

# News Release

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## **WEDENSKY MODULATION IDENTIFIES SUDDEN CARDIAC ARREST RISK IN PATIENTS**

*The Harbinger ICD Patient (HIP) study results show Wedensky Modulation identifies near-term lethal arrhythmia risk in heart attack patients implanted with an ICD.*

**Nice, France – June 19, 2008** – Harbinger Medical Inc.<sup>™</sup> of Minneapolis, Minnesota USA today announced the results of a study presented at the 2008 Cardiostim meeting in Nice. Four abstracts, including two poster workshops by the study's primary investigator Dr. Peter Brady, FRCP, Mayo Clinic, Rochester MN, showed that a Wedensky Modulation Index identified more than 80 percent of all life-threatening arrhythmic events that occurred in the study population.

The Harbinger ICD Patient (HIP) study culminated years of research into Wedensky Modulation, a spectral analysis of sub-threshold stimulation to alternating cardiac cycles. The HIP study enrolled 329 myocardial infarction (heart attack) patients with recently implanted ICDs, separated into two groups based on their Wedensky Modulation Index (WMI<sub>RT</sub>). The 162 patients in the WMI<sub>RT</sub>-High group (WMI<sub>RT</sub> > 0.5) were 64 percent more likely to experience a life-threatening arrhythmia compared to the 106 patients in the WMI<sub>RT</sub>-Low group (WMI<sub>RT</sub> ≤ 0.5).

“We are strongly encouraged by these results. WMI may be used to help physicians identify patients who are at higher near-term risk for SCA,” said principal investigator Dr. Peter Brady of the Mayo Clinic in Rochester. “This information may also help reluctant high-risk patients understand the importance of considering ICD therapy.”

Wedensky Modulation describes cardiac tissue response to sub-threshold stimulation. The Wedensky Modulation Indices (WMI) are derived from the spectral analysis of Wedensky Modulation by applying sub-threshold electrical stimulation to alternating cardiac cycles and comparing the stimulated and non-stimulated beats. Specific segments of the cardiac cycle may be analyzed. WMI<sub>R</sub>, WMI<sub>T</sub>, and WMI<sub>RT</sub> are indices derived from the R-wave, T-wave and the combined R- and T-waves respectively. The HIP study was stopped at 12 months upon reaching its primary end-point based on WMI<sub>R</sub> (P < 0.01) with 268 patients completing at least 6 months of follow-up. Each patient's WMI<sub>R</sub>, WMI<sub>T</sub>, and WMI<sub>RT</sub> were measured using data from Harbinger Medical Inc.'s MI-1000 system. The four abstracts presented at Cardiostim were entitled:

- 1) Non-invasive Risk Stratification Using Wedensky Modulation to Determine Cardiac Electrical Vulnerability Late After Myocardial Infarction
- 2) Wedensky Modulation Slows Myocardial Conduction: Determinant of Myocardial Vulnerability?
- 3) Wedensky Modulation Index and Ejection Fraction Combined Provide Better Risk Stratification of Post-MI Patients

4) Wedensky Modulation of T-Wave Accurately Predicts Arrhythmic Events  
Additional information about these abstracts can be found at  
[www.harbingermmedical.com](http://www.harbingermmedical.com)

Sudden Cardiac Arrest (SCA) is a sudden, abrupt loss of heart function, usually caused by chaotic activity of the heart known as ventricular fibrillation (VF). Each year in the United States and Europe, SCA takes the lives of approximately 850,000 people, according to industry statistics. The ability to more reliably identify patients at elevated risk for SCA has long been a challenge in cardiology. "WMI has been proven to predict near term risk of SCA in post-MI patients currently indicated for an ICD. WMI is a non-invasive, easy to use test with tremendous potential clinical utility," said Dr. Brady. "Ultimately WMI may even show similar positive predictive value for any patients at elevated risk for SCA, regardless of other risk factors."

**About Harbinger Medical Inc.** Located in suburban Minneapolis, Minnesota, Harbinger Medical Inc. is dedicated to identifying patient susceptibility to dangerous arrhythmias. Harbinger Medical has published more than 40 abstracts, articles, and book chapters. The MI-1000 is an FDA approved non-invasive system, which administers a test in about 20 minutes where patients are not required to accelerate their heart rate.

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