



# Noninvasive Fractional Flow Reserve Calculation after Coronary CT Angiography (FFR-CT)

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P&P # C.6.36

## Policy

The Medical Management Department reviews referral requests for authorization of Noninvasive Fractional Flow Reserve (FFR) Calculation after Coronary CT Angiography (CCTA).

This Medical Policy does not constitute medical advice. When deciding coverage, the enrollee's specific plan document must be referenced. The terms of an enrollee's plan document (Certificate of Coverage (COC) or Summary Plan Description (SPD)) may differ from this Medical Policy. In the event of a conflict, the enrollee's specific benefit plan document supersedes this Medical Policy. All reviewers must first identify enrollee eligibility, any federal or state regulatory requirements, and the plan benefit coverage prior to use of this Medical Policy. Other Policies and Coverage Determination Guidelines may apply. Quartz reserves the right, in its sole discretion, to modify its Policies and Guidelines as necessary.

## Procedure

### A. Documentation Requirements:

In order to meet medical necessity, documentation must include the following:

1. Documentation that the patient has been evaluated by a board-certified/board-eligible (BC/BE) cardiologist or an advanced practice professional (nurse practitioner or physician assistant) working in collaboration with a BC/BE cardiologist/radiologist.
2. Test ordered by a BC/BE cardiologist or an advanced practice professional (nurse practitioner or physician assistant) working in collaboration with a BC/BE cardiologist/radiologist.
3. Test ordered by a BC/BE physician (internal medicine, surgery) or an advanced practice professional (nurse practitioner or physician assistant) working in collaboration with a BC/BE cardiologist/radiologist.

### B. Criteria for Medical Necessity

Noninvasive fractional flow reserve (FFR) calculation derived from coronary CT angiography is medically necessary if **ALL** of the following are met:

1. Age  $\geq$  18; **AND**
2. The coronary CT angiography reveals coronary artery disease of uncertain functional significance, i.e., stenosis  $\geq$  30% but  $<$ 90%; **AND**
3. Patient is clinically stable and does not need urgent revascularization; **AND**
4. Patient is a candidate for invasive coronary angiography and the results will guide use of this procedure.

### C. Indications Considered Experimental, Investigational (Not an all-inclusive list):

1. Prior intracoronary metallic stent placement in the coronary artery of interest
2. Prior coronary artery bypass surgery (CABG).

3. Prosthetic heart valve in place.
4. Use in acute coronary syndrome where acute myocardial infarction has not been ruled out.
5. Use in acute myocardial infarction (MI) or recent MI (last 30 days).
6. Patient with BMI > 35.
7. Known ischemic coronary artery disease with no change in patient status or CT angiography imaging.

**CPT Codes**

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
0502T	data preparation and transmission
0503T	analysis of fluid dynamics and simulated maximal coronary hyperemia, and generation of estimated FFR model
0504T	anatomical data review in comparison with estimated FFR model to reconcile discordant data, interpretation and report
75571	Computed tomography, heart, without contrast material, with quantitative evaluation of coronary calcium
75572	Computed tomography, heart, with contrast material, for evaluation of cardiac structure and morphology (including 3d image postprocessing, assessment of cardiac function, and evaluation of venous structures, if performed)

**References:**

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Lotfi A, Jeremias A, Fearon WF, et al. Expert consensus statement on the use of fractional flow reserve, intravascular ultrasound, and optical coherence tomography: a consensus statement of the Society of Cardiovascular Angiography and Interventions. *Catheter Cardiovasc Interv*. 2014;83:509-18.

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Zimmerman FM, et al. Fractional flow reserve-guided percutaneous coronary intervention vs. medical therapy for patients with stable coronary lesions: meta-analysis of individual patient data. *European Heart Journal*. 2019;40:180-186.