FIRST COAST SERVICE OPTIONS
MAC - PART A
LOCAL COVERAGE DETERMINATION

LCD Database ID Number
L33974

Contractor Name
First Coast Service Options, Inc.

Contractor Number
09101 – Florida
09201 – Puerto Rico/Virgin Islands

Contractor Type
MAC – Part A

LCD Title
Troponin

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CMS National Coverage Policy
Language quoted from CMS National Coverage Determination (NCDs) and coverage provisions in interpretive manuals are italicized throughout the Local Coverage Determination (LCD). NCDs and coverage provisions in interpretive manuals are not subject to the LCD Review Process (42 CFR 405.860[b] and 42 CFR 426 [Subpart D]). In addition, an administrative law judge may not review an NCD. See §1869(f)(1)(A)(i) of the Social Security Act.

Unless otherwise specified, italicized text represents quotation from one or more of the following CMS sources:

N/A

Primary Geographic Jurisdiction
Florida
Puerto Rico/Virgin Islands
Indications and Limitations of Coverage and/or Medical Necessity

Troponin is a muscle protein that attaches to both actin and tropomyosin. It is concerned with calcium binding and inhibiting cross-bridge formation. Troponin is a complex of three proteins: troponin C, troponin I, and troponin T. The distribution of these isoforms varies between cardiac muscle and slow- and fast-twitch skeletal muscle. Their importance lies in the fact that the isoforms troponin I and troponin T show a high degree of cardiac specificity, and therefore, have an important role in the diagnostic evaluation of a patient presenting with symptoms suggestive of a cardiac origin.

Cardiac Troponin I (cTnI) is highly specific for myocardial tissue, is thirteen times more abundant in the myocardium than CK-MB on a weight basis, is not detectable in the blood of healthy persons, shows a greater proportional increase above the upper limit of the reference interval in patients with myocardial infarction and remains elevated for seven to ten days after an episode of myocardial necrosis. In addition, measurements of cTnI is useful to clarify which increases in CK-MB are due to myocardial injury and which ones reflect acute or chronic skeletal muscle abnormalities.

Troponin T, the tropomyosin-binding protein of the regulatory complex located on the contractile apparatus of cardiac myocytes, is also a sensitive and specific marker for myocardial necrosis. Damaged heart muscle releases the protein, troponin T, which increases in the bloodstream as early as 3 hours after the onset of chest pain and remains at an elevated level for 2 to 7 days.

Troponin levels are considered medically reasonable and necessary to rule out myocardial injury only under the following conditions:

- patient presents with signs and symptoms of an acute myocardial infarction (prolonged chest pain often described as squeezing, choking, stabbing, etc., usually spreading across chest to the left arm; dyspnea, diaphoresis) which is confirmed by an electrocardiogram (EKG, ECG);
- patient presents with vague or atypical symptoms suggestive of a cardiac origin, which is not confirmed by an electrocardiogram;
- patient evaluation reveals a normal creatine kinase MB isoenzyme (CK-MB), however, the EKG demonstrates new changes consistent with ischemia (e.g., flipped T waves, ST-segment depression); or
- to distinguish patients with unstable angina from those with a non-Q wave myocardial infarction.

Initially, it is expected that a qualitative Troponin level (procedure code 84512) is performed on a patient with suspected myocardial injury. If the results of the qualitative Troponin level is positive, then the quantitative level of Troponin I or Troponin T (procedure code 84484) is performed, usually with the same blood specimen, to determine if the symptoms are cardiac in nature. The Troponin C isoform is not useful in the management of myocardial infarction and it is not necessary to monitor both the T and I isoform.
The quantitative test is normally performed every 8-12 hours the first 24 hours. Once the determination is made whether myocardial injury has occurred, it is expected that a Troponin level will be performed only when the results are to be used in the active treatment of the patient.

Also, it is not necessary to use Troponin in addition to Creatine Kinase (procedure codes 82550-82554) in the management of patients with myocardial infarction.

**Type of Bill Code**

Hospital – 12x, 13x  
Skilled Nursing Facility – 22x, 23x  
Rural Health Clinic – 71x  
Critical Access Hospital – 85x

**Revenue Codes**

301 Chemistry

**CPT/HCPCS Codes**

84484 Troponin, quantitative  
84512 Troponin, qualitative

**ICD-10 Codes that Support Medical Necessity**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I20.0</td>
<td>Unstable angina</td>
</tr>
<tr>
<td>I21.01-I22.9</td>
<td>Ischemic heart diseases</td>
</tr>
<tr>
<td>I25.110-I25.119</td>
<td>Atherosclerotic heart disease of native coronary artery with angina pectoris</td>
</tr>
<tr>
<td>I25.700-I25.799</td>
<td>Atherosclerosis of coronary artery bypass graft(s) , unspecified, with angina pectoris</td>
</tr>
<tr>
<td>I46.2-I49.9</td>
<td>Other forms of heart disease</td>
</tr>
<tr>
<td>I50.21</td>
<td>Acute systolic (congestive) heart failure</td>
</tr>
<tr>
<td>I50.23</td>
<td>Acute on chronic systolic (congestive) heart failure</td>
</tr>
<tr>
<td>I50.41</td>
<td>Acute combined systolic (congestive) and diastolic (congestive) heart failure</td>
</tr>
<tr>
<td>I50.43</td>
<td>Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure</td>
</tr>
<tr>
<td>I50.810-I50.89</td>
<td>Right heart failure, unspecified - Other heart failure</td>
</tr>
<tr>
<td>M79.601-M79.676</td>
<td>Pain in limb, hand, foot, fingers and toes</td>
</tr>
<tr>
<td>R00.0</td>
<td>Tachycardia, unspecified</td>
</tr>
<tr>
<td>R00.1</td>
<td>Bradycardia, unspecified</td>
</tr>
<tr>
<td>R06.00</td>
<td>Dyspnea, unspecified</td>
</tr>
<tr>
<td>R06.02</td>
<td>Shortness of breath</td>
</tr>
<tr>
<td>R06.03</td>
<td>Acute respiratory distress</td>
</tr>
<tr>
<td>R06.09</td>
<td>Other forms of dyspnea</td>
</tr>
<tr>
<td>R06.2</td>
<td>Wheezing</td>
</tr>
<tr>
<td>R06.3</td>
<td>Periodic breathing</td>
</tr>
<tr>
<td>R06.81-R06.89</td>
<td>Other abnormalities of breathing</td>
</tr>
<tr>
<td>R07.1-R07.9</td>
<td>Pain in throat and chest</td>
</tr>
<tr>
<td>R10.13</td>
<td>Epigastric pain</td>
</tr>
<tr>
<td>R55</td>
<td>Syncope and collapse</td>
</tr>
<tr>
<td>R61</td>
<td>Generalized hyperhidrosis</td>
</tr>
<tr>
<td>R94.31</td>
<td>Abnormal electrocardiogram [ECG] [EKG]</td>
</tr>
</tbody>
</table>

**Diagnosis that Support Medical Necessity**
ICD-10 Codes that DO NOT Support Medical Necessity

Any ICD-10-CM code that does not appear under the “ICD-10 Codes that Support Medical Necessity” section of this policy.

Diagnosis that DO NOT Support Medical Necessity

N/A

Associated Information

Documentation Requirements

The medical records must document the medical necessity of the test including the test results. This information is usually found in the office/progress notes, emergency/hospital notes, and/or laboratory results.

If the provider of the service is other than the ordering/referring physician, that provider must maintain hard copy documentation of test results and interpretation, along with copies of the ordering/referring physician’s order for the studies. The physician must state the clinical indication/medical necessity for the study in his order for the test. If the test is performed for the patient with vague or atypical symptoms, e.g., epigastric pain, syncope, the rationale for why this symptom may be cardiac related should be documented.

Utilization Guidelines

N/A

Sources of Information and Basis for Decision

First Coast Service Options, Inc. reference LCD number – L29032


Lai, C.S., (et al) (2004). Prevalence of troponin-t elevation during out-of-hospital cardiac arrest. American Journal of Cardiology, 93:754-756. This source used to help define the medical necessity of using troponin levels as a diagnostic tool and to determine if there is a limited timeframe when it may be useful in treating the patient.


Start Date of Comment Period
Troponin.2 Part A

N/A

End Date of Comment Period

N/A

Start Date of Notice Period

N/A

Revision History

Revision History Number: R2

Revision Number: 2
Publication: September 2017 Connection
LCR A2017-004

Explanation of Revision: Based on CR 10153 (Annual 2018 ICD-10-CM Update) the LCD was revised. Added ICD-10-CM diagnosis code range I50.810-I50.89 and diagnosis code R06.03. The effective date of this revision is based on date of service.

Revision History Number: R1

Revision Number: 1
Publication: June 2017 Connection
LCR A2017-002

Explanation of Revision: Based on CR 8776, the following verbiage was removed from the “CPT/HCPCS Codes” section of the LCD: “Per CR 8572, beginning in CY 2014, payment for most laboratory tests (except for molecular pathology tests) will be packaged under the OPPS, therefore the clinical laboratory tests listed below, for TOB 13X (outpatient hospital), are packaged in this setting.” The effective date of this revision is for claims processed on or after 05/12/2017, for dates of service on or after 01/01/2014.

Revision Number: Original

This LCD replaces all previous LCD versions (refer to “Sources of Information and Basis for Decision” section of the LCD) and publications on this subject to comply with ICD-10-CM based on Change Request 8112. The effective date of this LCD is based on date of service.

Related Documents

N/A

LCD Attachments

Coding Guidelines

Document formatted: 08/29/17 (RC/MB/dc)