

Evidence Discussion (CD 1.4, 1.5, 3.2, 3.8)

EviCore
By EVERNORTH

Appropriate Use Criteria from major professional societies including the American College of Cardiology and the American Heart Association¹⁻² support the use of myocardial perfusion imaging (MPI) with single photon emission computed tomography (SPECT) for patients with signs or symptoms consistent with coronary artery disease (CAD) such as typical angina. In addition, they support the use of SPECT perfusion imaging in symptomatic patients with known CAD and those with prior interventions such as coronary artery bypass surgery, coronary stenting, and preoperative risk stratification. These guidelines balance the appropriate testing of patients with SPECT versus unnecessary and potentially harmful testing and downstream procedures.¹⁻³

Also, as supported by society guidelines, use of SPECT is indicated in detection of cardiac transthyretin amyloidosis (ATTR) after light chain amyloidosis (AL) is ruled out by appropriate blood and urine testing.⁴

References

1. Hendel RC, Berman DS, Di Carli MF, Heidenreich PA, Henkin RE, Pellikka PA, Pohost GM, Williams KA; American College of Cardiology Foundation Appropriate Use Criteria Task Force; American Society of Nuclear Cardiology; American College of Radiology; American Heart Association; American Society of Echocardiography; Society of Cardiovascular Computed Tomography; Society for Cardiovascular Magnetic Resonance; Society of Nuclear Medicine.
ACCF/ASNC/ACR/AHA/ASE/SCCT/SCMR/SNM 2009 appropriate use criteria for cardiac radionuclide imaging: a report of the American College of Cardiology Foundation Appropriate Use Criteria Task Force, the American Society of Nuclear Cardiology, the American College of Radiology, the American Heart Association, the American Society of Echocardiography, the Society of Cardiovascular Computed Tomography, the Society for Cardiovascular Magnetic Resonance, and the Society of Nuclear Medicine. *Circulation*. 2009 Jun 9;119(22):e561-87. doi: 10.1161/CIRCULATIONAHA.109.192519. Epub 2009 May 18. PMID: 19451357.
2. Wolk MJ, Bailey SR, Doherty JU, Douglas PS, Hendel RC, Kramer CM, Min JK, Patel MR, Rosenbaum L, Shaw LJ, Stainback RF, Allen JM; American College of Cardiology Foundation Appropriate Use Criteria Task Force.
ACCF/AHA/ASE/ASNC/HFSA/HRS/SCAI/SCCT/SCMR/STS 2013 multimodality appropriate use criteria for the detection and risk assessment of stable ischemic heart disease: a report of the American College of Cardiology Foundation Appropriate Use Criteria Task Force, American Heart Association, American Society of Echocardiography, American Society of Nuclear Cardiology, Heart Failure Society of America, Heart Rhythm Society, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, Society for

Cardiovascular Magnetic Resonance, and Society of Thoracic Surgeons. J Am Coll Cardiol. 2014 Feb 4;63(4):380-406. doi: 10.1016/j.jacc.2013.11.009. Epub 2013 Dec 16. PMID: 24355759.

3. Nayfeh M, Ahmed AI, Saad JM, Alahdab F, Al-Mallah M. The Role of Cardiac PET in Diagnosis and Prognosis of Ischemic Heart Disease: Optimal Modality Across Different Patient Populations. Curr Atheroscler Rep. 2023 Jul;25(7):351-357. doi: 10.1007/s11883-023-01107-0. Epub 2023 May 10. PMID: 37162723; PMCID: PMC10170052.
4. Kittleson MM, Ruberg FL, Ambardekar AV, Brannagan TH, Cheng RK, Clarke JO, Dember LM, Frantz JG, Hershberger RE, Maurer MS, Nativi-Nicolau J, Sancherawala V, Sheikh FH. 2023 ACC Expert Consensus Decision Pathway on Comprehensive Multidisciplinary Care for the Patient With Cardiac Amyloidosis: A Report of the American College of Cardiology Solution Set Oversight Committee. J Am Coll Cardiol. 2023 Mar 21;81(11):1076-1126. doi: 10.1016/j.jacc.2022.11.022. Epub 2023 Jan 23. Erratum in: J Am Coll Cardiol. 2023 Mar 21;81(11):1135. PMID: 36697326.