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**Clinical study demonstrates that Cardiola's *m.pulse*® system  
“immediately improves cardiac output under acute non-invasive  
Muscular CounterPulsation (MCP) treatment in patients with  
patients with stable CHF” (chronic heart failure)**

**Data presented at annual congress of the  
German Society of Cardiology**

WINTERTHUR, Switzerland, April 23, 2010—Cardiola AG announced today that the Company's CE-Marked *m.pulse*® Muscular CounterPulsation (“MCP”)-based system demonstrated “an immediate improvement of cardiac output with non-invasive means” in a patient population of advanced yet stable chronic heart failure. The effects could be shown in 22 patients over three consecutive days.

The data were presented this month at the annual Congress of the German Society of Cardiology. The study was conducted at **The Heart and Diabetes Center North Rhine-Westphalia, Ruhr University of Bochum, Bad Oeynhausen, Germany**. Principal investigator for the study was **Univ.-Prof. Dr. med. Dieter Horstkotte**.

Key conclusions of the study presented at the Congress were:

- MCP was able to improve acutely the cardiac output in 22 patients with stable CHF in a three-day follow-up period;
- There was no interference from MCP with electronic implants such as ICD or CRT (‘pacemaker’) systems;
- There was no negative influence from MCP on myocardial integrity (as measured by troponin, CK, CK-MB).

“We are extremely pleased with the results of this important study at one of the leading heart centers by one of the preeminent interventional cardiologists in Europe,” said **Christof Lenz, Cardiola's CEO and former Global Innovation Manager at Siemens Medical**. “It has been well-documented clinically that MCP—the proprietary technology platform of our patented *m.pulse*® device—is a safe and effective therapy designed to improve the hemodynamic function of a failing heart,” Lenz added. “Of course, *m.pulse*® is already CE-Marked and safety has been established. Nevertheless, this study opens up additional indications in an acute setting and certainly offers further clinical evidence of *m.pulse*® as a *non-surgical* treatment option for patients with stable CHF.”

Previously the Company announced that data from a study presented at last year's Annual Congress of the Swiss Society of Cardiology concluded that “MCP is safe and efficient for improving cardiac function” **non-surgically** in patients with coronary artery disease (CAD). In the study, **peripheral resistance** of CAD patients was decreased by 22%; **end-diastolic pressure** was reduced by 18%; and **stroke work** was reduced by 16%. Additionally, there was a 12% increase in **cardiac index**. Equally important, all of these hemodynamic effects were less marked in the study's control patients.

Cardiola's *m.pulse*® device, based on **Muscular CounterPulsation (MCP)** technology, is approved in Europe for treating CHF as a non-surgical, at-home therapy. Battery-powered *m.pulse*®, the size of a cell phone that the patient attaches to his belt for about 45 minutes per treatment, is synchronized to his cardiac cycle to stimulate the muscles of the calves and thighs to make them contract *in the resting phase of the heart*. This well-established *Muscular CounterPulsation* action results in increased blood flow to the heart muscle while decreasing the heart's workload. MCP was previously only available in a clinical setting. Now, ***m.pulse*® is the world's first and only device enabling CHF patients to receive MCP therapy at home.**

Chronic Heart Failure is among the world's most prevalent diseases and the cause of numerous other serious clinical disorders. Approximately 17 million people currently suffer from CHF in Europe, the U.S. and Japan. Some six million of these patients are classified as NYHA (New York Heart Assn.) classes II and III with systolic dysfunction, the primary patient population for ***m.pulse*® with Muscular CounterPulsation** from Cardiola.

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