

CT Heart

CPT: 75571 through 75574

NOTE FIRST

The following technical factors may make CT of the heart difficult or impossible. If any are present in the history the request should be first reviewed by a radiologist or cardiologist at the rendering site to determine if the test is feasible.

- Atrial fibrillation
- Multifocal Atrial Tachycardia (MAT)
- Frequent Atrial Premature Contractions
- More than 50 premature ventricular contractions per
- Inability to lie flat
- Body mass index >40

Inability to obtain a heart rate less than 65 beats/minute after beta-blocker therapy or contraindication to beta-blocker therapy

- Calcium (Agatston) score of 1000 or more
- Inability to hold breath for >8 seconds
- Renal insufficiency (serum creatinine>1.5 mg/dL)

1 Without Contrast for Coronary Calcium 75571

1.1 No Symptoms but Framingham risk >10% [BOTH]

1.1.1 No prior Calcium Scoring for 5 years

1.1.2 No prior abnormal stress tests, coronary CTs, or catheterizations

1.2 Chest Pain Syndrome [BOTH]

1.2.1 No prior Calcium Scoring for 5 years

1.2.2 No prior abnormal stress tests, coronary CTs, or catheterizations

1.2.3. Results of coronary calcium scoring would influence the prescription of statin therapy⁶

2 With contrast material, for cardiac structure and morphology 75572

NOTES

- Based on any one of the following: echocardiographic evidence of regional RV akinesia, dyskinesia, or aneurysm; repolarization abnormalities on electrocardiogram (e.g. inverted T waves in right precordial leads in individuals >14 years of age in the absence of complete right bundle branch block); depolarization abnormalities on electrocardiogram (e.g. epsilon waves in right precordial leads); arrhythmia (e.g. non-sustained or sustained ventricular tachycardia of left bundle branch block morphology or >500 ventricular extrasystoles/24 hours on Holter monitoring); or family history
- No cardiac MRI has been performed because there is a contraindication to MRI OR a cardiac MRI was performed but was non-diagnostic

2.1. Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation

2.2. Non-invasive coronary vein mapping prior to placement of biventricular pacemaker

2.3. Non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization

2.4. Evaluation of native or prosthetic valve, cardiac mass, or pericardial mass when a prior CT, cardiac MRI, or echocardiogram was performed for this indication and was non-diagnostic

2.5. Evaluation of left and/or right ventricular function when a prior echocardiogram, MRI, or MUGA was performed for this indication and was non-diagnostic

2.6. Characterization of aortic valve morphology (i.e. trileaflet or bicuspid) when not able to determine by echocardiography⁷

2.7. Arrhythmogenic right ventricular dysplasia/cardiomyopathy is suspected⁸ [BOTH]

3. With Contrast for congenital heart disease. 75573

3.1. Coronary artery anomaly suspected based on cardiac catheterization in which all coronary arteries could not be identified

3.1.1. Evaluation of thoracic arteriovenous anomaly (CTA or MRA preferred)

3.1.2. Evaluation of complex adult congenital heart disease with one of the following:

3.1.2.1. No cardiac CT or cardiac MRI has been performed and there is contraindication to MRI

3.1.2.2. A cardiac CT or cardiac MRI was performed one year ago or more

4 For Evaluation of Coronary Artery Disease 75574

4.1 Congestive heart failure

4.1.1 No stress or angiographic studies in prior 60 days

4.1.2 Evaluation of coronary arteries in patients with new onset heart failure to assess etiology

4.2 Acute Chest pain [ALL]

4.2.1 Low to Intermediate pretest probability of CAD See Chart Below

4.2.2 No ECG changes

4.2.3 Serial enzymes negative

4.3 Chest Pain Syndrome includes any of the following: chest pain, tightness, and burning, dyspnea, shoulder or jaw pain

4.3.1 Low to Intermediate pretest probability of CAD See Chart Below

4.3.2 ECG uninterpretable or unable to exercise (for stress test) Abnormal or equivocal stress test (e.g. discordance between EKG changes and perfusion defects or inducible wall motion abnormalities)

4.3.3 No chest pain

4.3.4 Catheterization not planned

4.4 Evaluation of known coronary artery disease [One of the following]

4.4.1 New chest pain or shortness of breath with prior coronary artery bypass grafting/assessment of graft patency

4.4.2 No symptoms [One of the following]: Left main coronary artery stent is present 1 Stent diameter >3 mm and ≥2 years since PCI Coronary artery bypass grafting surgery ≥5 years

4.5 Incomplete prior coronary angiogram

4.6 In place of coronary angiogram in cases with difficult vascular access or at risk due to anticoagulation

4.7 Evaluation of suspected coronary artery anomaly

4.8 Prior to noncoronary cardiac or other high risk surgery

4.9 Detection of left atrial appendage thrombus in patients with atrial fibrillation when transesophageal echocardiography is not planned or is contraindicated

References

1. Mark, Daniel B., Berman, Daniel S., Budoff, Matthew J., Carr, J. Jeffrey, Gerber, Thomas C., Hecht, Harvey S., Hlatky, Mark A., Hodgson, John McB., Lauer, Michael S., Miller, Julie M., Morin, Richard L., Mukherjee, Debabrata, Poon, Michael, Rubin, Geoffrey D., Schwartz, Robert S.
ACCF/ACR/AHA/NASCI/SAIP/SCAI/SCCT 2010 Expert Consensus Document on Coronary Computed Tomographic Angiography: A Report of the American College of Cardiology Foundation Task Force on Expert Consensus Documents J Am Coll Cardiol 2010 55: 2663-2699
2. Thompson Randall C, Thomas Gregory S, "Coronary Angiography by Computed Tomography" (Update). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: Harrison's Principles of Internal Medicine, 17e: <http://www.accessmedicine.com/updatesContent.aspx?aid=1000672>.
3. Thompson RC et al: Potential indications of coronary angiography by computed tomography (CT). Am Heart Hosp J 3:161, 2005b

References

1. Hendel RC, Patel MR, Kramer CM, et al . ACCF/ACR/SCCT/SCMR/ASNC/NASCI/SCAI/SIR 2006 appropriateness criteria for cardiac computed tomography and cardiac magnetic resonance imaging: a report of the American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working Group, American College of Radiology, Society of Cardiovascular Computed Tomography, Society for Cardiovascular Magnetic Resonance, American Society of Nuclear Cardiology, North American Society for Cardiac Imaging, Society for Cardiovascular Angiography and Interventions, and Society of Interventional Radiology. *J Am Coll Cardiol* 2006;48:1475-1497 Schroeder S, Achenbach S, Bengel F, et al . Cardiac computed tomography: indications, applications, limitations, and training requirements-report of a Writing Group deployed by the Working Group Nuclear Cardiology and Cardiac CT of the European Society of Cardiology and the European Council of Nuclear Cardiology. *Eur Heart J* 2008;29:531-556.
2. Hoffman U, Ferencik M, Cury RC, Pena AJ. Coronary CT Angiography. *J Nucl Med*. 2006;47:797-806.
3. Williams MC, Reid JH, McKillop G, et al. Cardiac and coronary CT comprehensive imaging approach in the assessment of coronary heart disease. *Heart*. 2011;97:1198-1205.
4. Taylor AJ, Cerqueira M, Hodgson JM, et al. ACCF/SCCT/ACR/AHA/ASE/ASNC/NASCI/SCAI/SCMR 2010 Appropriate Use Criteria for Cardiac Computed Tomography. *Circulation*. 2010;122:e525-55.
5. Bitton A and Gaziano T. The Framingham Heart Study's Impact on Global Risk Assessment. *Prog Cardiovasc Dis*. 2010;53(1):68-78.
6. Goff DC, Lloyd-Jones DM, Bennett G, et al. 2013 ACC/AHA Guidelines on the Assessment of Cardiovascular Risk. *Circulation*. 2014;129:S49-73.
7. Stone NJ, Robinson J, Lichtenstein AH, et al. 2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Circulation*. 2014;129:S1-S45.
8. Alkadhi H, Leschka S, Trindade PT, et al. Cardiac CT for the Differentiation of Bicuspid and Tricuspid Aortic Valves: Comparison With Echocardiography and Surgery. *American Journal of Roentgenology*. 2010;195(4):900-8.
9. Marcus FI, McKenna WJ, Sherrill A, et al. Diagnosis of Arrhythmogenic Right Ventricular Cardiomyopathy/Dysplasia. *Circulation*. 2010;121:1533-41.
10. Blanke P, Schoepf UJ, Leipsic JA. CT in Transcatheter Aortic Valve Replacement. *Radiology*. 2013;269(3):650-69.
11. Mittal TK, Panicker MG, Mitchell AG, Banner NR. Cardiac Allograft Vasculopathy After Heart Transplantation: Electrocardiographically Gated Cardiac CT Angiography for Assessment. *Radiology*. 2013;268(2):374-81.
12. Romero J, Husain SA, Kelesidis I, Sanz J, Medina HM, Garcia MJ.