Get a Life: The Dual Research/Clinical Career

BY BRUCE JANCIN

EXPERT OPINION

Three noted pediatric rheumatologists who've won fame and success in academic research while also practicing medicine have two key words of advice for young physicians interested in developing similar dual careers: mentors matter!

"Make strategic decisions about where you go for mentoring," Dr. Klaus Tenbrock advised.

Speaking before fellows-in-training at the annual European Congress of Rheumatology, Dr. Tenbrock cited his own experience: The great mentor in his life has been Dr. George Tsokos, now chief of the division of rheumatology at Beth Israel Deaconess Medical Center in Boston. Dr. Tenbrock moved to Massachusetts from Germany in order to train under Dr. Tsokos.

Dr. Tsokos' lab is said to have a pipeline to the Journal of Immunology. As a consequence, Dr. Tenbrock was able to get his pioneering studies on the importance of the cyclic AMP response modulator (CREM) in systemic lupus erythematosus (SLE) published in this prestigious, high-profile journal even though he was a young, unknown researcher.

"The CREM story has followed me through two-thirds of my career," noted Dr. Tenbrock, now at the University of Aachen (Germany). Indeed, he has received more than 1 million euros in CREM research grants in the past 10 years.

Dr. Salvatore Albani said a helpful mentor is like a successful parent: "A good mentor is one who lets you grow."

"You have to choose the right mentors," agreed Dr. Virginia Pascual. "You have to choose the right collaborators. If you can have fun, it's much, much better – and I've had a lot of fun in my collaborations."

She stressed that a dual research/clinical career is hard work and very time consuming. It requires passionate commitment. "But if you have the passion, my advice is to please pursue it," urged Dr. Pascual, an investigator at the Baylor Institute for Immunology Research in Dallas.

Credited as the first person to amplify a gene using PCR, Dr. Pascual was already an established first-tier basic scientist before deciding to pursue a pediatric rheumatology fellowship. The additional clinical training took her out of the laboratory and brought an entirely new and richly rewarding dimension to her work: strong and enduring relationships with patients who are dealing with serious illnesses.

Most scientists are clueless about how to protect their intellectual property.

DR. ALBANI

In the past several years, she has been "overjoyed" to see pharmaceutical companies undertaking clinical trials evaluating the type-1 interferon cytokine family as a novel therapeutic target in SLE, a hypothesis she and others developed.

"Studying humans is very, very important, in my opinion, to making a difference in what we do," concurred Dr. Albani, professor and director of translational research for infectious and inflammatory diseases at the Sanford-Burnham Medical Research Institute in La Jolla, Calif.

The German scientific research establishment takes a somewhat different position. "Mouse work is an advantage, at least in Germany. I didn't get any money from the German Research Foundation until I started to work with mice," Dr. Tenbrock recalled.

Dr. Albani observed that people who are willing to make the personal sacrifices required to pursue a dual research/clinical career share a common dream: "to find the cure, to find the explanation, to understand and contribute." But when they do make an important discovery, most scientists find themselves in unfamiliar and treacherous waters. They are clueless about how to protect their intellectual property, design a product development plan, find funding sources, and convince them to invest.

Speaking from the vantage point of having founded a biotech company and personally caring for approximately 80 patients, Dr. Albani offered a cautionary note to his fresh-faced audience: "As scientists, we think the idea is everything. From my personal experience, I have to tell you the bad news that having a great idea is just the modest initial start of a long process, and you will lose control when the process is successful."

"We race toward publication, we drive to become famous, and in reality we miss the opportunity to protect our property – our ideas – because we are not knowledgeable about the fact that if the idea is not protected it will be impossible to convince anyone to fund it. It will not have any commercial value," he explained.

Unfortunately, the technology transfer offices in many universities aren't helpful. "They treat intellectual property as a hot potato which they like to get rid of quickly because of the costs," Dr. Albani warned.

The costs of developing strong protection for intellectual property – often amounting to hundreds of thousands of dollars – have eaten up the developmental budgets of many a young scientist/inventor, leaving them unable to move on to preclinical studies, which in turn are a prerequisite to human trials.

"This is where a lot of technologies die," according to Dr. Albani.

He stressed the importance of becoming a part of international collaborative research networks having shared interests. This is how the real science is getting done today.

"At this point, in this world, it's very important to think in a global fashion. The difference between success and failure is understanding the difference between fighting for a common goal with people having different views and different expertise, as opposed to going for glory on your own," he said. "You need to be able to build bridges to others, you need to be able to question yourself, be humble, and find ways to accomplish the next step while working together with others."

Dr. Albani is a cofounder of the Eureka Institute for Translational Medicine, an international education project aimed at preparing researchers for the challenges they will face in developing their ideas and bringing new products to market. ■

Disclosures: Dr. Tenbrock, Dr. Albani, and Dr. Pascual declared that their research is funded mainly by government agencies and foundations.

ACGME: Reduce Resident Duty Hours in First Year

BY ALICIA AULT

The Accreditation Council for Graduate Medical Education has revisited its standards for resident duty hours and determined that some modifications should be made, mostly for first-year residents. All other residents should still be subject to an 80-hour work week and up to 24 hours of continuous duty, according to an article published online in the New England Journal of Medicine.

The 16-member ACGME task force that wrote the standards will review public comments and make modifications before July 2011, when the new standards will go into effect. The original 2003 standards have been the subject of much consternation in the medical community, with opinions differing over whether they have been too restrictive or too loose to properly protect patients and ensure a good quality of life for residents.

According to the latest report, the 2003 standards had the following three "problematic" elements, as identified by the educational community and the public:

► The limits on duty hours may have created a "shift mentality" among residents.

► Many academic programs began focusing on meeting the duty hour restrictions, perhaps at the expense of education.

► The 80-hour work week, with up to 24 hours of continuous duty, was seen by many as compromising patient safety.

In 2008, the Institute of Medicine took a hard look at the ACGME standards and, among other things, recommended that no residents should exceed 16 hours of continuous duty.

The ACGME task force considered ways to reconcile the IOM's suggestion for an across-the-board restriction on duty hours vs. the continuing plea from academic programs that duty hours needed to be tailored to each specialty (N. Engl. J. Med. 2010 [doi:10.1056/NEJMsb1005800]). For surgery, in particular, it would be difficult – and contrary to learning – to have a resident leave in the midst of a procedure because his or her duty hours had been reached. The ACGME panel also had to weigh whether there was sufficient evidence to show that working more than 16 hours or up to 30 hours continuously led to more medical errors.

According to the ACGME panel, the data thus far indicate only that first-year residents are more prone to mistakes as a result of sleep deprivation. Therefore, the task force urged a new paradigm, whereby first-year residents cannot be on duty for longer than 16 hours continuously and should have 10 hours off and 8 hours free of duty between their scheduled duty periods. First-year residents are not allowed to moonlight, and they must have direct, in-house, attending-level supervision. All residents are allowed to work up to an additional 4 hours to facilitate patient handoffs – an area of concern for patient safety.

The panel decided not to tailor duty hours to specialties "because studies have not shown that the safety effect of current standards varies with specialty," said the authors.

The IOM had also criticized the ACGME for not properly enforcing the duty hours. The ACGME is now undertaking annual site visits and analyzing whether institutions can comply. Eventually, the organization will give each institution a report on its compliance status and recommendations for resolving problems. The reports will be made available to the public, said the authors.

Wake Up Doctor, a coalition of public interest and patient safety groups, gave the ACGME "Fs" for failing to comply with the IOM recommendation that continuous duty be restricted to 16 hours for all residents and for failing to better monitor compliance with the standards. However, the recommendation for greater supervision of first-year residents got higher marks.

"I think the acid test will be in the details," said Helen Haskell, founder of Mothers Against Medical Error and a coalition member, in a statement. ■