

# Appropriate Use Criteria

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# Introduction

- Cardiac imaging provides powerful diagnostic information that aids patient management
- Echo is appealing given its wide availability, lack of radiation and lower cost than other CV imaging modalities
- Echo remains one of the most widely used CV imaging technologies
- Echo is targeted by payers as a contributor to increasing healthcare costs

**ACCF/ASE/ACEP/ASNC/SCAI/SCCT/SCMR APPROPRIATENESS CRITERIA**

# **ACCF/ASE/ACEP/ASNC/SCAI/SCCT/SCMR 2007 Appropriateness Criteria for Transthoracic and Transesophageal Echocardiography\***

A Report of the American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working Group, American Society of Echocardiography, American College of Emergency Physicians, American Society of Nuclear Cardiology, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, and the Society for Cardiovascular Magnetic Resonance

*Endorsed by the American College of Chest Physicians and the Society of Critical Care Medicine*

# **ACCF/ASE/ACEP/AHA/ASNC/SCAI/SCCT/SCMR Appropriateness Criteria**

## **ACCF/ASE/ACEP/AHA/ASNC/SCAI/SCCT/SCMR 2008 Appropriateness Criteria for Stress Echocardiography\***

A Report of the American College of Cardiology Foundation Appropriateness Criteria Task Force,  
American Society of Echocardiography, American College of Emergency Physicians,  
American Heart Association, American Society of Nuclear Cardiology,  
Society for Cardiovascular Angiography and Interventions,  
Society of Cardiovascular Computed Tomography,  
and Society for Cardiovascular Magnetic Resonance

*Endorsed by the Heart Rhythm Society and the Society of Critical Care Medicine*

# Early Study Results

- Inappropriate transthoracic echo studies ranged from 8-13%
- Unclassified studies ranged from 2-35%
- Inappropriate stress tests as high as 20% (more often in younger pts and women)

## APPROPRIATE USE OF ECHOCARDIOGRAPHY

# ACCF/ASE/AHA/ASNC/HFSA/HRS/SCAI/SCCM/ SCCT/SCMR 2011 Appropriate Use Criteria for Echocardiography

A REPORT OF THE AMERICAN COLLEGE OF CARDIOLOGY FOUNDATION APPROPRIATE USE CRITERIA TASK FORCE, AMERICAN SOCIETY OF ECHOCARDIOGRAPHY, AMERICAN HEART ASSOCIATION, AMERICAN SOCIETY OF NUCLEAR CARDIOLOGY, HEART FAILURE SOCIETY OF AMERICA, HEART RHYTHM SOCIETY, SOCIETY FOR CARDIOVASCULAR ANGIOGRAPHY AND INTERVENTIONS, SOCIETY OF CRITICAL CARE MEDICINE, SOCIETY OF CARDIOVASCULAR COMPUTED TOMOGRAPHY, SOCIETY FOR CARDIOVASCULAR MAGNETIC RESONANCE AMERICAN COLLEGE OF CHEST PHYSICIANS

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(J Am Soc Echocardiogr 2011;24:229-67.)

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# Most Common Reasons for Inappropriate Echos

- Repeat studies with no change in clinical situation
- Screening for cardiac disease
- Equivocal symptoms with no other signs of cardiovascular disease
- Trends similar in community vs academic centers
- More often outpatient exams
- More common when ordered by ancillary staff

# Additional Changes

- Commercial insurers have hired radiology benefits managers in an attempt to reduce test ordering
- Medicare payment for noninvasive CV diagnostic imaging decreased by 33% from 2006- 2010
- Educational campaigns- “Choosing Wisely”

## Five Things Physicians and Patients Should Question

1

### Don't order follow up or serial echocardiograms for surveillance after a finding of trace valvular regurgitation on an initial echocardiogram.

Trace mitral, tricuspid and pulmonic regurgitation can be detected in 70% to 90% of normal individuals and has no adverse clinical implications. The clinical significance of a small amount of aortic regurgitation with an otherwise normal echocardiographic study is unknown.

2

### Don't repeat echocardiograms in stable, asymptomatic patients with a murmur/click, where a previous exam revealed no significant pathology.

Repeat imaging to address the same question, when no pathology has been previously found and there has been no clinical change in the patient's condition, is not indicated.

3

### Avoid echocardiograms for preoperative/perioperative assessment of patients with no history or symptoms of heart disease.

Perioperative echocardiography is used to clarify signs or symptoms of cardiovascular disease, or to investigate abnormal heart tests. Resting left ventricular (LV) function is not a consistent predictor of perioperative ischemic events; even reduced LV systolic function has poor predictive value for perioperative cardiac events.

4

### Avoid using stress echocardiograms on asymptomatic patients who meet "low risk" scoring criteria for coronary disease.

Stress echocardiography is mostly used in symptomatic patients to assist in the diagnosis of obstructive coronary artery disease. There is very little information on using stress echocardiography in asymptomatic individuals for the purposes of cardiovascular risk assessment, as a stand-alone test or in addition to conventional risk factors.

5

### Avoid transesophageal echocardiography (TEE) to detect cardiac sources of embolization if a source has been identified and patient management will not change.

Tests whose results will not alter management should not be ordered. Protocol-driven testing can be useful if it serves as a reminder not to omit a test or procedure, but should always be individualized to the particular patient. While TEE is safe, even the small degree of risk associated with a procedure is not justified if there is no expected clinical benefit.

**Correct classification is  
important, but what  
REALLY matters is  
outcomes**

Value in health care has been  
defined as health outcomes  
achieved per dollar spent.

# What Drives Use of CV Imaging?

- Innovation in technology
- Greater patient awareness and demands
- Fragmentation of care with duplication of testing at different points in the healthcare network
- Fear of lawsuits
- Diminishing confidence in providers for their ability to make clinical assessments without imaging confirmation
- Incentive to do more in a fee-for-service reimbursement context

# Where are we in 2016?

- Healthcare costs continue to rise
- Use of CV imaging continues to be common
- Increased scrutiny by payers
- What can be done to improve value?
  - Continue educational efforts for all healthcare providers and patients
  - Continue research efforts to demonstrate value of imaging procedures in different clinical scenarios
  - Artificial intelligence software to aid appropriate and valuable ordering practices.
  - Future changes in reimbursement likely to drive change in practice patterns