Coronary Fractional Flow Reserve Using Computed Tomography (FFR-ct)

Guideline Number: MPG372.09
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➲ Terms and Conditions

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- Category III CPT Codes

Policy Summary

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Overview

Noninvasive fractional flow reserve deduced from computed tomography (FFR-ct) involves computer-assisted processing of coronary computed tomography angiography (CCTA) images to estimate changes in blood pressure inside coronary arteries that have partial blockages, with the goal of determining how severely the blockages impede blood flow to the heart. FFR-ct is a post-processing software for the clinical quantitative and qualitative analysis of previously acquired computed tomography (CT) Digital Imaging and Communications in Medicine (DICOM) data for clinically stable symptomatic patients with coronary artery disease (CAD). FFR-ct analysis is intended to support the functional evaluation of CAD. The results of this analysis are provided to support qualified clinicians to aid in the evaluation and assessment of coronary arteries.

Guidelines

FDA-approved FFR-ct technology may be considered reasonable and necessary in the management of patients with:

- Intermediate-risk patients with acute or stable chest pain and with no known history coronary artery stenosis with finding of 40-90% in proximal or middle coronary artery on CCTA; **or**
- Intermediate-risk patients with acute chest pain and known non-obstructive (< 50%) CAD coronary artery stenosis with finding of 40-90% stenosis in proximal or middle coronary artery on CCTA; **or**
- Stable nonobstructive coronary artery disease (< 50% stenosis) with persistent symptoms requiring further test, and finding of 40-90% stenosis on CCTA; **and**
- Not in conjunction with stress testing (unless CCTA was not sufficient quality for FFR-ct, and an alternative study is needed)

FFR-ct is not considered reasonable in the following clinical circumstances:

- Prior placement of prosthetic valves
- Prior placement of grafts in coronary bypass surgery
- Suspicion of acute coronary syndrome (where MI or unstable angina have not been ruled out)
- Intracoronary metallic stent
- Status post-heart transplantation
- Recent MI (30 days or less)
- Prior pacemaker or defibrillator lead placement
- Newly diagnosed systolic heart failure, with no prior left heart catheterization

- Non-obstructing stenosis (< 50% of all major epicardial vessels) on CTA or catheterization in the past twelve months, in the absence of a new symptom complex
- If turnaround times may impact prompt clinical care decisions

This service should be performed in patients with stable coronary symptoms. It should not be performed until after the base study (CCTA) has been completed and interpreted. If higher grade stenoses (i.e., greater than 90%) are present, this study is not medically necessary, as the patient should proceed to catheterization. Similarly, low-grade stenoses (less than 40%) do not require additional confirmatory data. This should be performed as an alternative to stress testing.

Documentation Requirements

The patient's medical record must document:

- The clinical findings that led to the initial performance of the CCTA, and the CCTA must be fully reviewed before the performance of FFRCT (as evidenced by the submission of the Coronary Computed Tomographic Angiography Report)
- Description of symptoms consistent with stable ischemic heart disease
- Fractional Flow Reserve analysis report

As this service constitutes post-procedure analysis of a previously performed study (CCTA), the name and NPI of the referring/ordering physician that submitted imaging data for FFR-ct review must be reported on the claim.

Applicable Codes

The following list(s) of codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CPT Code	Description
0501T	Noninvasive estimated coronary fractional flow reserve (FFR) derived from coronary computed tomography angiography data using computation fluid dynamics physiologic simulation software analysis of functional data to assess the severity of coronary artery disease; data preparation and transmission, analysis of fluid dynamics and simulated maximal coronary hyperemia, generation of estimated FFR model, with anatomical data review in comparison with estimated FFR model to reconcile discordant data, interpretation and report (Deleted 12/31/2023 – See 75580)
0502T	Noninvasive estimated coronary fractional flow reserve (FFR) derived from coronary computed tomography angiography data using computation fluid dynamics physiologic simulation software analysis of functional data to assess the severity of coronary artery disease; data preparation and transmission (Deleted 12/31/2023 – See 75580)
0503T	Noninvasive estimated coronary fractional flow reserve (FFR) derived from coronary computed tomography angiography data using computation fluid dynamics physiologic simulation software analysis of functional data to assess the severity of coronary artery disease; analysis of fluid dynamics and simulated maximal coronary hyperemia, and generation of estimated FFR model (Deleted 12/31/2023 – See 75580)
0504T	Noninvasive estimated coronary fractional flow reserve (FFR) derived from coronary computed tomography angiography data using computation fluid dynamics physiologic simulation software analysis of functional data to assess the severity of coronary artery disease; anatomical data review in comparison with estimated FFR model to reconcile discordant data, interpretation and report (Deleted 12/31/2023 – See 75580)
75580	Noninvasive estimate of coronary fractional flow reserve (FFR) derived from augmentative software analysis of the data set from a coronary computed tomography angiography, with interpretation and report by a physician or other qualified health care professional (Effective 01/01/2024)

Diagnosis Code	Description
R93.1	Abnormal findings on diagnostic imaging of heart and coronary circulation

References

CMS Local Coverage Determinations (LCDs) and Articles

LCD	Article	Contractor	Medicare Part A	Medicare Part B
L38771 Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	A58359 Billing and Coding: Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	CGS	KY, OH	KY, OH
L39075 Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	A58814 Billing and Coding: Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	NGS	CT, IL, MA, ME, MN, NH, NY, RI, VT, WI	CT, IL, MA, ME, MN, NH, NY, RI, VT, WI
L38613 Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	A58095 Billing and Coding: Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	Noridian	AS, CA, GU, HI, NV, MP	AS, CA, GU, HI, NV, MP
L38615 Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	A58097 Billing and Coding: Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	Noridian	AZ, AK, ID, MT, NC, SC, UT, WA, OR	AZ, AK, ID, MT, NC, SC, UT, WA, OR
L38278 Non-Invasive Fractional Flow Reserve (FFR) for Stable Ischemic Heart Disease	A58406 Billing and Coding: Non-Invasive Fractional Flow Reserve (FFR) for Stable Ischemic Heart Disease	Palmetto	AL, GA, NC, SC, TN, VA, WV	AL, GA, NC, SC, TN, VA, WV
L38839 Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	A58473 Billing and Coding: Non-Invasive Fractional Flow Reserve (FFR) for Ischemic Heart Disease	WPS	IA, IN, KS, MI, MO, NE	IA, IN, KS, MI, MO, NE

Guideline History/Revision Information

Revisions to this summary document do not in any way modify the requirement that services be provided and documented in accordance with the Medicare guidelines in effect on the date of service in question.

Date	Summary of Changes
02/14/2024	**Applicable Codes** ***CPT Codes*** • Added 75580 • Added notation to indicate 0501T, 0502T, 0503T, and 0504T were "deleted Dec. 31, 2023" ***Diagnosis Codes*** • Removed C38.0, C45.2, C79.89, D15.1, I20.0, I20.8, I20.9, I24.0, I25.10, I25.110, I25.111, I25.118, I25.119, I25.2, I25.3, I25.41, I25.42, I25.5, I25.6, I25.700, I25.701, I25.708, I25.709, I25.710, I25.711, I25.718, I25.719, I25.720, I25.721, I25.728, I25.729, I25.730, I25.731, I25.738, I25.739, I25.750, I25.751, I25.758, I25.759, I25.760, I25.761, I25.768, I25.790, I25.791, I25.798, I25.799, I25.810, I25.811, I25.812, I25.89, I25.9, I27.0, I31.0, I31.1, I31.2, I31.3, I31.4, I31.8, I31.9, I34.0, I34.1, I34.2, I34.8, I34.9, I35.0, I35.1, I35.2, I35.8, I35.9, I48.0, I48.11, I48.19, I48.20, I48.21, I48.3, I48.4, I48.91, I48.92, I49.01, I49.02, I71.01, I71.1, I71.2, Q20.1, Q20.2, Q20.3, Q20.4, Q20.5, Q20.6, Q20.8, Q20.9, Q21.0, Q21.1, Q21.2, Q21.3, Q21.4, Q21.8, Q21.9, Q22.0, Q22.1, Q22.2, Q22.3, Q22.4, Q22.5,

Date	Summary of Changes
	Q22.6, Q22.8, Q22.9, Q23.0, Q23.1, Q23.2, Q23.3, Q23.4, Q23.8, Q23.9, Q24.0, Q24.1, Q24.2, Q24.3, Q24.4, Q24.5, Q24.8, Q24.9, Q25.0, Q25.1, Q25.3, Q25.5, Q25.6, Q25.71, Q25.72, Q25.79, Q25.8, Q25.9, Q26.0, Q26.1, Q26.2, Q26.3, Q26.4, Q26.8, Q26.9, R07.2, R07.82, R07.89, R07.9, R94.39, Z45.010, and Z45.018 **Supporting Information** • Updated *References* section to reflect the most current information • Archived previous policy version MPG372.08

Purpose

The Medicare Advantage Policy Guideline documents are generally used to support UnitedHealthcare Medicare Advantage claims processing activities and facilitate providers' submission of accurate claims for the specified services. The document can be used as a guide to help determine applicable:

- Medicare coding or billing requirements, and/or
- Medical necessity coverage guidelines; including documentation requirements.

UnitedHealthcare follows Medicare guidelines such as NCDs, LCDs, LCAs, and other Medicare manuals for the purposes of determining coverage. It is expected providers retain or have access to appropriate documentation when requested to support coverage. Please utilize the links in the References section above to view the Medicare source materials used to develop this resource document. This document is not a replacement for the Medicare source materials that outline Medicare coverage requirements. Where there is a conflict between this document and Medicare source materials, the Medicare source materials will apply.

Terms and Conditions

The Medicare Advantage Policy Guidelines are applicable to UnitedHealthcare Medicare Advantage Plans offered by UnitedHealthcare and its affiliates.

These Policy Guidelines are provided for informational purposes, and do not constitute medical advice. Treating physicians and healthcare providers are solely responsible for determining what care to provide to their patients. Members should always consult their physician before making any decisions about medical care.

Benefit coverage for health services is determined by the member specific benefit plan document* and applicable laws that may require coverage for a specific service. The member specific benefit plan document identifies which services are covered, which are excluded, and which are subject to limitations. In the event of a conflict, the member specific benefit plan document supersedes the Medicare Advantage Policy Guidelines.

Medicare Advantage Policy Guidelines are developed as needed, are regularly reviewed and updated, and are subject to change. They represent a portion of the resources used to support UnitedHealthcare coverage decision making. UnitedHealthcare may modify these Policy Guidelines at any time by publishing a new version of the policy on this website. Medicare source materials used to develop these guidelines include, but are not limited to, CMS National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), Medicare Benefit Policy Manual, Medicare Claims Processing Manual, Medicare Program Integrity Manual, Medicare Managed Care Manual, etc. The information presented in the Medicare Advantage Policy Guidelines is believed to be accurate and current as of the date of publication and is provided on an "AS IS" basis. Where there is a conflict between this document and Medicare source materials, the Medicare source materials will apply.

You are responsible for submission of accurate claims. Medicare Advantage Policy Guidelines are intended to ensure that coverage decisions are made accurately based on the code or codes that correctly describe the health care services provided. UnitedHealthcare Medicare Advantage Policy Guidelines use Current Procedural Terminology (CPT®), Centers for Medicare and Medicaid Services (CMS), or other coding guidelines. References to CPT® or other sources are for definitional purposes only and do not imply any right to reimbursement or guarantee claims payment.

*For more information on a specific member's benefit coverage, please call the customer service number on the back of the member ID card or refer to the Administrative Guide.