5Q with Shlomit Schaal, MD, PhD

Shlomit Schaal, MD, PhD, is an Associate Professor, Director of the Retina Service, and Director of the Vitreoretinal Fellowship Program at the University of Louisville School of Medicine, Kentucky.

1. What has been your most memorable experience as director of the retina fellowship at the University of Louisville School of Medicine?

I am a clinician-scientist focused on translational research in the fields of retinal diseases and retina surgery. In my research laboratory at the University of Louisville, my team is currently working on optimizing a solution to postvitrectomy cataracts. In a collaborative effort with the bioengineering department at the University of Louisville, we are working on further development of a novel bio-gel that may be used during vitrectomy to coat the posterior surface of the lens and block oxygen diffusion to the crystalline lens.

Recently, we had a wonderful opportunity to use intraoperative optical coherence tomography (iOCT; ReScan 700, Zeiss) in the OR during retina surgery. Suddenly, it dawned on us that iOCT would serve as an ideal imaging modality to demonstrate that our newly developed coating bio-gel can indeed cover the entire back of the lens. With the kind help of Zeiss representatives, we immediately rolled the iOCT device from our patient facility to our animal facility and used it on live pigs. We became very excited about what we saw on real-time video provided by the iOCT. The engineered bio-gel was successfully injected behind the pig's lens during vitrectomy, and it covered the entire lens surface without falling into the vitreous cavity. Everyone present in the room (clinical-surgical fellows, research fellows, and bioengineers) was clapping and cheering at that moment. This was a spontaneous celebration of new technology, cool science, and great teamwork. I shall never forget it.

2. You completed residency while serving in the Israeli Defense Forces. How was the structure of a military-based residency different from that of non-military residencies?

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I was born and raised in Israel, where mandatory military service of 2 to 5 years is required of every citizen at the age of 18 years. A few scholars are given a rare opportunity to study medicine prior to their military service, and I was lucky enough to be one of them. I graduated from medical school at the Technion Institute of Technology and then served my mandatory military time as a physician and as the head of a main naval base clinic for 5 years. I chose ophthalmology as a residency because my senior commander at the time, Itzchak Beiran, MD, the Naval General Surgeon, inspired me to follow his path into the most beautiful field in medicine.

When I think back, I can honestly say that serving in the military was the most difficult time of my life. During that time, I had to witness, confront, and take care of serious injuries, and even experience the tragic death of loved ones, physician peers who lost their lives in military duty, who were at that time my same age, only 25 years. As a physician and a humanitarian, it is so sad for me to see and to realize that peace in that region of the world has not prevailed yet, and, even today, youngsters are still losing their lives in battle.

3. How did your time as a PhD student influence your professional development?

I was trained as a PhD candidate at the Technion Institute of Technology under the superb mentorship of Ahuva Dovrat, PhD. My research thesis was

titled "Lenticular Oxygen Toxicity," which is still the foundation and the focus of my research today. I came to the University of Louisville to pursue a postdoctoral research fellowship under the outstanding mentorship of Tongalp Tezel, MD, who inspired me to become a clinician-scientist and to follow his path of excellence to becoming a retina surgeon and a researcher. An involved mentor is crucial to the development and maturation of clinician-scientists who face demanding career paths paved with challenges. I have been truly blessed that I was taught by an exceptional mentor who has provided me with support, encouragement, harsh criticism, and wise guidance toward the right direction.

As the director of retina at the University of Louisville, I implement the principals that I was taught by own gracious mentors: I put a great emphasis on creativity, innovation, collegiality, knowledge, curiosity, and hard work. New thoughts, curious questions, and lively scientific discussions play important roles in our fellows' everyday lives. My laboratory is continually hosting scholars and physicians from all over the world who bring their special flavor and new input into the fertile collaborative environment. Due to my training as both a physician and a scientist, I am inclined toward both worlds and enjoy their complementary contributions toward a more complete understanding of retinal diseases.

4. What first drew you toward the field of retina?

Henry J. Kaplan, MD, the chairman of the department of ophthalmology and visual sciences at the University of Louisville, had an enormous impact on my decision to become a retina specialist and an academician. I still remember the first time I met him when I came to interview for a fellowship position. He made an unforgettable impression on me as a wise, caring, superb physician and a brilliant scientist. Since then, over the past decade, I have been exceptionally fortunate to work under his guidance, his support, and his inspiration. The most attractive element about the field of retina is that it is a continually changing and evolving field, with tremendous technical and scientific advances over a short period of time. Dr. Kaplan, in my opinion, signifies the relentless academician's extra-ordinary abilities to adapt, to change, to progress with time, and to remain a prominent leader in the field over decades.

5. If you could go on an all-expenses paid vacation, where would you go?

Vacation? What is a vacation? ∎