



Resuscitation device could pump up company's sales.

BY PATRICIA ANSTETT FREE PRESS MEDICAL WRITER SEPTEMBER 14, 2008

A small Michigan company, one of the nation's leading manufacturers of mechanical resuscitation equipment to revive heart attack patients, envisions a year of growth with federal approval of a hands-free device. Life-Stat is a machine that delivers coordinated compressions to the chest, to pump blood to the heart, as well as oxygen. That frees up medical crews to concentrate on other tasks, such as transporting patients or administering life-saving drugs, said Bruce Barkalow, president of Michigan Instruments Inc., the equipment manufacturer. It is based in Kentwood, outside of Grand Rapids. The unit can be attached to a spine board, an inflexible type of stretcher, so that ambulance teams can transport patients while they are resuscitated.

The device can deliver as many as 100 compressions a minute. Then it pauses to deliver two ventilations, if needed, before beginning another compression cycle. A small computer coordinates the two functions and the rate of chest compressions. It is designed for use by ambulance, air evacuation, fire, emergency department and cardiac catheterization teams and can be used on patients who weigh as much as 600 pounds.



Bruce Barkalow, president of Michigan Instruments Inc., demonstrates the latest version of Life-Stat, a hands-free device to pump blood to a heart to revive heart attack patients.

MICHIGAN INSTRUMENTS INC.

Location: Kentwood, outside of Grand Rapids.

What it is: Medical equipment maker, including new hands-free mechanical CPR system.

Employees: 20. Plans to add more assembly positions as sales increase.

Go to www.youtube.com and search for "Demonstration of Mechanical CPR."

Michigan Instruments is negotiating with the City of Detroit to add the device to ambulances that have carried the company's predecessor device for years, Barkalow said. Because nearly four of every five heart attacks in the country occur at home, according to the American Heart Association, equipment to resuscitate a person is an important emergency team tool. "It's very effective," said Joyce Farrar, administrative director of Henry Ford Health System's emergency department, which has used an earlier generation of the company's resuscitation devices since the 1980s. "If you've ever done CPR, you're exhausted in two minutes. And the more exhausted you are the less effective the compressions are." Even the best rescue workers can drift from delivering firm compressions, even after a minute, and the effectiveness drops sharply the longer resuscitation continues, possibly for hours, Barkalow said.

The company's predecessor device can be used for hours. Its longest use on a patient who recovered fully was 17 hours, Barkalow said. "There's growing interest in this technology because it's cost-effective and it's the only one on the market with a built-in ventilator," Barkalow said. The Life-Stat unit was approved in February by the federal Food and Drug Administration. The company tentatively projects a doubling in sales, generating an additional \$2 million in sales over last year, Barkalow said. He hopes the device will allow Michigan Instruments to overtake Zoll Medical Corp. of Chelmsford, Mass., the leader in the resuscitation market.

He has been attending fire and emergency medical service trade shows to demonstrate the technology. Recently, the company signed an agreement with Enerspect Medical Solutions Inc., a Henderson, Nev. company, to sell the Life-Stat device to the cities and companies it helps in setting up comprehensive emergency response systems. Michigan Instrument also has a strong international base. It has sold CPR units abroad since 1988, with sales particularly strong in China and Japan, Barkalow said. Recently, a hospital in Bahrain bought a Life-Stat unit.

The company was begun in 1963 by the late Clare Barkalow, Bruce's father. An engineer for an aviation instruments firm, Clare Barkalow went on to start his own company and become one of the nation's leading CPR experts.

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