

Charles C. Wykoff, MD, PhD

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1. Which leaders in retina most influenced you?

At the most basic level, I am in ophthalmology because of Geoff Tabin, MD, and Mike Weidman, MD. When I was in medical school Geoff took me rock climbing in New Hampshire for the weekend,

an experience I felt like I barely survived, only to realize later that he is a world-class climber and has ascended Mt. Everest! I quickly caught their love for ophthalmology and gravitated toward the idea of helping people see. At that time, my notion of ophthalmology was vague. It wasn't until residency at the Bascom Palmer Eye Institute that I realized I was made to be a retina surgeon.

Like so many of us in retina, my early mentors made a huge impact on my career. I had the privilege of working closely with Carmen Puliafito, MD; Phil J. Rosenfeld, MD, PhD; William Smiddy, MD; and Timothy G. Murray, MD. At Bascom Palmer, Nina M. Berrocal, MD, and Tom Albin, MD, were early friends whose encouragement and guidance were invaluable during the beginning stages of my career and are still felt today. Of my mentors, Harry W. Flynn Jr, MD, has had the greatest effect on my practice of retina, and he continues to support my career—I am active in the Diabetic Retinopathy Clinical Research Network because of his inspiration, and we continue to write papers together. More recently, the support and friendship of David M. Brown, MD, have been key to our efforts to establish, maintain, and grow an exceptional retina clinical research center.

2. What do you predict will be the biggest innovation in retina in the next decade?

The last decade has brought incredible advances in the management of "wet" retinal diseases, and it has been fantastic to be a part of this progress. Substantial knowledge remains to be gleaned about long-term management of these diseases and how best to combine our current management strategies. For example, I am working to help define the role of ultra-widefield angiography in the management of retinal vascular diseases and how targeted laser of the periphery and/or the macula may be able to reduce the need for ongoing anti-VEGF treatments.

In comparison, clinically applicable advances in the management of atrophic retinal diseases have lagged far

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behind, and this must be corrected. Recent data related to gene therapy, retinal prosthetic systems, and stem-cell delivery are exciting and hopefully just the beginning for our patients. I believe that we will realize substantial improvements in our ability to modify dry age-related macular degeneration and the progression of other atrophic diseases within the next decade.

3. Which surgical procedure is your favorite to perform?

I feel fortunate to practice retina, and retinal surgery is one of the most rewarding portions of my career. I experience this most acutely with retinal detachment patients. When a patient presents with an acute, symptomatic rhegmatogenous retinal detachment, it is incredibly satisfying for both the patient and me to be able to fix the problem and restore vision. A similar mutual satisfaction comes from macular hole repair.

I consider myself conservative when making the decision to proceed to the OR and am frequently explaining to patients why I recommend clinical observation instead of surgery. When I have this conversation I often think, "That's Dr. Flynn's voice in me." From a technical perspective I enjoy complex, bimanual cases such as severe diabetic tractional retinal detachments, which were very common during my chief year at Bascom Palmer, and I feel very comfortable with their management. More recently, I am suturing more intraocular lenses when my anterior segment colleagues need a hand, and I am enjoying expanding into this niche.

4. How did receiving your PhD in molecular biology enhance your experience in medical school and subsequent residency and fellowship?

My educational path was more circuitous than most. I completed my PhD at Oxford University in England before going to medical school. Out of sheer good fortune, I

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ended up in a basic science laboratory studying cellular responses to hypoxia. We were using Von Hippel-Lindau (VHL) syndrome as a model, and the upregulation of genes, including VEGF, was a major focus of my work. The funny thing is that, at the time, I hardly knew what the eye was or that the retina was a significant target tissue in patients with VHL syndrome, as their associated kidney cancers were my primary tissue of analysis.

A decade later at Bascom Palmer during the early clinical application of anti-VEGF agents, I was primed to be swept up by the excitement of their dramatic clinical effects, an excitement that was magnified by the simultaneous widespread availability of optical coherence tomography imaging. The ischemic response, however, is much more complex than simple VEGF upregulation; I believe we are still in the early phases of

our ability to target pathologic processes within the eye to improve vision. My background has set the stage for me to continue to help push the envelope of our understanding of retinal diseases and new treatments for our patients' benefit.

5. If *Retina Today* could give you a week's vacation at any location, where would you choose?

I was lucky because I started dating my wife in high school more than 20 years ago. We love to travel, although this has temporarily taken a backseat since having 3 kids! When we do travel, we like to be adventurous. Our favorite trip was hiking the Inca trail and exploring Machu Picchu and its associated sites. Another favorite was a couple weeks spent painting in Lucca, Italy, with John Del Monte, an incredible artist deeply incorporated with the local culture who loves to teach. As my kids get older, I look forward to becoming more involved with international efforts such as Dr. Geoff Tabin's Himalayan Cataract Project. In that vein, I'd love to go back to Nepal for a week to learn more about how retina is practiced at Tilganga and other centers. There are many parts of our world that could benefit from improved access to retina care. ■