

# THE PLAIN DEALER

## Incubator delivering medical company

Clinic spinning off device manufacturer

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The Cleveland Clinic is spinning off its 18th company -- CSF Therapeutics, which is developing a therapy for some of the most devastating age-related diseases of the brain.

CSF Therapeutics is expected to set up an office in the CCF Innovations incubator on the Clinic's main campus by Monday, said Christopher Coburn, executive director of the hospital system's commercialization unit.

The Clinic also announced \$4 million in venture capital from Norwich Ventures in Cambridge, Mass., for the budding medical-device maker.

The investment gives CSF Therapeutics its first operating cash and will enable the company to offer a job to its first employee -- Tim Moran, senior commercialization officer for CCF Innovations, who will become CSF Therapeutics' president, Coburn said.

CSF Therapeutics is developing therapies that fight degenerative brain disorders such as trauma, stroke, dementia and Alzheimer's disease by increasing blood flow to the brain, said Dr. Mark Luciano, section head of pediatric neurosurgery at the Clinic who is the main inventor of the company's device.

As a pediatric neurosurgeon, Luciano has studied the characteristics of hydrocephalus, sometimes called "water on the brain," which is typically a childhood ailment. But teenagers get hydrocephalus, too, he said. One type of the illness, called normal pressure hydrocephalus, causes reversible dementia in elderly patients.

"So I've studied cerebral spinal fluid pressures and cerebral blood flow," Luciano said. The "CSF" in the company's name stands for cerebral spinal fluid.

His invention, which maintains blood flow to the brain, will be used first to help trauma victims who risk brain damage because of a build-up of fluid pressure in the brain or stroke victims whose brains could be starved of oxygen-carrying blood.

Stephen Dombrowski, a Clinic researcher who works with Luciano, is co-inventor of the company's device. The two have applied for a patent.

Luciano, who will be chairman of the scientific advisory board for CSF Therapeutics, hopes the invention could one day be used to help patients with chronic brain diseases, such as Alzheimer's, which is associated with decreased blood flow to the brain.

The invention also represents a new frontier for brain doctors, said Aaron Sandoski, managing director of Norwich Ventures. "We've spent a lot of time looking at neuro companies and research," Sandoski said. "We're excited by this one because it's establishing a new field in neuroscience."

This is the first brain-related investment by Norwich, which invests only in start-up medical device companies. "Neurodegenerative disorders affect millions of people worldwide and represent a vast area of unmet therapeutic need," he said.

He and his colleague, Philip Fleck, plan on being the Norwich professionals most involved in directing the Cleveland device maker, Sandoski said. Directors at Norwich come from the medical-device industry, he said. The investment and hiring of a president are big, public steps in the Clinic's process of spinning off CSF Therapeutics, Coburn said.

Much work -- evaluating and validating the company's technology, applying for intellectual-property protection, forming a shell company in which investors could invest -- already has been done behind the scenes.

Spinning off a technology developed by Clinic doctors or researchers is more complicated than licensing the technology to an existing company -- the other main commercialization option for CCF Innovations staff, Coburn said.

"I think we've mapped out a [commercialization] model that works very well," said Coburn, whose organization spun off its first company five years ago.

The Clinic has an ownership stake in CSF Therapeutics.

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