CRAIN'S CLEVELAND BUSINESS

CCF Innovations finding structure

Invention process has experts involved sooner, minimizes burden on med device companies

By CHUCK SODER

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The Cleveland Clinic is using a new process aimed at increasing the number of inventions that come out of the hospital — and at decreasing the number of invention ideas scrawled on napkins.

The hospital's commercialization arm, CCF Innovations, has begun assembling teams of experts from varied disciplines to identify needs for new medical technology and to devise ways to create and then sell products that address those needs.

The new process, called Structured Invention, already has led to the formation of two plans that could help create and commercialize technology aimed at increasing the number of people able to receive hip resurfacings — a preferred alternative to hip replacements.

Structured Invention allows new ideas to receive input from multiple sources early in the process, said CCF Innovations executive director Chris Coburn. That input allows inventors to bring better ideas to medical device companies, which sometimes must bring in their own experts to turn ideas into products.

"This process allows for full characterization of a product before bringing in help from the outside," Mr. Coburn said, referring to help provided by device companies.

The first team, which met in May, consisted of about 20 people, including three orthopedic surgeons, several material science experts from NASA Glenn Research Center, a facilitator from the medical device industry and representatives from the Clinic's biomedical engineering department and CCF Innovations.

They cooked up short-term and long-term plans to create and commercialize hip resurfacing products made of a material that would be as strong as a metal and as safe as a ceramic. Clinic surgeons would have had difficulty drawing up such plans on their own, Mr. Coburn said.

"There is just too much technology involved," he said.

Mr. Coburn said he'd like to create two or three Structured Invention teams every year. The teams would be formed around any medical specialty where there appears to be an opportunity, even if there is no immediate idea to solve it.

CCF Innovations has lined up resources to support the creation of prototypes designed through the Structured Invention process, Mr. Coburn said.

He declined to say how much money would go toward such projects, but noted that the first team will have access to a "significant" product development fund.

Peter Brooks, an orthopedic surgeon at the Clinic, came up with the idea to create the hybrid material for hip resurfacings, in which metal is used to cover the head of the femur and the inside of the hip socket.

Patients who have bad kidneys or plan to get pregnant must opt for hip replacements, which are more invasive,

because metal used in resurfacings could cause metal ions to seep into their blood. Ceramic is weaker but would not pollute the bloodstream.

Dr. Brooks admitted that he needed the outside help to create plans for the hybrid product.

"I'm not a metallurgist, I'm not a materials expert, I'm not a polymers expert," he said.

Dr. Brooks said working with NASA Glenn was more productive than trying to get all the necessary outside input from a medical device company, which likely wouldn't have access to the same level of engineering expertise.

"It's a lot more collaborative with a lot more input from really high caliber engineers," he said.

Chris Coburn, the executive director of CCF Innovations, says its new Structured Inventions process allows new idea input from multiple sources early in the development cycle.
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