Medical Policy

Ultrasonographic Measurement of Carotid Intima-Medial Thickness as an Assessment of Subclinical Atherosclerosis

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**Policy Number:** 547

BCBSA Reference Number: 2.02.16

**Related Policies**

- Novel Lipid Risk Factors in Risk Assessment and Management of Cardiovascular Disease, #283

**Policy**

**Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity**

Ultrasonographic measurement of carotid artery intima-medial thickness (CIMT) as a technique of identifying subclinical atherosclerosis is **INVESTIGATIONAL** for use in the screening, diagnosis, or management of atherosclerotic disease.

**Medicare HMO BlueSM and Medicare PPO BlueSM Members**

BCBSMA does not cover ultrasound diagnostic procedures for the B-Scan for atherosclerotic narrowing of peripheral arteries for Medicare HMO Blue and Medicare PPO Blue members in accordance with CMS NCD.

**National Coverage Determination (NCD) for Ultrasound Diagnostic Procedures (220.5)**


**Prior Authorization Information**

Pre-service approval is required for all inpatient services for all products. See below for situations where prior authorization may be required or may not be required for outpatient services.

Yes indicates that prior authorization is required.

No indicates that prior authorization is not required.

<table>
<thead>
<tr>
<th>Outpatient</th>
<th>Commercial Managed Care (HMO and POS)</th>
<th>Commercial PPO and Indemnity</th>
<th>Medicare HMO BlueSM</th>
<th>Medicare PPO BlueSM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</tbody>
</table>
CPT Codes / HCPCS Codes / ICD-9 Codes
The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

### CPT Codes

<table>
<thead>
<tr>
<th>CPT codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>0126T</td>
<td>Common carotid intima-media thickness (IMT) study for evaluation of atherosclerotic burden or coronary heart disease risk factor assessment</td>
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</table>

### ICD-9 Diagnosis Coding
Investigational for all diagnoses.

### Description
Coronary heart disease (CHD) accounts for 27% of all deaths in the United States. Risk factors include elevated serum levels of low-density lipoprotein (LDL) cholesterol, total cholesterol, reduced levels of high-density lipoprotein (HDL) cholesterol, a history of cigarette smoking, hypertension, family history of premature CHD, and age. Pathology studies have demonstrated that levels of traditional risk factors are associated with the extent and severity of atherosclerosis. However, at every level of risk factor exposure, there is substantial variation in the amount of atherosclerosis, presumably related to genetic susceptibility and the influence of other risk factors. Therefore, there has been interest in identifying a technique that can improve the ability to diagnose those at risk of developing CHD, as well as measure disease progression, particularly for those at intermediate risk.

Ultrasonographic measurement of carotid intima-medial (or intimal-media) thickness (CIMT) refers to the use of B-mode ultrasound to determine the thickness of the two innermost layers of the carotid artery wall, the intima and the media. The intima-medial thickness (IMT) is measured and averaged over several sites in each carotid artery. Two echogenic lines are produced, representing the lumen-intima interface and the media-adventitia interface. The distance between these two lines constitutes the IMT. Detection and monitoring of intima-medial thickening (atherosclerosis) may provide an opportunity to intervene earlier in atherogenic disease and/or monitor disease progression.

An example of software for ultrasonographic measurement of CIMT is SonoCalc® from SonoMetric Health, LLC. All ultrasonographic measurement of CIMT is considered investigational regardless of the commercial name, the manufacturer, or FDA approval status.

### Summary
Ultrasonographic measurement of carotid intima-medial (or intimal-media) thickness (CIMT) refers to the use of B-mode ultrasound to determine the thickness of the 2 innermost layers of the carotid artery wall, the intima and the media. Detection and monitoring of intima-medial thickening, which is a surrogate marker for atherosclerosis, may provide an opportunity to intervene earlier in atherogenic disease and/or monitor disease progression.

Some studies correlate increased CIMT with many other commonly used markers for risk of CHD and with risk for future cardiovascular events. While a 2012 meta-analysis of individual participant data by Lorenz et al. found that CIMT was associated with increased cardiovascular events, CIMT progression over time was not associated with increased cardiovascular event risk. In a systematic review by Peters and colleagues, (4) the added predictive value of CIMT was modest, and the ability to reclassify patients into clinically relevant categories was not demonstrated. The results from these studies and others demonstrate the predictive value of CIMT is uncertain, and the predictive ability for any level of population risk cannot be determined with precision.
In addition, available studies do not define how the use of CIMT in clinical practice improves outcomes. There appears to be no scientific literature that directly and experimentally tests the hypothesis that measurement of CIMT results in improved patient outcomes and no specific guidance on how measurements of CIMT should be incorporated into risk assessment and risk management. The existing data are insufficient to determine the impact of this technology on net health outcome. Therefore, CIMT is considered investigational for use in the screening, diagnosis, or management of atherosclerotic disease.

### Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>9/2014</td>
<td>New references added from BCBSA National medical policy.</td>
</tr>
<tr>
<td>10/2013</td>
<td>New references from BCBSA National medical policy.</td>
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<tr>
<td>1/1/2012</td>
<td>New policy, effective 01/01/2012, describing ongoing non-coverage.</td>
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</tbody>
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### Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

- [Medical Policy Terms of Use](#)
- [Managed Care Guidelines](#)
- [Indemnity/PPO Guidelines](#)
- [Clinical Exception Process](#)
- [Medical Technology Assessment Guidelines](#)

### References


17. Probstfield JL, Margitic SE, Byington RP et al. Results of the primary outcome measure and clinical events from the Asymptomatic Carotid Artery Progression Study. Am J Cardiol 1995; 76(9):47C-53C.


