

Five Things Physicians and Patients Should Question

1

Avoid performing routine stress testing after percutaneous coronary intervention (PCI) without specific clinical indications.

In patients who have undergone successful revascularization with PCI and are now symptom free, routine screening via stress testing can lead to the performance of additional procedures with little clinical benefit. Therefore, testing should generally be limited to patients with changes in clinical status (for example: new symptoms or decreasing exercise tolerance).

2

Avoid coronary angiography in post-coronary artery bypass graft (CABG) and post-PCI patients who are asymptomatic, or who have normal or mildly abnormal stress tests and stable symptoms not limiting quality of life.

In the majority of patients who have been completely revascularized with PCI or CABG and are now symptom free, routine coronary angiography is unlikely to identify additional blockages that, if treated, will lead to improvements in quality of life. Therefore, angiography should be limited to patients with changes in clinical status (for example: new symptoms or decreasing exercise tolerance, or significant abnormalities on clinically indicated stress testing).

3

Avoid coronary angiography for risk assessment in patients with stable ischemic heart disease (SIHD) who are unwilling to undergo revascularization or who are not candidates for revascularization based on comorbidities or individual preferences.

Physicians should discuss the goal of angiography with patients before it is performed, including the possible role of revascularization with bypass surgery or coronary intervention. For patients unwilling or unable to undergo revascularization, the need for angiography is less compelling.

4

Avoid coronary angiography to assess risk in asymptomatic patients with no evidence of ischemia or other abnormalities on adequate non-invasive testing.

Asymptomatic patients who have no evidence of ischemia or other abnormalities (for example: arrhythmias) on adequate non-invasive testing are at very low risk for cardiac events. In these patients, coronary angiography is unlikely to add appreciable prognostic value.

5

Avoid PCI in stable, asymptomatic patients with normal or only mildly abnormal adequate stress test results.

For patients with stable ischemic heart disease, in the absence of symptoms, there is limited clinical benefit to PCI unless performed on a lesion with demonstrable hemodynamic significance (FFR \leq 0.8) or causing a significant amount of ischemia as assessed by non-invasive stress testing. Rare exceptions would be a significant left main coronary artery lesion or a $>90\%$ proximal lesion in a major coronary artery.

How This List Was Created

Members of the SCAI Quality Improvement Committee reviewed the appropriate use criteria for catheterization and percutaneous coronary revascularization and the guidelines for stable ischemic heart disease and percutaneous coronary revascularization. The Committee extracted this list from these documents, which have been developed by the Society for Cardiovascular Angiography and Interventions, American College of Cardiology Foundation, American Heart Association and other professional societies over the past four years.

Appropriate use criteria grade clinical scenarios as appropriate, uncertain (or sometimes appropriate), or inappropriate (or rarely appropriate) for catheterization or coronary intervention. Guidelines describe circumstances when catheterization or coronary interventions are recommended (Class I), are probably recommended (Class IIa), may be reasonable (Class IIb), or are not recommended (Class III). The items in this *Choosing Wisely*® list were selected from among the scenarios rated as inappropriate (or rarely appropriate) by the appropriate use criteria or as Class III (not recommended) by the guidelines. These items were selected (rather than making new items for *Choosing Wisely*®) because these appropriate use criteria and guidelines have been carefully vetted, adjudicated and agreed upon by myriad experts from many societies.

The proposed *Choosing Wisely*® items were critiqued by the SCAI Quality Improvement Committee and several authors of documents cited in this list. They were approved by the SCAI Executive Committee. The Committees would like to emphasize that the science of guidelines and appropriate use criteria should be complementary to the art of clinical judgment for best care of the individual patient.

SCAI's disclosure and conflict of interest policy can be found at www.scai.org.

Sources

- 1 Levine GN, Bates ER, Blankenship JC, Bailey SR, Bittl JA, Cercek B, Chambers CE, Ellis SG, Guyton RA, Hollenberg SM, Khot UN, Lange RA, Mauri L, Mehran R, Moussa ID, Mukherjee D, Nallamothu BK, Ting HH. 2011 ACCF/AHA/SCAI guideline for percutaneous coronary intervention: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions. *J Am Coll Cardiol*. 2011;58:e44–122.
- 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. 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;63(4):380-406.
- 3 Patel MR, Calhoun JH, Dehmer GJ, Grantham JA, Maddox TM, Maron DJ, Smith PK. ACC/AATS/AHA/ASE/ASNC/SCAI/SCCT/STS 2017 appropriate use criteria for coronary revascularization in patients with stable ischemic heart disease: a report of the American College of Cardiology Appropriate Use Criteria Task Force, American Association for Thoracic Surgery, American Heart Association, American Society of Echocardiography, American Society of Nuclear Cardiology, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, and Society of Thoracic Surgeons. *J Am Coll Cardiol* 2017;69:2212-41.
- 4 Wolk MJ, Bailey SR, Doherty JU, Douglas PS, Hendel RC, Kramer CM, Min JK, Patel MR, Rosenbaum L, Shaw LJ, Stainback RF, Allen JM. 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;63(4):380-406.
- 5 Patel MR, Calhoun JH, Dehmer GJ, Grantham JA, Maddox TM, Maron DJ, Smith PK. ACC/AATS/AHA/ASE/ASNC/SCAI/SCCT/STS 2017 appropriate use criteria for coronary revascularization in patients with stable ischemic heart disease: a report of the American College of Cardiology Appropriate Use Criteria Task Force, American Association for Thoracic Surgery, American Heart Association, American Society of Echocardiography, American Society of Nuclear Cardiology, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, and Society of Thoracic Surgeons. *J Am Coll Cardiol* 2017;69:2212-41.
- 6 Levine GN, Bates ER, Blankenship JC, Bailey SR, Bittl JA, Cercek B, Chambers CE, Ellis SG, Guyton RA, Hollenberg SM, Khot UN, Lange RA, Mauri L, Mehran R, Moussa ID, Mukherjee D, Nallamothu BK, Ting HH. 2011 ACCF/AHA/SCAI guideline for percutaneous coronary intervention: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions. *J Am Coll Cardiol*. 2011;58:e44–122.

About the ABIM Foundation

The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policymakers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice.



To learn more about the ABIM Foundation, visit www.abimfoundation.org.

About the Society for Cardiovascular Angiography and Interventions

The Society for Cardiovascular Angiography and Interventions (SCAI) is the only U.S.-based professional medical society focused exclusively on adult and pediatric invasive/interventional cardiovascular care. For more than 35 years, SCAI has supported optimal patient care through education, advocacy and the advancement of quality standards. SCAI is a recognized leader in quality improvement and a proponent of efforts that help patients and their families make informed decisions about prevention, symptom recognition, testing and treatment. This is the primary goal of www.SecondsCount.org, SCAI's comprehensive website that encourages collaborative decision-making between patients and their healthcare providers. SCAI is pleased to join the *Choosing Wisely*® campaign and looks forward to furthering its goal of promoting conversations among patients and physicians.



For more information or questions, please visit www.scai.org.

For more information or to see other lists of Five Things Physicians and Patients Should Question, visit www.choosingwisely.org.