

Medtronic Receives FDA Approval, CE Mark for Arctic Front Advance™ Cardiac Cryoballoon to Treat Atrial Fibrillation

Next-Generation Technology Reinforces Safety and Efficacy While Improving Procedure Efficiency

MINNEAPOLIS – Aug. 24, 2012 – Medtronic, Inc. (NYSE:MDT) today announced that its Arctic Front Advance™ Cardiac Cryoballoon has received both U.S. Food and Drug Administration (FDA) approval and CE (*Conformité Européenne*) Mark for the treatment of paroxysmal atrial fibrillation (PAF). With the only cryoballoon system currently on the market worldwide, Medtronic's second-generation system provides a more efficient approach to treating PAF than point-by-point, radiofrequency (RF) ablation.

Arctic Front Advance features the new EvenCool™ Cryo Technology, which optimizes the delivery of coolant inside the balloon. As a result, the larger, more uniform cold surface reduces the effort needed to isolate the pulmonary veins, the target of most AF ablation procedures, and improves physicians' ability to treat patients with complicated anatomies compared to the original Arctic Front® CryoAblation System.

"With Arctic Front Advance, we are now able to more effectively treat a broader range of pulmonary vein anatomies with less effort, which can potentially reduce procedure times," said Vivek Reddy, M.D., director of Electrophysiology Laboratories at The Mount Sinai Medical Center in New York.

Medtronic's cryoballoon treatment involves a minimally invasive procedure that isolates the pulmonary vein, a source of erratic electrical signals that cause AF, using coolant rather than heat (RF ablation). Delivered via a catheter, cryoballoon technology is associated with faster procedure times versus point-by-point, RF ablation. Additionally, 73 percent of

Medtronic cryoablation patients achieved freedom from AF at one year^{1,2}, a clinically significant increase in success over AF drug therapy^{1,2}.

"The original Arctic Front technology has become a standard for AF ablation based on its safety, efficacy and relative ease of use," said Karl-Heinz Kuck, M.D., director of cardiology, Asklepios Klinik St. Georg, Hamburg, Germany. "The second-generation system builds on this solid foundation, while offering more sophisticated features that should benefit both the physician and patient."

The first-generation Arctic Front Cardiac CryoAblation Catheter System, currently approved in both the United States and Europe, is the world's leading cryoballoon system indicated for the treatment of PAF. The system has experienced rapid worldwide adoption and clinical experience since its introduction onto the market, having been used to treat approximately 35,000 patients in more than 400 medical centers in 25 countries.

"We anticipate this next generation balloon will be enthusiastically received by physicians worldwide. Our aim is to offer physicians the best solutions for treating serious cardiovascular diseases such as atrial fibrillation, and improving overall patient quality-of-life, while delivering economic value," said Reggie Groves, vice president and general manager of Medtronic's AF Solutions division. "Our cadence of product launches showcases significant enhancements: This is the second revolutionary balloon-based medical technology we've launched in the past 18 months in the U.S. to treat AF."

About the Arctic Front Advance System

The Arctic Front Advance Cardiac CryoAblation Catheter System is designed to be used with fluoroscopy and does not require

the use of complex, three-dimensional mapping systems. The technologies currently offered in the system include:

- The Arctic Front Advance Cryoballoon, which inflates and fills with coolant to ablate the tissue where the pulmonary veins enter the left atrium;
- The FlexCath® Steerable Sheath, which helps deliver and position the cryocatheter in the left atrium;
- The Achieve® Mapping Catheter, an intra-cardiac electrophysiology recording catheter used to assess pulmonary vein isolation when treating paroxysmal atrial fibrillation;
- The Freezor® MAX Cardiac CryoAblation Catheter, which is a single-point catheter used to provide additional ablations, as needed; and
- The CryoConsole, which houses the coolant, electrical and mechanical components that run the catheters during a cryoablation procedure.

About Atrial Fibrillation

Atrial fibrillation is the most common and one of the most undertreated heart rhythm disorders, affecting more than 7 million people worldwide. It is estimated that half of all diagnosed atrial fibrillation patients fail drug therapy³, and if left untreated, patients have up to a five times higher risk of stroke⁴ and an increased chance of developing heart failure. PAF is a type of atrial fibrillation in which irregular heartbeats in the upper chambers start and stop suddenly on their own, usually for minutes or days at a time.

In collaboration with leading clinicians, researchers and scientists worldwide, Medtronic offers the broadest range of innovative medical technology for the interventional and surgical treatment of cardiovascular disease and cardiac arrhythmias.

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.

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2. Calkins H, Reynolds MR, Spector P, et al. Treatment of atrial fibrillation with antiarrhythmic drugs or radiofrequency ablation: two systematic literature reviews and meta-analyses. *Circ Arrhythm Electrophysiol*. August 2009;2(4):349-361.
3. *JAMA* 2001; 285:2370-5.
4. Fuster et al. *Journal of the American College of Cardiology* 2006; 48:854-906.

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