

IN DEPTH: BIOTECH & PHARMA

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Company thinks big with small products

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BioSensus is thinking small.

The company, founded last year, is attempting to commercialize miniaturized acoustic sensing technology licensed from Drexel University.

BioSensus is applying the technology to create small and inexpensive hand-held devices designed to enable patients to perform diagnostic and therapeutic monitoring tests by themselves at home. The devices also would allow physicians and nurses to conduct such tests at a patient's bedside in a hospital, nursing home or other health-care delivery setting.

"Until recently, rapid in-hospital and in-home testing was not feasible," said Dr. J. Yasha Kresh, the company's co-founder and chief biomedical officer. "To monitor patients' blood clotting status, samples had to be collected by trained technicians and sent for analysis. Now it can be done instantaneously."

The company was founded by three Drexel University faculty researchers -- Kresh, Ryszard M. Lec and David M. Wootton -- with diverse areas of specialty.

Kresh is a professor of cardiovascular medicine and surgery and research director of CT-surgery and cardiovascular biophysics at the Drexel University College of Medicine. Lec, the company's chief scientific officer, is a professor at Drexel's School of Biomedical Engineering, Science and Health Systems. Wootton is an assistant professor of mechanical engineering and mechanics.

The company's first product, the NanoAcoustic Blood Analyzer, is being designed to measure blood coagulation properties, clotting times and platelet function from blood samples taken from a single finger stick -- similar to how diabetics monitor their blood glucose levels.

The blood analyzer will about the size of a cell phone.

The target audience for the device is the millions of patients in the United States who use anti-coagulant and anti-thrombotic drugs to prevent blood clots, heart attacks and strokes.

Such patients require regular testing to ensure they are receiving the right amount of medication. Too much drug raises the risk of hemorrhage, while too little places patients at risk of forming clots.

Wootton, the company's senior scientist, said BioSensus believes its NanoAcoustic technology may have other applications in personal health care, clinical monitoring of molecular and cellular factors and environmental and anti-bioterrorism testing.

The company is using its BioAdvance funding of \$500,000 to develop the first commercial prototype of its NanoAcoustic Blood Analyzer.

Kresh said BioSensus is now attempting to raise \$3 million from private investors, which will also go toward building the prototype, as well as for clinical testing of the company's products.

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