Medical Coverage Policy

Effective Date.....05/15/2024
Next Review Date.....05/15/2025
Coverage Policy Number..... 0028

Plasma Brain Natriuretic Peptide in the Outpatient Setting

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Related Coverage Resources

Atherosclerotic Cardiovascular Disease Risk Assessment: Emerging Laboratory Evaluations

INSTRUCTIONS FOR USE

The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment where appropriate and have discretion in making individual coverage determinations. Where coverage for care or services does not depend on specific circumstances, reimbursement will only be provided if a requested service(s) is submitted in accordance with the relevant criteria outlined in the applicable Coverage Policy, including covered diagnosis and/or procedure code(s).

Reimbursement is not allowed for services when billed for conditions or diagnoses that are not covered under this Coverage Policy (see "Coding Information" below). When billing, providers must use the most appropriate codes as of the effective date of the submission. Claims submitted for services that are not accompanied by covered code(s) under the applicable Coverage Policy will be denied as not covered. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This Coverage Policy addresses measurement of plasma brain natriuretic peptide (BNP) or NT-proBNP in an outpatient setting.

Coverage Policy

Outpatient testing of plasma brain natriuretic peptide (BNP) or NT-proBNP is considered medically necessary for ANY of the following indications:

- to distinguish between heart failure (HF) and primary lung disease in a dyspneic individual
- asymptomatic individual with severe aortic stenosis to aid in timing of intervention
- for risk stratification in chronic HF
- in Stage A and Stage B* HF individuals when ordered with cardiovascular team input as part of prevention and management of HF
- monitoring response to treatment for HF
- in children ages 14 and under at increased risk for endocardial biopsy who are status post heart transplant when ordered in combination with echocardiography or electrocardiogram
- suspected amyloidosis or for amyloidosis staging
- during diagnosis or work-up of multiple myeloma
- on immunotherapy and either of the following:
  - at baseline and serially during treatment to detect abnormal blood biomarkers that may precede symptomatic myocarditis induced by an Immune Checkpoint Inhibitor (ICI)
  - Grade 2 cytokine release syndrome (CRS) and persistent tachycardia

Outpatient testing of plasma brain natriuretic peptide (BNP) or NT-proBNP testing for any other indication, including as part of a cardiovascular disease risk panel/profile, is considered not covered or reimbursable.

*Stage A: At risk for HF	At risk for HF but without symptoms, structural heart disease, or cardiac biomarkers of stretch or injury (e.g., patients with hypertension, atherosclerotic CVD, diabetes, metabolic syndrome and obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or positive family history of cardiomyopathy).
Stage B: Pre-HF	Patients without current or previous symptoms/signs of HF but evidence of one of the following • Structural heart disease • Evidence of increased filling pressures • Risk factors and ➢ Increased natriuretic peptide levels or

	➢ Persistently elevated cardiac troponin in the absence of competing diagnoses

Health Equity Considerations

DISPARITIES AND VULNERABLE POPULATIONS

The 2022 American College of Cardiology (ACC) and the American Heart Association Guideline for the Management of Heart Failure (Heidenreich, et al., 2022) addresses 'Risk of HF and Outcomes in Special Populations' (Table 27). Vulnerable Populations addressed include:

- Women
- Older adults (≥ 80y)
- Lower socioeconomic status populations (<$15,000/y)
- Black populations
- Hispanic populations
- Asian and Pacific Islander populations
- Native American and Alaskan Native populations

The ACC provides two Recommendations (both Class 1) for 'Disparities and Vulnerable Populations':

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure (Heidenreich, et al., 2022) 11.1 Recommendations for Disparities and Vulnerable Populations	Class of Recommendation (COR) and Level of Evidence (LOE)*
In vulnerable patient populations at risk for health disparities, HF risk assessments and multidisciplinary management strategies should target both known risks for cardiovascular disease (CVD) and social determinants of health, as a means toward elimination of disparate HF outcomes	COR: 1; LOE: C-LD
Evidence of health disparities should be monitored and addressed at the clinical practice and the health care system levels	COR: 1; LOE: C-LD

The ACC notes:

- There are important differences in HF incidence, risk factors, clinical care needs, and outcomes between specific patient populations.
- The highest incident of HF is consistently observed in self-identified Black patients. HF hospitalization and mortality rates for Black patients are also higher than for White patients, with the gap increasing over time for young men. These differences are driven mostly by social circumstances; a biological premise or genetic explanation for disease or disease severity should not be inferred by race or ethnicity.
- Important strategies to remove biases within health care professionals and systems impacting minority and socioeconomically disadvantaged patient populations include implicit bias training, recruiting a diverse workforce, and promoting broad access to HF care.

In a Research Letter titled 'Racial Differences in Serial NT-proBNP Levels in Heart Failure Management Insights From the GUIDE-IT Trial', Parcha et al. (2020) noted Black patients with HF had ≈21% lower NT-proBNP levels as compared with white patients. Despite this, NT-proBNP

concentrations of ≤1,000 pg/mL had prognostic significance in both Black patients and white patients. Black patients with HF had a higher risk for adverse cardiovascular outcomes compared with their white counterparts. Parcha et al. (2020) summarized achieving a target NT-proBNP level of ≤1000 pg/mL has favorable prognostic implications in both Black patients and white patients with HF, but the prognosis is worse for Black patients at either level of achieved NT-proBNP.

General Background

Brain-type natriuretic peptide (BNP) or N-terminal (NT) pro hormone BNP (NT-proBNP) testing has been proposed as an adjunct to other clinical testing in numerous clinical situations including but not limited to heart failure (HF). BNP/ NT-proBNP is a hormone secreted primarily by the heart muscle. The heart releases more BNP and NT-proBNP when the heart is distended from working too hard, as in heart failure.

Plasma levels of BNP are less than 100pg/mL in most healthy individuals; reference ranges depend on age and gender. Assays for both BNP and NT-proBNP are available; a clear advantage of one biomarker over the other for any particular application has not been established. A major limitation of BNP is that a wide range of values is observed in patients with and without HF, and all of the determinants of the circulating BNP level have not yet been well established. In individuals without heart failure, higher levels are associated with female gender, advanced age, and lower body mass index.

U.S. Food and Drug Administration (FDA)
The laboratory testing of serum circulating BNP and NT-proBNP levels does not require FDA-approval. There are, however, a number of testing devices have received FDA 510(k) approval These devices can be found on the FDA Center for Devices and Radiological Health 510(k) database, product code NBC. An example of an FDA-approved BNP device is the Triage® B-Type Natriuretic Peptide (BNP) Test (Biosite, Inc., San Diego, CA). The test is intended to be used as an aid in the following (FDA, 2005):

- diagnosis of heart failure
- assessment of heart failure severity
- risk stratification of patients with acute coronary syndromes (ACS)
- risk stratification of patients with heart failure

An example of a NT-proBNP test system is the Elecsys® proBNP Immunoassay (Roche Diagnostics Corporation, Indianapolis, IN). The intended use is as an aid in the diagnosis of individuals suspected of having CHF. The test is further indicated for the risk stratification of patients with ACS and CHF.

Although some of the components of Prevencio, Inc. panel tests are individually FDA-approved, at this time it does not appear that Prevencio's artificial-intelligence (AI)-driven algorithm panel tests are FDA-approved.

HEART FAILURE

Professional Societies/Organizations
American College of Cardiology (ACC): The 2023 ACC Expert Consensus Decision Pathway on Management of Heart Failure With Preserved Ejection Fraction (Kittleson, et al., 2023) notes that the Universal Definition of heart failure (HF) requires symptoms and/or signs of HF caused by structural/functional cardiac abnormalities and at least 1 of the following: 1) elevated natriuretic peptides; or 2) objective evidence of cardiogenic pulmonary or systemic congestion.

The American College of Cardiology (ACC) and the American Heart Association (AHA) Guideline for the Management of Heart Failure (Heidenreich, et al., 2022) lists the following Recommendations:

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure (Heidenreich, et al., 2022) 4.2. Use of Biomarkers for Prevention, Initial Diagnosis, and Risk Stratification Recommendations for Use of Biomarkers for Prevention, Initial Diagnosis, and Risk Stratification:	Class of Recommendation (COR) and Level of Evidence (LOE)*
*See Appendix for ACC/AHA Class of Recommendation and Level of Evidence definitions	
In patients presenting with dyspnea, measurement of B-type natriuretic peptide (BNP) or N-terminal prohormone of B-type natriuretic peptide (NT-proBNP) is useful to support a diagnosis or exclusion of HF	COR: 1; LOE: A
In patients with chronic HF, measurements of BNP or NT-proBNP levels are recommended for risk stratification	COR: 1; LOE: A
In patients hospitalized for HF, measurement of BNP or NT-proBNP levels at admission is recommended to establish prognosis	COR: 1; LOE: A
In patients at risk of developing HF, BNP or NT-proBNP–based screening followed by team-based care, including a cardiovascular specialist, can be useful to prevent the development of left ventricular (LV) dysfunction or new onset HF	COR: 2a; LOE: B-R
In patients hospitalized for HF, a predischarge BNP or NT-proBNP level can be useful to inform the trajectory of the patient and establish a post-discharge prognosis	COR: 2a; LOE: B-NR

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure (Heidenreich, et al., 2022) ACC/AHA Stages of Heart Failure (HF)	
Stage	Definition
Stage A: At-risk for HF	At risk for HF but without symptoms, structural heart disease, or cardiac biomarkers of stretch or injury (e.g., patients with hypertension, atherosclerotic CVD, diabetes, metabolic syndrome and obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or positive family history of cardiomyopathy).
Stage B: Pre-HF	Patients without current or previous symptoms/signs of HF but evidence of one of the following • Structural heart disease ➢ reduced left or right ventricular systolic function ➢ reduced ejection fraction, reduced strain ➢ ventricular hypertrophy ➢ chamber enlargement ➢ wall motion abnormalities ➢ valvular heart disease • Evidence of increased filling pressures ➢ by invasive hemodynamic measurements ➢ by noninvasive imaging suggesting elevated filling pressures (e.g., Doppler echocardiography) • Risk factors and

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure (Heidenreich, et al., 2022) ACC/AHA Stages of Heart Failure (HF)	
Stage	Definition
	➢ increased natriuretic peptide levels or persistently elevated cardiac troponin in the absence of competing diagnoses resulting in such biomarker elevations such as acute coronary syndrome, CKD, pulmonary embolus, or myopericarditis
Stage C: Symptomatic HF	Structural heart disease with current or previous symptoms of HF.
Stage D: Advanced HF	Marked HF symptoms that interfere with daily life and with recurrent hospitalizations despite attempts to optimize guideline-directed medical therapy (GDMT) (Heidenreich, et al., 2022)

American Diabetes Association (ADA: The ADA Consensus Report on Heart Failure states that "Specific to individuals with diabetes, measurement of natriuretic peptides (B-type natriuretic peptide [BNP]; N-terminal pro-BNP [NT-proBNP]) or high-sensitivity cardiac troponin is particularly helpful to identify stage B HF and predict progression to symptoms or death from HF" (Pop-Busui, et al., 2022).

American Heart Association (AHA): The AHA 2017 Scientific Statement 'Role of Biomarkers for the Prevention, Assessment, and Management of Heart Failure' (Chow, et al., 2017) notes that monitoring natriuretic peptide concentrations in blood not only can provide the clinician information about the diagnosis and severity of HF but also can improve prognostication and treatment strategies.

MONITORING TREATMENT FOR HEART FAILURE

Professional Societies/Organizations
ACC: In the 2021 Update to the 2017 ACC Expert Consensus Decision Pathway for Optimization of Heart Failure Treatment (Maddox, et al., 2021), the ACC notes that biomarkers have been examined for their role as markers of clinical responsiveness to guideline directed medical therapy (GDMT). This is due, in part, to the fact that a wide range of GDMTs may reduce BNP and NT-proBNP concentrations in parallel with the benefits of these therapies. The ACC states that in the GUIDE-IT (Guiding Evidence Based Therapy Using Biomarker Intensified Treatment in HF) trial, among patients with HFrEF, lowering NT-proBNP to <1,000 pg/mL was associated with significant reverse remodeling and improved outcomes (Daubert, et al., 2019). Similarly, in the PROVE-HF study, the speed and magnitude of NT-proBNP–lowering after ARNI initiation were associated with greater degrees of reverse cardiac remodeling and improved outcomes (Januzzi, et al., 2018; Januzzi, et al., 2020). Therefore, measurement of BNP or NT-proBNP is useful to monitor risk, assist in decision-making regarding the ordering of imaging studies to evaluate LV remodeling, and to provide helpful objective data regarding decision-making for referral to advanced HF therapies. Current evidence does not suggest targeting treatment to specific BNP or NT-proBNP levels (ACC/Maddox, et al., 2021).

AORTIC STENOSIS

Professional Societies/Organizations
ACC: The 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease states

- In apparently asymptomatic patients with severe aortic stenosis (AS) (Stage C1) and low surgical risk, aortic valve replacement (AVR) is reasonable when the serum B-type natriuretic peptide (BNP) level is >3 times normal (Class IIa, Level of Evidence B-NR) (ACC/Otto/2021)

The 2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease addresses Biomarker Studies under the section of Evidence Gaps and Future Directions, noting that "Although interest in using circulating biomarkers for risk stratification of patients with aortopathy has increased, biomarker expression has not been clearly associated with relevant clinical aortic events". The guideline does not specifically address plasma brain natriuretic peptide (BNP) or NT-proBNP (Isselbacher, et al., 2022).

HEART TRANSPLANT

Professional Societies/Organizations
International Society for Heart and Lung Transplantation (ISHLT): ISHLT Guidelines for the Care of Heart Transplant Recipients (December 2022) noted the following:

The ISHLT 2023 Guideline Update Recommendations for Rejection Surveillance by Endomyocardial Biopsy (EMB) in Heart Transplant Recipients states:

- The standard of care for adolescents should be similar to adults, including surveillance endomyocardial biopsy (EMB) for heart allograft rejection for 3 to 12 months after HT. In younger children, especially infants, the risks associated with EMB and required general anesthesia may outweigh the surveillance benefit for comparably rare acute rejection; therefore, it is reasonable to use a combination of non-invasive screening methods (echocardiography, ECG, biomarkers) instead (Class IIa, Level of Evidence: C*)

The ISHLT 2023 Guideline Update Recommendations for the Non-Invasive Monitoring of Acute Heart Transplant Rejection states:

- It is reasonable to integrate biomarkers such as BNP and high-sensitivity troponins into a rejection monitoring strategy to identify higher risk patients who may benefit from additional evaluation for acute cellular rejection (ACR), antibody-mediated rejection (AMR), or cardiac allograft vasculopathy (CAV) (Class IIb, Level of Evidence C*).
- In younger children, especially infants, the risks associated with EMB and required general anesthesia may outweigh the surveillance benefit for comparably rare acute rejection; therefore, it is reasonable to use a combination of non-invasive screening methods (echocardiography, ECG, biomarkers) instead (Class IIa, Level of Evidence: C*)

Other Non-Invasive Monitoring of Acute Heart Transplant Rejection Recommendations included but are not limited to:

- Gene Expression Profiling (GEP) (i.e., Allomap) of peripheral blood can be used in low-risk patients between 2 months and 5 years after HT to identify adult recipients who have low risk of current ACR to reduce the frequency of EMB. Data in children does not allow a general recommendation of GEP as a routine tool at present (Class IIa, Level of Evidence: B)
- In pediatric patients, echocardiography, especially detailed assessment of diastolic function, shows reasonable correlation with significant acute rejection; however, it should not be considered as a sole surveillance method in patients who have a low risk of endomyocardial biopsy (EMB) complications. In younger children, echocardiographic surveillance represents an alternative monitoring modality to avoid or reduce the frequency of EMB (Class IIb, Level of Evidence B)

- Post-transplant monitoring for donor-specific antibodies (DSA) should be performed at 1, 3, 6, and 12 months post-operatively and annually thereafter. Sensitized patients should be monitored more frequently (Class IIa, Level of Evidence C)

  *International Society for Heart and Lung Transplantation Standards and Guidelines Committee Grading Criteria
  - Class I Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, and effective
  - Class II Conflicting evidence and/or divergence of opinion about the usefulness/efficacy of the treatment or procedure
  - Class IIa Weight of evidence/opinion is in favor of usefulness/efficacy
  - Class IIb Usefulness/efficacy is less well established by evidence/opinion
  - Class III Evidence or general agreement that the treatment or procedure is not useful or effective and in some cases may be harmful

  - Level of evidence A: Data derived from multiple randomized clinical trials or meta-analyses
  - Level of evidence B: Data derived from a single randomized clinical trial or large non-randomized studies
  - Level of evidence C: Consensus of opinion of the experts and/or small studies, retrospective studies, registries

AMYLOIDOSIS

Professional Societies/Organizations
ACC: The 2023 ACC Expert Consensus Decision Pathway on Comprehensive Multidisciplinary Care for the Patient With Cardiac Amyloidosis, under the Section 7.6.1. Markers of Poor Prognosis in Cardiac Amyloidosis, states "For both amyloid monoclonal immunoglobulin light chain cardiomyopathy (AL-CM) and amyloid transthyretin cardiomyopathy (ATTR-CM), troponin and NTproBNP are powerful indicators of disease burden and prognosis. Multiple staging systems have been developed that rely predominantly on these biomarkers (ACC, 2023).

National Comprehensive Cancer Network Guidelines™ (NCCN Guidelines™): The NCCN Guidelines for Systemic Light Chain Amyloidosis (Version 2.2024 — December 12, 2023) under Initial Diagnostic Workup (workup of patients with suspected amyloidosis), states the following: "Cardiac biomarkers in the serum provide a quantitative assessment of cardiac dysfunction (troponin I or T), and cardiac stress brain natriuretic peptide (BNP) or N-terminal prohormone of brain natriuretic peptide (NT-proBNP) are important predictors of outcome in amyloidosis as well as part of the cardiac response criteria. The NCCN panel recommends assessing BNP if NT-proBNP assessment is not available" (NCCN, 2024, MS-4).

Under Staging, the NCCN notes that while multiple prognostic models have been proposed for patients with amyloidosis, the NCCN panel recommends use of a staging system that incorporates NT-proBNP or BNP (MS-4, MS-5).

MULTIPLE MYELOMA

Professional Societies/Organizations
NCCN: The NCCN Guidelines for Multiple Myeloma (Version 2.2024 — November 1, 2023) addresses BNP and NTproBNP.

Under Diagnosis and Workup, the NCCN states NT-proBNP is also recommended, and if N-terminal prohormone of brain natriuretic peptide N-terminal prohormone of brain natriuretic peptide (NT-proBNP) is not available BNP can be performed (NCCN, MS-3).

IMMUNOTHERAPY-RELATED TOXICITIES

Professional Societies/Organizations

NCCN: The NCCN Guidelines for Management of Immunotherapy-Related Toxicities (Version 1.2024 — December 7, 2023) addresses BNP and NTproBNP.

In the algorithm for Management of Immune Checkpoint Inhibitor-Related Toxicities / Cardiovascular Adverse Event(s) / Suspected myocarditis, Pericarditis, Large vessel vasculitis / Assessment/Grading:

- Cardiac biomarkers (including but not limited to BNP, or NTproBNP)

Consider NTproBNP at baseline for identifying those at increased risk and serially during treatment to detect abnormal blood biomarkers that may precede symptomatic myocarditis induced by Immune Checkpoint Inhibitor (ICI) (NCCN, pages ICI_CARDIO-1, ICI_CARDIO-1A).

Additional supportive care for Grade 2 cytokine release syndrome (CRS) includes IV fluid bolus as needed, management as per Grade 3 if no improvement is observed within 24 hours of initiating anti-IL6 therapy, and symptomatic management of organ toxicities. For those with persistent refractory hypotension after two fluid boluses and anti-IL-6 therapy, clinicians should start vasopressors, transfer the patient to an intensive care unit (ICU), consider an echocardiogram, and initiate more thorough methods of hemodynamic monitoring. Telemetry and electrocardiogram (EKG), along with assessment of troponin and brain natriuretic peptide (BNP) should be done if tachycardia persists (NCCN, pages MS-38, MS-39).

OTHER INDICATIONS

Any other indication for plasma brain natriuretic peptide (BNP) or NT-proBNP including but not limited to screening for various diagnoses, as part of a panel/profile test, or targeting treatment to specific BNP or NT-proBNP levels, is considered experimental.

There is a lack of well-designed clinical trials in the peer-reviewed scientific literature addressing the impact to long-term health outcomes from using artificial intelligence (AI)-driven cardiac panel blood tests (Neumann, et al., 2020).

In the 2021 Update to the 2017 ACC Expert Consensus Decision Pathway for Optimization of Heart Failure Treatment (ACC/Maddox, et al., 2021), the ACC notes that current evidence does not suggest targeting treatment to specific BNP or NT-proBNP levels.

Further information on BNP or NT-proBNP-guided therapy includes the randomized Guiding Evidence-Based Therapy Using Biomarker-Intensified Treatment in HF (GUIDE-IT) trial which was conducted at 45 clinical sites in the United States and Canada to determine whether NT-proBNP-guided treatment strategy improves clinical outcomes compared to usual care in high-risk patients with HF and reduced ejection fraction (HFrEF). The trial was stopped for futility when 894 (median age, 63; 286 [32% women]) of the planned 1,100 patients had been enrolled and followed for a median of 15 months. Cardiovascular mortality was 12% in the biomarker guided group and 13% in the usual care group ($p = 0.75$). The authors concluded that in high-risk patients with HFrEF, a strategy of NT-proBNP-guided therapy was not more effective than a usual care strategy in improving outcomes (Felker, et al., 2017).

Medicare Coverage Determinations

	Contractor	Determination Name/Number	Revision Effective Date
NCD		No Determination found	
LCD		Numerous	
LCD			

Note: Please review the current Medicare Policy for the most up-to-date information.
(NCD = National Coverage Determination; LCD = Local Coverage Determination)

Appendix

Applying ACC/AHA Class of Recommendation and Level of Evidence to Clinical Strategies, Interventions, Treatments, or Diagnostic Testing in Patient Care (Updated 2022)

The Class (Strength) of Recommendation (COR) indicates the strength of recommendation, encompassing the estimated magnitude and certainty of benefit in proportion to risk.

Class I – Strong (is recommended)
Class 2a – Moderate (is reasonable)
Class 2b – Weak (may/might be reasonable)
Class 3 – No benefit (Moderate) (is not recommended)
Class 3 – Harm (Strong) (potentially harmful)

The Level (Quality) of Evidence (LOE) rates the quality of scientific evidence supporting the intervention on the basis of the type, quantity, and consistency of data from clinical trials and other sources.

Level A – High quality evidence from more than one randomized clinical trial, Meta-analyses of high-quality randomized clinical trials, One or more randomized clinical trials corroborated by high-quality registry.
Level B-R – Randomized. Moderate quality evidence from one or more randomized clinical trials, Meta-analyses of moderate-quality randomized clinical trials.
Level B-NR – Non-randomized. Moderate quality evidence from one or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies, Meta-analyses of such studies.
Level C-LD – Limited data. Randomized or nonrandomized observational or registry studies with limitations of design or execution, Meta-analyses of such studies, Physiological or mechanistic studies of human subjects.
Level C-EO – Expert Opinion. Consensus expert opinion based on the clinical experience

Coding Information

Notes:

1. This list of codes may not be all-inclusive since the American Medical Association (AMA) and Centers for Medicare & Medicaid Services (CMS) code updates may occur more frequently than policy updates.
2. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
83880	Natriuretic peptide

ICD-10-CM Diagnosis Codes	Description
C90.0-C90.02	Multiple myeloma
D89.832	Cytokine release syndrome, grade 2
E10.10-E10.9	Type 1 diabetes mellitus
E11.00-E11.9	Type 2 diabetes mellitus
E13.00-E13.9	Other specified diabetes mellitus
E66.01-E66.9	Overweight and obesity
E85.0-E85.9	Amyloidosis
E88.810-E88.819	Metabolic syndrome and other insulin resistance
I05.0-I05.9	Rheumatic mitral valve diseases
I06.0-I06.9	Rheumatic aortic valve diseases
I07.0-I07.9	Rheumatic tricuspid valve diseases
I08.0-I08.9	Multiple valve diseases
I09.0-I09.9	Other rheumatic heart diseases
I10	Essential (primary) hypertension
I11.0-I11.9	Hypertensive heart disease
I13.0-I13.2	Hypertensive heart and chronic kidney disease
I15.0-I15.9	Secondary hypertension
I16.0-I16.9	Hypertensive crisis
I1A.0	Resistant hypertension
I20.0-I20.9	Angina pectoris
I21.01-I21.09	ST elevation (STEMI) myocardial infarction of anterior wall
I21.11-I21.19	ST elevation (STEMI) myocardial infarction of inferior wall
I21.21-I21.29	ST elevation (STEMI) myocardial infarction of other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.9	Acute myocardial infarction, unspecified
I21.A1-I21.A9	Other type of myocardial infarction
I21.B	Myocardial infarction with coronary microvascular dysfunction
I22.0-I22.9	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.81-I24.89	Other forms of acute ischemic heart disease
I24.9	Acute ischemic heart disease, unspecified

ICD-10-CM Diagnosis Codes	Description
I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110-I25.119	Atherosclerotic heart disease of native coronary artery with angina pectoris
I25.2	Old myocardial infarction
I25.3	Aneurysm of heart
I25.41-I25.42	Coronary artery aneurysm and dissection
I25.5	Ischemic cardiomyopathy
I25.6	Silent myocardial ischemia
I25.700-I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris
I25.710-I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris
I25.720-I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris
I25.730-I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris
I25.750-I25.759	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris
I25.760-I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris
I25.790-I25.799	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris
I25.810-I25.812	Atherosclerosis of other coronary vessels without angina pectoris
I25.82	Chronic total occlusion of coronary artery
I25.83	Coronary atherosclerosis due to lipid rich plaque
I25.84	Coronary atherosclerosis due to calcified coronary lesion
I25.85	Chronic coronary microvascular dysfunction
I25.89	Other forms of chronic ischemic heart disease
I25.9	Chronic ischemic heart disease, unspecified
I27.0-I27.1	Other pulmonary heart diseases
I27.20-I27.29	Other secondary pulmonary hypertension
I27.81-I27.89	Other specified pulmonary heart diseases
I27.9	Pulmonary heart disease, unspecified
I28.0-I28.9	Other diseases of pulmonary vessels
I34.0-I34.9	Nonrheumatic mitral valve disorders
I35.0-I35.9	Nonrheumatic aortic valve disorders
I36.0-I36.9	Nonrheumatic tricuspid valve disorders
I37.0-I37.9	Nonrheumatic pulmonary valve disorders
I42.0-I42.9	Cardiomyopathy
I50.1-I50.9	Heart failure
I5A	Non-ischemic myocardial injury (non-traumatic)
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation
J45.901	Unspecified asthma with (acute) exacerbation
J90	Pleural effusion, not elsewhere classified

ICD-10-CM Diagnosis Codes	Description
J91.8	Pleural effusion in other conditions classified elsewhere
J94.8	Other specified pleural conditions
J94.9	Pleural condition, unspecified
J96.00-J96.02	Acute respiratory failure
J96.20-J96.22	Acute and chronic respiratory failure
J96.90-J96.92	Respiratory failure, unspecified
Q20.0-Q20.9	Congenital malformations of cardiac chambers and connections
Q21.0-Q21.9	Congenital malformations of cardiac septa
Q22.0-Q22.9	Congenital malformations of pulmonary and tricuspid valves
Q23.0-Q23.9	Congenital malformations of aortic and mitral valves
Q24.0-Q24.9	Other congenital malformations of heart
Q25.0-Q25.9	Congenital malformations of great arteries
Q26.0-Q26.9	Congenital malformations of great veins
R06.00-R06.09	Dyspnea
R06.2	Wheezing
R06.3	Periodic breathing
R06.4	Hyperventilation
R06.81	Apnea, not elsewhere classified
R06.82	Tachypnea, not elsewhere classified
R06.89	Other abnormalities of breathing
R06.9	Unspecified abnormalities of breathing
R07.1-R07.9	Chest pain
R60.0-R60.9	Edema
R73.03	Prediabetes
Z48.21	Encounter for aftercare following heart transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z51.12	Encounter for antineoplastic immunotherapy
Z79.630-Z79.634	Long term (current) use of chemotherapeutic agent
Z82.49	Family history of ischemic heart disease and other diseases of the circulatory system
Z92.21	Personal history of antineoplastic chemotherapy
Z94.1	Heart transplant status
Z94.3	Heart and lung transplant status

Not covered or Reimbursable:

ICD-10-CM Diagnosis Codes	Description
	All other codes

Not Covered or Reimbursable:

CPT®* Codes	Description
0309U	Cardiology (cardiovascular disease), analysis of 4 proteins (NT-proBNP, osteopontin, tissue inhibitor of metalloproteinase-1 [TIMP-1], and kidney injury molecule-1 [KIM-1]), plasma, algorithm reported as a risk score for major adverse cardiac event
0310U	Pediatrics (vasculitis, Kawasaki disease [KD]), analysis of 3 biomarkers (NTproBNP, C-reactive protein, and T-uptake), plasma, algorithm reported as a risk score for KD

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Revision Details

Type of Revision	Summary of Changes	Date
Annual review	• Revised policy statement	5/15/2024