

Life in the Fast Lane

Edited by Kathleen McGinn Spring

Conjure up a mental picture of a family physician — real life or television, it doesn't matter. What three items do you see? Probably a stiffly starched white coat, a pocket full of tongue depressors, and a stethoscope. All three essential medical accouterments have one thing in common: None has changed in a century and a half. But one is about to, says John Kallassy, CEO of Zargis, an eight-year-old Siemens spin-off that is the world leader in heart sound analysis software.

The software was invented in Zargis' eight-person Research Way R & D facility by Ray Watrous, who serves as the company's chief scientist. Greatly increasing the information that a stethoscope can pick up, it has the potential to be a lifesaver for the millions of people who have "quiet" heart disease, and a cost saver for the millions of people who are unnecessarily referred for sophisticated cardiac testing.

Zargis, a majority-owned subsidiary of Stamford, Connecticut-based Speedus Corp. (Nasdaq: SPDE), has just entered into an exclusive multi-year marketing agreement with 3M Littmann. This 3M division, says Kallassy, is the world leader in the stethoscope market. Under the agreement, Zargis (www.zargis.com) will support 3M in its efforts to develop a next-generation stethoscope that will be compatible with Zargis' heart sound analysis software.

Zargis will provide the software, 3M Littman will manufacture the electronic stethoscope, and both will work to ensure that the two components work well together.

Importantly for Zargis, says Kallassy, 3M Littman, which has a global marketing and distribution network in place, will handle sales, a function that he says is difficult for a small company like his.

"We have been working closely with 3M for nearly two years to further evaluate this market and refine our product strategy," says Kallassy. "3M doesn't enter into partnerships lightly, but when it does, it's in for the long term."

The partnership is significant for Zargis and should result in substantial growth. "In fact," says

Kallassy, "we're looking for people now. We need a chief technology officer and software engineers."

The agreement grants 3M a minority equity position in Zargis following the first sale of Zargis' software through the 3M distribution

Software from Zargis on Research Way has greatly increased the information a stethoscope can pick up.

channel, and a seat on Zargis' board of directors. No date has yet been set for the launch of the product, Kallassy says.

One market will be the "worried well," he says, but most of the high-tech stethoscopes are likely to end up in the hands of physicians, replacing the traditional stethoscope, which has changed little since its invention in 1816 by French physician R.T.H. Laennec, who, relates Kallassy, is said to have been uncomfortable with examining his niece's heart by placing his ear on her chest, the common method at that time. Knowing that solids can conduct sounds, he rolled up 24 sheets of parchment, leaving hollow space in the center, and was amazed to find that the crude instrument was a big improvement over the un-aided ear.

And that, says Kallassy, is pretty much where the technology stopped evolving. The stethoscope did move from an instrument made of wood and designed for one-ear to the present metal and rubber two-ear instrument, but in function, it has barely advanced since the early 1800s.

This is a serious handicap because the common stethoscope does a pretty poor job of picking up abnormalities in heart function, missing serious problems, and incorrectly indicating that many healthy hearts are not beating as they should be.

A recent study done in conjunction with Johns Hopkins found that Zargis' software "reduced unnecessary referrals by 41 percent," says Kallassy. This spared patients from needless worry, and saved them — or their insurance carriers

— the thousands of dollars that would have otherwise been spent on follow-up testing. Even more importantly, the software "reduced false negatives by 46 percent." In other words, a number of hearts that sounded just fine when examined by a traditional stethoscope proved to have serious problems when the heart sounds software was used.

Zargis, which started out as Sound Diagnostics, has been working on something called Cardioscan for most of its corporate life. Cardioscan, which combines a PC, proprietary software, and a stethoscope has been used in clinical settings, but Kallassy says that it is "not really a product." The company has been working on its refinement, and the resulting software will live on, and will continue to be refined, in the new electronic stethoscope that Zargis and 3M Littman will jointly develop.

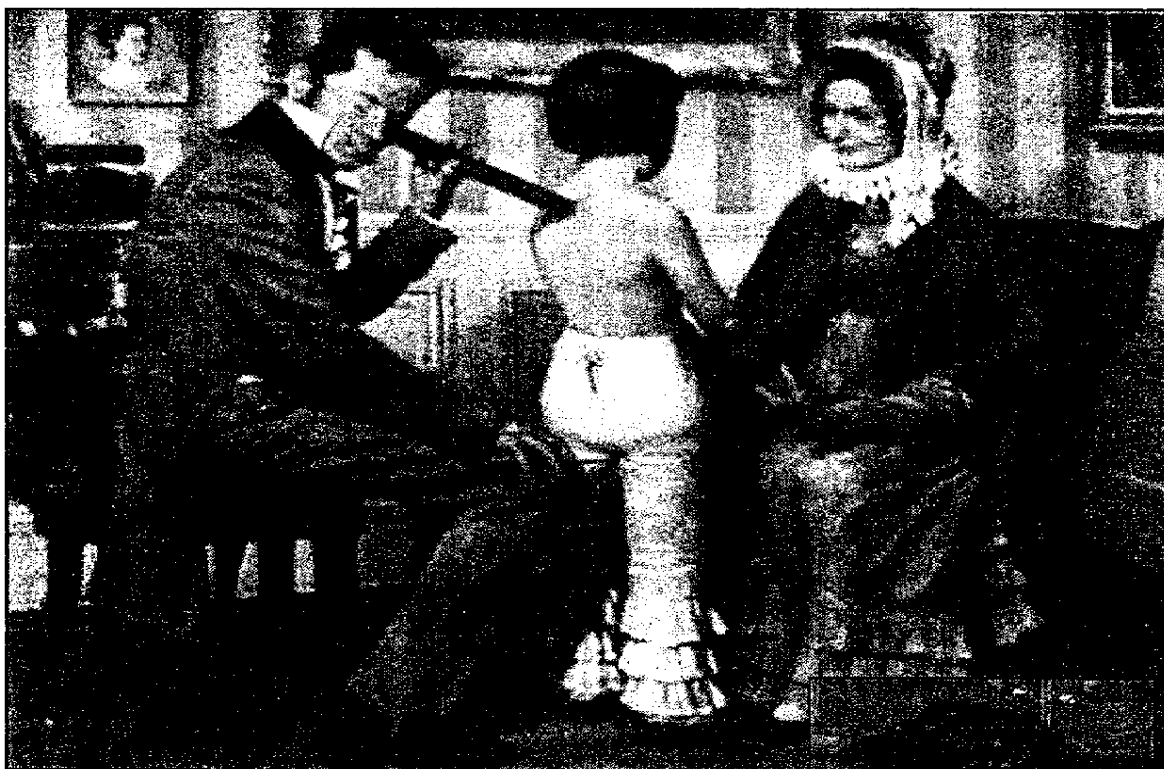
Kallassy points out that the new stethoscope not only has the potential to save lives and healthcare dollars in the United States, but also could improve care in Third World countries where doctors of any kind, let alone cardiologists, are in short supply. He points out that a technician could easily use the tool to analyze heart health, and could then transmit the results electronically to a doctor in a remote location.

Zargis has another product that is already providing diagnoses in hard to reach places. It is a heart sound ECG and pulse oximetry device that the company has developed for the U.S. Army. It can indicate heart irregularities and can detect when oxygen transport is inadequate or when tissues are not using oxygen properly. This device is now in use.

Kallassy has been involved in Zargis since its early days. "I was the executive vice president of Speedus, the company that invested in Zargis in 2001," he says. "In early 2005 I was appointed CEO."

A graduate of SUNY Brockport (Class of 1987), Kallassy studied biology as an undergraduate, did postgraduate work in the area of pharmacology in Leeds, England, and earned an MBA from Cornell. He grew up in Oriskany, a small town in western New York State.

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Old and the New: *The illustration above shows the inventor of the stethoscope, French physician R.T.H. Laennec, with an early model of the instrument. John Kallassy, CEO of Zargis, thinks his firm has a better version.*



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He lives in Darien, Connecticut, and commutes to Princeton about once a week, generally staying for two or three days.

"It's really not bad," he says of the routine. As for the company's future, that's not looking so bad ei-

ther. It has been just about one decade since Watrous, its chief scientist, got the idea for an improved stethoscope after pulling a muscle on a rowing machine, experiencing chest pain, and being examined for a possible heart attack at Princeton Hospital. Apart from a little soreness, he was perfectly healthy, but the experience had gotten him thinking about methods to detect heart problems. The company that is the result of his own medical adventure is doing very nicely, too, thanks in part to its recent partnership with 3M.

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