

# Chance meeting sparks research interest

## Stephen G. Schwartz,

While waiting for lunch, Stephen G. Schwartz, M.D., made a connection that would help steer the course of his clinical research.

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— Stephen G. Schwartz, M.D.

As an assistant professor at the Virginia Commonwealth University School of Medicine, Schwartz asked a colleague about his research. The faculty member, a pharmacist, responded that he was investigating the effectiveness of beta blockers, used to treat high blood pressure. It was well known that beta blockers were more effective for some patients than for others, but it was not known why. New research had suggested that a patient’s genes, or DNA, might be responsible for some of the differences.

“I thought that this was very interesting,” says Schwartz. “Ophthalmologists use beta blockers every day, and I had never heard of this research.”

The conversation held Schwartz’s interest, and he began to investigate. In 2005, he published the first demonstration of a link between an individual’s DNA and the response to an ophthalmic medication called betaxolol, a prescription eye drop used to treat glaucoma. This paper is one of the first ophthalmologic applications of the evolving science of pharmacogenomics, which seeks connections between medications and genetics.

“The same dose of the same medicine may not work on everyone with the same disease,” says Schwartz. “This is an important problem not just in ophthalmology, but in all of medicine. It’s possible that some of these differences are genetic.”

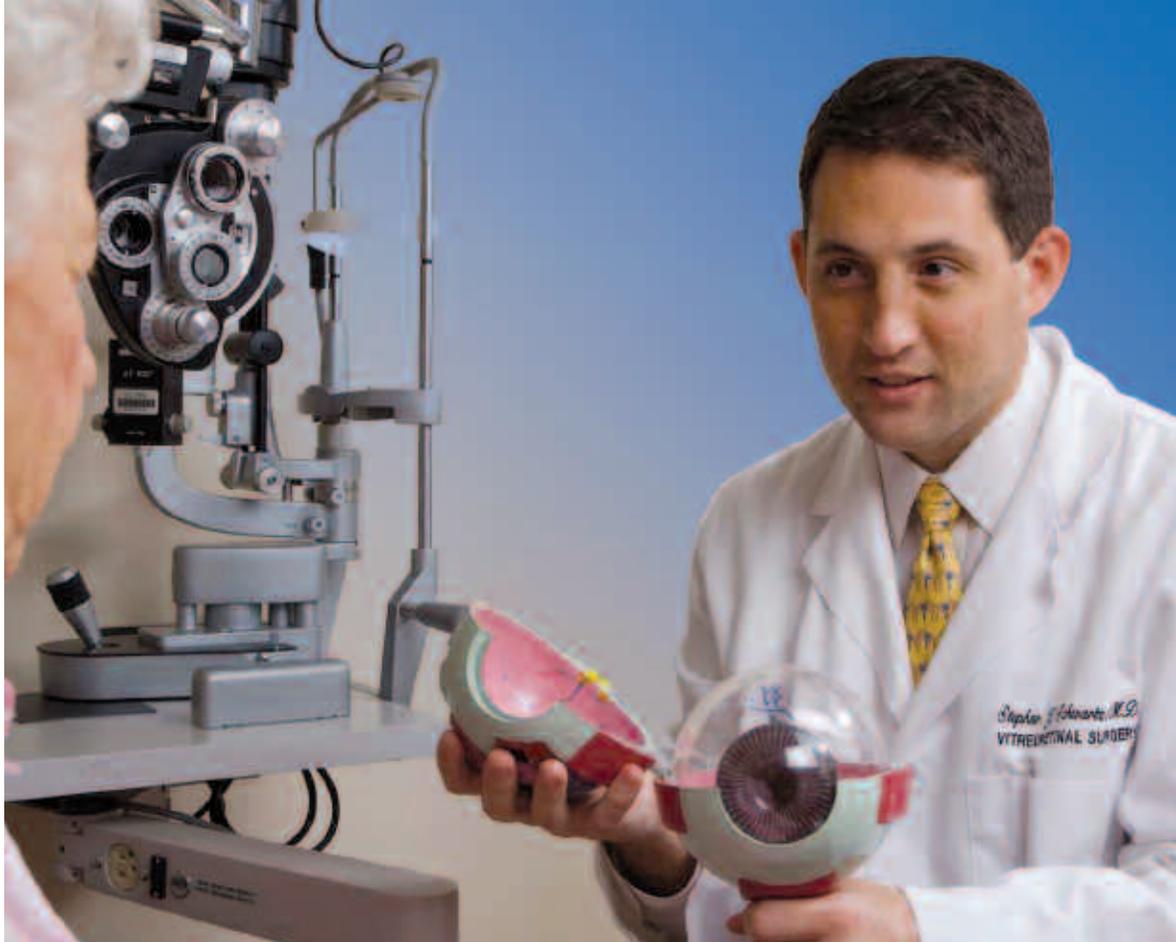
Today, Schwartz is assistant professor of clinical ophthalmology, as well as medical director and division chief of Bascom Palmer Eye Institute at Naples. He joined Bascom Palmer in 2004 as the Naples satellite’s first full-time faculty member.

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The Naples satellite opened in January 2004, with a focus on sub-specialty referral care of macular and retinal diseases. Naples now has two full-time faculty members and five more who travel from Miami on a monthly basis. “In just four years, our practice has grown considerably. Our patients, and the community at large, are asking us to grow. They are asking us to be full service in size and in scope,” says Schwartz.

The goal, he says, is to offer the people of Naples the same quality and breadth of care that is available in Miami. The Naples office is planning a major expansion, approximately tripling the current space. “People used to drive hundreds of miles for the type of advanced care that can only be offered in an academic medical center. Today, we are bringing that care to the people of Southwest Florida. We are bringing Bascom Palmer to them.”

## M.D.



Schwartz received his medical degree from New York University School of Medicine and stayed for his residency in ophthalmology. He

completed a retina fellowship at the Cullen Eye Institute of the Baylor College of Medicine in Houston, Texas. Currently, he is working toward his Executive MBA at the Northwestern University's Kellogg School of Management.

Today, Schwartz still studies the connections between genetics and medication. His current research involves triamcinolone, a cortisone-type medication used to treat a variety of retinal diseases. Unfortunately, triamcinolone causes glaucoma (increased eye pressure) in about one-third of patients. Schwartz theorizes that one or more genes may be responsible. In a recent collaboration between Bascom Palmer and Scripps Research Institute in Jupiter, Florida, Schwartz and his colleagues identified a possible link between several new genes and the magnitude of elevated intraocular pressure following treatment with triamcinolone.

"One of the great challenges in clinical medicine is that physicians don't always know ahead of time if a medication will work," says Schwartz. "What frequently happens is that a physician prescribes a medication and the patient has to return for another appointment to see if it is working. If you could tell ahead of time – if there was, for example, a genetic blood test you could do in the office – this might improve the quality of care. This is one of the first steps on the road to customized medicine. Bascom Palmer, with its tremendous clinical and laboratory resources, is a great place to do this research."

When he's not in the office, Schwartz enjoys spending time at home with his wife, Melanie, their 6-year-old daughter and 3-year-old son.

"I am very happy to be doing what I am doing," he says. "I believe in the mission of what we are doing here. We are bringing Bascom Palmer to the people of Naples and Collier County. I feel privileged to be a part of it."

A recent article by Dr. Schwartz was the #1 most read article in ophthalmology in 2007 on Medscape, an educational website provided by WebMD ([www.medscape.com](http://www.medscape.com)). The article, *Central Retinal Vein Occlusion: Current Management Options*, co-authored with Harry W. Flynn, Jr., M.D., and former Bascom Palmer faculty member, Ingrid U. Scott, M.D., reviews innovative treatments for central retinal vein occlusion, a common vascular disease of the retina. "It's exciting to see the advances," says Schwartz. "Up until about 2002, there really were no effective treatments for this disease. Today, we have more options, including Avastin, which was pioneered right here at Bascom Palmer."