

A new guideline for screening apparently healthy individuals to prevent a heart attack

[Jul 10 Houston TX USA]--

To accelerate the adoption and standardization of heart attack screening methods, the July 10th edition of the American Journal of Cardiology will feature a new practice guideline for screening sub-clinical cardiovascular disease in the asymptomatic at-risk population.

Developed by the SHAPE (Screening for Heart Attack Prevention and Education) Task Force, an international contingent of leading cardiologists and researchers organized by the Association for Eradication of Heart Attack <http://www.AEHA.org>, the SHAPE guideline set revolutionary standards for the careful and responsible implementation of cardiovascular imaging technologies as part of a comprehensive heart attack risk assessment and reduction strategy.

The SHAPE guideline calls for non-invasive screening of all asymptomatic men between ages 45 and 75 and women between ages 55 and 75 to assess their coronary plaque buildup or carotid wall thickness.

An analysis by the SHAPE Task Force estimates that screening these asymptomatic men and women could have the following potential outcomes:

- * Prevent more than 90,000 deaths from cardiovascular disease each year.
- * Reduce the population with a history of heart attack – currently estimated to be 13.2 million – by as much as 25 percent.
- * Save approximately \$21.5 billion annually by saving those at highest risk, most of whom are unaware of the danger they are facing.

“Until SHAPE, there have been no national guidelines for screening sub-clinical (hidden) coronary heart disease” said Dr. Morteza Naghavi, chairman of the SHAPE Task Force who founded the AEHA organization to focus on the eradication of heart attacks. “We encourage hospitals, diagnostic clinics and physicians to comply with SHAPE standards and provide their patients with state-of-the-art preventive care.”

Heart attack and stroke account for more death and disability than all cancers combined. Multiple screening tests are approved for sub-clinical cancers such as mammography and colonoscopy. However, none are approved for sub-clinical atherosclerosis, which underlies both heart attack and stroke. This void leaves many individuals – even those with severe atherosclerosis – unaware of their risk because they have no symptoms.

“While nearly half of individuals who have heart attacks or sudden death don’t even know they have disease, we already have treatments that could prevent a large number of these catastrophic events,” said Dr. Daniel Berman, director of Cardiac Imaging at Cedars-Sinai Medical Center and a member of the SHAPE Task Force Editorial Committee.

This year, more than 500,000 Americans will have a first heart attack, almost all of which are expected to come from the SHAPE eligible population.

“It is obvious that new strategies are needed to fight the growing epidemic of atherosclerotic cardiovascular disease,” said Dr. Valentin Fuster, past president of the American Heart Association, and director of the Cardiovascular Institute at Mount Sinai Medical Center in New York who wrote an editorial commentary in the special issue of the American College of Cardiology dedicated to the SHAPE guideline. “By going beyond traditional risk assessment, the SHAPE guideline has the potential to transform the field of preventive cardiology.”

Relying solely on traditional risk factors to identify patients at risk for a heart attack has proven to be unsuccessful. Many physicians treat patients who have a huge amount of atherosclerotic plaques (fat buildup in the arteries) the same way they treat those with no plaques, simply because their risk factor levels (e.g. cholesterol and blood pressure) are the same. This practice leaves the high risk patients with an imminent threat of a heart attack or stroke (the Vulnerable Patient) inadequately protected. Unfortunately, most physicians are unaware of the threat because they do not measure their patients’ plaque burden.

“Traditional risk factors play a major role in treatment for prevention of heart attack, but they fail to reliably identify individuals at risk of heart attack, which is best done through assessing the total atherosclerotic plaque volume, structure and function of the patient’s arteries as detailed in the SHAPE guideline,” said Dr. Erling Falk, a pioneering cardiovascular pathologist from Aarhus University in Denmark who coordinated the Writing Group of the SHAPE Task Force.

Atherosclerosis, a metabolic and inflammatory disease that causes plaque build up in arteries, is responsible for nearly all cases of heart attack and most cases of strokes. Individuals with the highest degree of atherosclerotic plaque burden are described as “the Vulnerable Patient”. Such individuals exhibit no signs of heart disease and are not identified as very-high-risk by traditional risk factor assessment.

“With the publication of the SHAPE guideline, we hope to build a new momentum in cardiology that inspires physicians to use modern technologies for the prevention of heart attack, rather than using expensive technologies only to treat heart attack, which is too late and results in too little benefit to the patient,” said Dr. P.K. Shah, director, Division of Cardiology at Cedars-Sinai Medical Center in Los Angeles who led the SHAPE Task Force Editorial Committee.

While a variety of new tests for the detection of atherosclerosis and abnormal arterial structure and function are emerging, the SHAPE Task Force determined that two – coronary artery calcium (CAC) measured by CT and carotid intima-media thickness (CIMT) and plaque measured by ultrasonography – currently fulfill established stringent criteria, including having: 1) abundant evidence for predictive value, 2) availability, 3) reproducibility, 4) complementary value with respect to the concept of the vulnerable patient, and/or 5) cost-effectiveness relative to the status quo.

“We are far from eradicating heart attack, but SHAPE can be a major step to advance prevention in the field of cardiology,” said Dr. Pamela Douglas, Professor and Chief of Cardiology at Duke University Medical Center and the immediate past president of the American College of Cardiology. “What we as cardiologists practice today is mostly sick-care, the future will have to be based on health care, otherwise the wildly rising cost of medical care will bankrupt our system.”

The AEHA plans to proliferate SHAPE accredited clinics nationwide. The executive summary of the SHAPE guideline is available for immediate download at:

<http://www.AEHA.org>

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About AEHA Originated from the Texas Medical Center in Houston, the AEHA is a non-profit organization that promotes education and research related to mechanism, prevention, detection and treatment of heart attacks. The organization is committed to raising public awareness about recent revolutionary discoveries that opened exciting new avenues to prevent heart attack. The AEHA's mission is to eradicate heart attacks before the end of the century. Additional information is available on the organization's Web site at:

<http://www.aeha.org>



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