

# Philip J. Rosenfeld, M.D., Ph.D. Envisioning Progress

Philip J. Rosenfeld, M.D., Ph.D., says there's no better place than Bascom Palmer to be a patient with macular degeneration. And, he says, given recent advances made in the study of macular degeneration, the outlook for patients is better today than it ever has been. With every passing year, he believes patients with macular degeneration will have better and better outcomes. But, he adds, "It's important to be in the right place at the right time. Bascom Palmer is the right place."

Rosenfeld, an associate professor at Bascom Palmer, is a retina specialist with particular interest in the treatment and study of macular degeneration. In the late 1990's, he was instrumental in clinical trials investigating the use of photodynamic therapy (PDT) for the treatment of age-related macular degeneration (AMD). In fact, Dr. Rosenfeld was research chairman for two of the seven major multi-center investigations of PDT.

Photodynamic therapy combines the use of a photosynthesizing drug with a laser to destroy abnormal blood vessels under the retina. These abnormal vessels, known as choroidal neovascularization (CNV), are leaky, vascular structures under the retina.

In PDT, a drug called Visudyne® is administered intravenously to the patient, perfusing the CNV along with the rest of the body. Once the drug is infused, an ophthalmologist shines a cold laser light where the abnormal blood vessels are growing behind the retina. The light activates the drug, which in turn selectively destroys abnormal vessels behind the eye while not damaging healthy tissues nearby. Usually, the treatment needs to be repeated every three months for the first year. In earlier years, the procedure was performed using a hot laser. Rosenfeld says the cold laser offers a relative improvement over the hot laser.

Although PDT does not cure wet AMD, it slows the process of central vision loss. According to Rosenfeld, patients who would typically lose vision in six months without treatment may increase that timeframe to two years or longer with PDT. Now even better results are being obtained by combining PDT with an injection of an anti-inflammatory steroid directly into the eye. By combining both treatments, Rosenfeld has found that the treatment is performed less frequently, usually every five to six months, and the vision is usually better.

While PDT is an effective treatment for wet AMD, Rosenfeld points out that the reason why abnormal vessels grow in the first place still remains a mystery. As researchers continue their quest for an answer, they have shifted the focus of their treatment research to therapies that can effectively inhibit the growth of abnormal blood vessels.

Currently, Rosenfeld is involved in late-stage clinical trials for three such drugs. All prevent blood vessel growth and all appear to show enormous potential for preserving vision of patients with wet AMD. One drug, called RETAANE™ is injected around the eye to stop blood vessel growth. Two other drugs, Macugen™ and Lucentis™ are injected directly into the eye. Both Macugen™ and Lucentis™ inhibit a protein known as vascular endothelial growth factor (VEGF) which is a major stimulatory factor for the growth of blood vessel. These drugs provide the best hope for significant vision improvement. In the early studies, 40-50% of the patients had a significant vision improvement over 6 months.

"There is no better place for a physician interested in helping patients with macular degeneration than Bascom Palmer."

- Philip J. Rosenfeld, M.D., Ph.D.

In addition to these drugs that are injected in or around the eye, there are some newer drugs that are given systemically. The idea of infusing a drug in the arm and avoiding an injection in or around the eye seems to be very appealing to many patients. These systemic drug studies are either underway or currently being planned at the Bascom Palmer Eye Institute.

In a new study involving RETAANE™, Rosenfeld is investigating the drug's use in patients who have wet AMD in only one eye and dry AMD in the other eye. The drug is injected around the eye with dry AMD to prevent blood vessel growth and prevent vision loss.

Considering the number of studies and significant strides being made in the treatment of AMD, Rosenfeld sees major change ahead for people living with AMD. "In the next five years I predict we will be able to prevent all vision loss related to wet AMD so we'll be able to focus all our efforts on dry AMD."

He believes that Bascom Palmer will play an important role in those future discoveries and treatment advances. And he feels strongly that a training facility, Bascom Palmer in particular, offers tremendous advantages to patients.

"We see the most severe problems on a daily basis," he says. "We offer a team approach to taking care of patients." But he says it's more than just the physicians. It's the entire support staff that makes Bascom Palmer the outstanding facility that it is.

Rosenfeld first became interested in the study of macular degeneration in the mid 1990s. Long interested in genetics, he began focusing on the disease because of the limited treatment options available to patients and the large population of elderly people in South Florida living with the disease. "The time seemed right," he says.

Typically his patients are 65 years of age and older with either wet or dry AMD. His clinical population also becomes his research population. While Rosenfeld is largely focused on AMD, he also specializes in diabetic retinopathy, macular diseases, retinitis pigmentosa and retinal degenerations as well as vitreoretinal diseases and surgery.

Rosenfeld completed his undergraduate studies at Case Western Reserve University in Cleveland, Ohio and his MD/PhD graduate education at the Johns Hopkins University School of Medicine. He completed a research fellowship and residency training program in ophthalmology at the Massachusetts Eye and Ear Infirmary of Harvard Medical School. In 1995, he joined Bascom Palmer as a fellow in vitreoretinal disease, and joined the faculty in 1996 upon completion of his fellowship program.

Over the years, Rosenfeld has published ten books or monographs related to macular degeneration. He has been the author of numerous juried or refereed journal articles and exhibitions as well as an extensive list of other publications and abstracts.

Outside of his practice, Rosenfeld says his "loving, supportive wife" is a focal point of his life, as are his two adopted children from China, aged four and one. "I have the best of both worlds now – a rewarding and challenging professional life and a marvelous family. They've taught me I can't do everything, so I've learned to pick and choose projects carefully. Now I focus on the most important issues."



"Bascom Palmer will play an important role in future discoveries and treatment advances for macular degeneration."

— Philip J. Rosenfeld, M.D., Ph.D.