Medtronic News

Late Breaking Clinical Trial Validates Value of Shock Reduction Strategies

New Medtronic Evidence on Shock Reduction Device Programming Strategies Released At Heart Rhythm 2010

MINNEAPOLIS & DENVER, May 13, 2010 (BUSINESS WIRE) --Medtronic, Inc. (NYSE: MDT) today released new evidence demonstrating that key shock-reduction programming strategies significantly reduced implantable cardioverter-defibrillator (ICD) and cardiac resynchronization therapy defibrillator (CRT-D) shocks from 17 to 28 percent. The study also identified programming and patient characteristics that increased the risk of shocks. These results, which were from the largest study of its kind, with nearly 89,000 patients from more than 2,500 centers, further validate the value of shock-reduction device programming strategies. The findings were released during the Late-Breaking Clinical Trials Session at Heart Rhythm 2010, the Heart Rhythm Society's 31st Annual Scientific Sessions.

"Improving programming by using evidence-based shock reduction strategies can significantly reduce shocks to patients," said Bruce Wilkoff, M.D., director of Cardiac Pacing and Tachyarrhythmia Devices at the Cleveland Clinic and professor of medicine at The Cleveland Clinic Lerner College of Medicine of Case Western Reserve University in Cleveland, Ohio, and a paid consultant for Medtronic. "Most importantly, strategies to minimize shocks may further improve survival and quality of life in ICD patients."

Results demonstrated how key shock-reduction programming strategies (lengthening the number of intervals to detect ventricular fibrillation [VF NID], using supraventricular tachycardia [SVT] discriminators and employing anti-tachycardia pacing [ATP]), reduced shocks by 17, 22 and 28 percent, respectively. Additionally, data also demonstrated patients programmed to a slower detection threshold or who had atrial fibrillation with fast ventricular rates were at an increased risk of shocks (up to 148 and 244 percent, respectively).

The findings identify clinical actions and programming solutions to reduce morbidity from shocks. This retrospective analysis used ICD and CRT-D patient data collected through the Medtronic CareLink(R) Network, the industry's largest remote monitoring service with more than 500,000 cardiac device patients.

"For the past 20 years, Medtronic has led the way in driving adoption of shock reduction technologies through innovation and supporting research on device programming strategies," said David Steinhaus, M.D., vice president and medical director of the Cardiac Rhythm Disease Management business at Medtronic. "Our goal is to provide physicians and patients with confidence that their implantable devices will shock only when necessary to save a life."

ICDs and CRT-Ds are 98 percent effective in stopping life-threatening fast or irregular heart beats, also known as ventricular arrhythmias, which can lead to sudden cardiac death.1 Approximately 75 percent of arrhythmias can be terminated with Medtronic's painless anti-tachycardia pacing (ATP) technologies and others receive life-saving shock therapy.2

Medtronic has supported eight major shock-reduction clinical trials (Shock-Less, PREPARE, PainFree Rx I and II, PainFree SST, WAVE, ADVANCE III and EMPIRIC). In total, these trials included more than 5,500 patients worldwide--more than the rest of the device industry combined.

About Medtronic

Medtronic, Inc. (www.medtronic.com), headquartered in Minneapolis, is the global leader in medical technology

- alleviating pain, restoring health, and extending life for millions of people around the world.

Any forward-looking statements are subject to risks and uncertainties such as those described in Medtronic's periodic reports on file with the Securities and Exchange Commission. Actual results may differ materially from anticipated results.

1 DP Zipes, D Roberts, for the Pacemaker-Cardioverter-Defibrillator investigators. Results of the International Study of the Implantable Pacemaker Cardioverter-Defibrillator: A Comparison of Epicardial and Endocardial Lead Systems. *Circulation.* 1995;92:59-65.

2 Wathen MS, et al. *Circulation*. 2004;110:2591-2596. Wathen MS, et al. *Circulation*. 2001;104:796-801.

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