Rhythm ECG, 1-3 leads; with interpretation and report  
93041© tracing only without interpretation and report  
93042© interpretation and report only

CPT code 93010 describes the physician interpretation of an electrocardiogram (ECG). CPT code 93042 describes the physician interpretation of a cardiac rhythm strip. Since the ECG interpretation described by CPT code 93010 includes an interpretation of cardiac rhythm abnormalities, the procedure described by CPT code 93010 is more extensive than the procedure described by CPT code 93042. Therefore, CPT code 93042 is bundled into CPT code 93010.

Rhythm strip interpretations cannot be billed when they are done at the same time as a full EKG. However, they can be billed when performed at a time different than the EKG and when the medical necessity of the rhythm strip is clear. When clearly necessary, each may be billed separately. Documented change in a patient’s condition or response to medication would allow separate reporting of a rhythm strip after an EKG was done.

Refer to NCCI edits and the 59 modifier.

**Documentation Requirements**

Documentation supporting medical necessity for the EKG should be legible, maintained in the patient’s medical record and made available to Medicare upon request. The documentation should include:

- Physician order(s) for the EKG(s).  
- The patient’s history and physical.  
- Signs and symptoms (rationale for EKG diagnosis).  
- Medical diagnosis after exam and testing.  
- Copy of EKG report or physician’s interpretation, including date and signature.  
- Evidence of recent, past, ongoing or suspected cardiac disease or symptoms.
The medical record should demonstrate the following:

- For patients in whom the EKG is performed as part of the evaluation of chest pain or symptoms that are atypical for cardiac ischemia, the record must substantiate that the ordering clinician has a valid concern that the etiology of the chest pain or other symptoms is cardiac in origin. Conversely, the record may show that the EKG is being used to exclude cardiac origin for symptoms (including chest pain) for which cardiac origin cannot be excluded by history or physical examination.

- For serial ECGs, information supporting the medical necessity for repeating the studies at the given interval should be present. Sequential ECGs, either short-term for an acute condition or long-term for a chronic condition, are often appropriate. Documentation must demonstrate that the findings of the test affect management of the condition.

- The report of the professional component (the interpretation) for the ECG must be a complete written report that includes relevant findings and appropriate comparisons. The interpretation may appear on the actual tracing or with a progress note or other report of an E/M service when the ECG is performed in conjunction with performance of an E/M service. An interpretation reported in the latter fashion, when billed as a separate service from the E/M service, should contain the same information as a report made upon the tracing itself. A simple notation of “ECG/EKG normal,” without accompanying tracing, will not, in this circumstance, suffice as documentation of a separately payable interpretation.

**Resources**

CMS National Coverage Determination (NCD) (20.15) for electrocardiographic services.  


CMS Claims Processing Manual (100-04), chapter 13, section 100.  

Novitas-Solutions has an EKG LCD (L32721) that has been retired for dates of service on or after November 1, 2013. For tests provided prior to November 1, 2013, refer to the retired LCD for coverage criteria (i.e. diagnosis).  

Noridian LCD #L33523  

American College of Radiology – Practice Parameters and Technical Standards  
Holter Monitoring

Often, abnormalities do not occur during the brief time that a standard electrocardiogram (EKG/ECG) is done. A Holter monitor records EKG/ECG information over an extended period of time in order to "capture" and then diagnose abnormal heart rhythms that may occur as a patient goes about their daily routine. When symptoms, such as dizziness, fainting, low blood pressure, prolonged fatigue, and palpitations, continue to occur without a definitive diagnosis obtained with a resting EKG/ECG, a physician may request an EKG/ECG tracing to be run over a long period of time, using the Holter monitor.

Certain dysrhythmias and arrhythmias (abnormal heart rhythms), which can cause the symptoms noted above, may occur only intermittently, or may occur only under certain conditions, such as stress. Dysrhythmias of this type are difficult to obtain on an ECG tracing that only runs for a few minutes. The Holter monitor records continuously for the entire period of 24 to 48 hours. Some Holter monitors may record continuously but also have an event monitor feature that the patient activates when symptoms begin to occur.

Coding

93224©  ECG monitoring/reprt up to 48 hours
93225©  recording (includes connection, recording and disconnection)
93226©  scanning analysis with report
93227©  review and interpretation

- These services may be reported globally with CPT code 93224. Use the date of physician review as the date of service (DOS).
- When submitting claims for the recording only (CPT code 93225) or for the analysis with report only (CPT code 93226) use the date the service was performed as the DOS.
- When submitting claims for physician review and interpretation (CPT code 93227) use the date the service was performed as the DOS.

Indications

- Detecting transient episodes of cardiac dysrhythmia, permitting correlation of these episodes with cardiovascular symptoms.
- Evaluation of the patient with symptoms suggestive of a cardiac dysrhythmia when another cause cannot be established.
- Evaluation of arrhythmias in patients with documented coronary artery disease, including the assessment of the immediate post-myocardial infarction patient.
- Monitoring the effectiveness of antiarrhythmic therapy.
- Syncope and pre-syncope are covered indications for Holter monitoring and real-time monitoring.
Limitations

- Holter monitoring and real-time monitoring are not covered for the detection of silent ischemia in patients without symptoms suggestive of ischemia. Routine screening in the absence of signs, symptoms, and complaints is not covered under Title XVIII of the Social Security Act, Section 1862(a)(7).

- Holter monitoring and real-time monitoring are not covered for patients with incidental findings of conduction system defects absent a qualifying indication listed above.

- Holter monitoring and real-time monitoring for vague symptoms such as dizziness are not covered in the absence of symptoms or signs that would suggest cardiac origin of the symptoms.

- Holter monitoring is generally not medically necessary more frequently than once every 180 days except to ascertain a response to a change in treatment based on a Holter monitor recording. Therefore, no more than three monitoring studies will be allowed without review of medical records that demonstrate medical necessity (i.e., redetermination, previously known as appeal).

Documentation Requirements

Documentation supporting medical necessity for the Holter monitor should be legible, maintained in the patient’s medical record and made available to Medicare upon request. The documentation should include:

- Physician order for the holter monitor.
- The patient’s history and physical.
- Evidence of previous monitoring (i.e. EKG) and outcome.
- Signs and symptoms (rationale for monitoring).
- Medical diagnosis.
- Copy of report or physician's interpretation, including date and signature.
- Evidence of recent, past, ongoing or suspected cardiac disease or symptoms.

A formal report for every study must be generated that indicates the reason(s) for the test and includes the electrocardiographic interpretation.

An appropriate medical evaluation of the patient prior to the test must be documented in the patient’s record by the referring physician. This should include a history and physical examination that is of sufficient scope and detail to support medical necessity for the test.

To verify the necessity and reasonableness of the test, the performing physician should, at minimum, document the diagnostic impression of the referring physician and indicate the patient’s relevant signs, symptoms or pertinent history in his records. The simple statement of certain non-specific test indications (such as chest pain or palpitations, etc.) is unacceptable medical necessity documentation.
Resources

CMS IOM National Coverage manual (100-03), chapter 1, section 20.15.  

Novitas-Solutions has a holter monitoring LCD (L32736) that has been retired for dates of  
service on or after November 1, 2013. For tests provided prior to November 1, 2013, refer to  
the retired LCD for coverage criteria (i.e. diagnosis).  

Novitas-Solutions Cardiac Event Detection LCD (L32679)  
http://www.cms.gov/medicare-coverage-database

WPS Medicare LCD (L29584)  

Additional Cardiology Resources

Novitas-Solutions has a stress test LCD (L32689) that has been retired for dates of service  
on or after November 1, 2013. For tests provided prior to November 1, 2013, refer to the  
retired LCD for coverage criteria (i.e. diagnosis).  

American College of Cardiology  
http://cardiosource.org/

American College of Emergency Physicians  
http://www.acep.org/