

S.K. STEVEN HOUSTON III, MD

WHAT DID YOUR PATH TO BECOMING A RETINA SPECIALIST LOOK LIKE?

I was fortunate to work with an ophthalmologist during my undergraduate education at the University of Florida, where I gained a love for the eyes. In medical school at the University of Virginia, I worked with the retina and ocular oncology faculty and became fascinated with the retina. My away rotation in medical school with Ralph C. Eagle Jr, MD, at Wills Eye Hospital in Philadelphia, studying the histopathology of the eye, confirmed my desire to spend my career in ophthalmology. I was also fortunate to match at Bascom Palmer Eye Institute, where I worked with Timothy G. Murray, MD, MBA, in clinic and in his lab researching choroidal melanoma and retinoblastoma. Dr. Murray's passion and excitement for ocular oncology and retina were contagious, and I quickly decided that retina was for me. Following residency, I completed my fellowship training at Wills Eye, where I spent 2 years learning vitreoretinal surgery and medical retina under the amazing team at Wills Eye and Mid Atlantic Retina. The expertise, innovation, and excitement among my mentors only confirmed that I made the right choice.

TALK ABOUT YOUR WORK DEVELOPING TELEMEDICINE SOLUTIONS IN OPHTHALMOLOGY WITH WILLS EYE HOSPITAL.

During my vitreoretinal surgery fellowship at Wills Eye, I had the opportunity to work with Jay Federman, MD, and Julia A. Haller, MD, on telemedicine solutions. Drs. Federman and Haller have been researching and developing telemedicine solutions in ophthalmology for more than a decade, so I was learning from the field's pioneers. My engineering background and love for technology made telemedicine a perfect area to explore. While at Wills Eye, I worked with the telemedicine team designing and developing novel telemedicine solutions, including screening protocols for diabetic retinopathy, emergency room remote and virtual consultations, and telemedicine platforms.

WHAT ARE THE MOST EXCITING ASPECTS OF THE FUTURE OF TELEMEDICINE IN THE TREATMENT AND MONITORING OF RETINAL DISEASES?

Where to start? Looking at it from a 30,000-foot view, telemedicine in retina can be broken down into screening, remote monitoring, and consultations and mentoring. These aspects of telemedicine have the potential to improve access to high quality care and to improve outcomes in retinal diseases. Ultra-widefield imaging and the use of artificial intelligence and deep learning are poised to revolutionize screening for diabetes, glaucoma, and macular degeneration, as well as other conditions.

Remote monitoring with ForeSeeHome (Notal Vision) has already shown that if we identify and treat patients at the first signs of neovascular age-related macular degeneration, we can improve outcomes. Several companies are currently developing home OCT devices, which could open up additional opportunities for remote monitoring. This technology could revolutionize the way we treat and monitor patients undergoing anti-VEGF therapy. Instead of a treat-and-extend strategy, in which we rely on one in-clinic data point, we may be able to treat based on new algorithms using daily OCT scans from the patient's home. Home OCT monitoring also pairs well with pipeline therapies such as port delivery and sustained release systems and gene therapies. Finally, telemedicine offers significant promise for surgical mentoring. With *digitally assisted vitrectomy systems*, or DAVS, we are moving surgery from analog to digital. As a result, real-time telementoring and teleconsultations will allow top surgeons from around the world to share their expertise, skills, and techniques with others.

WHAT SURGICAL CASES DO YOU ENJOY PERFORMING MOST?

Not to avoid the question, but I enjoy any time I spend in the OR. I particularly enjoy new technologies in the OR, from new instruments and new iterations of existing ones to new visualization systems. I use a DAVS, the Ngenuity 3D Visualization System (Alcon), in surgery. I enjoy exploring the limits of this system and contributing to its development, and I anticipate that it will become an indispensable tool for vitreoretinal surgeons in the years to come.

If I had to pick a single type of case that I enjoy most, it would probably be diabetic tractional retinal detachments. These cases are all unique and some of the most challenging cases that vitreoretinal surgeons encounter.

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S.K. Steven Houston III, MD, shreds the slopes on a recent trip to the Rocky Mountains.

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WHAT HAS THE EXPERIENCE OF TRAINING AND COMPETING IN IRONMAN TRIATHLONS TAUGHT YOU?

Ironman triathlons, both the training and the competition, require dedication, consistency, and humility—three virtues that I try to apply to all aspects of my life. Accomplishing any goal takes consistency and hard work, whether with training, education, or other skills. The triathlon, like many other things in life, also calls for a sense of humility. When I go into a race, I have to swim, bike, and run my own pace that I have

trained to maintain. If I try to run someone else's race, I am doomed to failure. We all need to know our strengths and limitations and harness our strengths to achieve our own personal goals. ■

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