

# Societies Join to Update Cardiac CT Criteria

BY SHERRY BOSCHERT

FROM THE JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY

SAN FRANCISCO – A new report compiled by eight cardiology and imaging specialty organizations updates 4-year-old recommendations on when to use (or not use) cardiac CT imaging.

The eight societies hope that the recommendations will help inform clinicians and patients who are considering cardiac CT and also will guide insurers and third-party payers in setting rational reimbursement policies for cardiac CT.

The report, released by the American College of Cardiology, was endorsed by the ACC Foundation, the Society of Cardiovascular Computed Tomography, the American College of Radiology, the American Heart Association, the American Society of Echocardiography, the American Society of Nuclear Cardiology, the Society for Cardiovascular Angiography and Interventions, and the Society for Cardiovascular Magnetic Resonance.

The appropriate use criteria cover two tests: cardiac CT angiography using contrast, x-ray, or dye; and noncontrast CT scanning for calcium scoring, used to detect calcium deposits in the arteries (J. Am. Coll. Cardiol. 2010 Oct. 25 [doi:10.1016/j.jacc.2010.07.005]).

CT angiography was considered appropriate for diagnosis and risk assessment in patients with symptoms of possible heart disease who have a low to intermediate risk of a heart problem, or in situations where the diagnosis of heart disease is uncertain after other tests are performed.

Calcium scanning was considered appropriate in patients without heart symptoms who have an intermediate risk of heart disease, or in selected patients with low risk (especially women or younger men) with a family history of heart problems.

Cardiac CT would not be appropriate for general screening in asymptomatic patients, or in patients with known heart problems or a high risk for heart disease, or for routine repeat testing, the report concludes. Adding the test when patients have high risk for heart disease or existing heart problems does not add any useful clinical information, Dr. Allen J. Taylor said in a statement released by the ACC.

Dr. Taylor is chair of the report's writing committee and professor of medicine at Georgetown University, Washington.

The report also judged the usefulness of cardiac CT to be "uncertain" in some clinical scenarios, and the authors emphasized repeatedly that this does not mean that the test is inappropriate or that insurers should not reimburse for its use in these situations. An "uncertain" indication may require individual physician judgment and understanding of the patient to decide whether cardiac CT might help.

Tables in the report list 60 indications deemed appropriate, 52 rated as uncertain, and 55 considered inappropriate for cardiac CT. Clinical scenarios included acute and chronic chest pain, testing in symptomatic and asymptomatic patients, heart failure, preoperative risk assessment before either cardiac or noncardiac surgery, testing in the setting of prior test results (such as exercise testing, stress imaging procedures, or coronary calcium scores), prior revascularization, and evaluation of cardiac structure and function.

The document replaces the original 2006 criteria that were created when cardiac CT was relatively new (J. Am. Coll. Cardiol. 2006;48:1475-97).

The process to create the new criteria combined evidence-based medicine and practice experience. A seven-member writing group developed clinical scenarios that were scored by a 19-member technical panel on a 1-9 scale to reflect their judgements of appropriate use of cardiac CT, inappropriate use, or uncertainty about the appropriateness of use.

In the real world, no physicians or facilities will have 100% of their cardiac CT procedure fall within the "appropriate" indications, the report notes. But if a physician or facility has a higher rate of inappropriate procedures than the national average, they may want to examine their patterns of care.

For the first time, the report considered CT angiography in patients with heart failure and normal, as well as abnormal, left ventricular ejection fraction (LVEF), with ratings of appropriate or uncertain. The only appropriate scenarios covered patients with reduced LVEF who had low or intermediate pretest probability of coronary artery disease.

CT angiography was considered a potential option as part of preoperative

evaluations for patients undergoing heart surgery for noncoronary indications such as valve replacement, and was considered appropriate in patients with intermediate pretest risk for coronary artery disease, and of uncertain appropriateness if the pretest risk was low. Coronary CT angiography was never considered appropriate for evaluations before noncardiac surgery.

Imaging for evaluation of left main coronary stents was deemed appropriate, and was considered uncertain for any coronary stents measuring 3 mm in diameter or larger that had been in place at least 2 years.

The evaluation of cardiac structure and function is considered a strength of cardiac CT imaging. For the first time, the report rated cardiac CT as appropriate in patients with suspected arrhythmogenic right ventricular dysplasia, and as uncertain for evaluation of myocardial

viability when other imaging modalities are inadequate or contraindicated.

Using cardiac CT before electrophysiologic procedures for anatomical mapping, or prior to repeat sternotomy in reoperative cardiac surgery, also was rated appropriate.

The report attempts to align its language and definitions with those in the ACC's 2009 appropriate use criteria for cardiac radionuclide imaging (J. Am. Coll. Cardiol. 2009;53:2201-29).

Creation of the report was funded by the American College of Cardiology Foundation and by the other professional societies. Dr. Taylor reported that he has been a consultant to Abbott Laboratories and has received research funds from Abbott and Resverlogix Corp. Others on the writing or technical committees and a panel of reviewers involved in the report declared potential conflicts of interest that are listed in the report. ■

## Report Will Change Practice, Payment

**V**IEW ON THE NEWS  
At our institution, we will be incorporating the new practices and sharing them with our referring physicians. We will be advocating more calcium scoring in asymptomatic intermediate-risk patients, as this indication is now considered appropriate based upon more available science and validation studies. The criteria expand to stents and bypass grafts, and this will open doors for patients and clinicians.



porating cardiac CT into their practices, expediting cardiac work-ups with a more accurate and less expensive test.

This report certainly helps the case for reimbursement, since many radiology benefit managers who control approvals for certain payers (such as Blue Cross/Blue Shield) can incorporate these criteria into their approval process. These criteria are specific for different cases and presentations, so it is very pertinent to payers who can choose to pay for these specific cases.

MATTHEW J. BUDOFF, M.D., is president of the Society of Cardiovascular Computed Tomography, which helped develop the report. He is a professor of medicine at the University of California, Los Angeles, and director of cardiac CT at Harbor-UCLA Medical Center, Torrance, Calif. Dr. Budoff has been a speaker for General Electric and an expert witness in CT scanning.

## Meta-Analysis: Statin Use Cut Colorectal Cancer Risk by 10%

FROM THE ANNUAL SCIENTIFIC MEETING OF THE AMERICAN COLLEGE OF GASTROENTEROLOGY

SAN ANTONIO, TEX. – Statin use was associated with a moderate but significant 10% reduction in risk of colorectal cancer, based on a meta-analysis of 24 studies, investigators reported at the meeting.

Data from some previous studies have suggested that

statin use helps protect against colon cancer, but epidemiologic studies have shown mixed results, said Dr. Ivo Ditah of Wayne State University in Detroit and his colleagues in their poster.

The researchers reviewed data from 24 studies published from 1996 to 2009. The results included a total of 1.7 million adults who participated in 12 case-control studies, 6 random-

ized controlled trials, and 6 cohort studies.

Overall, the pooled risk estimate was 0.90, for a significant 10% reduction in colorectal cancer risk among statin users. The average duration of statin use was 2.8 years.

When the types of studies were analyzed separately, statin use was associated with a significant 10% reduction in colorectal cancer risk in the case-

control studies and a significant 11% reduction in the cohort studies. In the randomized controlled trials, statin use was linked to a 10% reduction in risk of colorectal cancer, but this decrease was not significant.

Although the data show a modest overall reduction in colorectal cancer risk associated with statin use, the results appear to be driven by less robust

study designs, rather than by randomized, controlled trials, the investigators noted.

In addition, the study was limited by the lack of long-term trials, which are important given the latency period between the initial stages of cancer development and its detection, the researchers said.

The researchers had no financial conflicts to disclose.

—Heidi Splete