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Consensus Reached on New Guidelines for Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death

First-ever joint ACC/AHA/ESC Guidelines on VA and SCD eliminate inconsistencies

BETHESDA, Aug. 21 – The 2006 Guidelines for Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death (SCD) were released today by the American College of Cardiology (ACC), American Heart Association (AHA), and the European Society of Cardiology (ESC) in collaboration with the European Heart Rhythm Association (EHRA) and the Heart Rhythm Society (HRS). The purpose of this document is to update and combine the previously published recommendations into one source approved by the major cardiology organizations in the United States and Europe. This document completes the triad of arrhythmia-based guideline topics cosponsored by the ACC, AHA and ESC. In addition to ventricular arrhythmias and sudden cardiac death, management of patients with supraventricular arrhythmias and atrial fibrillation have also been addressed in separate documents.

Ventricular arrhythmias (VA) are abnormal rapid heart rhythms (arrhythmias) that originate in the lower chambers of the heart (the ventricles) and often lead to SCD.

In 90 percent of adult victims of sudden cardiac death, two or more major coronary arteries are narrowed by fatty buildups. Scarring from a prior heart attack is found in two-thirds of victims. When sudden death occurs in young adults, other heart abnormalities are more likely causes including genetic diseases. Adrenaline released during intense physical or athletic activity often acts as a trigger for SCD when these abnormalities are present. Under certain conditions, various heart medications and other drugs – as well as illegal drug abuse – can lead to abnormal heart rhythms that cause sudden death.

The term “massive heart attack” is often wrongly used outside the physician community to describe sudden death. The term “heart attack” refers to death of heart muscle tissue due to the loss of blood supply and therefore oxygen, not necessarily resulting in a cardiac arrest or the death of the heart attack victim. A heart attack may cause cardiac arrest and sudden cardiac death, but the terms are not synonymous.

The new ACC/AHA/ESC Guidelines outline recommendations on the evaluation and treatment of patients who have or may be at risk for VA. Evaluation includes noninvasive and invasive techniques such as electrocardiography and electrophysiological testing. Possible

therapies include pharmacological (drugs), devices, ablation (destruction of the affected area), surgery and revascularization. Acute and chronic therapies are addressed. Prognosis and management are individualized according to symptom burden and severity of underlying heart disease in addition to clinical presentation. In addition to recommendations in patients with specific pathology, cardiomyopathy and heart failure, specific populations are also covered, such as athletes, pregnant women, the elderly and pediatric patients.

One of the key updates in the 2006 document is that the implantation of devices now has a range of ejection fractions. Ejection fraction (EF) measures how effectively the heart's left ventricle pumps blood to the body. A normal, healthy heart has an EF in the range of about 50-70%.

“Prior to this document,” says Douglas P. Zipes, M.D., M.A.C.C., F.A.H.A., F.E.S.C. and co-chair of the Guideline Writing Committee, “practitioners faced inconsistent recommendations for prophylactic ICD implantation based on ejection fractions, for example. The inconsistencies occurred because clinical investigators chose different ejection fractions for enrollment in trials of therapy, average values of the ejection fraction have been substantially lower than the cut off value for enrollment and subgroup analysis of clinical trial populations based on ejection fraction have not been consistent in their implications. The result was substantial differences among guidelines.”

The Writing Committee also notes in the 2006 VA Guidelines that differences between the United States and Europe may modulate how recommendations are implemented. Guidelines are composed of recommendations based on the best available medical science; however, implementation of these recommendations will be impacted by the financial, cultural, and societal differences among individual countries.

“We have consciously attempted to create a streamlined document that would be useful specifically to locate recommendations on the evaluation and treatment of patients who have or may be at risk for ventricular arrhythmias. We are pleased that this consensus document has the support of all the major cardiovascular societies in Europe and the U.S.,” said A. John Camm, M.D., F.A.C.C., F.A.H.A., F.E.S.C., European co-chair of the Guideline Writing Committee.

The executive summary will be published in the September 5, 2006 issues of the *Journal of the American College of Cardiology*, and *Circulation: Journal of the American Heart Association*, and the first September issue of the *European Heart Journal* (Eur Heart J 2006;27:2099–2140). The full-text guideline is published in *Europace* and e-published in the same issue of the journals noted above, as well as posted on the ACC (www.acc.org), AHA (www.americanheart.org), and ESC (www.escardio.org) sites.

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About the American College of Cardiology (ACC):

The American College of Cardiology is leading the way to optimal cardiovascular care and disease prevention. The College is a 34,000-member nonprofit medical society and bestows the credential Fellow of the American College of Cardiology upon physicians who meet its stringent qualifications. The College is a leader in the formulation of health policy, standards and guidelines, and is a staunch supporter of cardiovascular research. The ACC provides professional education and operates national registries for the measurement and improvement of quality care. For more information visit www.acc.org.

About the American Heart Association (AHA):

Founded in 1924, the American Heart Association today is the nation's oldest and largest voluntary health organization dedicated to reducing disability and death from cardiovascular diseases and stroke. These diseases, America's No. 1 and No. 3 killers, claim more than 910,000 lives a year. In fiscal year 2004-05 the association invested over \$473 million in research, professional and public education, advocacy and community service programs to help all Americans live longer, healthier lives. To learn more, call 1-800-AHA-USA1 or visit www.americanheart.org.

About the European Society of Cardiology (ESC):

The ESC represents more than 50,000 cardiology professionals across Europe and the Mediterranean. Its mission is to improve the quality of life of the European population by reducing the impact of cardiovascular disease. The ESC achieves this through a variety of scientific and educational activities including the coordination of: clinical practice guidelines, education courses and initiatives, pan-European surveys on specific disease areas and the ESC Annual Congress, the largest medical meeting in Europe. Furthermore, the ESC promotes cardiovascular disease prevention messages to the general public, most notably during its annual 'For Your Heart's Sake' event, a fun yet educational event offering risk assessment and prevention advice, held in parallel to the Congress each year. For more information about the ESC visit <http://www.escardio.org>.