

From idea to income: When innovation can mean cash

Physicians with a penchant for tinkering can earn not only a patent for their inventions but also a substantial bit of money.

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While learning the science of fluoroscopically guided pain-management procedures, Jeff Grossman, MD, thought it strange that he had to eyeball his spinal injections. Surely there was a device out there to help guide the injection.

As he did more research and found nothing resembling his idea, however, he realized the concept was a fresh one. That's when the wheels started turning.

First, Dr. Grossman talked to a family friend, who sketched out the device. Then he met with an attorney and had an engineer build a prototype. Soon he had not only a patent but also a model to sell to manufacturing companies.

Nearly two years and \$15,000 in expenses later, Dr. Grossman has sold his idea to Medtronic Inc., a medical technology company in Minneapolis, which is expecting regulatory approval for the device in the coming months. Not only will Dr. Grossman, an Atlanta-based physical medicine and rehabilitation physician specializing in pain management, be able to use the device in his own office, but he'll earn royalties as Medtronic sells it to other practices and hospitals.

It's not as if Dr. Grossman is going to retire to Aruba after selling one invention, but the total deal, which he says has "the potential for six figures," certainly is a welcome conclusion to a process that started with an off-the-cuff idea.

"It took care of the majority of my student loans," Dr. Grossman said. "Just to recoup the initial fee was

Inspired?

Things to keep in mind while developing your invention:

- It's wise to seek advice from a patent attorney early in the process.
- If you are an employee, check your contract to see if your employer can claim an ownership stake.
- The patent process is expensive. A search alone can cost hundreds of dollars, and applications can run into the thousands, not including fees for attorneys and other consultants.
- A patent search does not include other applications or patents in many foreign countries, so you could find nothing in your search but still fail to get a patent.
- Be careful whom you talk to before you file a patent application. Ask any consultants or engineers to sign a confidentiality agreement.
- You don't need a perfected model to apply for a patent.
- Any description of your idea — even if you wrote it — published before an application is filed can be viewed as "prior art" and might damage your chances.
- You don't need a patent to develop your invention, but it prevents competitors from stealing your idea.
- You can sell your invention to a company and collect royalties, license your patent, or try to develop your own company and market your product.

great. To get that back and make some more on top was thrilling."

The health care industry relies on new ideas and inventions to keep patients healthy, and exciting innovations come streaming onto the market regularly. Physicians have a unique opportunity to make a lasting contribution to the field — and make some money in the process. The motivated physician who doesn't stop at the idea phase can find a new source of income through licensing agreements, selling product rights or starting a new business and marketing the product.

At some point, many people probably have had an idea for the next new stethoscope or dreamed of finding a cure for cancer. Hatching an idea, however, is just the beginning of what can be a long, arduous process fraught with pitfalls and offering no guarantee of success. From seeking and obtaining a patent, to protecting an idea through confidentiality agreements, to marketing and manufacturing issues, physicians can encounter plenty of potential roadblocks as they embark on a mission to cash in on their inventions.

"What I've learned over the years is, an invention is one thing, but the development of the technology is where the rubber hits the road," said Thomas J. Fogarty, MD, a cardiovascular surgeon and professor of surgery at Stanford University in Palo Alto, Calif. Dr. Fogarty developed the first balloon catheter more than 40 years ago, has more than 100 medical patents, and is founder and partner in Three Arch Partners, a venture capital firm that works with companies to develop their medical technologies.

"Ideas have no value unless they're implemented and protected," Dr. Fogarty said. "What a lot of physicians don't understand is, you have to share the risks and rewards to make it work."

Patent protection

Protection is probably most important, which is why many inventor physicians will meet with a patent attorney before getting too deep into a project. It's also the safe, logical first step, considering that there are plenty of scam artists who prey on the naïve

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inventor, either by coaxing him or her to give away an idea before it's patented or by collecting fees for promised services that never are performed.

An attorney can help the inventor not only begin the patent application process but also steer clear of problems that can derail the dream before it starts.

You don't even need a model of the device to seek a patent, attorneys said. Some specific methods in a procedure or pieces of technology can be patented on their own, and the idea can be licensed to a company interested in building a more comprehensive device. Royalties and licensing fees generally run in the 5% to 10% range, which can mean a nice profit for the inventor who sells an idea to a big fish with a global distribution and marketing effort.

"The general rule of thumb is, if you can, get the patent first and do everything else later," said Philip Goldman, an intellectual property attorney specializing in biomedical patents for Frederickson & Byron PA in Minneapolis. "The longer you sit on something, the less likely it will be that you can patent it."

Every minute that a new device has not been patented gives someone else the opportunity to come up with the same idea. And even if a patent search

— done early in the inventing process to determine the originality of the idea — does not uncover any matches, that doesn't protect you from other applications that are awaiting review, attorneys said.

Doctors also can become their own worst enemies in the patent process, especially if they are eager to tell stories of their success. Patent officials judge applications based on whether they are novel and not obvious. If a physician publishes an article describing a new device or procedure, that likely will count as "prior art," the term used to describe information already available to the public.

Even if the physician is the only person to think of the invention, he or she still might have to prove the idea has changed substantially from what was published to warrant a patent, attorneys said.

"Any written document can be cited against the idea," said Ryan Schneider, a patent attorney with Troutman Sanders LLP in Atlanta.

There has been considerable debate over the application of method patents over the years, especially as they relate to medical advancement. Although patents are granted, there are provisions in the law that give infringement immunity to most medical personnel and institutions. The AMA opposes medical method patents and says it is unethical for a physician to "seek, secure or enforce patents on medical procedures."

If the patent application process doesn't put off physician inventors, financial and social pressures add another hurdle. Physicians do not have a great incentive to try things that are new and different because they could be viewed as "outliers," Dr. Fogarty said. But the conviction that what you're doing will improve patient care should propel you through the patent and business process, he said.

Dr. Fogarty faced similar skepticism when he first designed the balloon catheter. Out of frustration, he assembled his own engineering team to manufacture the product until the idea caught on.

"The process of patenting has not

changed a whole lot, but what has changed is the regulatory process," Dr. Fogarty said. "The balloon catheter is now a multibillion dollar industry. It cost me \$15,000 then to start manufacturing it. Today, it would have cost \$30 million."

Expensive process

Seeking patents and regulatory approval can be too costly for some inventors, but that does not mean the idea is lost. Physicians still can pursue their inventions, but without a patent there is the risk another company could copy the idea.

Everett Forman, MD, a family physician in Latham, N.Y., is on his second go-round with a computer program that writes electronic prescriptions and manages patient records. In the past he had considered seeking patents for the idea, but he said the estimated \$100,000 cost for the seven patentable items within the program dissuaded him.

His first attempt at marketing the program was nearly 15 years ago, but it failed because many doctors did not yet use computers. But as other prac-

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tices technologically caught up to his own, Dr. Forman decided to rekindle the company, Daw Systems Inc. With the help of his family, Dr. Forman has started selling the program, called ScriptSure, to interested practices and hospitals.

For \$3,000, a solo practice can purchase the program and a high-speed, prescription-size thermal printer, according to the product's Web site. Cus-

tomer support costs an additional \$400 a year.

“This is an adjunct to my practice,” Dr. Forman said. “I’m not going to just sell computer programs. I’m a physician. This will help with all the things most doctors do on a day-to-day basis.”

Cashing in

As Dr. Forman’s side business grows, he has discovered that other companies are interested in his company’s technology and know-how, even to the point of wanting to partner with Daw Systems rather than try to copy the ideas. Having talented children to help run the company — one works with computers, one is a lawyer and one is an accountant — is a luxury Dr. Forman has, but many other physi-

cian inventors do not.

For example, Dr. Grossman, whose product is known as the optical needle alignment device, needed the help of an interested company to find success. Even as he continued his research and developed his laser-guided injection device, he had to weigh his hopes of cashing in against the reality that companies might not find his innovation interesting.

“Early on when I was trying to figure out the need, I thought it would be used by physicians in training, but those who have practiced 20 or 30 years might not use it because they’ve practiced [the procedure] enough,” Dr. Grossman said. “The one thing that pushes you from idea to prototype is passion, but you have to temper that

passion with being willing to abandon the idea.”

Or being willing to part with your invention for a nice sum of money.

“There is the potential for making a lot of money,” Dr. Fogarty said. “But the great motivator is the fact that you intend to improve patient care.”

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