

Misonix Highlights Recent Duke University Study Revealing Significant New Cancer Treatment May Be Possible with HIFU Technology

FARMINGDALE, N.Y.--(BUSINESS WIRE)--Aug. 14, 2007--Misonix, Inc. (Nasdaq: MSON), a developer of ultrasonic medical device technology for the treatment of cancer and other chronic health conditions, today highlighted the findings for High Intensity Focused Ultrasound ("HIFU") cancer therapy from a recent study led by researchers at Duke University's Pratt School of Engineering. The study brings to the forefront new therapeutic HIFU applications addressing both isolated and metastatic cancer tumor cells. HIFU -- an acoustic ablation technique for the delivery of heat therapy through a high frequency ultrasound application -- is a relatively new process that several advanced medical devices technology companies such as Misonix have been using to develop innovative products primarily for life threatening ablation of cancer..

According to the Duke University study, HIFU technology has been used to shake a tumor until its cells start to leak, which may trigger an "alarm" that enlists immune defenses against the cancerous invasion. The new findings from animal experiments suggest that once activated by the ultrasound, the immune system might even seek and destroy cancer cells, including those that have spread through the bloodstream to lurk in other parts of the body.

HIFU is traditionally used to kill tumors by heating them. But Duke researchers now find that HIFU might work even better if it is first delivered in a manner that just shakes the cells. That shaking ruptures tumor cell membranes, causing them to spill their contents. The toxic spill then alerts the immune system to the cancer threat, leading to the production of tumor-fighting white blood cells. If the effect seen in mice holds true in human patients, such a treatment could be an important advance in many cancer therapies because of its potential to tackle both primary tumors and metastatic cancers that have spread to other organs -- all without the need for surgery, the research team reported in the *Journal of Translational Medicine* on August 3, 2007. The work, done by the engineers in collaboration with cancer immunologists and physicians at the Duke Comprehensive Cancer Center, was supported by the National Institutes of Health.

"We have all along maintained our belief that Misonix possesses the most advanced HIFU platform of minimally invasive medical devices for the treatment of cancer. Our investments and efforts to advance the development of unique products for effective and patient-friendly eradication of cancerous tissue in the prostate, kidney, liver and breast has, with the findings of the Duke University study, the potential to significantly alter the treatment of cancer. The implications for cancer therapy are astounding and the entire industry should be taking note of the potential for HIFU technology," stated Michael A. McManus, Jr., President and CEO of Misonix.

According to a Duke statement, "In most cancers, what actually ends up killing the patient is the spread of the cancer from its original site to other parts of the body. If the patient has a tumor in the kidney or liver, several treatment options -- including surgery, radiation or HIFU -- can be used to get rid of the cancerous tissues. However, if the cancer cells spread to other vital organs such as the lung or brain, the outcomes are often much worse ... We now think that HIFU delivered in a different mode, with emphasis on using mechanical vibration to break apart the tumor cells, may have an even more significant impact in suppressing cancer metastasis by waking up the immune system."

"For reasons that are still not completely understood, cancer cells often go largely undetected by the immune system. For an anti-tumor immune response to be effective, it may need to recognize not only the surface proteins of cancer cells, but some of the other proteins locked inside those cells," which was referred to as "danger signals."

The researchers found in mice with colon cancer that mechanical HIFU delivered to the animals' tumors sparked an immune response twice as strong as did thermal HIFU, presumably by releasing a much more diverse range of danger signals. The results show, according to the Duke statement that while mechanical HIFU is not as effective as thermal HIFU in killing tumor cells directly, it has the potential to induce a stronger anti-tumor immune response. These preliminary findings open up the possibility that combination therapy of heat from HIFU to treat the primary tumor and HIFU-boosted immunotherapy for combating any residual and metastatic tumor cells may be an ideal approach.

The lead author of the Duke study is Zhenlin Hu, a former research associate in Zhong's lab who is now at

the Second Military Medical University in Shanghai, China. Other co-authors include: Yunbo Liu, Georgy Sankin and Eric Pua from the Department of Mechanical Engineering and Materials Science at Duke's Pratt School of Engineering, as well as Xiao Yang, Michael Morse, H. Kim Lyerly and Timothy M. Clay from the Duke Comprehensive Cancer Center.

About Misonix HIFU Medical Devices:

The Sonablate(R) 500 ("SB500") is a medical device for non-invasive HIFU treatment of prostate cancer developed by Focus Surgery, Inc. (www.focus-surgery.com) and manufactured by Misonix. Misonix also has the exclusive European distribution rights for the product. Utilizing the same technology as in the SB500, Misonix has developed the Sonatherm(TM) 600 ("Sonatherm") for HIFU treatment of soft tissue, including cancerous tissue in the kidney. The Sonatherm has been developed by Misonix in connection with the worldwide license to manufacture, market and sell HIFU medical devices relating to the treatment of tissue in the kidney, liver and breast that it acquired from Focus Surgery.

Misonix is an investor in privately-held Focus Surgery, one of the most prominent developers of HIFU technology in the world. Other investors in Focus include Takai Hospital Supply, Inc. (www.thsinternational.com), which has the exclusive distribution rights to market the SB500 in Asia, Australia, Japan and part of the Middle East, and US HIFU, LLC, the exclusive distributor in the Americas region and South Africa.

HIFU with the SB500 has been considered by many industry participants to be the most important trend for the treatment of prostate cancer. The SB500 is proving to be the modality of choice for treatment of localized as well as broader cancer of the prostate gland, but the implications of the Duke study significantly broadens the potential for the technology underlying HIFU medical devices from Misonix.

The SB500 is available in over 20 countries, with more to be added, and to date over 4,000 treatments using the medical device have been completed worldwide. In a study previously announced by Misonix, prostate cancer treatment using the SB500 showed successful outcomes that far exceeded published reports for other HIFU devices and rivaled that of traditional surgical treatment. Important advantages of the SB500 over traditional surgery include that it is a non-invasive procedure that is performed on an out-patient basis and offers significant quality of life advantages. In a study using the SB500 for Visually Directed HIFU -- a process which is doctor-directed and computer-controlled to apply the treatment -- that set new and higher standards for successful prostate cancer treatment, it was revealed that 84% of patients were able to achieve success as measured by PSA nadir levels dropping to 0.2ng/ml or less after treatment. This measurement for success using the SB500 has not been achieved by previous published HIFU techniques; these PSA nadirs are typically associated with the traditional surgical approach.

The Sonatherm, used for HIFU treatment of soft tissue, including cancerous tissue in the kidney, has been granted 510(k) clearance by the Food and Drug Administration to be marketed and sold in the U.S. for ablation of certain soft tissue lesions in General Surgery procedures. In preparation for a commercial launch, clinical studies have been undertaken. As part of the Company's strategy to enter into the world's most populous country, a distribution agreement was formed with China-based Acton Medical Device Corp. ("Acton") of Guangzhou. Under the agreement, Acton will be responsible for conducting clinical procedures and acquiring all necessary government approvals for the sale of the Sonatherm in the People's Republic of China.

Earlier this year, Misonix reported the results from its first human kidney cancer treatments using the Sonatherm. Procedures were successfully completed with positive ablation effect noted on cancer cells in tumors within human kidneys. Based on successful clinical studies conducted for Misonix, the Sonatherm has been demonstrated as a technologically advanced medical device for minimally invasive procedures that ablate cancerous tissue without the need to puncture the kidney organ.

About Misonix:

Misonix, Inc. (NASDAQ: MSON) designs, develops, manufactures, and markets medical, scientific, and industrial ultrasonic equipment, laboratory safety equipment, and air pollution control products. Misonix's

ultrasonic platform is the basis for several innovative medical technologies. Misonix has a minority equity position in Focus Surgery, Inc. which uses high intensity focused ultrasound technology to destroy deep-seated cancerous tissues without affecting surrounding healthy tissue. Addressing a combined market estimated to be in excess of \$3 billion annually, Misonix's proprietary ultrasonic medical devices are used for wound debridement, cosmetic surgery, neurosurgery, laparoscopic surgery, and other surgical and medical applications. Additional information is available on the Company's Web site at www.misonix.com.

Editorial Note: To protect the integrity of the original information, portions of this press release have been sourced entirely from or adapted from a news release issued by Duke University (<http://www.pratt.duke.edu/news/?id=1035>).

With the exception of historical information contained in this press release, content herein may contain "forward looking statements" that are made pursuant to the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995. These statements are based on management's current expectations and are subject to uncertainty and changes in circumstances. Investors are cautioned that forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from the statements made. These factors include general economic conditions, delays and risks associated with the performance of contracts, uncertainties as a result of research and development, acceptable results from clinical studies, including publication of results and patient/procedure data with varying levels of statistical relevancy, potential acquisitions, consumer and industry acceptance, litigation and/or court proceedings, including the timing and monetary requirements of such activities, regulatory risks including approval of pending and/or contemplated 510(k) filings, the ability to achieve and maintain profitability in the Company's business lines, and other factors discussed in the Company's Annual Report on Form 10-K, subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K.

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