

Richard K. Parrish II, MD

Dr. Parrish addresses ophthalmic training, antifibrotics, academic practice, and the role of an administrator.



1. Which aspects of your own training do you consider to have been most important, and how has your training influenced your career?

The key figure in my training was my father, an ophthalmologist who specialized in oculoplastic surgery. His own interest in ophthalmology can be traced to his father, who lost all vision as a complication of glaucoma when he was in his early 40s and my father was 6 years old. My father's lifelong practice probably influenced me in ways that I do not completely understand yet. I was attracted to both the diagnostic and surgical aspects of the field. My father once described an ophthalmologist as "an internist for the eyes who can operate."

During my residency, two individuals strongly influenced my decision to explore glaucoma as a subspecialty. Vitaliano Bernardino, MD, Head of Ophthalmic Pathology

at Wills Eye Hospital in the late 1970s, taught me to question virtually everything that we did. He would challenge my colleagues and me to ask why we chose a particular surgical procedure and to ask whether we could be certain that the result was the outcome of our intervention. George Spaeth, MD, Chief of the Glaucoma Service at Wills Eye Hospital, encouraged me to focus on glaucoma as a subspecialty and suggested I do a fellowship between 1980 and 1982 at the Bascom Palmer Eye Institute with Douglas Anderson, MD. Doug, one of the great deans of international glaucoma thought, further taught me how to ask clinically meaningful questions. Through my work with him, I came to understand that the real value of research is in the formulation of scientifically valid questions and not just in the acquisition of new knowledge.

2. Why did you focus on 5-fluorouracil (5-FU) as an antifibrotic for filtration surgery, and what is your current estimation of antifibrotic agents' role in glaucoma treatment?

My first national presentation with Dr. Spaeth at the 1980 AAO annual meeting addressed the question of why trabeculectomies fail. We reviewed trabeculectomy specimens sent to the pathology lab and could not define a direct relationship between the IOP-lowering effect of the procedure and the removal of trabecular meshwork tissue. Trabeculectomy appeared to work

(Continued on page 37)

FAST FACTS

- Professor, Department of Ophthalmology, and Associate Dean for Graduate Medical Education, Leonard M. Miller School of Medicine, University of Miami, 1994 to present and 2000 to present, respectively
- ACGME-Designated Institutional Official, Jackson Health System, Jackson Memorial Hospital, Miami, 2004 to present
- Project Chairman of the 5-Fluorouracil and Filtering Surgery Study (1401 EY 05473) for the National Eye Institute, 1985 to 1997
- Vice Chairman of the Executive Committee (1993 to present), Co-Principal Investigator at the Optic Disc Reading Center (1994 to present), and Principal Investigator at the Clinical Center in Miami (1994 to 1997) for the Ocular Hypertension Treatment Study of the National Eye Institute
- Member of the Certificate Renewal Examination-Written Committee for the American Board of Ophthalmology, 2001 to present

(Continued from page 38)

simply by producing a channel between the anterior chamber and the subconjunctival space. The question then became, how can we make the intervention more efficient?

“Today, I consider procedures that use 5-FU or mitomycin C as an intraoperative application or 5-FU as a postoperative injection to be essentially primitive interventions that decrease wound healing in a nonspecific way. The success of filtration surgery almost completely ignores the pathogenesis of the disease—specifically, why the optic nerve is damaged by IOP ... [and] why the IOP is [usually] high in the first place.”

Mark Blumenkranz, MD, a faculty member at Bascom Palmer Eye Institute and now Chairman of the Department of Ophthalmology at Stanford University, was interested in using minute concentrations of anticancer drugs to prevent recurrent retinal detachments. Jonathan Herschler, MD, also at Bascom Palmer Eye Institute, was developing a device that would produce a permanent drainage channel and release a substance to prevent subconjunctival scarring after filtering surgery. Mark's interest in the biology of proliferative vitreoretinopathy and Jonathan's desire to alter the wound-healing response, coupled with my interest in why trabeculectomy failed to lower IOP, led to my performing filtration surgery in owl monkeys. It was obvious that 5-FU dramatically altered wound healing and led to the development of a bleb in an animal in which no one had ever before produced one.

Today, I consider procedures that use 5-FU or mitomycin C as an intraoperative application or 5-FU as a postoperative injection to be essentially primitive interventions that decrease wound healing in a nonspecific way. The success of filtration surgery almost completely ignores the pathogenesis of the disease—specifically, why the optic nerve is damaged by IOP that is usually elevated and, for that matter, why the IOP is high in the first place. Although a reduction in IOP is more likely when antifibrotics are used, their application has in-

creased the long-term complication rates of filtration surgery (eg, endophthalmitis). The resultant thin-walled blebs are more likely to leak and become infected.

3. What is the future of the academic glaucoma practice?

Never have we understood so clearly how little we know. We perform trabeculectomy, a variation on an operation that is nearly 100 years old, and we do not understand the basic mechanism of the disease we are treating. Glaucoma is a fantastically fertile field for someone interested in translational research. The potential for applying the new tools of basic scientific research to the clinical problem is enormous, and the value of clinical trials has been demonstrated by the 5-Fluorouracil and Filtering Surgery Study and the Ocular Hypertension Treatment Study, among others. We now frame questions at a far more sophisticated level of molecular biologic events. In my opinion, glaucoma in the world of academic ophthalmology is the place to be.

4. What led you to become an administrator?

Charles Phelps, MD, the former chairman of ophthalmology at the University of Iowa, likened being the leader of a well-run institution dedicated to patient care, resident education, and meaningful research to being the conductor of a world-class symphony orchestra. The latter individual plays no instrument but rather helps skilled performers to masterfully play beautifully written scores in a concert hall with excellent acoustics. The value of a conductor does not lie in his individual worth as a musician but in what he contributes to the success of the group playing together. This concept has influenced me greatly. I feel most useful when contributing to the success of a team that can achieve something together that no single person could.

5. What advice would you offer to current residents and to the faculty teaching them?

I tell the residents whom I train that they have exactly 1,095 days to learn ophthalmology. Their opportunity to learn will never be so great, and every day that they do not learn something is an opportunity wasted. Residents should aggressively pursue their education—not with the understanding that it will be complete after 3 years but rather that it will form the basis for a lifetime of learning.

I sincerely believe that the desire to share knowledge is innate. For me, however, the greatest opportunity is not being a teacher but rather having the opportunity to remain a student for the rest of my life. □