Homocysteine is an amino acid found in the blood; levels are inversely correlated with folate levels. Homocysteine has been evaluated as a potential marker of cardiovascular disease (CVD) in the general population and as a potential risk marker among people with CVD. The association between homocysteine-lowering interventions and risk of CVD has also been examined.

Observational evidence generally supports the association of homocysteine levels with risk of CVD, especially in patients with preexisting vascular disease. However, evidence from randomized controlled trials (RCTs) does not support the hypothesis that lowering homocysteine levels by treatment with folate and/or B vitamins improves cardiovascular outcomes. Numerous large RCTs and meta-analyses of these trials are consistent in reporting that homocysteine-lowering treatment is ineffective in reducing major cardiovascular events. Due to the large amount of evidence from placebo-controlled RCTs that homocysteine-lowering interventions do not improve health outcomes, routine testing for homocysteine in the screening, evaluation, or management of cardiovascular disease is considered investigational.

Policy

Coding Information
Click the links below for attachments, coding tables & instructions.

Attachment I- CPT code table
Attachment II- ICD-10 code table
Policy Guidelines

Measurement of plasma levels of homocysteine is considered investigational in the screening, evaluation, and management of patients for cardiovascular disease.

Background

Homocysteine is a sulfur-containing amino acid that is rapidly oxidized in plasma into homocysteine and cysteine-homocysteine disulfide. Measurement of total plasma homocysteine is the sum of homocysteine and its oxidized forms. The laboratory test is referred to as either homocysteine or homocyst(e)ine.

Plasma levels of homocysteine have been actively researched as a risk factor for CVD, initially based on the observation that patients with hereditary homocystinuria, an inborn error of metabolism associated with high plasma levels of homocysteine, had a markedly increased risk of CVD. Subsequently, prospective epidemiologic studies were conducted to determine if an elevated plasma level of homocysteine was an independent risk factor for CVD and could be used to improve current risk prediction models.

Interest in homocysteine as a potentially modifiable risk factor has been stimulated by the epidemiologic finding that levels of homocysteine are inversely correlated with levels of folate. This finding has raised the possibility that treatment with folic acid might lower homocysteine levels and, in turn, reduce the risk of CVD. Therefore, homocysteine has potential utility both as a risk predictor and as a target of treatment.

Determination of homocysteine concentration may be offered as a component of a comprehensive cardiovascular risk assessment that may include evaluation of small-density lipoproteins, sub-classification of high-density lipoproteins, evaluation of lipoprotein (A), high-sensitivity C-reactive protein, and genotyping of apolipoprotein.

Rationale/Scientific Background

The most recent literature update was performed through November 9, 2015. Following is a summary of the key literature to date.

Homocysteine testing can be evaluated in a similar framework as other novel cardiac risk factors. There are several conditions that must be met for a cardiovascular risk factor to demonstrate clinical utility. A 2002 TEC Assessment1 summarized 3 steps necessary for clinical utility:

- Standardization of measurement of the risk factor.
- Determination of its contribution to risk assessment. As a risk factor, it is important to determine whether the novel risk factor contributes independently to risk assessment compared with established risk factors.
- Determination of how the novel risk factor will be used in the management of the patient, compared with standard methods of assessing risk, and whether any...
subsequent changes in patient management result in an improvement in patient outcomes.

**Is Measurement of Homocysteine Standardized?**

There are U.S. Food and Drug Administration–cleared commercially available kits for measuring homocysteine.

In 2002, the Homocysteine Studies Collaboration published a meta-analysis of observational studies evaluating the association between homocysteine concentration and risk of ischemic heart disease (IHD) or stroke. A total of 30 studies were identified that had individual patient data available; this included 18 retrospective studies and 13 prospective studies. In the prospective studies, blood for measuring homocysteine concentration was collected before the clinical onset of disease. The adjusted odds ratio (OR) of ischemic heart disease associated with a 25% lower homocysteine level was 0.83 (95% confidence interval [CI], 0.77 to 0.89) in prospective studies, 0.67 (95% CI, 0.62 to 0.71) in retrospective studies using population controls, and 0.73 (95% CI, 0.64 to 0.83) in retrospective studies with other controls. The adjusted OR of stroke associated with a 25% lower homocysteine level was 0.77 (95% CI, 0.66 to 0.90) in prospective studies, 0.86 (95% CI, 0.73 to 1.01) in retrospective studies with population controls, and 0.46 (95% CI, 0.30 to 0.70) in retrospective studies with other controls. The risk of IHD and stroke was significantly weaker in the prospective studies than the retrospective studies, which may reflect biases in retrospective studies.

Subsequent meta-analyses of observational studies have found significant associations between homocysteine and morbidity and mortality, including a 2015 meta-analysis of 12 studies, which found increased coronary artery disease (CAD), cardiovascular, and all-cause mortality with higher homocysteine levels.

Among the prospective studies was one by Folsom et al that identified patients who developed coronary heart disease (CHD) among an initial cohort of 15,792 patients participating in the Atherosclerosis Risk in Communities (ARIC) trial. The median follow-up time was 3.3 years. Plasma homocysteine was evaluated from the stored blood samples of the 232 patients plus a random sample of the rest of the cohort. While homocysteine was a significant univariate predictor of CAD, this association was not significant after adjusting for other cardiac risk factors in multivariate analysis. Another prospective study was published by Evans et al. The investigators identified 240 cases of nonfatal myocardial infarction (MI) or coronary death among a cohort of 12,866 men participating in the Multiple Risk Factor Intervention Trial (MRFIT). Homocysteine from stored blood samples from these patients plus 472 control patients were evaluated. With a follow-up ranging from 11 to 17 years, homocysteine levels did not appear to be an independent risk factor for CHD. In contrast, in a nested case-control study derived from a prospective cohort study of 21,520 men enrolled in the British United Provident Study, Wald et al reported that the initial stored plasma level of homocysteine was significantly higher among 229 men who ultimately died of IHD compared with a control group of 1126 men who did not die of IHD and did not have a history of IHD.

For patients with known cardiovascular disease (CVD), prospective data more consistently demonstrate that homocysteine is a risk factor for future events. In 1997, for example,
Nygard et al reported on a prospective study of the plasma homocysteine levels in 587 patients with angiographically confirmed CAD. After a median follow-up of 4.6 years, the authors compared the initial homocysteine levels of the 64 patients (10.9%) who had died with those of the remaining 523 survivors. The authors reported a strong graded dose-response relationship between plasma homocysteine and mortality. In addition, Knekt et al reported the outcomes at 13-year follow-up for 3471 middle-aged Finnish men, 884 of whom had known CVD at baseline. Using the homocysteine values from stored blood samples, a strong positive correlation was noted between homocysteine concentration and subsequent major coronary events in men with known CVD at baseline. However, they found no association between serum homocysteine concentration and the incidence of major coronary events (death from CHD or nonfatal MI) among men originally free of heart disease.

Since publication of the Homocysteine Studies Collaboration meta-analysis, a number of studies have reported on the association between homocysteine and CVD. In 2010, Park et al published an analysis of data from a large nationally representative survey of U.S. residents. The analysis was restricted to the 6371 individuals aged 40 to 79 years who had no history of MI, stroke, peripheral artery disease, or stroke. The investigators stratified participants according to their estimated 10-year risk of CVD, using the Framingham risk score; low risk, less than 10% (n=2527), intermediate risk, 10% to 20% (n=3336), and high risk, greater than 20% (n=508). Information on homocysteine level was available for 3860 (61%) patients. There was a statistically significant association between elevated homocysteine levels (defined as at least the 85th percentile) and being categorized as having a high 10-year risk of CVD (OR=2.11; 95% CI, 1.48 to 3.01). The association between elevated homocysteine levels and intermediate cardiovascular risk was not significant (OR=1.11; 95% CI, 0.89 to 1.38). The survey was cross-sectional rather than prospective, limiting possible/potential conclusions about the predictive value of homocysteine levels.

In 2011, Veeranna et al published a post hoc analysis of national survey databases to evaluate whether adding homocysteine to the Framingham risk score model improves risk classification. The data were taken from the nationally representative surveys Multi-Ethnic Study of Atherosclerosis (MESA), which included subjects between the ages of 45 and 84 years with no prior history of CVD and the National Health and Nutrition Survey III (NHANES III), a sample of noninstitutionalized subjects. Homocysteine level was associated with CVD risk in both databases. In a receiver-operating curve analysis, the area under the curve (AUC) for predicting CHD events in the MESA database was 0.74 using the Framingham risk score and 0.76 when homocysteine level was added to the Framingham score. The improvement in risk prediction was statistically significant (p<0.001). The AUC for predicting CHD deaths in NHANES III was 0.84 using the Framingham risk score alone and 0.87 when homocysteine level was added to the Framingham score; this difference was statistically significant (p<0.001). Adding homocysteine to the Framingham model resulted in reclassification of 832 (12.9%) subjects in the MESA cohort and 1243 (18%) in the NHANES III cohort. This study does not address whether testing for homocysteine would improve health outcomes.

Section Summary:
Homocysteine as an Independent Risk Factor for Cardiovascular Disease
A meta-analysis of observational studies found a statistically significant moderate association between homocysteine levels and risk of CVD. Studies have also found a significant correlation between homocysteine levels in patients with known CVD and subsequent coronary events. One recent study analyzing nationally representative survey data found that adding homocysteine level to the Framingham risk score significantly improved risk prediction.

**Will Identification of Homocysteine Level Lead to Changes in Patient Management, and Will These Changes in Management Lead to Improved Patient Outcomes?**

Vitamin B and folic acid supplementation are potential interventions that could be used for patients with homocysteine levels to improve health outcomes. However, public health measures are already in place that require all enriched grain products be fortified with folic acid to reduce the risk of neural tube defects in newborns. This fortification has been associated with a decrease in plasma homocysteine concentration in a population-representative adult sample. Trials evaluating the impact of homocysteine-lowering therapy on health outcomes should thus evaluate the utility of treatments that lower homocysteine levels beyond those achieved by these general public health measures. In addition, clear target levels for homocysteine concentration would need to be established for translating information on homocysteine lowering into clinical practice.

Numerous randomized controlled trials (RCTs) have been published that provide evidence on the benefit of vitamin therapy to reduce homocysteine levels and prevent cardiovascular events. Moreover, several meta-analyses have synthesized the available RCT evidence on this question.

**Systematic Reviews**

In 2015, a Cochrane systematic review, originally published in 2009 and updated in 2013, on the effectiveness of homocysteine-lowering interventions for preventing cardiovascular events, including both MI and stroke, was updated. The review included RCTs assessing the effects of homocysteine-lowering interventions for preventing cardiovascular events with at least 1 year of follow-up and considered MI and stroke as the primary outcomes. No new trials published since the last update were identified. Twelve trials with a total of 47,429 subjects met eligibility criteria. Nine of the studies included more than 1000 participants. Nine studies used placebo controls, 2 used usual care controls, and 1 compared high and low doses of homocysteine-lowering therapy. In a pooled analysis of 11 trials, there was no statistically significant difference in nonfatal or fatal MI between intervention and control groups (relative risk [RR], 1.02; 95% CI, 0.95 to 1.10). In a pooled analysis of 9 studies, there was no significant difference between groups in the rate of nonfatal or fatal stroke (RR=0.91; 95% CI, 0.82 to 1.00). There was also no significant mortality benefit in groups assigned to homocysteine-lowering therapy. For mortality of any cause, the relative risk was 1.01 (95% CI, 0.96 to 1.07) in a meta-analysis of data from 10 trials.

In 2011 Zhou et al conducted a systematic review of double-blind placebo-controlled RCTs evaluating the impact of folic acid supplementation on cardiovascular outcomes. Interventions were included whether or not they involved supplementation with vitamin B in addition to folic acid. The review was limited to trials that included at least 100 patients and...
had at least 6 months of follow-up. Of 66 articles retrieved for detailed inspection, 16 trials with data on 44,841 patients met the review’s inclusion criteria. In a meta-analysis of findings from 12 trials, folic acid supplementation was not found to have a significant effect on major cardiovascular events compared with placebo (RR=0.98; 95% CI, 0.93 to 1.04). In addition, folic acid supplementation did not have a significant effect on individual outcomes including stroke (12 trials; RR=0.89; 95% CI, 0.78 to 1.01), MI (11 trials; RR=1.00; 95% CI, 0.93 to 1.07), or all-cause mortality (14 trials; RR=1.00, 95% CI, 0.96 to 1.05).

Also in 2011, Clarke et al published a meta-analysis of placebo-controlled homocysteine-lowering RCTs. This meta-analysis was limited to studies that included at least 1000 participants and have at least 1 year of follow-up. A total of 8 trials with 37,485 individuals met the review’s inclusion criteria. In a pooled analysis of findings from the 8 trials, vitamin B supplementation did not have a significant effect on risk of CHD events compared with placebo (RR=1.01; 95% CI, 0.96 to 1.07). In addition, in pooled analyses of data from the 8 trials, vitamin B supplementation was not found to have a significant effect on stroke events (RR=0.96; 95% CI, 0.87 to 1.07), cancer events (RR=1.08; 95% CI, 0.99 to 1.17), or all-cause mortality (RR=1.02; 95% CI, 0.97 to 1.07).

A fourth meta-analysis, published in 2012 by Huang et al, included RCTs evaluating B vitamin supplementation in patients with preexisting vascular disease. This review had more lenient inclusion criteria, as there was no limitation on study size or intervention duration. A total of 19 trials with 47,921 patients were included in the meta-analysis. Unlike the other meta-analyses previously discussed, in a pooled analysis of study data, the authors found a statistically significant benefit of vitamin B supplementation on stroke (RR=0.88; 95% CI, 0.82 to 0.95). Similar to the other meta-analyses, vitamin B supplementation was not found to have a statistically significant impact on other outcomes, including CHD, MI, and all-cause mortality. Given the more relaxed entry criteria, the meta-analysis may have included some lower-quality studies; the authors did not present a formal analysis of trial quality.

A 2014 meta-analysis included RCTs that compared folic acid supplementation (at least 5 mg/d for at least 4 weeks), without vitamin B supplementation, with placebo and evaluated endothelial function and homocysteine level as outcomes in patients with CAD. A total of 6 trials with 377 subjects were included. In pooled analysis, folic acid supplementation was associated with increased flow-mediated dilation (FMD), a noninvasive, ultrasound-based method to assess vascular endothelial function (mean difference (MD), 57.72 μm; 95% CI, 50.14 to 65.3; p<0.05). Folic acid supplementation was also associated with reduced plasma homocysteine concentration (MD = -3.66 μmol/L; 95% CI, -5.44 to -1.87; p<0.05). For other measures of endothelial function, there was no significant change in the response to end diastolic diameter, glyceryl-trinitrate diameter, heart rate, baseline and peak hyperemic flow, and systolic and diastolic blood pressure between the folic acid and placebo groups.

Liu et al also reported results of a meta-analysis of placebo-controlled RCTs that evaluated the effect of homocysteine-lowering therapies on FMD in patients with CAD. A total of 8 studies with 611 subjects were included; folic acid doses ranged from 400 to 10,000 μg/d. In pooled analysis, folic acid supplementation was associated with improved FMD compared with
placebo (standardized MD=1.65; 95% CI, 1.12 to 2.17; p<0.001), but there was significant heterogeneity across studies.

**Randomized Controlled Trials**

Representative RCTs evaluating homocysteine-lower interventions are described next.

The HOPE-2 trial included 5522 patients with preexisting vascular disease. Patients were randomized to treatment with a regimen of folate, vitamin B6, and vitamin B12 or placebo and followed up for an average of approximately 5 years. There were no significant differences in the composite outcome of cardiovascular death, myocardial infarction (MI), or stroke (RR=0.95; 95% CI, 0.84 to 1.07). However, there was a significant decrease in the risk of stroke for patients in the treatment group (RR=0.75; 95% CI, 0.59 to 0.97; p=0.03). For the secondary outcome of hospitalization for unstable angina, a significantly increased risk was reported for the treatment group (RR=1.24; 95% CI, 1.04 to 1.49; p=0.02).

The NORVIT enrolled 3749 patients with a recent MI and randomized patients to combinations of folate and/or B vitamins. Patients were followed up for a mean of 3.3 years for the primary outcome, which was a composite of recurrent MI, stroke, and sudden cardiac death. For patients assigned to the active treatment groups, no significant reductions were noted in any of the primary or secondary outcomes. For patients assigned to the combined folate/vitamin B6/vitamin B12 group, an increased risk that was marginally significant (RR=1.22; 95% CI, 1.00 to 1.50; p=0.05) was observed for the primary composite outcome group.

In 2010, findings from the Study of the Effectiveness of Additional Reductions in Cholesterol and Homocysteine (SEARCH) in the U.K. were reported. A total of 12,064 adult patients with a history of MI were randomized to receive folic acid and vitamin B12 or placebo. An additional eligibility criterion was blood cholesterol of at least 135 mg/dL if taking a statin or 174 mg/dL otherwise. Before randomization, patients participated in a run-in period to confirm that they were adherent to treatment. (Patients were also randomized to receive different doses of simvastatin; those findings are not reported here.) After 3 to 4 years of follow-up, due to the low number of major coronary events in the treatment group, the steering committee (blinded to interim between-group outcomes) decided to change the primary outcome from major coronary events to major vascular events. This composite variable included nonfatal MI, death from CHD, fatal or nonfatal stroke, or any arterial revascularization. After a mean follow-up of 6.7 years, vitamin treatment was not associated with a statistically significant reduction in the primary outcome. The number of major vascular events were 1537 (25.5%) in the vitamin group and 1493 (24.8%) in the placebo group (RR=1.04; 95% CI, 0.97 to 1.12). There were no significant differences in risk for any of the components of the composite outcome. In addition, death from all causes did not differ significantly between groups; there were 983 (16.3%) deaths in the vitamin group and 951 (15.8%) in the placebo group (RR=1.04; 95% CI, 0.96 to 1.13).

Since the publication of the systematic reviews and meta-analyses described above, van Dijk et al reported results of the B-PROOF trial, an RCT comparing B vitamins (vitamin B12 500 mg and folic acid 400 mg) with placebo for improving cardiovascular outcomes among elderly patients with hyperhomocysteinemia.28 The study included 2929 subjects over age 65 with an
elevated homocysteine level (12-50 μmol/L) who were randomized to 2 years of B vitamin therapy (n=1458) or placebo (n=1461). A random sample of participants (n=569) underwent baseline vascular measurements. Within the vascular subgroup, the aortic pulse pressure after 2 years of intervention was significantly higher in the B vitamin treatment group than in the placebo group (49.6 mm Hg vs 47.2 mm Hg, p=0.02). However, aortic-femoral pulse wave velocity and carotid intima-media thickness did not differ significantly between groups. In the vascular subgroup, serum homocysteine increased by 0.6 μmol/L in the placebo group but decreased by 3.6 μmol/L in the B vitamin therapy group. In the entire study population, the treatment groups did not differ significantly in terms of blood pressure or hypertension incidence, cerebrovascular event incidence, or MI incidence. In subgroup analyses, among women, treatment group subjects had lower incidence of cerebrovascular events than placebo group subjects (OR=0.33; 95% CI, 0.15 to 0.71).

Section Summary:
Management Changes and Outcome Improvements Associated With Homocysteine Level Measurements
Numerous large placebo-controlled RCTs have been published that evaluate the impact of folic acid/ vitamin B supplementation on risk of cardiovascular events, including MI and stroke. With few exceptions, meta-analyses of these RCTs have found that homocysteine-lowering interventions do not have a statistically significant effect on the rate of major cardiovascular events. Two meta-analyses of RCTs reported that homocysteine-lowering interventions are associated with improvements in a measure of vascular endothelial function, but it is uncertain whether these changes are associated with improved clinical outcomes.

Ongoing and Unpublished Clinical Trials
Some currently unpublished trials that might influence this policy are listed in Table 1.

Table 1. Summary of Key Trials

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<th>NCT No.</th>
<th>Trial Name</th>
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<td>NCTO1956786</td>
<td>Efficacy of Amlodipine-Folic Acid Tablets on Reduction of Blood Pressure and Plasma Homocysteine in Patients With Mild to Moderate Hypertension, Hyperhomocysteinemia and Angiotensin-Converting Enzyme Inhibitor Intolerance</td>
<td>756</td>
<td>Aug 2014</td>
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NCT: national clinical trial
Summary of Evidence
The evidence for the use of homocysteine testing in individuals who are asymptomatic with risk of cardiovascular disease (CVD) or patients with CVD includes observational studies and randomized controlled trials (RCTs) of homocysteine-lowering interventions. Relevant outcomes are test accuracy and validity, other test performance measures, change in disease status, and morbid events. Observational evidence generally supports the association of homocysteine levels with risk of CVD, especially in patients with preexisting vascular disease. However, evidence from RCTs evaluating homocysteine-lowering interventions does not support the hypothesis that lowering homocysteine levels by treatment with folate and/or B vitamins improves cardiovascular outcomes. Numerous large RCTs and meta-analyses of these trials are consistent in reporting that homocysteine-lowering treatment is ineffective in reducing major cardiovascular events. Given the large amount of evidence from placebo-controlled RCTs that homocysteine-lowering interventions do not improve health outcomes, it is unlikely that routine homocysteine testing has the potential to lead to changes in management that improve health outcomes. The evidence is sufficient to determine qualitatively that the technology is unlikely to improve the net health outcome.

SUPPLEMENTAL INFORMATION

Practice Guidelines and Position Statements
In 2013, the American College of Cardiology Foundation and the American Heart Association Task Force on Practice Guidelines issued guidelines on the assessment of cardiovascular risk, which did not address measurement of homocysteine levels.

U.S. Preventive Services Task Force Recommendations
In 2009, the U.S. Preventive Services Task Force issued a recommendation statement that the evidence is insufficient (1 statement) to assess the benefits and harms of using nontraditional risk factors to screen asymptomatic adults with no history of coronary heart disease (CHD) to prevent CHD events. Homocysteine was one of the nontraditional risk factors considered in the recommendation. The recommendation statements are currently being updated.

Regulatory status
Several homocysteine test systems have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process. These include the liquid-stable 2-part homocysteine reagent test by Catch Inc. (Maple Valley, WA) in 2006. Catch Inc. was purchased by Axis-Shield (Scotland) in 2010 and the Catch-branded products were phased out in 2011. The test is indicated for the in vitro quantitative determination of total homocysteine in serum and plasma to assist in diagnosing and treating patients with suspicion of homocystinuria and hyperhomocysteinemia. Other homocysteine test systems cleared for marketing by FDA include the Diazyme Enzymatic Homocysteine Assay (General Atomics, Poway, CA) cleared in 2012, and the A/C Automatic Enzymatic Hcy [Homocysteine] Assay (AntiCancer Inc., San Diego, CA) cleared in 2008. FDA product code: LPS.
Reference Resources

2. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). C-reactive protein as a cardiac risk marker (special report). TEC Assessments. 2002; Volume 17 Tab 23.

Document Precedence

Blue Cross and Blue Shield of Vermont (BCBSVT) Medical Policies are developed to provide clinical guidance and are based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. The applicable group/individual contract and member certificate language, or employer’s benefit plan if an ASO group, determines benefits that are in effect at the time of service. Since medical practices and knowledge are constantly evolving, BCBSVT reserves the right to review and revise its medical policies periodically. To the extent that there may be any conflict between medical policy and contract/employer benefit plan language, the member’s contract/employer benefit plan language takes precedence.

Audit Information

BCBSVT reserves the right to conduct audits on any provider and/or facility to ensure compliance with the guidelines stated in the medical policy. If an audit identifies instances of non-compliance with this medical policy, BCBSVT reserves the right to recoup all non-compliant payments.

Administrative and Contractual Guidance

Benefit Determination Guidance

Benefits are subject to all terms, limitations and conditions of the subscriber contract.

An approved referral authorization for members of the New England Health Plan (NEHP) is required. A prior approval for Access Blue New England (ABNE) members is required. NEHP/ABNE members may have different benefits for services listed in this policy. To confirm benefits, please contact the customer service department at the member’s health plan.

Federal Employee Program (FEP): Members may have different benefits that apply. For further information please contact FEP customer service or refer to the FEP Service Benefit Plan Brochure. It is important to verify the member’s benefits prior to providing the service to determine if benefits are available or if there is a specific exclusion in the member’s benefit.

Coverage varies according to the member’s group or individual contract. Not all groups are required to follow the Vermont legislative mandates. Member Contract language takes precedence over medical policy when there is a conflict.
If the member receives benefits through an Administrative Services Only (ASO) group, benefits may vary or not apply. To verify benefit information, please refer to the member’s employer benefit plan documents or contact the customer service department. Language in the employer benefit plan documents takes precedence over medical policy when there is a conflict.

Policy Implementation/Update information

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<td>6/2015</td>
<td>Adoption of BCBSA policy# 2.04.23. Approved by MPC on 4/13/15</td>
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<td>7/2016</td>
<td>Policy updated with literature review through November 9, 2015; Updated references based on BCBSA policy #2.04.23. Policy statements and position unchanged. Updated DX list to parallel BCBSA.</td>
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Eligible providers

Qualified healthcare professionals practicing within the scope of their license(s).

Approved by BCBSVT Medical Directors

Joshua Plavin, MD
Chief Medical Officer
Chair, Health & Payment Policy Committee

Attachment I
CPT code table
The following codes will be considered as medically necessary when applicable criteria have been met.

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Attachment II
ICD-10 code table

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<tr>
<td>I25.700-I25.799</td>
<td>Atherosclerosis of coronary artery bypass graft(s) and coronary artery of transplanted heart with angina pectoris</td>
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<td>Z13.6</td>
<td>Encounter for screening for cardiovascular disorders</td>
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072016RLG