

# Glaucoma Service



The Glaucoma Service at the Doheny Eye Centers offers a complete spectrum of consultative, diagnostic, medical, and surgical services. Faculty members are involved in a National Eye Institute sponsored, multicenter clinical trial studying the efficacy and safety of early surgery in the treatment of glaucoma.

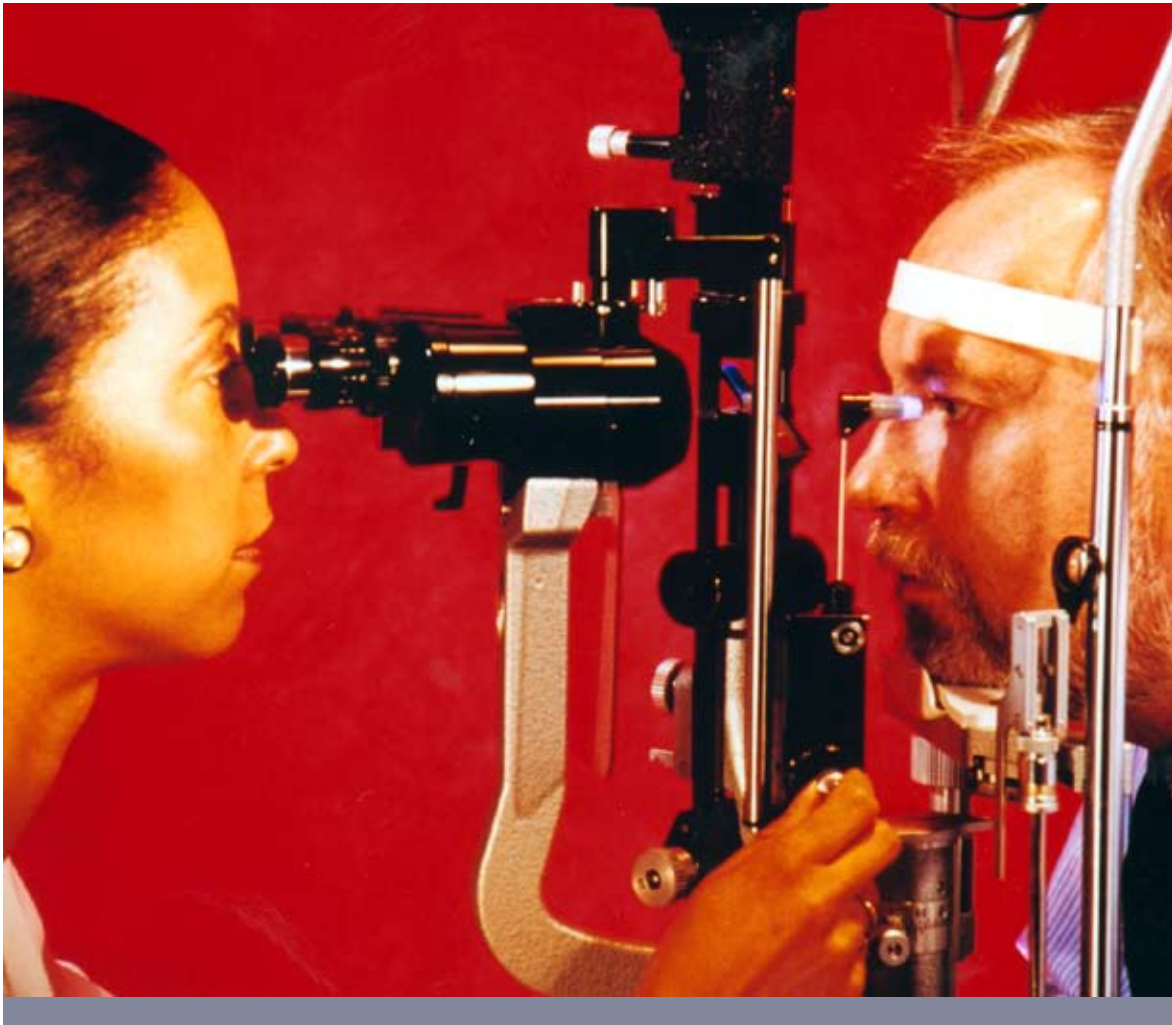
Some of the more common patient referral diagnoses for glaucoma cases include primary open-angle glaucoma, chronic angle-closure glaucoma, congenital glaucoma, and other complicated glaucomas.



**Doheny Eye  
Centers**

A Division of Doheny Eye Medical Group, Inc.

[www.doheny.org](http://www.doheny.org)



## MISSION

***Doheny's mission is "to further the conservation, improvement and restoration of human eyesight"***

(Carrie Estelle Doheny – 1947).

DOHENY's vision is to become a premier vision research, education, and tertiary patient care eye institute through the discovery of new knowledge, innovative eye care, and the education of the leaders of ophthalmology and vision science.

The Doheny Eye Institute is a not-for-profit charitable enterprise dedicated to the conservation, improvement and restoration of human eyesight. Doheny is guided by three objectives: to increase knowledge of the human eye and diseases through research, to apply this increased knowledge to patient care, and to transmit this knowledge through education, training, and community service.

# Doctors of USC



## **Rohit Varma, MD, MPH**      **Medical Director, Glaucoma**

Dr. Varma has an array of clinical specialties. He is an expert on changes in the optic nerve in glaucoma and is studying new imaging techniques in the early diagnosis of glaucomatous optic nerve damage. More recently, Dr. Varma has been involved in the development of novel implantable IOP sensors and drainage devices.

Dr. Varma's primary research activities focus on epidemiologic studies of eye disease in children and aging populations. He is the principal investigator of the Los Angeles Latino Eye Study (LALES) and the Multi-Ethnic Pediatric Eye Diseases Study (MEPEDS).



## **Brian Francis, MD, MS**

Dr Francis is researching novel glaucoma surgical techniques such as the Trabectome, drainage tube implants and endoscopic ciliary body ablation. He is developing implantable micro-machines that will help diagnose and treat glaucoma. His involvement in clinical trials includes studies of glaucoma diagnostic techniques, medications and surgical procedures. He also publishes on the epidemiology of glaucoma and related risk factors.

Dr Francis is the inaugural recipient of the Ralph and Angelyn Riffenburgh Professorship in Glaucoma for clinical care and research.



## **Vikas Chopra, MD**

Dr. Chopra completed a research fellowship in molecular biology at the Beckman Research Institute of City of Hope and a glaucoma fellowship at the Kresge Eye Institute at Wayne State University. His clinical and research interests include improving current techniques for glaucoma surgery, improving compliance for glaucoma therapy, the use of retinal and optic nerve head imaging for earlier diagnosis of glaucoma, and incorporating technology including surgical simulation labs for teaching medical students and ophthalmology residents.

Dr. Chopra is a co-investigator in several clinical trials such as the Advanced Imaging for Glaucoma study (AIGS) and the Los Angeles Latino Eye Study.



## **Farnaz Memarzadeh, MD**

Dr. Memarzadeh is fellowship trained in glaucoma, as well as in cornea, external disease and refractive surgery.

Her clinical areas of interest include management of combined corneal disease and glaucoma and new techniques for glaucoma surgery and penetrating and lamellar corneal transplantation.

Dr. Memarzadeh is a co-investigator on several clinical trials at Doheny, such as the Advanced Imaging Glaucoma Study (AIGS), the use of anterior segment OCT in glaucoma, and the use of Lucentis in the treatment of neovascular glaucoma.

# GLAUCOMA STUDIES

## Los Angeles Latino Eye Study



Los Angeles Latino Eye Study (LALES) represents the largest and most comprehensive effort to track the causes of blindness and access to eye care among the nation's fastest growing ethnic group to date, says study leader Rohit Varma, M.D., M.P.H., USC professor of ophthalmology.

The team's long-term goal is to lay the groundwork for better eye care programs for people of Hispanic descent.

"Cataract and glaucoma are the primary causes of blindness in African-Americans. In Caucasians, it is macular degeneration. Currently, we know very little about the extent and types of eye disease in Latinos," Varma says.

The Latino Eye Study team plans to re-examine all Latino men and women over the age of 40 who live in the communities around Los Angeles and who were part of the prevalence study to learn more on the incidence and development of eye disease. Researchers will evaluate participants for presence of eye disease, high blood pressure, and diabetes. They will also conduct interviews with participants to gather demographic and medical information about eye disease and risk factors, such as body mass index, family history of eye disease, history of high blood pressure and diabetes, history of treatment, smoking status and alcohol use, and access to health care.

Yearly eye exams can lead to early detection of eye disease and treatment, and thus lead to the preservation of eyesight.

"This is probably one of the most important studies our department has ever done. It is also a sign of the confidence the National Eye Institute has in USC and the Doheny Eye Institute," says Ronald E. Smith, M.D., USC Department of Ophthalmology Chair.

## AIG Glaucoma Study

The Advanced Imaging for Glaucoma (AIG) Study is a bioengineering partnership sponsored by the National Eye Institute, one of the National Institutes of Health (NIH) to develop advanced imaging technologies that can improve the detection and management of glaucoma. Currently-employed advanced imaging devices include optical coherence tomography, scanning laser polarimetry and scanning laser tomography

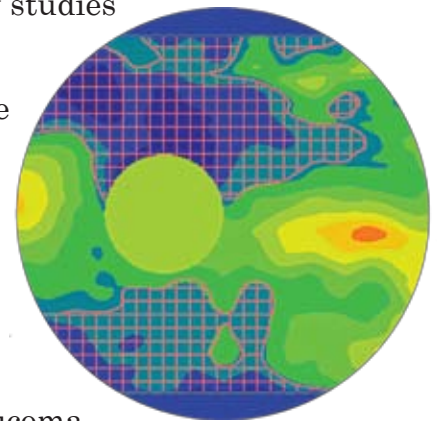
The imaging technologies will be evaluated in a longitudinal 5-year clinical trial which will include patients with normal eyes, patients with glaucoma, and individuals at risk for developing glaucoma.

Principal investigator David Huang, M.D., Ph.D. says, "These new digital imaging methods provide objective and reproducible measurements of eye structures damaged by glaucoma, including optic nerve head, retinal nerve fiber layer and other retinal layers."

The coordinating center for the AIG study is located at the Doheny Eye Institute at USC, which is one of four clinical centers along with basic science and engineering centers that will develop the advanced imaging instruments and conduct laboratory studies on glaucoma.

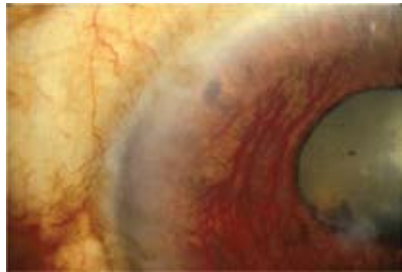
Specific aims of the AIG Glaucoma Study are to:

1. Predict the development of visual field (VF) abnormalities in individuals at risk for developing glaucoma based on anatomic abnormalities detected by advanced imaging;
2. Predict the development of VF abnormalities in individuals at risk for developing glaucoma based on anatomic changes detected between successive advanced imaging tests; and
3. Determine the sensitivity and specificity of a glaucoma diagnosis based on advanced imaging tests.



## Ranibizumab (Lucentis™) for Neovascular Glaucoma (NVG)

The Glaucoma Service at the Doheny Eye Institute is currently conducting a phase I clinical trial evaluating the safety and tolerability of intravitreal ranibizumab (Lucentis™) in the treatment of neovascular glaucoma (NVG).



Subjects enrolled in the study will undergo panretinal photocoagulation and aqueous shunt surgery and will be randomized to either receive or not receive Lucentis as adjunctive therapy. The primary objective of the study is the safety of this drug as adjuvant therapy in the treatment of NVG. Secondary objectives include visual acuity, intraocular pressure, number of glaucoma medications, need for additional glaucoma operations and change in the degree anterior and posterior segment neovascularization.

For patient referrals for this study contact Farnaz Memarzadeh, M.D., at 323-442-6415 or via email at [fmemarzadeh@doheny.org](mailto:fmemarzadeh@doheny.org).

## Trabectome Procedure

Trabectome is a minimally invasive surgical procedure for the management of adult and infantile glaucoma.

Brian Francis, M.D., is one of the pioneering surgeons very actively involved in the research and development of Trabectome procedure.

Dr. Francis has trained hundreds of glaucoma surgeons both national and internationally and



is considered a world renowned thought leader in angle surgery.

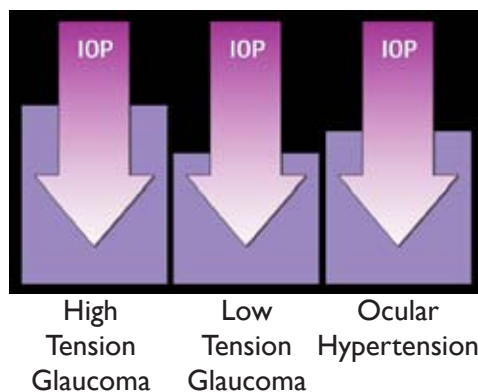
He has published his pioneering reports in several peer

reviewed journals on the clinical and scientific findings of Trabectome and has been invited to many national and international meetings to present his findings and experience with other ophthalmologists.

## IMPROVING MEDICATION COMPLIANCE FOR GLAUCOMA

Poor adherence (non-compliance) to the medical regimen is common among patients in the treatment of glaucoma ranging between 20% to 95%. Non-adherence to glaucoma medical therapy may lead to poor intraocular pressure control and subsequent visual field loss requiring otherwise unnecessary surgical procedures with additional costs. Using a novel, multi-disciplinary approach, we are currently performing a randomized, controlled, and single-blinded trial to test the hypothesis that her than the rate in the “usual-care” control group. The first goal of the study according to principal investigator, Vikas Chopra, M.D., is to demonstrate that multi-disciplinary intervention will improve patient adherence to glaucoma medications. The multi-disciplinary intervention will involve video- and brochure-based

### GOAL = IOP REDUCTION WITH COMPLIANCE



patient education; personalized counseling by a pharmacist and an ophthalmologist; and regular follow-up telephone calls by a pharmacist and an ophthalmologist. The second goal of the study is to identify patient characteristics and demographics that are associated with medication noncompliance in glaucoma patients. Understanding which patient characteristics are predictive of noncompliance in this patient population could help

clinicians in identifying noncompliant patients and providing additional counseling to those patients. All of these methods for increasing compliance take more time and care during a patient visit, but through practice organization much of this can be delegated to other health care personnel in our offices. This “team” approach may prove to be more effective than the standard office visit approach.



**Doheny Eye  
Centers**

A Division of Doheny Eye Medical Group, Inc.

For the convenience of our referring physicians and patients, the Doheny Eye Centers provide services at six locations in Southern California.

### **Arcadia**

622 W. Duarte Road, Suite 101  
Arcadia, CA 91007  
626 446 2122

### **Los Angeles**

USC Health Sciences Campus  
1450 San Pablo Street  
Los Angeles, CA 90033  
323 442 6335

### **Orange**

2617 E. Chapman Avenue, Suite 301  
Orange, CA 92869  
714 628 2966

### **Pasadena**

10 Congress Street, Suite 300  
Pasadena, CA 91105  
626 395 0778

### **Rancho Mirage**

40-055 Bob Hope Drive, Suite J  
Rancho Mirage, CA 92272  
760 320 2133

### **Riverside**

4440 Brockton Avenue, Suite 330  
Riverside, CA 92501  
951 788 1231

### **Doheny Laser Vision Center**

USC Health Sciences Campus  
1450 San Pablo Street  
Los Angeles, CA 90033  
323 442 6377

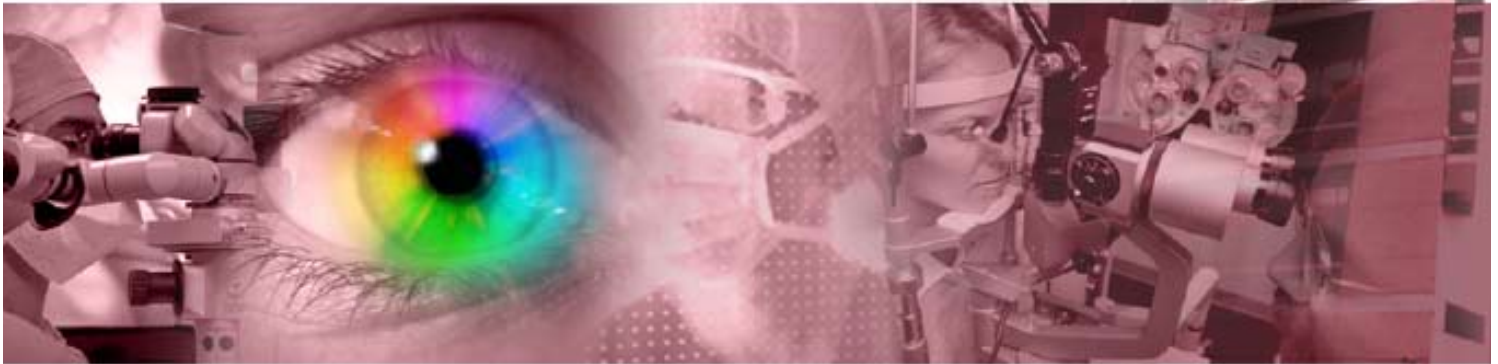
## **CONTINUING MEDICAL EDUCATION**

The Doheny Eye Institute Continuing Medical Education Program strives to provide high quality, current educational information for community physicians, residents, and fellows in all ophthalmic sub-specialties.

Monthly three-hour courses are formulated and presented by our faculty with invited lecturers. The course content has been developed to meet the needs of our community physicians who attend these monthly meetings. In keeping with our education mission our speakers present and explain the latest developments in a wide variety of ophthalmic topics.

If you are interested in our CME program, visit our website at [www.doheny.org/education/cme.html](http://www.doheny.org/education/cme.html) and learn more about our CME calendar and curriculum.

For more information call Wilma McConnell at 323 442 6427 or email [wmconnell@doheny.org](mailto:wmconnell@doheny.org).



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**TRANSLATING RESEARCH TO PATIENT CARE**