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Breathing-aid maker raises \$4 million

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Plain Dealer Reporter

Synapse Biomedical Inc. -- the Oberlin developer of an electrical pacing device that enables paralyzed patients to breathe on their own -- has raised \$4 million during its third round of venture financing.

Led by Vivo Ventures in Palo Alto, Calif., the financing round included all of the prior institutional and individual investors in Synapse, said Tony Ignagni, chief executive of Synapse.

The Lorain County medical device maker has attracted a total of \$6.5 million from investors. Synapse plans to use its new capital to conduct a multi-center study of its device, as well as to begin sales and marketing efforts and hire more manufacturing and engineering staff, Ignagni said.

"We're at six workers now," Ignagni said. "We have plans to grow significantly over the next year."

His company's device, named NeuRx by Thomas Mortimer, a professor emeritus of biomedical engineering at Case Western Reserve University who helped develop it, electrically stimulates and paces breathing along the lines of how a pacemaker regulates heart beats. So far, 48 patients have tested it.

Medical and engineering professionals at University Hospitals Case Medical Center, Case, Louis Stokes VA Medical Center and MetroHealth Medical Center helped develop the device. Dr. Raymond Onders, a surgeon at University Hospitals, is pioneering a minimally invasive way to implant it, Ignagni said.

NeuRx gained a national audience in March 2003 when the late actor, Christopher Reeve, a quadriplegic, was implanted with the device at University Hospitals.

Reeve used a mechanical ventilator that forced air into and out of his lungs after a spinal cord injury paralyzed him. He died in 2004.

Breathing without the aid of a ventilator means a more normal life for a patient, but it also means fewer infections, such as pneumonia, Ignagni said.

Ignagni and his colleagues are applying to the Food and Drug Administration for approval to sell the device to spinal cord injury patients in the United States and Europe. "We hope to be on the market this year," he said.

"We're very interested in the company because we admire Tony and the team," said Chen Yu, a principal at Vivo Ventures.

"We think they've done an incredible amount of work developing a novel device for some patients who really need the help," Yu said, primarily those with spinal cord injuries and amyotrophic lateral sclerosis, better known as Lou Gehrig's disease.

Yu, who is a Pittsburgh native, also sees Cleveland as an attractive place to look for more investments. "It's a little bit under the radar screen," he said.

Ignagni said he and his colleagues "fought hard to keep" the company in Northeast Ohio during the funding round. One potential investor wanted to move the company to the West Coast, so Ignagni said no to the money.

"The support from University Hospitals and Case is invaluable to us," he said.

"It's been a wonderful experience working in this environment."

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