

Cardiovascular Diagnostic and Therapeutic Procedures

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[Instructions for Use](#)

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Related Medicare Advantage Policy Guidelines
• Ambulatory Blood Pressure Monitoring (NCD 20.19)
• Biomarkers in Cardiovascular Risk Assessment
• Cardiac Output Monitoring by Thoracic Electrical Bioimpedance (TEB) (NCD 20.16)
• Displacement Cardiography (NCD 20.24)
• Electrocardiographic Services (NCD 20.15)
• Long-Term Wearable Electrocardiographic Monitoring
• Microvolt T-Wave Alternans (MTWA) (NCD 20.30)
• Noninvasive Tests of Carotid Function (NCD 20.17)
• Percutaneous Coronary Interventions
• Plethysmography (NCD 20.14)

Coverage Guidelines

Cardiovascular diagnostic procedures are covered when Medicare coverage criteria are met.

The following is not an all-inclusive list of cardiac diagnostic procedures, but reflects diagnostic procedures based on the National Coverage Determinations (NCDs) listed below.

Diagnostic Endocardial Electrical Stimulation (EES)

Diagnostic endocardial electrical stimulation is covered when criteria are met. Refer to the [NCD for Diagnostic Endocardial Electrical Stimulation \(Pacing\) \(20.12\)](#). (Accessed January 7, 2021)

Digital Subtraction Angiography (DSA)

Digital subtraction angiography is covered the same as conventional angiography. Payment for DSA should not exceed, and may be less than, that being paid for conventional angiographic techniques. Refer to the [NCD for Digital Subtraction Angiography \(220.9\)](#). (Accessed January 7, 2021)

Digoxin Therapeutic Drug Assay

Digoxin therapeutic drug assay is covered. For specific indications, refer to the [NCD for Digoxin Therapeutic Drug Assay \(190.24\)](#). (Accessed January 7, 2021)

Electrocardiographic (EKG) Services

EKG services, including electrocardiogram ambulatory electrocardiography (AECG) (Holter monitor or real-time EKG), cardiac event monitor or event recorders are covered when specific criteria are met. Refer to the [NCD for Electrocardiographic Services \(20.15\)](#). (Accessed July 26, 2021)

Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) exist and compliance with these policies is required where applicable. These LCDs/LCAs are available at <http://www.cms.gov/medicare-coverage-database/overview-and-quick-search.aspx>. (Accessed July 26, 2021)

Note: Where the NCD or LCDs/LCAs is unclear or silent on coverage criteria for implantable loop recorders (CPT code 33285 and HCPCS code E0616), refer to the UnitedHealthcare Commercial Medical Policy titled [Cardiac Event Monitoring](#) for clinical coverage guidance.

HIS Bundle Study

HIS Bundle Study is covered for selected patients. For specific indications, refer to the [NCD for HIS Bundle Study \(20.13\)](#). (Accessed January 7, 2021)

Thoracic Electrical Bioimpedance (TEB)

TEB devices are covered when specific patient criteria are met. Refer to the [NCD for Cardiac Output Monitoring by Thoracic Electrical Bioimpedance \(20.16\)](#). (Accessed January 7, 2021)

Displacement Cardiography (Including Cardiokymography and Photokymography)

Displacement cardiography, including cardiokymography and photokymography, is a non-invasive diagnostic test used in evaluating coronary artery disease.

- Cardiokymography is a covered service only when it is used as an adjunct to electrocardiographic stress testing in evaluating coronary artery disease and only when the following clinical indications are present:
 - For male patients, atypical angina pectoris or non-ischemic chest pain; or
 - For female patients, angina, either typical or atypical
- Photokymography is not covered.

Refer to the [NCD for Displacement Cardiography \(20.24\)](#). (Accessed January 7, 2021)

Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) exist and compliance with these policies is required where applicable. These LCDs/LCAs are available at <http://www.cms.gov/medicare-coverage-database/overview-and-quick-search.aspx>.

Cardiointegram (CIG)

Cardiointegram (CIG) is not a covered benefit as it is considered by Medicare as investigational. Refer to the [NCD for Cardiointegram \(CIG\) as an Alternative to Stress Test or Thallium Stress Test \(20.27\)](#). (Accessed January 7, 2021)

Ambulatory Blood Pressure Monitoring

Ambulatory blood pressure monitoring is covered when criteria are met. Refer to the [NCD for Ambulatory Blood Pressure Monitoring \(20.19\)](#). (Accessed January 7, 2021)

Note: On July 2, 2019, the Centers for Medicare and Medicaid Services (CMS) issued a final decision memo which expands the coverage of ambulatory pressure monitoring (ABPM). Refer to the [CMS Final Decision Memo for Ambulatory Blood Pressure Monitoring \(ABPM\) \(CAG-00067R2\)](#). (Accessed January 7, 2021)

Non-Invasive Test of Carotid Function (Direct and Indirect)

Refer to the Coverage Summary titled [Carotid Procedures and Testing](#).

Plethysmography

Plethysmography is covered when category I tests criteria are met. Category II tests are considered experimental and therefore, not covered. Refer to the [NCD for Plethysmography \(20.14\)](#). (Accessed January 7, 2021)

Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) exist and compliance with these policies is required where applicable. These LCDs/LCAs are available at <http://www.cms.gov/medicare-coverage-database/overview-and-quick-search.aspx>.

Microvolt T-Wave Alternans

Microvolt T-wave Alternans (MTWA) testing is a non-invasive diagnostic test that detects minute electrical activity in a portion of the electrocardiogram (ECG) known as the T-wave. MTWA testing has a role in the stratification of patients who may be at risk for sudden cardiac death (SCD) from ventricular arrhythmias.

Effective for dates of service on and after March 21, 2006, MTWA diagnostic testing is covered for the evaluation of patients at risk for SCD, only when the SA method is used.

Effective for dates of service on and after January 13, 2015, Medicare Administrative Contractors (MACs) acting within their respective jurisdictions may determine coverage of MTWA diagnostic testing for the evaluation of patients at risk for SCD using all other methods.

Refer to the NCD for [Microvolt T-Wave Alternans \(MTWA\) \(20.30\)](#). (Accessed January 7, 2021)

Intravascular Coronary Ultrasound (CPT codes 92978 and 92979)

Medicare does not have a National Coverage Determination (NCD) for intravascular coronary ultrasound. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for [Intravascular Coronary Ultrasound](#).

For coverage guidelines for states/territories with no LCDs/LCAs, refer to the Wisconsin Physicians [LCD for Percutaneous Coronary Interventions \(L34761\)](#).

Note: After checking the [Intravascular Coronary Ultrasound](#) table and searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Arterial Compliance Testing, Using Waveform Analysis (CPT code 93050)

Medicare does not have a National Coverage Determination (NCD) for arterial compliance testing, using waveform analysis. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Cardiovascular Disease Risk Tests](#).

Note: After searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Lower Extremity Vascular Angiography

Lower Extremity Vascular Angiography, Performed at Time of an Interventional Procedure or as Pre-Procedure Assessment (CPT codes 75710 and 75716)

Medicare does not have a National Coverage Determination (NCD) for lower extremity vascular angiography. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for [Lower Extremity Vascular Angiography](#).

For coverage guidelines for states/territories with no LCDs/LCAs, refer to the UnitedHealthcare Commercial Medical Policy titled [Lower Extremity Invasive Diagnostic and Endovascular Procedures](#).

Note: After checking the [Lower Extremity Vascular Angiography](#) table and searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Lower Extremity Vascular Angiography, Not Performed at Time of an Interventional Procedure or as Pre-Procedure Assessment (CPT codes 75710 and 75716)

Medicare does not have a National Coverage Determination (NCD) for lower extremity vascular angiography. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Lower Extremity Invasive Diagnostic and Endovascular Procedures](#).

Note: After searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Lower Extremity Endovascular Interventions

Lower Extremity Stenting (CPT codes 37221, 37226 and 37227)

Medicare does not have a National Coverage Determination (NCD) for lower extremity endovascular interventions. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for [Lower Extremity Endovascular Interventions](#).

For coverage guidelines for states/territories with no LCDs/LCAs, refer to the UnitedHealthcare Commercial Medical Policy titled [Lower Extremity Invasive Diagnostic and Endovascular Procedures](#).

Note: After checking the [Lower Extremity Endovascular Interventions](#) table and searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Lower Extremity Atherectomy and/or Angioplasty (CPT codes 37220, 37224, 37225, 37228 and 37229)

Medicare does not have a National Coverage Determination (NCD) for lower extremity endovascular interventions. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Lower Extremity Invasive Diagnostic and Endovascular Procedures](#).

Note: After searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Catheter Ablation

Treatment of Atrial Fibrillation (CPT codes 93656 and 93657)

Medicare does not have a National Coverage Determination (NCD) for catheter ablation for treatment of atrial fibrillation. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Catheter Ablation for Atrial Fibrillation](#).

Note: After searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Treatment of Supraventricular Tachycardia (SVT) (CPT codes 93653 and 93655)

Medicare does not have a National Coverage Determination (NCD) for catheter ablation for treatment of SVT. Local Coverage Determinations (LCDs)/Local Coverage Article (LCAs) do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Catheter Ablation for Atrial Fibrillation](#).

Note: After searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the policy referenced above for coverage guidelines.

Definitions

Diagnostic Services: A service is "diagnostic" if it is an examination or procedure to which the patient is subjected, or which is performed on materials derived from a hospital outpatient, to obtain information to aid in the assessment of a medical condition or the identification of a disease. Among these examinations and tests are diagnostic laboratory services such as hematology and chemistry, diagnostic x-rays, isotope studies, EKGs, pulmonary function studies, thyroid function tests, psychological tests, and other tests given to determine the nature and severity of an ailment or injury. Refer to the [Medicare Benefit Policy Manual, Chapter 6, §20.4.1 – Diagnostic Services Defined](#). (Accessed January 7, 2021)

Supporting Information

Important Note: When searching the [Medicare Coverage Database](#), if no LCD/LCA is found, then use the applicable referenced default policy below for coverage guidelines.

Intravascular Coronary Ultrasound				
Accessed October 27, 2021				
LCD/LCA ID	LCD/LCA Title	Contractor Type	Contractor Name	Applicable States/Territories
L33959 (A56500)	Cardiac Catheterization and Coronary Angiography	Part A and B MAC	CGS Administrators, LLC	KY, OH
L33623 (A56823)	Percutaneous Coronary Intervention	Part A and B MAC	National Government Services, Inc.	IL, MN, CT, MA, ME, NH, NY, RI, VT, WI
L33557 (A52850)	Cardiac Catheterization and Coronary Angiography	Part A and B MAC	National Government Services, Inc.	IL, MN, CT, MA, ME, NH, NY, RI, VT, WI
L34761 (A57479)	Percutaneous Coronary Interventions	Part A MAC	Wisconsin Physicians Service Insurance Corporation	AK, AL, AR, AZ, CA, CO, CT*, DE, FL, GA, HI, IA, ID, IL*, IN, KS, KY*, LA, MA*, MD, ME*, MI, MO, MS, MT, NC, ND, NE, NH*, NJ, NM, NV, OH*, OK, OR, PA, RI*, SC, SD, TN, TX, UT, VA, VT*, WA, WI*, WV, WY (Note: States notated with an asterisk should follow the other available state-specific LCD/LCA listed in this table. This WPS LCD/LCA only applies to states without asterisk.)
L34761 (A57479)	Percutaneous Coronary Interventions	Part B MAC	Wisconsin Physicians Service Insurance Corporation	IA, IN, KS, MI, MO, NE
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Lower Extremity Vascular Angiography				
Accessed October 27, 2021				
LCD/LCA ID	LCD/LCA Title	Contractor Type	Contractor Name	Applicable States/Territories
L36767 (A57056)	Aortography and Peripheral Angiography	Part A and B MAC	First Coast Service Options, Inc.	FL, PR, VI

Lower Extremity Vascular Angiography

Accessed October 27, 2021

LCD/LCA ID	LCD/LCA Title	Contractor Type	Contractor Name	Applicable States/Territories
L35092 (A56682)	Diagnostic Abdominal Aortography and Renal Angiography	Part A and B MAC	Novitas Solutions, Inc.	AR, CO, DC, DE, LA, MD, MS, NJ, NM, OK, PA, TX

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Lower Extremity Endovascular Interventions

Accessed October 27, 2021

LCD/LCA ID	LCD/LCA Title	Contractor Type	Contractor Name	Applicable States/Territories
L33763 (A57180)	Vascular Stenting of Lower Extremity Arteries	Part A and B MAC	First Coast Service Options, Inc.	FL, PR, VI
L35084 (A56365)	Non-Coronary Vascular Stents	Part A and B MAC	Novitas Solutions, Inc.	AR, CO, DC, DE, LA, MD, MS, NJ, NM, OK, PA, TX
L35998 (A57590)	Non-Coronary Vascular Stents	Part A MAC	Wisconsin Physicians Service Insurance Corporation	AK, AL, AR*, AZ, CA, CO*, CT, DE*, FL*, GA, HI, IA, ID, IL, IN, KS, KY, LA*, MA, MD*, ME, MI, MO, MS*, MT, NC, ND, NE, NH, NJ*, NM*, NV, OH, OK*, OR, PA*, RI, SC, SD, TN, TX*, UT, VA, VT, WA, WI, WV, WY Note: States notated with an asterisk should follow the other available state-specific LCD/LCA listed in this table. This WPS LCD/LCA only applies to states without asterisk.)
L35998 (A57590)	Non-Coronary Vascular Stents	Part A and B MAC	Wisconsin Physicians Service Insurance Corporation	IA, IN, KS, MI, MO, NE

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Policy History/Revision Information

Date	Summary of Changes
08/17/2021	<p>Coverage Guidelines</p> <p><i>Electrocardiographic (EKG) Services</i></p> <ul style="list-style-type: none"> Added instruction to refer to the UnitedHealthcare Commercial Medical Policy titled <i>Cardiac Event Monitoring</i> for clinical coverage guidance when the National Coverage Determination (NCD) or Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) is unclear or silent on coverage criteria for implantable loop recorders (CPT code 33285 and HCPCS code E0616) <p>Supporting Information</p> <ul style="list-style-type: none"> Archived previous policy version MCS013.01

Instructions for Use

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information in making health care decisions. Physicians and patients must exercise their independent clinical discretion and judgment in determining care. Each benefit plan contains its own specific provisions for coverage, limitations, and exclusions as stated in the Member's Evidence of Coverage (EOC)/Summary of Benefits (SB). If there is a discrepancy between this policy and the member's EOC/SB, the member's EOC/SB provision will govern. The information contained in this document is believed to be current as of the date noted.

The benefit information in this Coverage Summary is based on existing national coverage policy; however, Local Coverage Determinations (LCDs) may exist and compliance with these policies are required where applicable.

There are instances where this document may direct readers to a UnitedHealthcare Commercial Medical Policy, Medical Benefit Drug Policy, and/or Coverage Determination Guideline (CDG). In the absence of a Medicare National Coverage Determination (NCD), Local Coverage Determination (LCD), or other Medicare coverage guidance, CMS allows a Medicare Advantage Organization (MAO) to create its own coverage determinations, using objective evidence-based rationale relying on authoritative evidence ([Medicare IOM Pub. No. 100-16, Ch. 4, §90.5](#)).

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