

Peter K. Kaiser, MD

Dr. Kaiser is a Professor of Ophthalmology at the Cleveland Clinic Lerner College of Medicine and a staff surgeon in the Vitreoretinal Department at the Cole Eye Institute, Cleveland Clinic. He is the Founding Director of the Digital Optical Coherence Tomography Reading Center (DOCTR) at the Cole Eye Institute.

1. What is the most important area of research that you have undertaken recently?

I have always been a firm proponent of combination therapy for the treatment of retinal disease. It makes intuitive scientific sense; however, only recently in retina have we developed modalities that could work in concert with each other. For macular degeneration, I have been involved in combining photodynamic therapy (PDT) and improved radiation delivery systems with drugs, including steroids and anti-vascular endothelial growth factor (VEGF) agents. This work will hopefully lead to improved outcomes in age-related macular degeneration (AMD) with reduced treatment rates. I am also excited to be working with newer drugs in combination with each other. Similarly, in macular edema, I have reported on the use of steroids combined with laser and we are seeing similar synergistic effects with anti-VEGF agents.¹ Ideally, we will be able to replace laser with better, less destructive therapies.



2. How will optical coherence tomography (OCT) technology continue to evolve?

The Fourier-domain and spectral OCT systems represent a large leap in our ability to image retinal structures. This dramatic improvement in speed of image acquisition allowed us to obtain information from almost the entire macula. This led to 3-D views, *en face* imaging, geographic atrophy measurement, drusen volume analysis, and even the ability to view the fundus as a reconstructed image. With drugs being tested to treat dry AMD, the ability to follow patients in a quantifiable, noninvasive manner is very appealing. As fast as current scanners are, in the future we will see further improvements in speed with ultra-high-speed, swept-source, or time-encoded frequency domain OCT scanners that will decrease motion artifact inherent in scanning the eye. These devices will also offer better signal-to-noise ratio for higher resolution images. Other technologies on the horizon are Doppler OCT for imaging blood flow and adaptive optics combined with OCT to image structures at the cellular level.

3. What challenges do you deal with as study chairman of several major, multicenter, international clinical trials, and as a principal investigator in multiple trials?

It is often difficult to balance the responsibilities of study

chair vs investigator in a clinical trial, as the goals of the two roles are not always aligned. Calling friends to discuss problems can sometimes be uncomfortable. However, it is very exciting to be involved in the design, recruitment, and final reporting of new developments in retina. Study design has become very complicated, and envisioning a trial that can prove a hypothesis in a limited period of time can be daunting as the sponsor of the study have their ideas, the US Food and Drug Administration has its own, and we, the researchers, have ours. The back and forth between parties can be contentious. In the end, delivering better therapies to our patients makes all this hard work worthwhile.

4. As a surgeon, who are your heroes?

My parents, first-generation Americans, instilled in me a strong work ethic and a desire to always do my best, no matter what the circumstances. My Japanese grandfather is my true hero in life. He joined Sanwa Bank as a teller, worked his way up to President, and made Sanwa the seventh largest bank in the world. I have never met a more impressive individual, nor have I been more proud than when my mother tells me she sees him in me. In medicine, I have been lucky to have several great mentors during my surgical training and to work alongside many great surgeons. Donald D'Amico, MD, was a phenomenal teacher; he is the main reason I am a retina specialist. He was always in control and let everyone get involved in cases. I can still hear my attending surgeons at Bascom Palmer Eye Institute (Miami, FL) in my mind when I operate. They all served as mentors throughout my development.

5. What are some of the perks of being the team ophthalmologist for Cleveland's professional sports teams?

Cleveland is a true sports town. Although it has been a long time since we have won a championship, the fans never stop supporting the teams. The most obvious perk of being a team doctor is meeting some truly impressive athletes and getting to know them on a personal level. Games, team jerseys, and autographed items are also nice. And no, I don't know where LeBron will end up! ■

1. Margolis R, Singh RP, Bhatnagar P, Kaiser PK. Intravitreal triamcinolone as adjunctive treatment to laser panretinal photocoagulation for concomitant proliferative diabetic retinopathy and clinically significant macular oedema. *Acta Ophthalmol.* 2008;86(1):105-110.