New appropriate use criteria guide treatment of patients with heart blockage

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If you're committed to fitness, the decision to climb a couple of flights of stairs rather than take the elevator is clear. But if you develop chest pain on the way up, deciding how to treat the symptoms of clogged arteries in your heart is much more complicated.

Whether it's appropriate to treat chest pain with medical therapy alone or prescribe medical therapy and also perform revascularization—that is, by restoring good blood flow to the heart muscle with a balloon-tipped catheter or bypass surgery—depends on several factors that vary from patient to patient. In some cases the decision is obvious; in others, it's more nuanced.

Now physicians, patients and health insurers have a practical tool for weighing each of those factors and arriving at the right treatment decision. The new document, titled "Appropriate Use Criteria for Coronary Revascularization," appears in the February 10, 2009, issue of the *Journal of the American College of Cardiology* (*JACC*) and online at www.acc.org. The document will also be published in the January 5, 2009, online issues of Catheterization and Cardiovascular Interventions (CCI) and Circulation: Journal of the American Heart Association, and online at www.scai.org.

"One of the strengths of this document is that it provides a framework for thinking about clinical scenarios and having a discussion about coronary revascularization," said Manesh R. Patel, M.D., chair of the appropriate use criteria writing group and an assistant professor of

medicine at Duke University and the Duke Clinical Research Institute in Durham, NC. "These recommendations describe when coronary revascularization would be expected to improve a patient's health status."

The new appropriate use criteria are the first to focus on cardiac treatment, rather than on diagnostic testing. They were jointly developed by the American College of Cardiology, Society for Cardiovascular Angiography and Interventions, Society of Thoracic Surgeons, American Association for Thoracic Surgery, American Heart Association, and American Society of Nuclear Cardiology. They have been endorsed by the American Society of Echocardiography, Heart Failure Society of America, and Society of Cardiovascular Computed Tomography.

Appropriate use criteria differ from clinical guidelines both in their purpose and their format. While guidelines provide a comprehensive summary of evidence from clinical trials, appropriate use criteria focus on the types of patients cardiologists see in the clinic and hospital every day. Clinical studies may not have included such patients and, therefore, scientific evidence may not be readily available. Appropriate use criteria also present information in easily understood clinical scenarios that characterize patients according to four critical features:

- The severity and type of symptoms;
- How much cholesterol plaque has built up and in which arteries;
- How much of the heart muscle, according to stress testing, is being starved for blood and oxygen (a condition known as ischemia); and
- Whether the patient is already taking the right heart medications in the right dosages.

In developing the appropriate use criteria, a 17-member technical panel made up of general cardiologists, interventional cardiologists, cardiac surgeons, internal medicine specialists, health services researchers and others sifted through approximately 180 clinical scenarios, scoring each according to whether revascularization was appropriate, inappropriate or uncertain.

"This was quite a serious undertaking," said Peter K. Smith, M.D., a cardiac surgeon member of the writing committee on behalf of The Society of Thoracic Surgeons. "The process involved extensive review and debate of the available body of evidence, and resulted in remarkable consensus between specialties." Dr. Smith is also professor and chief of cardiothoracic surgery at Duke University.

Revascularization was considered appropriate if the expected improvements in survival, symptoms, functional status and/or quality of life outweighed the possible risks. In most cases, the panel considered revascularization as either bypass surgery or a catheter procedure (also known as percutaneous coronary intervention, or PCI). Because evidence is available to support either procedure for patients with advanced coronary disease, each method of revascularization was independently rated.

The panel determined that revascularization would be inappropriate in a patient who had plaque build-up in one or two arteries, experienced symptoms only during heavy exercise, had a small amount of heart muscle at risk, and was not taking medication to help control symptoms. However, they deemed revascularization appropriate if a similar patient had severe symptoms despite already taking the best available heart medication.

Appropriate use criteria are not intended to diminish the importance of clinical judgment in evaluating individual patients, nor to include every possible type of patient. Instead, one of their most important uses will be in evaluating patterns of care, and in helping to reduce the large variation in rates of revascularization that has been observed throughout the country.

"For physicians who look at the appropriate use criteria and conclude that 95 to 100 percent of the revascularization procedures they perform would be graded as appropriate—terrific," said Gregory J. Dehmer, M.D., a writing committee member and past president of the Society for Cardiovascular Angiography and Interventions. "But for those who find that only 60 or 70 percent of their procedures are appropriate and the rest are inappropriate, this document provides a very powerful message and gives them a benchmark for improving their practice." Dr. Dehmer is also a professor of medicine at Texas A & M University College of Medicine and cardiology director at Scott & White Clinic, both in Temple, TX.

It is also hoped that health insurers will use the appropriate use criteria in developing consistent payment and preauthorization policies and in conducting quality reviews.

"In the arena of cardiovascular science, we have a fair amount of data on revascularization and its ability to improve how patients feel or long they live," Dr. Patel said. "As a group that includes general cardiologists, interventionalists and surgeons, we're saying: For these common clinical scenarios, here is when it's appropriate—in most patients—to perform revascularization."

Source: American College of Cardiology