The son of an ophthalmologist, Richard K. Parrish, II, M.D., knew first-hand the field of ophthalmology represented a great blend of medical and surgical practice. Early into his career, he learned that research would add an even greater dimension to his quest to improve human vision.

Richard K. Parrish, II, M.D.

Today, Richard K. Parrish II, M.D., is credited with several advances in the field of glaucoma. A Professor of Ophthalmology, researcher and educator, Parrish is a widely published author and highly sought after speaker with numerous awards and honors to his name. For all his honors however, Parrish says he is, first and foremost, a physician.

Parrish received his medical degree from Indiana University School of Medicine in 1976. He completed both a residency and chief residency at Wills Eye Hospital in Philadelphia under George L. Spaeth, M.D., Director of the hospital's glaucoma service. He then completed a clinical and a research fellowship in glaucoma at Bascom Palmer.

Parrish credits Douglas R. Anderson, M.D., a Bascom Palmer Professor of Ophthalmology, with his decision to remain at Bascom Palmer. "Miami is a particularly rich population for glaucoma," he says. "Bascom Palmer has a great concentration of specialists in the field and one of the largest glaucoma services in the world."

As an incoming fellow, Parrish was interested in how physicians could improve the outcome of trabeculectomy, a surgical procedure also called filtering surgery, that reduces intraocular pressure by creating a route for aqueous fluid to drain from the eye. Picking up on research already under way at Bascom Palmer, Parrish began to study the possibility of using 5-fluorouracil (5-FU), an anti-cancer drug, to prevent the growth of scar cells at the wound site. By preventing the growth of scar cells, he theorized, the drug could effectively prevent further blockage.

After successfully showing that surgical results could be improved using the 5-FU in animal models, Parrish was subsequently named project chairman of the multi-center Fluorouracil Filtering Surgery Study. The clinical trial that began in 1985, determined that 5-FU increased the success rate of trabeculectomy in high risk glaucoma patients.

In 1994, Parrish was named Vice Chair and a Principal Investigator of the national Ocular Hypertension Treatment Study (OHTS). The study sought to determine whether people with elevated intraocular pressure but a normal optic nerve and field of vision could decrease their risk for developing glaucoma by using pressure-lowering eye drops. Parrish says the study results showed that pressure-lowering by 20 percent reduces the risk of developing glaucoma by 60 percent.

A second phase of the study, one in which all participants receive pressure-lowering drops, is now under way and is expected to continue through 2008. In this phase as well as the first, annual photographs are taken of participants' eyes and analyzed for changes in the optic nerve.

It is in reading and managing these photographs that he plays his most important role in the study. Parrish is Principal Investigator of the Optic Disc Reading Center for the OHTS. The center is responsible for collecting and reading all photographic images related to the study as well as the multi-center Collaborative Initial Glaucoma Treatment Study (CIGTS) that compares treatments for lowering intraocular pressure.

At the Center, skilled technicians and ophthalmologists read the images in a masked fashion to determine if there has been any change to the optic nerve. Parrish calls two long-time colleagues, William Feuer and Joyce Schiffman, members of Bascom Palmer's Ophthalmic Biostatistics Unit, the Reading

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Center's unsung heroes. They manage, catalog and categorize the Center's database of more than 35,000 images.

"Glaucoma research," Parrish says, "is unraveling at a molecular level. We are really getting away from the clogged duct to understanding cellular and subcellular mechanisms." Future treatment of glaucoma, he believes, will be based on a more complete understanding of the biologic underpinnings of the disease.

In addition to his research and clinical practice, Parrish is Associate Dean for Graduate Medical Education at the University of Miami Miller School of Medicine and Chair of the Graduate Medical Education Committee at Jackson Memorial Medical Center. These roles, he says, allow him to fulfill one of his other loves—education.

When he's not at Bascom Palmer, Parrish enjoys spending time tending to the native Florida plants in his garden. He and his wife, Marianne Pantin, have three children: Andres Maciá, who just graduated from the University of Miami with a Master of Business Administration degree; Felipe Maciá, a rising junior at Washington University; and Deanna, who just completed her first year at Ransom Everglades School. Lance, a five-year-old toy poodle, is also part of the family.