

Dr. J. Kevin McGraw: Innovating Through Private Practice

By Reed A. Omary, MD



There is widespread misconception that research and innovation can only emerge via the ivory towers of academia. However, a number of innovative devices and procedures were first developed by interventional radiologists in private practice. Dr. J. Kevin McGraw is a superb example of an interventional radiologist who is in private practice, yet publishes, speaks and invents prolifically.

He graduated from Virginia Tech with a major in biology and attended medical school at the Medical University of South Carolina, graduating in 1991. He completed a general surgery internship, also at MUSC, because he knew that he was going to do an IR fellowship. He studied diagnostic radiology at the University of Virginia and completed an IR fellowship, also at UVA. McGraw is currently Co-Director of Riverside Interventional Consultants, Riverside Methodist Hospital, Columbus, OH. He is editor of the landmark textbook *Interventional Radiology of the Spine*, published by the Humana Press 2004.

The following is an account of my interview with Dr. McGraw.

RO: How did you first decide to get involved in device development?

JKM: I think that by nature, interventional radiologists like to think outside of the box. We are always thinking of different ways to approach a problem. We have the unique skill set and training to develop devices that can be used to perform procedures in the least invasive way possible. Every time I encounter a difficult case or problem, I try to think of a device or way to make things easier.

RO: What products have you already developed or are in the process of developing?

JKM: I am certainly no Kurt Amplatz, but I have several devices in the works. I am working on a percutaneous spinal stabilization system for [the] treatment of back pain. The device could replace spinal fusion surgery. The device is in the prototype phase and has been deployed in spinal models. Cadaver work is to start this summer. This is being developed with Hatch Medical. Hatch Medical is a medical device incubator and technology brokerage firm focused on assisting physician inventors. I have also set up a limited liability corporation called Interventional Innovations with two investors to develop novel vascular access devices. We are developing a new dialysis catheter unlike any on the market. We believe that the catheter will be revolutionary with unlimited flow rates. We are now in the prototype phase.

Another device that I am working on is a new vertebral augmentation

system that reinforces the vertebral body without bone fillers. I am also working with industry on a vertebroplasty injection system and a new contrast injection system.

RO: How did you first learn about the patent and invention process?

Early in my career, I had some ideas that I thought were original. I contacted a device manufacturer with the idea and after several weeks they informed me that someone else had already thought of it. It was then that I learned about the U.S. Patent Office Web site, www.uspto.gov. It is very easy to search patents and patent applications to see if your idea is novel.

RO: What is the relationship between patent submission and manuscript publication? Should you wait for the patent to go through before publishing studies about your devices?

JKM: Once the patent application has been received in the U.S. Patent Office, you can start submitting abstracts and publishing feasibility studies. It may take 18-24 months or longer for a patent to be issued. In fact, you can start marketing your device to industry before a patent has been issued.

RO: You have accomplished a tremendous amount while being in private practice, more than the vast majority of academic interventional radiologists. How do you integrate this innovative research and device development into your practice?

JKM: The key to successful clinical practice development and medical device development is to make efficient use of your time. The only way for IRs to do this is to have the support personnel to make the clinical practice run as efficiently as possible. That way, when clinical duties are finished, I can devote some time to research. Also, having a busy clinical practice helps me generate more ideas about other potential medical devices that may be necessary.

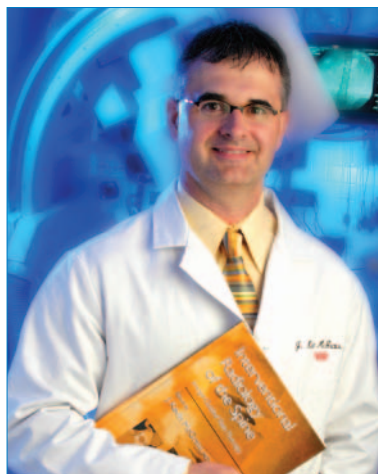
RO: Does your group support your activities or view it as taking away valuable time from clinical procedures?

JKM: All of my device-related research and product development has been on my time. However, my group is very supportive of all of my endeavors because it only brings notoriety to Riverside Radiology Associates and Riverside Interventional Consultants.

RO: What advice would you give to IRs who are harboring a new idea and not sure what to do with it?

JKM: Once you have a new idea you basically have four options. First, you could approach industry with the idea, but bear in mind that the royalty percentage will be meager. Second, develop the idea with a medical device incubator such as Hatch Medical. Third, develop a LLC with investors. Last, develop the device on

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Dr. McGraw

SIR Foundation Announces New Grants for Students, Residents and Fellows

Medical students, residents and interventional radiology fellows will be the newest recipients of SIR Foundation grants in 2006. Beginning this fall, three new grant programs have been added to the Foundation's grant portfolio, creating a comprehensive funding continuum that provides support for researchers as early as the first year of medical school. These new opportunities will encourage young researchers to become involved in interventional radiology research and to develop an interest in the specialty early in their careers.

The three new grant programs include a Medical Student Summer Research Grant, a Resident Research Grant, and a Clinical Fellowship Program Grant. The Medical Student Summer Research Grant provides \$2,000 to support a directed research project during the summer months following the first, second or third years of medical school. The Resident Research Grant will fund supplies and equipment worth up to \$5,000 for residents who have a three-month time commitment from their residency. The Clinical Fellowship Research Program Grant is designed to provide research project support funds to interventional radiology departments for

the purpose of developing research opportunities for an interventional radiology clinical fellow during their interventional radiology fellowship. Through this grant, interventional radiology fellows will enhance their insight into scientific investigation and develop their competence in state of the art research in areas of research project design, conduct and presentation. These new grant guidelines are currently available at the SIR Foundation's Web site at www.SIRFoundation.org.

In addition to enhancing its grant portfolio, the Foundation has also revised its grant review process. Beginning in 2005, many of the Foundation's grant and award deadlines have been consolidated to a single annual deadline of December 15. This enables the Foundation's Grant Review Subcommittee to evaluate all of the grant applications simultaneously and to fund only the highest-quality research submitted within that year. The grant and award guidelines for all of the Foundation's programs have been edited to reflect these and other changes and are currently available online at the Foundation's Web site at www.SIRFoundation.org. ❖

