

**STATE BOARD OF OPTOMETRY**

2450 DEL PASO ROAD, SUITE 105, SACRAMENTO, CA 95834
P (916) 575-7170 F (916) 575-7292 www.optometry .ca.gov



Continuing Education Course
Approval Checklist

Title:

Provider Name:

☒ Completed Application

Open to all Optometrists? ☒ Yes ☐ No

Maintain Record Agreement? ☒ Yes ☐ No

☒ Correct Application Fee

☒ Detailed Course Summary

☒ Detailed Course Outline

☐ PowerPoint and/or other Presentation Materials **Not applicable for this course**

☒ Advertising (optional)

☒ CV for EACH Course Instructor

☒ License Verification for Each Course Instructor

Disciplinary History? ☒ Yes ☐ No

Dr. Tom Tooma has a Letter of Public Reprimand (attached)

1-1004/6199013/6370270/50

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY

GOVERNOR EDMUND G. BROWN JR.



OPTOMETRY

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CONTINUING EDUCATION COURSE APPROVAL APPLICATION

\$50 Mandatory Fee

Pursuant to California Code of Regulations (CCR) § 1536, the Board will approve continuing education (CE) courses after receiving the applicable fee, the requested information below and it has been determined that the course meets criteria specified in CCR § 1536(g).

In addition to the information requested below, please attach a copy of the course schedule, a detailed course outline and presentation materials (e.g., PowerPoint presentation). Applications must be submitted 45 days prior to the course presentation date.

Please type or print clearly.

Course Title ALL THINGS REFRACTIVE	Course Presentation Date 09/01/2016
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Course Provider Contact Information

Provider Name			
Leslie (First)	Kuhlman (Last)	Ann (Middle)	
Provider Mailing Address			
Street 75 Enterprise	City Aliso Viejo	State CA	Zip 92673
Provider Email Address Leslie.Kuhlman@nvisioncenters.com			
Will the proposed course be open to all California licensed optometrists?			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Do you agree to maintain and furnish to the Board and/or attending licensee such records of course content and attendance as the Board requires, for a period of at least three years from the date of course presentation?			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

Course Instructor Information

Please provide the information below and attach the curriculum vitae for each instructor or lecturer involved in the course. If there are more instructors in the course, please provide the requested information on a separate sheet of paper.

Instructor Name		
See Attachment (First)	See Attachment (Last)	See Attachment (Middle)
License Number	License Type	
Phone Number ()	Email Address	

I declare under penalty of perjury under the laws of the State of California that all the information submitted on this form and on any accompanying attachments submitted is true and correct.

Signature of Course Provider

9.13.15
Date

NVISION ORGANIZATION
Providers List with NPI And Medical License #'s

Center	Doctor	Medical License #	Degree	Phone	Email Address	CE Provider?	State	Personal NPI #	dic are
Torrance	Amarprett Brar, M.D.	A77993	MD	310-714-7494	amar.brar@nvisionce	Yes	CA	1356361109	Y
Fullerton	Franklin Lusby, M.D.	G41830	MD	858-449-9867	fwlmdd@gmail.com	Yes	CA	Need NPI #	N
Torrance	Franklin Lusby, M.D.	G41830	MD	858-449-9867	fwlmdd@gmail.com	Yes	CA	Need NPI #	N
Laguna Hills	George Baerveldt, M.D.	A39678	MD	Newport	george.baerveldt@nv	Yes	CA	1316027493	y
San Francisco	George V Simon M.D.	G23786	MD	Concord		Yes	CA	1225251697	
San Francisco	Jeffery Machat, M.D.	C139286	MD	San Francisco	Jeff.Machat@nvisio	Yes	CA	1255790085	
Camarillo	John Davidson, M.D.	G71316	MD	Camarillo	doctorjohn@johndav	Yes	CA	1205870748	Y
Ontario	Jonathan R. Pirnazar	A72632	MD	Laguna Hills	raminp5@hotmail.co	Yes	CA	1962436410	Y
Laguna Hills	Jonathan R. Pirnazar, M.D.	A72632	MD	Laguna Hills	raminp5@hotmail.co	Yes	CA	1962436410	Y
La Jolla	Mihir Parikh, M.D.	A68508	MD	858-558-6000	max.parikh@nvisionc	Yes	CA	1740392695	Y
Palm Desert	Patrick Lydon, OD	OPT 7263T	OD	Palm Desert		Yes	CA	1710006465	
Sacramento	Richard B Meister, M.D.	A40566	MD	916-425-1507	richard.meister@nv	Yes	CA	1972552321	Y
Murrieta	Richard Burns, M.D.	G45246	MD	Murrieta	richard.burns@nvis	Yes	CA	1902856818	Y
Palm Desert	Richard Burns, M.D.	G45246	MD	Murrieta	richard.burns@nvis	Yes	CA	1902856818	Y
Fullerton	Sheri L Rowen	C131504	MD	714-257-0560	sherri.rowen@nvisio	Yes	CA	1548203904	Y
Newport Beach	Sheri L Rowen, M.D.	C131504	MD	714-257-0560	sherri.rowen@nvisio	Yes	CA	1548203904	Y
Newport Beach	Thomas S. Tooma, M.D.	G42262	MD	Newport	tom.tooma@nvisior	Yes	CA	1508980525	Y

STATE BOARD OF OPTOMETRY
2450 Del Paso Road, Suite 105
Sacramento, CA 95834

On behalf of NVISION Eye Centers, we are writing to request approval of Continuing Education to California doctors of optometry. The education will be delivered by Board Certified Ophthalmologists, clinical investigators and experts in technology and patient consultation.

We are writing in response to your letter for information pursuant to CCR 1536 (g), to address why our application was submitted earlier than 45 days for course accreditation. As well as additional content requested.

The reason why our application was submitted earlier than 45 days for the course named "All Things Refractive" given September 28, 2016 was due to the material being in development prior to the time period needed. Most of the managers and staff were out of the country or not available during the weeks prior to submitting the application on September 15, 2016. Once a topic and summary was produced, we moved quickly to process accreditation requests. Please accept our apologies and deepest regrets. Going forward, we will make every effort to process these applications in a timely manner.

Presenters: This course will be repeated by NVISION surgeons and affiliate surgeons at centers and venues located in and around Fullerton, Laguna Hills, Murrieta, Newport Beach, Ontario, Palm Desert, San Diego, San Francisco, and Torrance. We have multiple surgeons on staff that will be performing this procedure, all of which are included in the CV Profile and Provider List.

Professional Advancement: NVISION Eye Centers seeks to offer professional education to local and regional optometrist. As a leading practice in the ophthalmology field, NVISION doctors are engaged in research and latest developments on procedures, technology, and clinical therapies. The field of optometry is constantly evolving at a rapid pace and optometrists need to keep up. All Things Refractive in an interactive presentation. This CE activity will help attending ODs learn a full understanding of refractive surgery technology, clinical treatments and procedures, candidates, post-op & pre-op care, cost, co-management, how it is performed, and benefits.

Commercial Interest: No Commercial Interest will be presented or present at this event. There will not be advertisements or promotional material for any commercial interest at this event. This event is not funded in any way by a commercial interest. The event is covered 100% by NVISION Eye Centers

PowerPoint/Presentation Material: This course is a interactive presentation with a focus content discussion with Q & A, so there are not presentation materials or a PowerPoint.

The contact person for this program is myself, and I can be reached at 949.234.8129 or Leslie.Kuhlman@nvisioncenters.com.

Sincerely,

Leslie Kuhlman
NVISION Laser Eye Centers
Continuing Education and Special Projects Coordinator

Lunch & Learn CE: Corneal Refractive Procedures

Please join Dr. Lusby for updates on corneal refractive procedures, lens-based procedures, and improving vision with or without lenses.

Join us for dinner as we discuss and review the evolution of procedures, technologies, possible future advancements, and case presentations.

WE LOOK FORWARD TO SEEING YOU AT THIS EVENT.

Wednesday, September 28, 2016 | 6:00 – 9:00 PM
Cedar Creek Inn | 20 Pointe Drive | Brea, CA 92821

6:00 – 6:30 PM **Registration and Dinner**

7:00 - 9:00 PM **1-Hour CE: Cataracts and Dry Eye**

Limited Spots | Raffle Included | Questions? C: **Trish Thornhill 619-602-5782**
E: Trish.Thornhill@NVISIONCenters.com

NVISION
— EYE CENTERS —



STATE BOARD OF OPTOMETRY
2450 Del Paso Road, Suite 105
Sacramento, CA 95834

September 13, 2016

On behalf of NVISION Eye Centers, we are writing to request approval of Continuing Education to California doctors of optometry. The education will be delivered by Board Certified Ophthalmologists, clinical investigators and experts in technology and patient consultation.

Program Date: September 28, 2016, and additional dates thereafter.

Location: Cedar Creek Inn, 20 Pointe Dr, Brea, CA,

This course will be repeated by NVISION surgeons and affiliate surgeons at centers and venues located in and around Camarillo, Fullerton, Laguna Hills, Murrieta, Newport Beach, Ontario, Palm Desert, Sacramento, San Diego, San Francisco, San Luis Obispo, and Torrance.

Conditions of Availability: This course will be open to all licensed ODs. They will be notified through flyers, Eventbrite, and fax by request.

Records: NVISION Eye Centers to maintain and furnish to the Board and/or attending licensee such records of course content and attendance as required for a minimum of three years.

Program Name and Description:

All Things Refractive – 6 Hours

Surgeons have more options—and decisions—than ever before. This course will be in an open discussion forum that will cover the following topics: LASIK complications, corneal cross linking, Presbyopic inlay, implantable miniature telescope, and OCT in the glaucoma patient. Highlighting latest technology, FDA Approvals, and Research.

We are seeking a total of 6 hours of continuing education credit for these courses. The contact person for this program is myself, and I can be reached at 949.234.8129 or Leslie.Kuhlman@nvisioncenters.com.

Sincerely,

Leslie Kuhlman
NVISION Laser Eye Centers
Continuing Education and Special Projects Coordinator

Presenter – NVISION MDs

Course Title – ALL THINGS REFRACTIVE

Course Outline –

This course will be in an open discussion forum that will cover the following topics: LASIK complications, corneal cross linking, Presbyopic inlay, implantable miniature telescope, and OCT in the glaucoma patient. Highlighting latest technology, FDA Approvals, and Research.

LASIK COMPLICATIONS

Side effects versus complications

Pain during first 8 hours, dry eye and halos generally not considered complications

Neither is future need for reading glasses

Severe/prolonged side effect may be a complication

Flap

MK still in use by some

Buttonhole in steep, thin cornea's

More likely epithelial problem in ABMD

Femto

Centration

Suction loss – incomplete flap (areas that can't be lifted)

Vertical gas breakthrough/buttonhole/skip areas (scars/opacities)

Tear during lifting – tissue bridge

Avulsion (double-lifter technique)

ABMD/loose epi

Either

Poor reposition/re-alignment

Over-hydration/irrigation: microstia/wide gutter (dlk)

Interface

Debris

Heme

Open time

If increased: overcorrection

Ablation

Irregular ablation due to non-uniform bed hydration

Decentration

Failure to consider angle Kappa

Post-op

Slipped flap

1:3,000-5,000

Usually within 24 hours

DLK

PISK

Microbial keratitis

GAPS

Only femto flaps

Epithelial ingrowth

Rare in primary cases

More common in ABMD

'Need for enhancement

Early

Late

Beware of late ATR cyl

Late flap dislocation

Trauma

Ectasia

PRESBYOPIC INLAY

Current Surgical Options for Presbyopia

Scleral Expansion

Conductive Keratoplasty

Multifocal IOLs

Accommodative IOLs

Implantable Corneal Inlays

Multifocal Lasik

PresbyLasik

Presbyond

Femto-Intracor

Scleral Expansion

History and theory

Early methods

Current Technique

Presview Band Insertion

Results and complications

Role of Scleral Implants

Conductive Keratoplasty

The monovision experience

Patient selection

Contact lens trials

Patient counseling

Theory of CK

Surgical design and technique

How much myopia can we induce?

Relation of post-op refractive myopia and amplitude of accommodation

VISION

EYE CENTERS

Duration of action
Enhancing CK with Lasik, PRK
Presbyopia Correcting IOLs
Multifocal
AMO ReZoom
Diffraction
Alcon ReStor
AMO Tecnis
True Accommodating IOLs
Crystalens
Synchrony Dualens
Mechanisms of diffractive and multifocal IOLs
Preoperative assessment
Patient Selection
Surgical Issues
Centration
Management of Astigmatism
Postoperative Management
Results and management of patient expectations
Mechanism of action of true accommodating IOLs
Surgical Technique
Results, refinements and future development needs
Critical Issues with Accommodating IOLs
Pricing and reimbursement
Pre-operative assessment and patient selection
Management of patient expectations
Psychological assessment
Surgical technique and reproducibility
Role of Femto cataract surgery
Multifocal Lasik
Topography of the presbyopic treatment
Laser creation if the bi-focal shape
FDA Studies
Results and future
PresbyLasik and Presbyond
Spherical aberration and its role in traditional Lasik
relation to corneal shape
relation to depth of field
Can we reduce spherical aberration during laser surgery?
Techniques and results
PresbyLasik with Visx technology
FDA labeling and double carding
Use of the wavefront data to increase prolation
Results

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Presbyond with Meditec MEL80 technology
Implantable Corneal Inlays
Presbia Flexivue Microlens
Theory and design
Central optical powers
Surgical technique
Flap thickness and corneal integrity
Complications
Kamra
Pinhole theory
Kamra design
Implantation technique
Replaceability
Femto Presbyopic Solutions
Intracor
European experience
Technique
Potential drawbacks
Summary
Size and evolution of the presbyopic market
Lessons from CK
How to talk to patients about presbyopia and surgical options
Selecting your surgeon
Comanagement of the presbyopia surgical patient
What the future may hold

CORNEAL CROSS LINKING

Review of corneal micro-anatomy
Mechanism and chemistry of cross-linking
Review of FDA status
Description of current study parameters
Inclusion/exclusion criteria
Indications:
Clinical findings
Keratoconus
Post-LASIK
Topography
K's
Cylinder
Pachymetry
Technique and methodology
Normal progression of recovery
Potential complications
Clinical examples/results:

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Pre/post topography
Pre/post uncorrected VA
Pre/post best-corrected VA
Future applications
Standard Dresden Protocol
Mechanism of action
UV Cross-Linking: Understanding CXL Fundamentals
Avedro CXL
CXL External View
CXL

Several reasons
EPITHELIUM HAS TO BE TAKEN OFF
DOSE GRADIENT SHIFTED UP
Demarcation line
How to overcome all of those obstacles?

The Bunsen-Roscoe LAW

RECIPROCITY

Epithelium ON

Pros

No pain postop
Faster visual recovery
No associated corneal problems
Ability to treat thin corneas
Treating pediatric patients

Cons

Many physiologic barriers to overcome
Basic science proof of concept still debatable
No Reliable clinical data
Biomicroscopic Changes
UV CXL
Confocal Microscopy
Croxatto et al.
Confocal Microscopy
Topographic Changes
UV CXL
Corneal Flattening (>1 D)
Topographic Indices
CXL

Corneal Cross-Linking

While the goal of conventional cross-linking for treatment of keratoconus is to stabilize, mean flattening of steepest keratometry is observed in a large percentage of patients

Does UV CXL Stop Disease Progression?

clinical Changes

UV CXL

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UCVA & BSCVA

Manifest Spherical Equivalent:

Variable Response

Tissue Reactions: Stromal Haze

Haze: Late Onset Deep Stromal & Subepithelial

Risk Factors

Incorporating CXL into practice

UV CXL

Indications

Progressive disease

Topography every 4-6 months

Very young patients

Cornea > 400 microns

Caution with Steep Ks & thin Corneas

Referral for CXL

CRITICAL UNDERSTANDING

1. RGP wear or speciality KC CLs provide good vision but DO NOT STOP the PROGRESSION of the disease
2. Refer these patients for CXL stabilization, then refit with CLs
3. If young, then Urgent Referral, even if mild as progression can occur rapidly and there is NO ability to regain the loss.

Referral for CXL

CRITICAL UNDERSTANDING

4. Important to emphasize to patients that KC is a progressive disease, CXL is for stabilization and to prevent progression NOT vision improvement.
5. CXL may be combined with other procedures to improve vision – PRK & ICRS
6. CXL may need to be repeated infrequently.

UV CXL

Stops Progression

Can, in some patients, improve

Visual Quality

Topographic indices

Refraction

PiXL:

Background

Riboflavin Induction

Photorefractive Intrastromal Cross-Linking

- UVA patterning is applied to the center of the riboflavin-soaked cornea for treatment of myopia.
- Theory is to induce focal stiffening in the cross-linked regions, resulting in “bulging” of the cornea in untreated regions in response to the normal intraocular pressure

Refractive Treatment

Axis Alignment- Mosaic Only

- ✓ Removal of central 5mm epithelium
- ✓ 10 minute Vibex Rapid pre-soak
- ✓ 30 mW/cm² irradiation, pulse interval [1,1]



- ✓ 4 mm circular spot on corneal vertex

Transepithelial Cross-Linking

PIXL Riboflavin Induction

PIXL

PIXL Monitor

PIXL Pulsed UVA light

PIXL Refractive CXL

IMPLANTABLE MINIATURE TELESCOPE

Overview

- End Stage Age Related Macular Degeneration
- Treatment Algorithm
- The Team
 - Optometrist
 - Occupational Therapist
 - Anterior Segment Surgeon
 - Retinologist
- FAQs

AMD

- 15 million Americans
- Expected to double
- Aging population
- 2 million Americans
- Severe vision loss

End Stage AMD

- Most advanced form
- Irreversible
- Central scotoma
- 2 million Americans
- Severe vision loss
- Double by 2050
- Even with anti-VEGF Rx

End Stage AMD

- Most advanced form
- Irreversible
- Central scotoma
- 2 million Americans
- Severe vision loss
- Double by 2050
- Even with anti-VEGF Rx

Geographic Atrophy

- Anti-VEGF
- Does not help

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- Central scotoma
- Severe vision loss
- Atrophy of RPE

The Problem with Telescopes

- Enlarge retinal image
- Heavy
- Stability
- Tracking
- Biggest Problem
- Decreased visual field

Implantable Miniature Telescope

- Enlarge retinal image
- Stability
- Tracking
- Biggest Problem
- Decreased visual field

Implantable Miniature Telescope

- Enlarge retinal image
- Tiny
- Stable
- Biggest Advantage
- Better visual field
- Superior Optics
- Closer to nodal point

IMT Team

- Patient
- Optometrist
- Occupational Therapist
- Anterior Segment
- Cataract
- Cornea
- Retina Specialist
- CentraSight Coordinator

IMT Team - Optometrist

- Identifying patient
- Explaining options
- Coordination of care
- Candidacy
- Post op refraction
- Prescribing eyewear

IMT Team - Optometrist

- Identifying patient
- Explaining options
- Coordination of care

- Candidacy
- Post op refraction
- Prescribing eyewear

IMT Team – Occupational Therapist

- Screening
- Telescope trials
- Simulation
- Training
- Setting goals
- Realistic Expectations
- Postoperative Training

IMT Team – Retina Specialist

- Confirm Diagnosis
- Rule out CNM
- Stable
- No role for anti-VEGF
- Careful fundus exam
- Fluorescein Angiography

IMT Team – Cornea / Cataract MD

- Confirm Candidacy
- Endothelial Cells
- Cataract
- Dilates well

10

11

12

13

4/17/15

5

- Careful fundus exam
 - Fluorescein Angiography
- IMT Team – Cornea / Cataract MD**

- Confirm Candidacy
- Endothelial Cells
- Cataract
- Dilates well
- Large incision (13mm)
- Large Capsulotomy (7mm)
- Extra Capsular Cataract Extraction

Patient Selection

- End Stage AMD OU
- Age ≥ 65
- BSCVA $\leq 20/160$
- BSCVA $\geq 20/800$

VISION

EYE CENTERS

- Phakic ≥ 1 eye
- Stable retinal exam
- Tolerant of external telescope

Surgical Procedure

- 13mm peritomy
- Scleral tunnel
- Phaco wound
- 7mm Capsulotomy
- Phacoemulsification
- Open wound
- Place implant
- 10-0 Nylon Sutures

13

14

15

4/17/15

6

Surgical Procedure

- 13mm peritomy
- Scleral tunnel
- Phaco wound
- 7mm Capsulotomy
- Phacoemulsification
- Open wound
- Place implant
- 10-0 Nylon Sutures

Postoperative Exams

- In capsular bag
- Centers well
- Stiff haptics
- Through pupil
- Visible
- Delayed healing
- Lots of drops

Results – FDA Trial

- 217 implants/eyes
- Mean age 75.6 yr
- 2.2x and 2.7x
- Followed 5 years
- Safety
- Efficacy

Results – Safety

- Corneal edema 6.5%
- IOP spike 29.5%

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EYE CENTERS

- Hyphema 10.0%

15

16

17

18

4/17/15

7

- Safety
- Efficacy

Results – Safety

- Corneal edema 6.5%
- IOP spike 29.5%
- Hyphema 10.0%
- Not implanted 2.3%
- Loss of BSCVA 6.9%
- PKP 2.3%
- Not your usual PhacolOL

Results – Increase BSCVA @ 12 mos

- 6 lines = 11%
- 5 lines = 25%
- 4 lines = 45%
- 3 lines = 66%
- 2 lines = 80%
- 1 line = 88%
- Worsens slowly with time

Results – VFQ - 25

- General vision
- Near activities
- Distance activities
- Social functioning
- Mental functioning
- Role difficulties
- Dependencies

18

19

20

4/17/15

8

Results – VFQ - 25

- General vision
- Near activities
- Distance activities
- Social functioning
- Mental functioning

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- Role difficulties
- Dependencies

REDEFINING A CATARACT

Traditional Cataract Evaluation

Cataract Evaluation Has Traditionally Involved Tests Such as
Glare Testing

BAT

Slit Lamp Exam

Other tests

Objective Lens Performance Evaluation is Now Possible

Based on MTF (Contrast Sensitivity)

Based on Aberrations from WF Measurement

Dysfunctional Lens Index (DLI)

Lower DLI Number = Reduced Function

"Green" on Color Scale is "Good" and Warmer Colors equates to Reduced Function

The Letter "E" Reflects Quality of Vision from Internal Optics (Lens)

PATIENT CASE 1

48 yo Male Presents w/ Visual Complaints OD Near Plan0 Refraction

OS = +0.12 -0.62D x 40

Cat Eval Confirms No Cataract – Clear Lens

OCT Confirms Normal Retina

What Do We Do Now?

PATIENT CASE 2

Post Refractive Patient – Previously Satisfactory RK

Noticeable Reduction in Acuity

Minimal to No Lens Opacity

Wondered if Additional Corneal Enhancements Would Help

PATIENT CASE 2 OUTCOME

Determined that Corneal Enhancement Would Not Improve Acuity

Planned Lens Replacement

PATIENT CASE 3

Patient Experienced Reduction in Acuity

Presented as a Cataract Referral from OD

PATIENT CASE 3 OUTCOME

Loss of VA Determined to Be From Refractive Change

New Spectacle Rx

Patient Happy NOT to Need Surgery

PATIENT CASE 4

Patient HX

CONCLUSION

Lens Opacity (or Lack Thereof) Does Not Always Signal Cataract

Options for Non-cataract Aged Patients Experiencing Stage 2 DLS Should Include Dysfunctional Lens Replacement

Sometimes What Looks Like a Cataract in the Traditional Sense Does Not Translate into Loss of Lens Function

OCT IN THE GLAUCOMA PATIENT

Glaucoma Progression

Requires ability to detect structural/functional change over time

Rate > normal aging (not that easy)

Most monitoring devices (OCT/VF) acquire/manage patient data

Three main devices: CSLO, SLP, SD-OCT

Structure/Function in Glaucoma

structural changes precede functional changes in a majority of patients

structural changes are expert evaluation of glaucomatous changes in the appearance of the optic nerve

RNFL shows steeper slope than VF (OCT best early and moderate Dz.)

the ability to detect progression may be decreased in more advanced disease, as test variability increases with increasing damage (Ortega, IOVS).

Utilizing SD-OCT to detect disease progression

Normal patterns of RNFL loss

Expansion of pre-existing RNFL defects

Development of new RNFL defects

Deepening of pre-existing RNFL defects

Earlier detection of progression results in treatment intervention/modification

Two main ways to identify progressive changes:

Event-based analysis

Trend-based analysis

Four most commonly used SD-OCT instruments

Spectralis OCT

Cirrus HD-OCT

RTVue-100

Topcon 3D-OCT 2000

RNFL thickness (circumpapillary profile TS/NIT)

Most common method of evaluation of structural damage (But new assessments are near)

Spectralis OCT provides a change report with event-based progression analysis of circumpapillary RNFL thickness profiles and trend-based progression analysis of average and sector RNFL thickness measurements. This analysis graphically shows the location and amount of significant changes in the RNFL thickness profile from baseline as a red area. The trend-based analysis plots the serial global and six sectoral maps over time to assess the rate of change using linear regression analysis and shows differences from baseline.

Each individual Garway-Heath sector (T, TS, NS, N, NI, TI) and global sector is compared with the normative database (NDB) values of that sector and given a classification

b. Cirrus HD-OCT utilizes GPA to visualize RNFL changes and progression. It provides a visual display of the amount and location of significant change by comparing individual pixels of the follow-up images to the same pixels of the baseline image (event-based analysis). It also displays linear regression analysis of the average, superior and inferior RNFL thickness measurements (trend-based analysis).

SmartCube™ for Guided Progression Analysis (GPA™)

Track and compare RNFL thickness and ONH measurements from SmartCube scans over time

ONH/GCC Trend Analysis Report

Rate of change:

-3.09 μ m/Yr. (RNFL); -3.30 μ m/Yr. (GCC)

Trend Based analysis Cirrus OCT

What is another way detect and monitor Glaucoma patients?

SmartCube™ for Ganglion Cell Analysis

Evaluate early change in macula and compare measurements to SmartCube powered Normative Data

Adds complementary information to standard RNFL and ONH analyses

Provides an assessment of structures essential for central vision

Shows deviation from normal population

Why a 10-2 VF for GLC Progression?

Findings suggest that glaucomatous central VF deterioration cannot be picked up by the 30-2 /24-2 test grid alone, because of poor spatial sampling; denser estimation of the central ten degrees (10-2) is warranted if GCC shows thinning, than what is offered by the 30-2 /24-2 VF test grid alone.

Retinal GCC loss seems to be more pronounced in the inferior half of the macula and might indicate "faster GLC progression" in higher risk patients*

Progression of GCC loss might be more predictive of GLC advancement than the RNFL**

*OCT imaging detecting glaucomatous damage. Hood DC, Raza AS, de Moraes CG, Br. J of Ophthal 2014;117, 1348

**Francoz M, Fenolland J, Giraud J, et al. Reproducibility of macular ganglion cell-inner plexiform layer thickness measurement with Cirrus HD-OCT in normal, hypertensive and glaucomatous eyes. Br J Ophthalmol 2014;98:322-328.

Comparison of 10-2 and GCC

RNFL—"Green Disease"

c. RTVue-100 does not provide automated comparative analysis of circumpapillary RNFL thickness profiles, but it offers a figure with overlapped baseline and follow-up RNFL thickness profiles for easy comparison. The device also offers the statistic Image Mapping module, which analyzes global RNFL thickness and six sectoral thicknesses. Based on these measurements, it performs a trend-based analysis to create a regression line to show a rate of progress.

GCC rate of change (3 yr. data): -1.9 μ m/Yr.

GCC rate of change: -1.9 μ m/Yr.

RNFL rate of change (2 yr. data): not statistically significantly different from slope of zero

RNFL rate of change (2 yr. data): -3.86 μ m/Yr.

Topcon 3D-OCT 2000 provides a linear regression analysis of average, superior and inferior RNFL thickness and graphical comparison of baseline and follow-up RNFL thickness profiles. It also compares cup-disc ratio, cup volume and cup area between visits.

Sources of error in OCT for progression

Paper by Liu, et al, Am J Ophthal. 2015; 159: 565-576. ("Patient Characteristics Associated with Artifacts in Spectralis OCT imaging of the RNFL in Glaucoma")

Decentration error most common artifact in SD-OCT (Spectralis) (28%), PVD (15%), poor acuity 20/40 worse, cataracts, open angle glaucoma

46.3% of 2,313 OCT scans had at least one artifact.

Take home: Clinicians should first assess scans for artifacts before making therapeutic decisions based on RNFL measurements

Sources of error in OCT for progression

Normative data base: high myopia/unique distributions of RNFL (red disease)

Signal quality: 9.3% increase in mean RNFL thickness was seen after cataract surgery (Mwanza, JC, et al: J Glaucoma 2011;20:37-43))

Blink/Saccades: cause scans to misalign and give erroneous NFL measurements. Newer tracking on OCT helps compensate

Sources of error in OCT for progression

Segmentation errors: lines are misplaced with poor signal strength, tilted discs, staphylomas, large PPA, epiretinal membranes, PVD and large floaters.

Newer OCT techniques for early detection and progression of Glaucoma

En face OCT is one of the OCT visualization approaches that has significantly benefited from technical advancements in OCT technology. En face OCT in current systems is based on software reconstruction of OCT images.

New Advances with OCT for Glaucoma detection and progression

En Face

Putting all the components together

OCT Angiography for Glaucoma

Optical frequency of light shifts when it scatters from moving blood cells. The amount of "shift" is related to flow velocity

In normal discs, a dense microvascular network was visible on OCT angiography

The disc flow index was reduced by 25% in the glaucoma group ($P = 0.003$). Sensitivity and specificity were both 100% using an optimized cutoff.

Optical coherence tomography angiography, generated by the new SSADA, repeatably measures optic disc perfusion and may be useful in the evaluation of glaucoma and glaucoma progression.

OCT Angiography on Glaucomatous ONH

Macular thickness maps

Evaluation of the macula can provide valuable information regarding glaucoma progression

Spectralis (total macular thickness); RTVue (GCC); Cirrus (GCC+IPL); Topcon - ganglion cell + inner plexiform layers)

Macular Thickness Maps

GCC parameters allowed for improved detection of early structural progression of glaucoma compared to RNFL thickness and ONH parameters.*

Investigators additionally reported glaucoma patients with severe VF loss exhibited faster rates of macular thinning in progressors than non progressors compared to RNFL thinning.**

* Naghizadeh, F., et al, "Detection of Early Glaucomatous Progression with different Parameters of the RTVue Optical Coherence Tomography" J Glaucoma 2012; 23: 195-198

**Sung, KR, et al: "Prog. Detection Capability of Macular Thickness in Advanced Glaucomatous Eyes. Ophthalmology 2012;119:308-313.

Ganglion Cell Analysis

Isolates ganglion cell layer to remove variance of RNFL

Measures thickness for the sum of the GCL and IPL layers using data from the SmartCube® (Macular cube scan)

RNFL distribution in the macula depends on individual anatomy, while the GCL+IPL appears regular and elliptical for most normal individuals

Instruments do not provide localized automated progression analysis of the macula in localized fashion

Examiner can appreciate progressive thinning of the macular area by comparing serial macular thickness maps

Summary with OCT

Powerful objective structural assessment tool that can help in diagnosis and managing progression of glaucoma

Best when used in conjunction with VF testing, ONH examinations, patient risk factors for progression (IOP, pachs, FH, etc.,)

CIRRUS™ HD-OCT and HFA™ Combined Report

Patient structure and function summary information in a single display

Take-home points

Integrating results of peripapillary RNFL and macular analysis provides one way to improve sensitivity/specificity to follow glaucoma progression (consider early 10-2)

One should not use measured value from different instrument interchangeably

Age-related decline of particular importance in change analysis of RNFL/macular measurements (large clinical studies lacking in age-related decline)

OCT is "limited" to detect progression in advanced disease (RNFL-hits a bottom/cellar making progression hard to determine)

OCT best for early and moderate disease

Best to image early and often**

GPA may overlook localized progression

Examiner must also rule-out "non-glaucomatous" damage in this patient population

SD-OCT imaging of the lamina cribrosa holds great promise for utilized non-retinal ganglion cell strada in disease progress

New Developments in OCT

SS-OCT (Swept Source)-fast sweeping scan pattern allows faster scanning speed

Adaptive Optics OCT- enables in-vivo images of lamina cribrosa, GC, photoreceptors, retinal microvasculature

Polarization-sensitive OCT cross-sectional tissue giving specific contrast information regarding tissue characteristics

Utilizing visual field in

glaucoma progression (HFA)

A. VFI (Visual Field Index)

Concentrates on the central visual field

Less impacted by cataracts/pupil size

Excellent way to assess rate of change in functional loss

Reflective of ganglion cell damage

Trend analysis reflected in rate/plot/bar

May help with functional disability in glaucoma patients

B. GPA analysis (HFA)

Minimum of 5 exams over 3 years for linear regression results to be presented

Uses symbols of different shaded triangles to look for progress:

- 1) – deterioration from baseline $p < 5\%$
- 2) – deterioration at same location on 2 consecutive tests
- 3) – deterioration at same location. 3 consecutive tests

Octopus perimeter (Peri-trend)

Trend analysis based on global indices which has limitations on detecting focal change.

C. Pearls for detecting progression

Try to combine structure and function

Better progression detection than utilizing all technology alone

Newer technologies will provide software to help the clinician

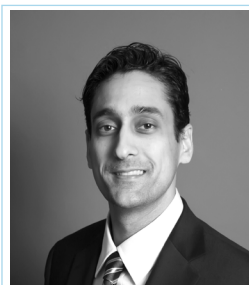
Add in risk factors

Patients age, high IOP, pachymetry, stage of Dz

Collect meaningful data

VF (2x/yr.), OCT (1-2x/yr.), ONH photo (1-2x/yr.)

Confirm progression by repeating test



Amarpreet S. Brar, M.D.

A local Southern California native, Dr. Brar grew up skiing, playing basketball, swimming and he always knew he wanted to be a doctor. He found his true calling in Ophthalmology, and today, Dr. Brar is devoted to doing the most advanced types of cataract and LASIK surgeries. After graduating from Baylor College of Medicine in Houston, Texas, Dr. Brar completed his residency in ophthalmology at the University of Oklahoma's Dean McGee Eye Institute in Oklahoma City, then he decided to come home to his beloved Southern California.

Board certified for more than 10 years, Dr. Brar has performed more than 4,000 eye surgeries. He specializes in LASIK, PRK, LASEK, Cataracts, intraocular lenses, Custom LASIK and Wavefront technology. He is also an expert in implanting multifocal, accommodating, TORIC and monofocal intraocular lenses.

Dr. Brar is a member of respected professional societies, including the American Academy of Ophthalmology and the American Society of Cataract and Refractive Surgery. He has also been published in respected medical journals on topics related to Optic Neuritis in Children and Subfoveal Surgery for Removal of Choroidal Neovascular Membranes in submission to Ophthalmology. In addition, Dr. Brar is a frequent lecturer on topics related to refractive surgeries.

In his spare time, Dr. Brar likes to spend time with his wife and two children.

Biography

Education

- 1993 BS in Neuroscience, Magna Cum Laude, University of California, San Diego
- 1997 M.D., Baylor College of Medicine, Houston, Texas

Professional Training

- 1998 Baylor College of Medicine, Transitional Internship
- 2001 Residency in Ophthalmology, University of Oklahoma
Dean McGee Eye Institute

Board Certification

- 2001 American Board of Ophthalmology
Visx Laser Certification
C-Lasik Certification
Allegretto Laser Certification
Intralase Laser Certification

Professional Affiliations

- American Academy of Ophthalmology
- American Society of Cataract and Refractive Surgery

University & Hospital Affiliations

- Little Company Of Mary Hospital Torrance
- Torrance Memorial Hospital
- South Bay Surgery Center
- Volunteer faculty at Harbor UCLA Hospital Ophthalmology, Jules Stein Eye Institute

CURRICULUM VITAE

Franklin W. Lusby, Jr., M.D.

Personal Information

Business Address: 9850 Genesee Avenue, Suite 220
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Web address: www.drlusby.com

Medical License: G-41830 (California)

UPIN: A48707

DEA: AL9233634

Education:

High School: High Point High School
Beltsville, Maryland (1971)

College: Columbia Union College
Takoma Park, Maryland (1974)
B.A. – Chemistry – Magna cum Laude

Medical School: Loma Linda University
School of Medicine
Loma Linda, California (1978)
M.D.

Internship: Flexible
Malden Hospital
Malden, Massachusetts
Boston University School of Medicine
(1978-1979)

Pre-Residency Study: Basic and Clinical Sciences for Ophthalmology
Massachusetts Eye and Ear Infirmary
Harvard Medical School
(September-December 1979)



Residency: White Memorial Medical Center
Los Angeles, California
Ophthalmology (1980-1983)

Fellowship: Extracapsular Cataract Extraction and
Intraocular Lens Implantation
James M. McCaffery, M.D.
Glendale Eye Medical Group (1983-1984)

Examinations: National Board of Medical Examiners (1979)

Board Certification: American Board of Ophthalmology (1985)

Certifications:

Refractive Surgery: -A System of Precise, Predictable Keratorefractive Surgery:
J. Charles Casebeer, M.D., May, 1992
-Fellowship in Advanced Incisional Keratotomy: Lee Nordan,
M.D., June-August, 1995
-ExciMed UV200 Certification, Summit Technology, October,
1995
-Automated Lamellar Keratoplasty: J. Charles Casebeer, M.D.,
Stephen G. Slade, M.D., November, 1995
-Mini Fellowship in Lamellar Refractive Surgery: Stephen G.
Slade, M.D., January, 1996
-CHIRON VISION Advanced Mini Fellowship in C-LASIK:
Shanghai, China, January, 1996
-VISX Excimer Laser System PRK Training Course: VISX, July,
1996
-VISX Excimer Laser System Astigmatism Training Course:
VISX, May, 1997
-VISX Excimer Laser System PRK with Astigmatism & High
Myopia Training Course: VISX, March, 1998
-VISX Excimer Laser System Hyperopia Training Course: VISX,
November, 1998
-VISX Excimer Laser System LASIK Training Course: VISX,
January, 2000
-VISX Excimer Laser System Blend Zone with Variable Spot
Scanning Training Course: VISX, April, 2001
-LADARVision Excimer Laser Workstation Certification: Alcon,
October, 2001



- VISX Excimer Laser System LASIK for the Treatment of Mixed Astigmatism Training Course: VISX, March, 2002
- VISX Excimer Laser System Custom CAP Training Course: VISX, June, 2002
- LADARVision Ladarwave Customcornea Certification: Alcon, February, 2003
- VISX Excimer Laser System CustomVue Training Course: VISX, June 2003
- IntraLASIK Training Course: Intralase, January, 2004
- VISX Excimer Laser System Fourier Algorithm Training Course: VISX, November, 2004
- Allegretto Excimer Laser Certification: Wavelight, November, 2004
- VISX Excimer Laser System CustomVue Hyperopia and Hyperopic Astigmatism: VISX, December, 2004
- VISX Excimer Laser System CustomVue Mixed Astigmatism: VISX, March, 2005
- VISX Excimer Laser System Iris Registration: VISX, March, 2005
- VISX Excimer Laser System CustomVue High Myopia: VISX, October, 2005
- VISX Excimer Laser System CustomVue Treatments for Monovision in Presbyopic Patients with Low to Moderate Myopia and Myopic Astigmatism: VISX, March, 2008

Professional Activity:

Private Practice: Glendale Eye Medical Group
 607 North Central Avenue, Suite 105
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 (1984-1989)
 (1991-1997)

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Franklin W. Lusby, M.D., Inc.
 (dba Lusby Eye Medical Group)



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(1991-1993)
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(1993-1997)

Franklin W. Lusby, M.D., Inc.
(dba La Jolla Eye and Laser Surgery Medical Center, Inc.)
6523 La Jolla Boulevard
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(858) 459-6200
(1994-1996)
7825 Fay Avenue, Suite 140
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(1996-2006)
(dba Lusby Vision Institute)
9850 Genesee Avenue, Suite 220
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(2006-current)

Franklin W. Lusby, M.D., Inc.
330 North Brand Boulevard, Suite 110
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(818) 409-0900
(1997-2002)

TLC Laser Eye Center – Newport Beach
3501 Jamboree Road, Suite 1100
Newport Beach, California 92660
(949) 854-7400
(2001-2008)

Medical

Directorships:

Pacific Laser Eye Center
Medical Director
4330 Barranca Parkway, Suite 101
Irvine, California 92604
(949) 733-3937



(1998-2000)

Maloney-Lusby Vision Institute
Medical Director
4330 Barranca Parkway , Suite 101
Irvine, California 92604
(949) 733-3937
(2000)

F. W. Lusby, M.D., Inc.
(dba Lusby Vision Institute-Irvine)
Medical Director
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(2000-2001)
910 East Birch Street, Suite 350
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(2001-2005)
2575 Yorba Linda Blvd.
Fullerton, California 92831
(714) 257-0560
(2005-2008)

TLC Laser Eye Centers – Brea
Medical Director
910 East Birch Street, Suite 350
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(714) 257-0560
(2001-2005)

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Medical Director
2575 Yorba Linda Blvd.
Fullerton, California 92831
(714) 257-0560
(2005-2008)

ClearSight Laser Center
Medical Director
2121 E. Coast Highway, Suite 200
Corona del Mar, California 92625



(949) 600-4668
(2008-2011)
10 Pointe Dr., Suite 310
Brea, California 92821
(714) 880-8808
(2008-2011)
1680 E. Herndon Ave., Suite 101
Fresno, California 93720
(559) 473-4053
(2008-current)
9850 Genesee Ave. Suite 220
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(858) 926-4664
(2008 – 2011)
2575 Yorba Linda Blvd
Fullerton, CA 92831
(714) 257-0560
(2011-current)

NVISION Laser Eye Centers Fullerton
Medical Director
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(714) 257-0560
(2011-current)

NVISION Laser Eye Centers Torrance
Medical Director
23550 Hawthorne Blvd., Suite 220
Torrance, CA 90505
(310) 784-2020
(2011- current)

Society Memberships: Member - San Diego County Medical Society
Fellow- American Academy of Ophthalmology
Member- American Society of Cataract and Refractive Surgery
Member- International Society of Refractive Surgery
Charter Member- American College of Eye Surgeons
Member- David Paton Society
Member- Research to Prevent Blindness Ophthalmological Soc.



Hospital Affiliations: Scripps Memorial Hospital-La Jolla (1994-Current)
Cedars Sinai Medical Center (1999-2001)
Glendale Adventist Medical Center (1984-2002)
Memorial Hospital of Glendale (1984-2002)
Verdugo Hills Hospital (1984-2002)
Arcadia Outpatient Surgery Center (1984-1988)
Victor Valley Community Hospital (1989-1997)
Palomar Medical Center (1991-1994)
Pomerado Hospital (1991-1997)
Escondido Surgery Center (1991-1997)
Premiere Surgery Center (1993-2001)
Healthsouth Surgery Center (1994-Current)
Glendale Eye Surgery Center (1989-2002)

Section Chief
Division of Ophthalmology
Department of Surgery
Glendale Adventist Medical Center
(1990-1996)

Laser Center
Affiliations: Mericos Eye Institute
San Diego Excimer Laser Center
TLC Laser Eye Centers

Publications:

1. Oyakawa, R.T., Lusby, F.W., Schachat, A.P., Brown, R.H.: An Irrigating Endo-illuminator for Anterior Vitrectomy. Am. Journal of Ophthalmology (submitted)
2. Byer, L.V., Oyakawa, R.T., Lusby, F.W.: Vitrectomy Instrumentation in Failed Trabeculectomy. Am. Journal of Ophthalmology (submitted)
3. McCaffery, J.M., Lusby, F.W.: A Review of 584 3M Style 30 Intraocular Lens Implants. American Journal of Cataract and Refractive Surgery, 12: 278-280, 1986
4. Lusby, F.W., Franke, J.W., McCaffery, J.M.: Clinical Comparison of Manual and Automated Keratometry in a Geriatric Population. Contact Lens Association of Ophthalmology Journal, Vol 15 #2, 119-121, March, 1987
5. Nordan, L.T., Lusby, F.W.: Refractive Aspects of Cataract Surgery. Current Opinion in Ophthalmology Vol. 6 #1, 36-40, February, 1995



Scientific Presentations:

1. "A Statistical Review of 584 3M Style 30 Intraocular Lens Implants," McCaffery, J.M., Lusby, F.W.: American Intraocular Implant Society, Los Angeles, CA, April, 1983
2. "Review of 838 Office-Based Posterior Capsulotomies," McCaffery, J.M., Lusby, F.W.: American Intraocular Implant Society, Los Angeles, CA, April, 1983
3. "The Accuracy of the Assumed Anterior Chamber Depth in the Binkhorst Formula," Lusby, F.W., McCaffery, J.M.: American Intraocular Implant Society, Los Angeles, CA, April, 1983
4. "Pre-operative Axial Length vs. Post-operative Axial Length," Lusby, F.W., McCaffery, J.M.: American Intraocular Implant Society, Los Angeles, CA, April, 1983
5. "Comparison of the Enhancement Rates of the Casebeer and the Nordan/Maxwell Refractive Surgery Methods," Lusby, F.W., ASCRS Symposium on Cataract, IOL, and Refractive Surgery, San Diego, CA, April, 1995
6. "Incisional Keratotomy: Current Status," Lusby, F.W., Mericos Eye Institute Visions in Ophthalmology, La Jolla, CA, March, 1996

Scientific Exhibits:

"An Irrigating Endo-illuminator for Anterior Vitrectomy." Lusby, F.W., Oyakawa, R.T., Schachat, A.P., Brown, R.H. Contact Lens Association of Ophthalmology and the Combined Meeting of the Anterior Segment Societies, Las Vegas, Nevada, 1982

Teaching Appointments:

Faculty: Residents Skills Training Course in Radial Keratotomy, ASCRS Symposium on Cataract, IOL, and Refractive Surgery, San Diego, CA, April, 1995

Mentor: Health Professions Preparation Program, UCSD, 1998-Current

Academic Appointment:

Adjunct Clinical Professor



Southern California College of Optometry
Fullerton, California
(2006-2012)

Part-time Clinical Professor
Southern California College of Optometry
Fullerton, California
(2012-current)

Franklin N. Busby, MD

Dr. George Baerveldt

NVISION Laser Eye Centers Surgeon



Dr. Baerveldt's international reputation is based on his glaucoma research and surgical innovations. Dr. Baerveldt developed the Baerveldt™ Glaucoma Implant and presently holds six patents related to this invention. He also invented Trabectome®, a minimally-invasive glaucoma surgical instrument for the treatment of adult and infantile open-angle glaucoma which is performed worldwide. In 2012, the American Glaucoma Society awarded Dr. Baerveldt with the Innovator Award for these surgical contributions.

Born and educated in South Africa, Dr. Baerveldt obtained his medical degree from the University of Pretoria and his residency in ophthalmology at the University of the Witwatersrand. In 1980, Dr. Baerveldt was head of St. John's Eye Hospital in Johannesburg when he was recruited as a fulltime faculty member at the Doheny Eye Institute, University of Southern California. In 1994, he accepted a faculty position as the Director of Glaucoma at the Cleveland Clinic Foundation where he remained until joining University of California at Irvine in 1999 as Director of Glaucoma. He was the Irving H. Leopold Professor and Chair of the Department of Ophthalmology, and Director of the Gavin Herbert Eye Institute from July 2003 - November 2008.

Dr. Baerveldt has participated in 44 clinical trials involving glaucoma drugs and glaucoma surgery, and has published 84 peer-reviewed papers and 11 chapters in books. He was the principal investigator on the RPB Challenge Grant 2004 - 2008. He is a charter member of the American Glaucoma Society, and a founding member of the Glaucoma Society of Southern California and the Glaucoma Society of Orange County.

Dr. Baerveldt received the American Academy of Ophthalmology's Senior Achievement Award in 2002 and was honored in Best Doctors in America (1996 - present). He was also named Top Ophthalmologist by the International Association of Healthcare Professionals, and recognized by the Doheny Professional Association with the Distinguished Alumnus Award in 2000. He lectures internationally on glaucoma surgery and drugs.

Dr. Baerveldt's humanitarian endeavors have been recognized by the National Society to Prevent Blindness. He also received the Teacher of the Year award in 1981 from the University of Southern California, and Staff of the Year award from the Cleveland Clinic Foundation, 1997/1998 and 1998/1999.

Dr. Baerveldt performs surgery at several of NVISION's Southern California locations and looks forward to meeting you and assisting with your glaucoma-related needs. In his spare time, he enjoys spending time with his wife, three children and four grandchildren.

Biography

Education

- 1967 Medical degree, University of Pretoria, Pretoria, South Africa
- 1976 South African Medical and Dental Council, Specialist in Ophthalmology

Professional Training

- 1968 Internship in surgery and medicine, University of Pretoria Hospital, Pretoria, South Africa
- 1976 Resident in ophthalmology, University of the Witwatersrand, Johannesburg, South Africa
- 1981 Internship in ophthalmology, LAC/USC Medical Center, Los Angeles, CA

Fellowships

- 1975 Clinical Fellow in Anterior Segment Surgery and Neuro-Ophthalmology, State University of New York, Brooklyn, New York

Board Certification

- 1976 Fellow of the College of Surgeons of South Africa in Ophthalmology

Professional Affiliations

- American Academy of Ophthalmology
- American Glaucoma Society
- Glaucoma Society of Southern California
- Glaucoma Society of Orange County

University & Hospital Positions

- Principal Surgeon and Head at St. John's Eye Hospital, Johannesburg, South Africa
- Faculty at Doheny Eye Institute, University of Southern California, Los Angeles, CA
- Director of Glaucoma at the Cleveland Clinic Foundation, Cleveland, OH
- Irving H. Leopold Professor and Chair of the Department of Ophthalmology and Director of Gavin Herbert Eye Institute, University of California, Irvine, CA

George V. Simon, M.D., J.D.
Curriculum Vitae

126 Elliott Court
Alamo, California 94507
925 944 1111
Email: idocmdjd@aol.com

EDUCATION:

Bronx High School of Science
Graduated with Honors

Bronx, NY
1963

City College of New York
Bachelor of Science Degree, Biology/Chemistry

New York, NY
1967

**State University of New York
Downstate Medical Center**
Doctor of Medicine Degree
Attended on full scholarship

Brooklyn, NY
1967 - 1971

John F. Kennedy University, School of Law
Juris Doctor Degree

Orinda, CA
1990 - 1993

John Marshall School of Law

Chicago, IL
1992 - 1993

Illinois Institute of Technology, Chicago-Kent School of Law

Chicago, IL
1992-1993

INTERNSHIP AND RESIDENCY

Children's Hospital and Adult Medical Center
Rotations with **University of California Medical Center,**
University Hospital, San Francisco General Hospital
Internship in Straight Medicine

San Francisco, CA

1972 - 1973

State University of New York, Downstate Medical Center
New York City Health and Hospital Corporation Affiliates
Downstate Medical Center
Ophthalmology Resident

Brooklyn, NY

1972 – 1975

LICENSURE:

American Board of Ophthalmology Board Certified	1976
Admitted to State Bar of California	1995
Admitted to the Supreme Court of the United States	2003

PROFESSIONAL EXPERIENCE:

Simon 2020 Vision Center <i>Private practice refractive surgeon</i>	Concord, CA Foster City, CA 2014 to present
Simon Vision Institute <i>Medical Director and refractive surgeon</i>	Concord, CA Foster City, CA 2010 - 2014
LCA Vision / “LASIKPLUS” Refractive Surgery Centers <i>Medical Director and refractive surgeon</i>	Concord, CA San Jose, CA Foster City, CA 1989 - 2009
Jones Eye Clinic <i>Private practice refractive surgeon</i>	Omaha, NE Sioux City, IO Sioux Falls, SD 1994 - 1998
Eye Care Physicians of America <i>Cataract and refractive surgeon</i> High volume cataract and refractive surgery practice	Chicago, IL 1993 - 1994
George V. Simon, M.D., Inc. <i>Private practice</i> Specialized in corneal refractive surgery and Oculoplastic surgery for 11 of the 18 years in this practice.	Concord, CA 1975 - 1993
Mt. Diablo Medical Center <i>Chairman, Division of Ophthalmology</i>	Concord, CA 1983

Professor/Lecturer Conducted refractive surgery classes/seminars nationwide and throughout the world including Russia, Lithuania, Mexico and China	Worldwide 1982 – 1998
AAO National Radial Keratotomy Convention <i>International Congress of Ophthalmology Course Director</i>	San Francisco, CA 1982
University of California, School of Optometry <i>Assistant Clinical Professor, Ophthalmic Pathology</i>	Berkeley, CA 1978 – 1982
State University of New York New York Department of Surgery, Division of Ophthalmology <i>Assistant Clinical Professor, Ophthalmology</i> Assistant to Dr. Richard Troutman, Chairman	Brooklyn, NY 1972 - 1975
Senior Aviation Medical Examiner <i>Federal Aviation Administration</i>	Concord, CA 1972 – 2011

PROFESSIONAL AFFILIATION: (current or former)

Diplomate, American Board of Ophthalmology (Board Certified)	1976
Diplomate, National Board of Medical Examiners	1972
Fellow, American Academy of Ophthalmology	
Fellow, Keratorefractive Society	
International Liaison Officer, Keratorefractive Society	
Member, Intraocular Implant Surgeons	
Member, California Medical Association	
Fellow, American College of Legal Medicine	
Member, Alameda – Contra Costa Medical Association	
Member, American Medical Association	
Licensed to practice Medicine and Surgery at present or formally in:	
Arizona, California, Idaho, Illinois, Indiana, Iowa, Nebraska, Nevada, New York, North Carolina, Oregon, South Dakota, Utah, Washington, Wisconsin and Wyoming	
Member, State Bar of California	

MILITARY:

U.S. Air Force Reserves, Berry Program in Ophthalmology Honorable Discharge	New York 1972 - 1975
--	-------------------------

OTHER:

Eagle Scout	1959
<i>At that time was the youngest nationwide ever to be admitted</i>	
Obtained Private Pilot's License	1969
Obtained Multi-Engine Rated Instrument Pilot License	1985
Worldwide pro bono work in cataract and reconstructive surgery	1979 - 1996
<i>Performed high volume surgeries with Surgical Eye Expeditions Inc. (SEE) in Mexico, Zimbabwe, Lithuania, Mongolia, Chile, Vietnam, China, Paraguay, and Zaire restoring sight and preventing blindness to disadvantaged individuals</i>	

OF NOTE**Residency 1972 – 1975**

- First group to use operating microscope from day 1 of residency with Dr. Richard Troutman
- Used experimental 11-0 and 13-0 sutures in P/Ks
- Experimented with the use of hydrogen peroxide in disinfecting soft contact lens
- Extensive corneal surgery under Dr. Richard Troutman
- Comprehensive plastic surgery under Dr's. Bryon Smith, Pierre Guibur and Perter Ballen
- Performed over 50 phaco's (taught by Dr. Charles Kelman) with Cavitron machine in 1995

Ophthalmology Practice 1975 – present

- First to implant IOL's in Northern California 1975
Fyodorov Sputnik, Wurst, Binkhorst, Choyce, Iris clip, etc.
- One of the first to perform R/K on the West Coast 1980
Approximately 15,000 R/K surgeries performed
- First to advertise and market ophthalmic services in Northern California 1981/1982
- Amongst first in the use of extracap leading to phaco 1985
- Amongst first in the use of no-stitch cataract surgery 1991
- Amongst first in the use of clear lensectomy for high myopia 1985
- Designed refractive surgery program for large ophthalmic practice

in Chicago area

1993

- Initiated and directed high volume refractive surgery program including R/K, AK, ALK, PTK, PRK and LASIK in Omaha and Chicago
- Excimer laser LASIK and PRK - over 80,000 procedures performed to date

Jeffery Machat, MD, FRCSC, DABO
25082 Anvil Circle, Laguna Hills, California 92653
416-818-1747, jeff.machat@nvisioncenters.com

Dr. Machat is a double board certified ophthalmologist with a 25 year history of laser refractive surgery clinical and business experience. In brief he was the founder and visionary behind TLC Laser Eye centers, which became the largest refractive surgery network in North America with several hundred refractive surgeons, over 14,000 referring optometrists, over 80 clinics and over 300 satellite locations with a peak market cap exceeding \$3 Billion. He was also the Chief Medical Officer for Optical Express in Europe helping grow that company from 11 LASIK clinics to 55 in 18 months, to the #1 provider in Europe increasing revenues by over 350% during his tenure. Currently, he has accepted the position of Chief Medical Officer at NVision Laser Eye Centers, the leading premium provider of Cataract and Laser Refractive surgery in North America utilizing an Optometric Co-Management model.

Dr. Machat has performed over 65,000 laser refractive procedures with 19 different laser systems from 8 different laser manufacturers, written two textbooks, developed over 20 surgical instruments, was an investigator for multiple Health Canada and FDA trials and has lectured in two dozen countries on five continents.

Education and Medical Training

**Board certification by the American Board of Ophthalmology,
November 24, 1991**

**Board Certification by the Royal College of Physicians & Surgeons of Canada
November 16, 1990**

Residency	7/1/1987—6/30/1990
<i>University of Toronto</i> , Toronto, On. Canada	
Ophthalmology	

Internship	7/1/1986—6/30/1990
<i>University of Toronto</i> , Toronto, On. Canada	
Comprehensive Medical Internship, Toronto General Hospital	

Doctor of Medicine	7/1/1982— 6/12/1986
<i>University of Toronto</i> , Toronto, On. Canada	

Undergraduate Program, Life Science	9/1/1980-5/15/1982
University of Toronto, Scarborough, Ontario, Canada	

Professional Work History

Chief Medical Officer, NVision Centers in Murrieta, Newport, Concord and Foster City 01/01/2016

Chief Medical Officer for Company and Refractive surgeon at four Nvision Laser Refractive Centers and two affiliated Canadian centers

- Centers equipped with Schwind Amaris, WaveLight and/or Visx S4 IR excimer laser systems and IntraLase or Ziemer femtosecond laser systems
- OrbScan 3D, Gallelei, Pentacam or Sirius corneal diagnostic systems

Founder and Medical Director

02/1/2009—present

Crystal Clear Vision, Toronto, On. Canada

- Crystal Clear Vision is a state of the art facility in downtown, Toronto.
- The clinic has a College approved full ophthalmic surgery operating suite and two laser suites.
- Clinic offers LASIK for the correction of hyperopia, myopia and astigmatism, KAMRA Vision for reading vision correction and premium Laser Cataract Surgery
- The clinic is not only a treatment facility, but a teaching and research facility as well, hosting and training surgeons from across North America.
- Equipped with the most advanced technology including:
 - Schwind AMARIS 750s Excimer Laser system
 - Sirius Corneal and Total Ocular Wavefront Diagnostics system
 - Specular Microscopy, RT VUE OCT system, Epic system, IOL Master
 - AcuFocus AcuTarget HD and Tagaki microscope for KAMRA surgery
 - Ziemer Z4 Femtosecond Laser for Corneal surgery
 - Victus Femtosecond laser for Cataract surgery

Co-Founder/North American Medical Director

08/01/1993—01/01/2002

TLC Canadian National Medical Director

01/01/2002---02/01/2009

TLC Laser Eye Centers, Toronto, Canada

- Co-founded and developed the largest laser vision correction company in the world, with 83 fixed site clinic across North America, as well as 300 mobile sites.
- Provided clinical training, education and direction for over a 600 surgeons.
- Provided the clinical and operating guidelines for all surgeons, technicians and clinical staff
- Functioned as Chief surgeon at multiple clinics, performing thousands of vision correction surgeries and complication management and care to TLC and non-TLC patients
- Pioneered many techniques and developed surgical instrumentation for LASIK and PRK
- Functioned as Researcher and Investigator for several excimer laser companies, including Summit, Visx, Technolas, LaserSight and WaveLight
- Primary FDA Investigator for Technolas 217 excimer laser system
- Health Canada Investigator for Summit, Visx, Technolas laser systems
- TLC became a publicly traded company on both the TSX and NASDAQ in 1996.
- After 2002, transitioned position and responsibilities, limiting oversight to 7 Canadian clinics and developing Custom LASIK Centre in 2000, working with Optical Express and helping develop

RheoTherapeutics Macular Degeneration Clinics. During this entire period, continued to operate and function as TLC Medical Director for Canada.

Medical Director

Rheo Therapeutics, Toronto, Canada

09/01/2007—06/24/2008

- Instrumental in the development of Macular Degeneration Treatment Centers across Canada.
- Performed research and coordinated policies and procedures for the Retinal Surgeons and other physicians involved with the organization.

Chief Medical Officer/ Strategic Advisor

Optical Express, Glasgow, Scotland

01/01/2005—06/16/2006

- Provided key insights into their clinical and business issues and future development.
- Advised on laser technology, provided surgeon and technician training
- Developed clinical policies and procedures, the consultative approach, diagnostic testing, surgical and post-operative management of patients,
- Developed patient advocacy systems and complication management systems
- Developed training programs and provided a series of educational events for entire employee base of over 1000 employees, optometrists and surgeons.
- Instrumental in growing the company from 11 clinics to 55 clinics over a 2 year period, becoming the largest Laser Vision Correction provider in Europe, with clinics in Scotland, England, Ireland, Holland, Belgium, France and Germany.
- Responsible for the selection and Implementation of Wavefront laser technology.
- Responsible for the development of their International Medical Board.

Founder/Medical Director

Custom LASIK Centre, Toronto, Canada

03/01/2000—12/31/2004

- A treatment and research facility, pioneering Wavefront Technology in Laser Vision Correction.
- First clinic in Canada to utilize custom technology to improve qualitative visual outcomes, prevent night glare and manage complications for other clinics across North America.
- The clinic was equipped with several different laser technologies and Wavefront platforms, including Hartmann-Shack, Tscherning, and Ray Tracing technology

Licensure and Board Certifications

Board Certified, Royal College of Physicians & Surgeons of Canada, November 16, 1990
Diplomat of The American Board of Ophthalmology, November 24, 1991

Professional Memberships

Canadian Society of Cataract and Refractive Surgery
Canadian Ophthalmological Society
International Society of Refractive Surgery
American Society of Cataract and Refractive Surgery
American Academy of Ophthalmology
American-European Congress of Ophthalmic Surgery
Member of AcuFocus International Medical Advisory Board

Publications

Author of two textbooks:

“Excimer Laser Refractive Surgery- Practice and Principles”

“The Art of LASIK”

Additional Accomplishments

- Early pioneer and innovator of LASIK, learned technique from Dr. Luis Ruiz in Bogota, Columbia over two decades ago, one of the first handful of surgeons in North America to perform LASIK.
- First surgeon in Canada to utilize Wavefront technology in 2000, third worldwide
- First Surgeon in Canada to perform Custom LASIK in 2000.
- First surgeon in Canada to utilize Femtosecond laser technology in 2003.
- First surgeon to perform Bladeless Custom Lasik with Intralase femtosecond laser.
- First surgeon in Canada to perform KAMRA Vision reading vision correction.
- First surgeon to perform AMARIS Custom LASIK with the Schwind AMARIS 750S Excimer laser system.

- One of the few Chiron ACS and Hansatome microkeratome certified trainers; Lectured and certified hundreds of physicians across North America, South America, Europe, South Africa, Australia, the Middle East and Asia.
- Investigator and instructor for 8 different laser manufacturers, utilizing 20 different Excimer laser platforms and 14 femtosecond laser models from 4 different manufacturers
- Lectured in 24 countries on 5 continents on Excimer laser and Femtosecond laser technology, Wavefront technology and other refractive techniques and innovations.
- Developed instrumentation and software for Photorefractive Keratectomy, Laser in situ Keratomileusis (LASIK), and the KAMRA Corneal Inlay procedure.
- Performed over 67,000 laser vision correction procedures, including more than 57,000 LASIK procedures.
- Treated over 600 Optometrists, Ophthalmologists and physicians.
- Has performed additional reading vision correction procedures including Sunrise Holmium Laser Thermokeratoplasty, Visx Multifocal Ablation and RestorVision Scleral Implants.



CURRICULUM VITAE

JOHN DAVIDSON, M.D.

April 20, 2016

POSITIONS

EMPLOYER	Miramar Eye Specialists Medical Group	1993-now
SPECIALTY	Ophthalmology	1992-now
ACADEMIC	Assistant Clinical Professor of Ophthalmology Stein Eye Institute, UCLA UCLA/Ventura County Medical Center	1992-now
CHIEF SURGEON	NVISION Laser Eye Centers, Camarillo	2007-now

EDUCATION

FELLOWSHIP	Jules Stein Eye Institute, Los Angeles, CA Pediatric Ophthalmology & Strabismus Arthur L. Rosenbaum, MD, Chairman Sherwin J. Isenberg, MD, Vice-Chairman	1991-92
RESIDENCY	Indiana University, Indianapolis, IN Ophthalmology Robert D. Yee, MD, Chairman Eugene M. Helveston, MD, Chief, Pediatric Section	1988-91
INTERNSHIP	Methodist Hospital, Indianapolis, IN Transitional	1987-88
EXTERNSHIP	St Vincent Hospital, Indianapolis, IN Emergency Department	1986-87
MEDICAL	Indiana University, Indianapolis, IN Doctor of Medicine <i>Highest Distinction</i>	1983-87
UNDERGRADUATE	Indiana University, Bloomington, IN Bachelor of Arts Biology Bachelor of Arts Chemistry <i>Highest Distinction</i>	1979-83

HONORS

Jules Stein Eye Institute Clinical Fellow Research Award, UCLA	1992
Phi Beta Kappa, Indiana University	1983
Alpha Omega Alpha, Indiana University Medical School (Junior Year)	1986-7
Arthur R. Metz Distinguished Scholarship, Indiana University	1979-83
<i>US News Top Doctors</i>	2013-2016
<i>Southern California Super Doctors®</i>	2013-2016
America's Top Ophthalmologists	2007-2016
Ventura Star newspaper, Reader's Choice, Best LASIK Surgeon	2014

HOSPITAL AFFILIATIONS

Community Memorial Hospital, Ventura, CA	Active	7/92-now
Lynn Eye Surgery Center	Courtesy	1/04-now
Ojai Valley Hospital	Courtesy	8/03-now
St. John's Regional Medical Center, Oxnard, CA	Courtesy	4/93-2014
Ventura County Medical Center	Active	7/92-now
Westlake Eye Surgery Center	Courtesy	1/95-now

LICENSURE

California	G71316	5/1/91-1/31/2017
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BOARD STATUS

National Board of Medical Examiners	Board Certified	3/88-now
American Board of Ophthalmology	Board Certified	4/94-now
American Board of Ophthalmology	Board Recertified	10/04-01/15
American Board of Ophthalmology	Board Recertified	1/1/2015- 12/31/2024

MEMBERSHIPS

American Society of Cataract and Refractive Surgery	2004-now
American Academy of Ophthalmology	1988-now
California Academy of Eye Physicians & Surgeons	1991-now
Ventura County Ophthalmology Society	1992-now
California Medical Association	1991-now
Ventura County Medical Society	1992-now

SPEAKERS BUREAUS

Alcon Pharmaceutical
 Alcon Surgical
 Allergan
 Bausch & Lomb

CONSULTANT

Alcon Surgical

INTERNET

Web Addresses

www.JohnDavidsonMD.com

www.MiramarEye.com

Email Address

DoctorJohn@JohnDavidsonMD.com (not to be shared)

PUBLICATIONS

Strabismus Surgery in Patients With Myasthenia, Journal of Pediatric Ophthalmology & Strabismus, 1993;30:292-5.

The Visual Function of Professional Baseball Players, American Journal of Ophthalmology, 1996;122:476-85.

OSN Article, “Cataract Refractive Surgery: Myth Busters”, August, 2014

OSN Article, “The New Era in Astigmatism Management”, October 10, 2014

OSN Article, “Refractive Cataract Surgery,: Practice Profiles”, December 10, 2014

The LenSx Laser—A Review of Current Literature on its Use in Cataract Surgery,

US Ophthalmic Review, April 2016

MEETING/COURSE INSTRUCTION

Alcon Booth Talk, ReSTOR +3.0, ASCRS San Diego, 3/28/2011

Alcon Talk, Fresno, 3/1/2014

Navigate, Ft. Lauderdale, 3/29/2014

IOL Calculations, USC and UCLA Residents and Fellows, Los Angeles, 4/2/2014

Sacramento Eye Society, Sacramento, 4/10/2014

Navigate Chicago, 4/12/2014

Alcon Booth Talk, ASCRS Boston, 4/27/2014

Centurion Panel, Ascrs Boston, 4/26/2014

Dallas Academy of Ophthalmology, Dallas, 5/15/2014

Invited Lecturer and Moderator, UT Southwestern Grand Rounds, Dallas, 5/15/2014

LenSx and Verion, Third Street Surgery Center, Los Angeles, 6/9/2014

LenSx and Verion, Seattle, 6/12/2014

LenSx and Verion, Hawaiian Ophthalmolgy Society, Honolulu, 9/6/2014

LenSx and Verion, San Gabriel Surgery Center, Pasadena, 10/1/2014

LenSx and Verion, Vancouver, 10/2/2014

LASIK & Cataract Surgery Comanagement, TriCounties Optometric Society, Pismo Beach, 10/4/2014
 USC Femto Symposium, Los Angeles, 10/11/2014
 Verion: The Image Guided Pursuit of Emmetropia, AAO, Chicago, 10/18/2014
 Femto Skills Transfer Lab Instructor for LenSx, AAO Chicago, 10/19/2014
 JOULE: Powering Education on LenSx Laser Technology, Chicago, November 8, 2014
 LenSx and Verion, San Diego, 11/19/2014
 Alcon Raising the Bar in 2015: Improving Outcomes for Our Cataract Patients, Hawaiian Eye Meeting, Maui, 1/19/2015

ADVISORY BOARD MEETINGS

Centurion, Dallas, 9/28/2013
 LenSx AAO, Chicago, 10/16/2014
 Verion AAO, Chicago, 10/17/2014
 Verion and ORA, Maui, 1/18/2015
 Alcon Ad Board Cat/IOL, Waikola, 1/16/2016
 Alcon Ad Board Pharma, Waikola, 1/17/2016

MULTI-CENTER COLLABORATIVE STUDIES

Allergan Phase III, Protocol #193042-022
 Jan 2005- closed

Allergan Phase III, Protocol #192024-026T
 Feb 2004-closed

Alcon Phase III, Protocol #C-040-04
 June 2004-closed

Allergan Phase III, Protocol #190342-021
 March 2003-closed

Alcon ReSTOR Toric, Protocol #C-09-036 ART
 September 2011

LenSx LASER

First in Ventura County to perform LenSx surgery, 5/3/2013

Verion Image Guided System

First in California and the Western Region to implement Verion, 4/21/2014

WaveTec Vision ORA

First in Ventura County to use intraoperative wavefront aberrometry, 5/3/2013

VOLUNTEER EYE SURGERY MISSIONS

Albania

Mexico

Venezuela

Vietnam

SERVICES

Refractive Lens Replacement Surgery

LenSx, Advanced Technology IOLs, ORA

Cataract Surgery for Adults, Children and Infants

Complex Cataract and Implant Surgery for Adults and Children

Laser Vision Correction (LASIK, PRK)

Visian ICL

ADDRESSES

Main Office & Billing Office	3085 Loma Vista Road Ventura, CA 93003	Tel: (805) 648-3085 Fax: (805) 648-7027
Satellite Offices	751 E. Daily Drive #110 Camarillo, CA 93010 Tel: (805) 987-8705	2230 Lynn Road, Suite 102 Thousand Oaks CA 91360 (805) 495-0458
	351 Rolling Oaks Dr. #102 Thousand Oaks, CA 91361 Tel: (805) 497-3744	1445 E Los Angeles #104 Simi Valley, CA 93065 Tel: (805) 527-6720
NVISION Laser Eye Center	771 E. Daily Drive, #245 Camarillo CA 93010 Tel: (805) 437-7150	

INVITED LECTURER (since 2014)

Strategies for Managing Astigmatism for the Catara	03/01/14	Fresno, CA
A Discussion of Advanced Technology IOLs	04/02/14	Los Angeles, CA
A Discussion of Advanced Technology IOLs	04/02/14	Los Angeles, CA
Introducing the Centurion Vision System	04/10/14	Sacramento, CA
Femtosecond Laser-Assisted Cataract Surgery	04/27/14	Boston, MA
Femtosecond Laser-Assisted Cataract Surgery	04/27/14	Boston, MA
Introducing the Centurion Vision System	05/15/14	Dallas, TX
Femtosecond Laser-Assisted Cataract Surgery	06/09/14	Los Angeles, CA
Femtosecond Laser-Assisted Cataract Surgery	06/09/14	Los Angeles, CA
Femtosecond Laser-Assisted Cataract Surgery	06/12/14	Seattle, WA
Femtosecond Laser-Assisted Cataract Surgery	06/12/14	Seattle, WA
Femtosecond Laser-Assisted Cataract Surgery	09/06/14	Honolulu, HI
Femtosecond Laser-Assisted Cataract Surgery	10/01/14	Pasadena, CA
Femtosecond Laser-Assisted Cataract Surgery	10/11/14	Los Angeles, CA
A Discussion on Advanced Biometry	11/19/14	San Diego, CA
A Discussion on Advanced Biometry	11/19/14	San Diego, CA
Femtosecond Laser-Assisted Cataract Surgery	11/20/14	Portland, OR
LenSx Laser: The Next Evolution in Cataract Surger	03/02/15	Newport Beach, CA
Adopting Image Guided Surgery for Cataract Refract	03/26/15	Houston, TX
A Discussion on Advanced Biometry	04/08/15	Irvine, CA
Innovative Technologies for the Modern Cataract Re	04/09/15	Sacramento, CA
Innovative Technologies for the Modern Cataract Re	04/09/15	Sacramento, CA
2015 Latin America & Canada (LACAN) Advancements in Refractive and Cataract Surgery Symposium	05/29/15	Irvine, CA



Dr. Jonathan Pirnazar

Medical Director

For Dr. Pirnazar, complexity is another word for “challenge.” Finding solutions to complex eye issues is his specialty, and he has the experience and education to back it up.

Having performed more than 20,000 refractive and cataract surgeries, Dr. Pirnazar’s specialties include LASIK, premium multifocal and accommodating intraocular lens implants, and implantable contact lens surgeries. He also specializes in treating glaucoma with laser eye surgery. In addition to his clinical experience, he involves himself in pharmaceutical studies and clinical trials in the treatment of ophthalmic diseases.

He received his M.D. with Honors from the University of Illinois, Chicago School of Medicine and completed his residency at the prestigious Washington University in St. Louis, where he also served as chief director of University Eye Service.

He continued his education with fellowship training in corneal and refractive surgery at the University of California, Irvine, where he also served as an assistant professor. He is a board-certified ophthalmologist.

His extensive experience in both surgeries and pharmaceutical trials has made him a sought-after expert among doctors in the ophthalmology field. He has published articles in respected medical journals, including the American Journal of Ophthalmology and Ophthalmology Times.

When he isn’t working on complex eye surgeries or helping other doctors manage complex eye surgeries and ophthalmic emergencies, Dr. Pirnazar enjoys spending time with his wife and two sons, playing tennis and watching Chicago Bears games.

Biography

Education

- 1991 B.A. in Psychology, Northwestern University
- 1995 M.D., University of Illinois School of Medicine

Professional Training

- 1996 Internship, Internal Medicine, University of Chicago
- 1999 Resident in Ophthalmology and Visual Sciences, Barnes-Jewish Hospital / Washington University Medical Center
- 2000 Clinical Instructor / Chief Resident / Director of University Eye Service at Barnes Jewish Eye Clinic

Fellowships

- 1992 Research Fellow in Laboratory of Central Nervous System Studies, Institute of Neurological Disorders and Stroke, National Institute of Health
- 2001 Fellow in Cornea and External Disease / Refractive Surgery, University of California, Irvine

Board Certification

- 2000 American Board of Ophthalmology

Professional Affiliations

- American Academy of Ophthalmology
- Orange County Ophthalmologic Society

University & Hospital Positions

- Instructor in Ophthalmology, Department of Ophthalmology and Visual Sciences, Washington University Medical School
- Instructor in Ophthalmology, Department of Ophthalmology, University of California, Irvine
- Assistant Clinical Professor, Department of Ophthalmology, University of California, Irvine
- Director, Department of Ophthalmology Continuing Medical Education Program
- Director, Pavilion II Ophthalmology Clinic



Dr. Mihir Parikh

NVISION La Jolla

As the San Diego Charger's Official Team Ophthalmologist and former medical director at Advanced Ophthalmology Institute, Dr. Parikh knows the importance of precision in LASIK procedures. And, having undergone LASIK surgery himself, he understands the process both as a surgeon and as a patient.

Board-certified for more than 10 years, Dr. Parikh has performed more than 12,000 LASIK procedures, including many patients who are San Diego Chargers players. He specializes in LASIK, PRK, LASEK, cataracts and intraocular lenses, custom LASIK and Wavefront technology. He was one of the first west-coast surgeons trained in custom Wavefront treatment technology.

Before dedicating his career to the field of medicine, ophthalmology and refractive eye surgery, Dr. Parikh was involved in laboratory research in molecular biology and biochemistry at the University of California, Irvine, and in clinical research at the University of California, San Diego Burn Center.

An award-winning surgeon, Dr. Parikh has been honored with the Laurence Mehlman Prize and was the recipient of the University of California Regents Scholar Award for four years in a row. His presentation on "the effects of intrastromal corneal lens implantation (Intacs) on nerve fiber layer thickness" was honored best paper at the ASCRS 2000 conference in Boston, Massachusetts.

In his spare time, Dr. Parikh teaches principles of ophthalmology and refractive surgery to fellow doctors and surgeons nationally and internationally and has been published in many notable medical journals.

Biography

Education

- 1991 BS in Biological Sciences, cum laude, University of California, Irvine,
- 1995 M.D., University of Michigan Medical School, Ann Arbor, Michigan

Professional Training

- 1996 Internship in Internal Medicine, New York University Medical Center and Bellevue Hospital, New York
- 1999 Residency training in Ophthalmology, New York Eye and Ear Infirmary, New York

Fellowships

- 2000 Fellowships in Anterior Segment Surgery and Cornea and Refractive Surgery, Sinskey Eye Institute, Santa Monica, California

Board Certification

- 1999 American Board of Ophthalmology

Professional Affiliations

- California Medical Association
- San Diego County Medical Society Board of Trustees
- American Academy of Ophthalmology
- American Society of Cataract and Refractive Surgery

University & Hospital Positions

- Advanced Ophthalmology Institute, A Medical Corporation
Medical Director and Surgeon of La Jolla Surgery Center
- Indian Health Council, Chief Ophthalmologist for Native Americans in Rincon - Pauma Valley
- Scripps Memorial La Jolla and Scripps Mercy Hospitals

CURRICULUM VITAE

Dr. Patrick J. Lydon, Clinical Research Optometrist – Manager and Director of Clinical Affairs

Primary Residence:

77-251 Tribeca St. Indian Wells, CA 92210

Home: 760-360-5245

Email: pjlwolf@earthlink.net

Cell: (949)-735-2766

STATEMENT OF PURPOSE

This resume is a condensed summary of my professional, educational, and personal background. It outlines my qualifications in the areas of patient care, training, business management, and clinical trials for medical devices and procedures. I believe that because of my familiarity with the certification processes, as well as my background in research, I am uniquely positioned for consideration in any role related to those fields.

WORK EXPERIENCE

Current:

- 1. January 2016 – Consulting Optometrist – NVISION Center Palm Desert California**
Responsible for Pre Op and Post Op Comanagement LASIK/Cataract
- 2. March 2015 to present – Consulting Director of Optometric Services – S. Shah,
MD Family Charitable Foundation for Health – Palm Desert , CA**

Primary Eyecare - directing the clinical program at the Shah Foundation, with special emphasis on Glaucoma Patients, and disadvantaged students of the Coachella Valley, ensuring no student is left behind because of a vision problem.

- 3. Nov. 2014 to present - Consulting Director of Clinical And Medical Affairs, Eye
Therapies Inc. (Lutronic division) - San Francisco-based ophthalmic laser medical devices**

- Surgical Trainer – AMD 10 Laser
- Staff Trainer
- Site Qualification, Initiation
- Study Protocol Development and Review

- IRB Submission
- Site Contract Review
- Study Documentation Development and Review

4. Nov. 2014 to present - Consultant to Refocus Group, Dallas TX – Clinical research

– Medical device company studying the surgical treatment of presbyopia

- Surgical Trainer – VisAbility Implant System (Spain and Ireland)
- Site Staff Training and Managing /Reviewing Subject Enrollment
- Post Marketing Protocol Development and Review

Previous Work Experience: (full time – non consulting)

1. Eye Therapies, San Francisco, CA – Director of Clinical and Medical Affairs –

Nov. 2014 to March 2015

- Reported directly to the President and CEO
- Credited with designing the clinical program and providing expertise in the Surgical Training for the AMD 10 Ophthalmic Laser
- Co-developed clinical research strategic programs in line with global strategy and supported the local product registration and marketing.
- Acted as a medical resource to the company as a whole and particularly to the clinical research department - protocol and CRF writing, adverse events reporting, discussions with investigators, and internal meetings.
- Worked closely and cooperatively with research centers internationally
- Initiated and Developed clinical trial programs to support product registration and marketing.
- Provided medical and scientific input to global product development teams.
- Provided medical expertise in the review of adverse experiences
- Established ongoing liaison with key opinion leaders, government officials, CRO's and other healthcare organizations to ensure that significant developments in the field are identified and monitored.
- Represented the company at professional worldwide meetings
- Ensured that the interfaces between Medical/Clinical and other departments were managed optimally.

- Formed informal networks with company senior management, updating them on a regular basis on developments within Medical and progress made with the clinical and regulatory program.
- Worked in conjunction Regulatory, Marketing and Financial people through cross-functional teams, to ensure timely entry of new device to the market
- Worked with company management to determine requirements for clinical programs - involved with the identification and selection of suitable candidates for positions.
- Ensured effective team communication throughout the department through the application of suitable reporting systems and structures and the identification and provision of appropriate training.

2. Refocus Group, Dallas TX – Global Clinical Affairs Manager – April, 2014 to Nov 2014.

- Primary responsibility for overseeing all clinical activities related to sites in Spain and England/Ireland.
- Managed trial exclusion and inclusion enrollment.
- Surgical Trainer for VisAbility Implant System
- Qualified clinical investigators and clinical sites on the VisAbility Implant System.
- Obtained and reviewed all required essential documents necessary for study initiation.
- Interacted with all levels of medical and scientific professionals.
- Assisted in the preparation and presentation of clinical training materials for investigator site staff.
- Provided scientific support to health care professionals at clinical sites.
- Independently handled various clinical study assignments including: conceptualizing, planning, designing, executing and monitoring
- Managed staff at site for company in regards to trial activities
- Summer 2014 Visiting Scholar at the University of Terraza, School of Optometry (Barcelona) Spain for the VisAbility Implant Trial
- Managed resource planning, project timelines and effective use of budget
- Managed project related professional meetings and presentations
- Established and maintained ties to Surgeons and Staff Globally
- Responsible for providing assistance in direction of overall corporate strategy and evaluating market potential
- Monitored clinical studies, ensuring site compliance with the clinical protocols; assuring subject rights, safety, and welfare are protected; ensured data integrity through completeness, accuracy, and legibility.
- Reviewed and monitored required corrective actions; conduct follow-up activities on required action items directly with investigator sites. .

- Maintained professional, product, and market expertise via independent reading, networking, and training.

3. AcuFocus Inc., Irvine, CA - CRA / Clinical Research Optometrist / Director of Training / Global Training Manager (Feb 2012-2014 April)

- Clinical Research Optometrist: In this position I was responsible for monitoring sponsor-initiated clinical research studies for the KAMRA Inlay, 020A and 020B trials – conducted monitoring visits to confirm protocol compliance and to ensure sponsor/investigator obligations were met nationally as well as in Australia , New Zealand, Canada , Peru, and Chile.
- Verified that sites were compliant with applicable local requirements and FDA / ICH guidelines
- Monitored the trials to confirm protocol compliance. Included Surgeon (and staff) Training on femtosecond lasers, AcuFocus Home Office training and assessed qualifications of study personnel to ensure “Good Clinical Practice”.
- Identified site issues and initiated correction plans based on monitoring reports (including study logs and device accountability) and performed necessary follow-up onsite training
- Verified the data in source documents (EDC) were in agreement with source, initiated data query resolutions, and confirmed resolutions in a timely manner
- Ensured subject safety and adverse event reporting to sponsor and IRB/IEC
- Promoted to Director of Training USA /Global Training Manager – Europe, India and Canada. Worked within the team environment to provide commercial training to team members such as project managers.
- Responsible for developing and training interactions for all trained surgeons and staff in use of the KAMRA inlay. Opened the commercial markets for KAMRA in India and Canada. Monitored the training guidelines and introduced surgeons and staff to the device.
- Initiated the Global Data Base Registry for KAMRA patients in Canada / ROW
- Credited with obtaining the highest volume of clinical KAMRA subjects for new sites in Canada
- Developed the Visiometric AcuFocus HD Acutarget project for site use

4. NeoVista Inc., Fremont, CA – Clinical Affairs Specialist / CRA/ VA Trainer /Director of Clinical Marketing Training. May 2006 – April 2012

- Began at NeoVista as CAS with Retinal Surgeon Training, Monitoring (US And OUS), Radiation Oncologist Training, Medical Physicist Training , and Optometrist trainer.
- Performed IRB, and Protocol submission in the United States, Europe, and South America for multiple NeoVista clinical trials.
- In charge of VA Certification for worldwide trial CABERNET,
- London based Director of Clinical Marketing Training for the MERLOT Trial -23 NHS sites

Specific Job Functions in UK for NeoVista:

- Credited with completing enrollment of subjects on time for the MERLOT trial (373 subjects at 23 sites).
- During the CABERNET And MERLOT clinical studies, initiated frequent interactions with clinical investigators to ensure compliance with protocol and overall clinical project objectives.
- Trained surgeons on use of the VIDEON (radiation device). Trained nursing and radiation staff on use of VIDEON. Represented NeoVista in OR situations worldwide (USA, South America, Europe , Israel and South Africa.
- Responsible for training of medical staff in follow-up to cases performed (AE Reporting)
- Assured studies were conducted in compliance with UK NHS/NICE Good Clinical Practice and appropriate international, federal, state, and local regulations and guidance's.
- Provided assistance in the evaluation and analysis of clinical data.
- Responsible for regular updates to Senior Management on site status.
- Managed the Physics Project NeoVista. Ensuring the on time , replacement and exchange of expiring medical devices in the UK. Credited with "saving" the MERLOT Trial
- Organized and worked closely with an international team (Austria – Germany – UK) to initiate successful clinical trials enrollment strategies
- Audited sites in the United States, Europe, Middle East and South America.
- Maintained accurate and timely sponsor/site correspondence and communication.
- Prepared and presented project progress reports to keep NeoVista management and clinical staff informed
- Presented MERLOT Trial to the Royal College of Surgeons, London UK
- MERLOT Trial Specifics: Responsible for site qualification, initiation, surgeon/ radiation oncology training, data monitoring, adverse event reporting, IRB applications, protocol review, informed consent, and creating SOPs.

- I transferred to AcuFocus (a sister company of NeoVista) in March of 2012. As a Clinical Research Optometrist, I continued in monitoring and training sites worldwide. I worked with refractive surgeons, R & D and Marketing on developing the KAMRA inlay.

5. Genentech Corporation Visual Acuity Evaluator/Trainer (August 2002 - May 2006) -

- VA Evaluator/Trainer for the Lucentis Series of Clinical Trials ---Focus, Anchor, Marina, Sailor, and Horizon
 - Trained and worked with site staff on VA requirements for Lucentis development.
 - Trained Protocol and Developed New Training Upgrades for Genentech Clinical Trial Managers
 - Extensive US travel – responsible for > 30 sites
 - Contributed to the success of Lucentis with VA results meeting endpoint
- Transferred to NeoVista to continue work in wAMD

Field-Related WORK EXPERIENCE:

- Prior to joining Genentech: Pearle VisionCare HMO of California
- November 1986 – 2002 Starting as a Staff OD in a single office in 1986, my career at Pearle saw my responsibilities expand to include the following positions:

Medical Director/VP Cole Managed Vision (parent company of Pearle)

- ⊖ Staff OD, Managing OD
- Regional Optometric Coordinator
- 1996 Externship Binder Gordon Laser Vision Institute
- Quality Assurance Committee Chairman
- Director of Doctor Relations PVC California
- Medical Director PVC
- President Pearle Vision Care of California

During these transitional years, my responsibilities grew to include oversight, administration, and clinical decisions for approximately 50 California corporate locations. I was credited for contributing significantly to a business turnaround that reversed downsizing, leveled a financial slide and turned comp growth. During this period, Pearle's California offices improved efficiency dramatically (i.e., fewer offices saw more patients with higher quality). Creation and oversight of a network of over 100 providers. Monitoring performance of direct-reporting OD's, training, coaching, counseling, conducted performance reviews, and recommended merit increases

where appropriate. During this tenure I also participated in my first clinical trials. We participated in contact lens development and the solutions used to treat them.

EDUCATION

- Doctor of Optometry, University of California, Berkeley, School of Optometry
- BS Optometry, University of California , Berkeley
- Certificate in Clinical Research (CRA)
- Kaiser Hospital Staff, Cataract Lens Clinic
- Letterman Hospital , Presidio San Francisco Cataract Rotation and Internship
- Externship Binder and Gordon Laser Vision Institute
- Bachelor of Science, Combined Sciences, Minors in Biochemistry and History, University of Santa Clara - Captain Crew Team / Academic All American
- London School of Economics and Oxford, University of Freiburg, Germany, University of Santa Clara Studies Abroad Program
- Archbishop Mitty High School, Cupertino, California
 - recipient of Alumni Award for Constant Achievement
 - Spanish Award

OUTSIDE INTERESTS

- Athletics: Golf, tennis, bicycling, scuba diving, volleyball
- Hobbies: amateur musician - Currently member of two musical groups with interests in contemporary, traditional, folk, and Irish/folk music.

STATEMENT

Throughout my career, I've been able to work myself into positions of ever-increasing challenge and responsibility. My background includes clinical care/training and business management at the local, regional, state, national and international levels. I maintain a passion for oversight and training in the research environment, and commercial settings. At my core, I feel a strong dedication to pursuing answers to the question, "What is around the next corner".

It has been a unique journey, from local staff Optometrist, National Medical Director and Vice President at Pearle Vision, to my current positions as a consultant with multiple Global Clinical Research Companies.

REFERENCES – upon request



Dr. Richard Meister

Medical Director, NVISION Laser Eye Centers

Dr. Richard Meister is the Medical Director at NVISION Sacramento. He is a board-certified ophthalmologist who started specializing in refractive surgery as a sub-specialty in 1981, under the tutelage of Ralph Berkeley, MD.

Dr. Meister has performed over 40,000 refractive corneal and cataract procedures and, with the approval of the excimer laser in the United States, he was the first in Sacramento to perform laser refractive surgery on patients in 1995. Dr. Meister has excellent LASIK surgical outcomes with less than a 0.2% enhancement rate. He has also been performing premium intraocular lens surgery with multi-focal lens implants since 1998.

Born and raised in Oklahoma City, Dr. Meister graduated from the University of Oklahoma. He focused his residency training on refractive corneal and cataract surgery under world-renowned expert, Jack Holiday, MD, at the prestigious Hermann Eye Center at the University of Texas, Houston Medical Eye Center.

Dr. Meister established his practice in 1984 in Sacramento specializing in refractive, corneal and cataract surgery. He was the first to introduce the Russian technique of radial keratotomy to Northern California. He was named the proctor of Sutter Hospital and quickly became the leading expert in the area for other ophthalmologists referring patients for refractive and corneal surgery, including transplants. Dr. Meister trained other ophthalmologists in his area in the use of the operating microscope and extracapsular cataract surgery, and phacoemulsification techniques.

Dr. Meister is frequently invited as a guest lecturer. He received the Visx Star award, after approval of the excimer laser, for being among the top 15 refractive surgeons in the United States. He has served as part of the mentor program for new surgeons as they develop their refractive surgery techniques. Dr. Meister has been the Medical Director of the Eye Surgery Center of Northern California from 2000 until present. He is the owner and was one of the initial planners of the first eye surgery center in the Sacramento area. He has also been an FDA investigator for approval of innovative laser techniques and wavefront technology, and has published several articles.

"It is very gratifying to restore people's vision to achieve their goals for recreational, occupational or functional needs. It is such a compliment to hear from patients on a daily basis how their new vision has improved their quality of life, and how they wish they had done it years before."

Biography

Education

- 1971 B.S., University of Oklahoma
- 1978 B.S., Medicine, University of North Dakota
- 1980 M.D., University of California, Davis

Professional Training

- 1980 Internship, UCLA, Harbor General, Torrance, CA
- 1981 Residency in Ophthalmology, University of Texas, Medical Center Houston, Houston, TX

Fellowships

- 1984 Mini-fellowship, Refractive surgery, RK, myopic keratomileusis, Ralph Berkeley

Board Certification

- 1985 American Board of Ophthalmology

Professional Affiliations

- American Society of Cataract and Refractive Surgery
- International Society of Refractive Surgery
- American Academy of Ophthalmology
- Alta Medical Society

University & Hospital Positions

- Sutter Hospitals, Roseville and Sacramento, CA
- Mercy San Juan Hospital, Carmichael, CA
- Adjunct Clinical Professor at Southern California College of Optometry, Fullerton, CA
- Visx Star Award, Top 50 Ophthalmologists
- Former Flying Doctor with Liga International

Richard Burns, MD

Dr. Burns has performed more than 20,000 refractive and cataract procedures and takes particular interest in helping patients achieve their best personal vision through advanced refractive cataract and laser vision correction. His practice has been exclusively limited to cataract and refractive surgery for more than 25 years. Other ophthalmologists often refer the most challenging and complicated cases to Dr. Burns.

Prior to joining NVISION, Dr. Burns was the Chairman of the Department of Surgery as well as the Chairman of the Department of Ophthalmology at the largest multi-specialty group in San Diego. He also has a private practice in San Diego as well as serves as the Director of Refractive Surgical Services for California Eye Professionals in Temecula. He has served as the clinical instructor of ophthalmology for the University of California, San Diego, where he previously completed his residency and served as chief resident. He was also the chief of ophthalmology at Sharp Cabrillo Hospital, where he treated patients for more than eight years.

Dr. Burns is renowned for his success working with other ophthalmologists as well as optometrists, always with the goal of helping patients attain their best vision possible through laser procedures. A frequent lecturer on refractive and cataract procedures, Dr. Burns has also appeared on many television and radio programs sharing information about laser vision correction.

In his spare time, Dr. Burns enjoys golfing, hiking, and traveling. He especially enjoys spending time with his family as well as reading, particularly about history. He is involved in various local charitable works and enjoys participating in an annual work mission to Fiji. Dr. Burns chose the field of ophthalmology stating that "vision is awe inspiring to me."

Curriculum Vitae

Sheri Rowen, MD

Office Address:

Mercy Medical Center Office - (410) 332-9500
Eye & Cosmetic Surgery Center Direct - (410) 332-9733
301 St. Paul Place, Suite #514 Fax- (410) 545-5161
Baltimore, Maryland 21202 E-Mail- Srowen10@gmail.com

Education:

- University of Maryland, College Park, Maryland
B.S., May 1976
- University of Maryland, School of Medicine, Baltimore, Maryland
M.D., May 28, 1982
- Internship, General Surgery, Johns Hopkins Hospital, Baltimore, Maryland
July 1, 1982 - June 30, 1983
- General Surgery Fellow, Johns Hopkins, Department of General Surgery, Baltimore,
Maryland
July 1, 1983 - June 30, 1985
- Resident, Ophthalmology, University of Maryland Medical System, Baltimore, Maryland
July 1, 1985 - June 30, 1987
- Chief Resident, Ophthalmology, University of Maryland Medical System, Baltimore,
Maryland
July 1, 1987 - June 30, 1988

Work History:

- Hirsch Eye Group, Fallston, MD 21047
July 1988 - June 1989
- Katzen Eye Group, Dulaney Valley Rd. . Towson Md. 21204
June 1989 - December 1996
- Eye & Cosmetic Surgery Ctr. St. Paul Place, Baltimore Md 21202
Dec 1996 - Present

Honors:

Phi Kappa Phi
Phi Beta Kappa
Eta Beta Rho Honors Society
Cum Laude Graduate, University of Maryland, College Park
Dean's List, 1971-1976, University of Maryland, College Park

Board Certification:

Diplomat & Fellow, American Board of Ophthalmology

Research Appointment:

- Research Assistant, National Institute of Health / National Cancer Institute, Bethesda, Maryland
1976-1978
- Research Assistant, Baltimore Cancer Research Center, Baltimore, Maryland
1978-1980
- Research Fellow, Johns Hopkins University School of Medicine, Center for Vitreoretinal Research, Baltimore, Maryland
1983-1985
- Clinical Investigator, for FDA approved study Staar Collamer Lens
1996
- Clinical Investigator, for FDA approved study Visian ICL
1997 - 2006

Academic Appointment:

- Clinical Instructor, University of Maryland School of Medicine, Baltimore, Maryland
1989 – 1990
- Assistant Clinical Professor of Ophthalmology, University of Maryland School of Medicine, Baltimore, Maryland
1990- Present
- Clinical Instructor, Johns Hopkins Hospital, Baltimore, Maryland
1991- Present
- Director: Mercy Medical Center for: Eye & Cosmetic Surgery
1996- Present
1996- Investigator: Staar Surgical, FDA Study (Collamer Lens)
1997- Investigator: Staar Surgical, FDA Study (Implantable Contact Lens)

Professional Memberships:

Member, American Medical Association
Member, Association for Research and Vision in Ophthalmology (1982- 1988)
Member, Maryland Eye Physician and Surgeons
Member, MED CHI of Maryland
Committee Member, Research to Prevent Blindness, Inc.
Member, Universal Scleroderma Foundation
Member, Wilmer Resident's Association
Member, American Society of Cataract & Refractive Surgery
Member, American Diabetes Association
Member, American Society for Laser Medicine and Surgery
Board Member, International Society of Cosmetic Laser Surgeons
Vice President, International Association of Women Eye Surgeons

Medical Licenses:

Maryland
District Of Columbia
Virginia
North Carolina
New York

Community & Volunteer services:

- Health Mission, "Project Dawn" Guyana
March 1988
- Free Screening, Mercy Medical Center, and Department of Aging
1997, 1998
- Son's Of Italy – Current Techniques in Eye Surgery
1999
- Baltimore County Department of Aging
1990- 1996
- Health Mission - Cali, Columbia
February 2008

Television:

The Women's Doctor:

1994- "Topical Anesthesia for Cataract Surgery"
1995- "Topical Anesthesia & Clear Corneal Incisions & Foldable Lens"
1996- "First Use Of CO2 laser in Baltimore for Eyelid Surgery & Facial Resurfacing"
1997- "Implantable Lens Correcting Hyperopia & Myopia"
1998 " Laser Resurfacing with CO2 & Erbuim Lasers" For Pre Mature Aging
1999- " Implantable Contact Lens" Lasik Surgery
2000- " Toric Lens" Correcting Astigmatism

1997- National Television: " Implantable Contact Lens"

1998- Ivanhoe Broadcast: " Implantable Contact Lens"

1998- National Television: " Topical, Clear Corneal Cataract Surgery"

Publication:

- Rowen, S.L. & Glaser, B.M. (1985). "Retinal Pigment Epithelial Cells Release a Chemoattractant For Astrocytes," ARCHIVES OF OPHTHALMOLOGY, 103 (5), 704-707.
- McDonnell, P.J., Rowen, S.R., Glaser, B.M. & Sato, M. (1985). "Posterior Capsule Opacification." ARCHIVES OF OPHTHALMOLOGY, 103 (9), 1378-1381.
- Rowen, S.L. (1994). "Advanced Phacomachine & New Kelman Tip". PHACO AND FOLDABLES, Vol 7 No. 1.

- OCULAR SURGERY NEWS. (1994) "Leaders in Clear Corneal Incisions"
- Rowen, S.L. (1996). "Topical Anesthesia in Cataract Surgery". REVIEW OF OPHTHALMOLOGY, Supplement to VOL. 2, No. 6
- OPHTHALMOLOGY TIMES. (1995). "Miochol-E with Topical Anesthesia"
- EYE TECHNOLOGY (1996). "Current Trends in Cataract Surgery".
- Rowen, S.L. (1996) "Yes, You Can Convert To Clear Corneal Incisions". REVIEW OF OPHTHALMOLOGY, Vol. 3 No. 5, 110-115
- OCULAR SURGERY, News Symposium Supplement, Feb. 1996
- OCULAR SURGERY, News Symposium Supplement, Feb. 1997
- Rowen, S.L. (1997) "Understanding the Benefits of Plate Haptic Lenses" REVIEW OF OPHTHALMOLOGY, Vol. IV., and No.7 4B- 6B
- Rowen. S.L. (1999) " Why & How to Convert to Injectable Lens" REVIEW OF OPHTHALMOLOGY, VOL 8, and page87
- Rowen S.L. 9 (1999) "Pre-Operative & Post- Operative Medications used for Cataract Surgery" CURRENT OPINIONS IN OPHTHALMOLOGY, VOL 10, PAGES 29-35

American Academy of Ophthalmology - Annual Meeting:

1994 – 2009: 40 Credits Each Calendar Year

American Society of Cataracts and Refractive Surgery - Annual Meeting:

1995 – 1996, 1998 – 2010: 40 Credits Each Calendar Year

American Meeting International Society of Cosmetic Laser - Surgeons:

1996 - 24 Credits	1999 –24 Credits
1998 - 29 Credits	2000 – 24 Credits

International Society of Refractive Surgeons:

1995, 1998 – 2002, 2004: 16 Credits Each Calendar Year

Maryland Optometric Association

1998- 6 Credits

Baltimore Refractive Surgery Society

1999- 6 Credits

Greater Baltimore Medical Center

1999- 6 Credits

Visual FreedomCenter

1998- 12 Credits

Preceptorships - Ultrapulse CO2 Laser:

1995 - January - Dr. Robert Adrian, Washington, D.C.
Facial Resurfacing Technique

1995 - February - Dr. Sterling Baker, Oklahoma City, OK.

Preceptor: Coherent Medical:

1996- Present Supervise use of CO2 & Erbium Laser

Laser Education Foundation - I.S.C.L.S.

1996- October- Sterling S. Baker MD. , Chicago, IL.
Pre- AAO Cosmetic Symposium

Coherent / Ultra FineErbium

1998- January, Maureen A. Foley, RN, BSN, CNOR
Mercy Hospital

The International Society of Cosmetic Laser Symposium

1998- February – C.William Hanke, MD. , Orlando, FL.

Eyelid Incision Techniques International Workshop on Anesthetic Surgery:

1996 April - Dr. Oscar Ramirez, Course Director
Rejuvenation of the Central Oval of the Face, Perioral Area and Lips

Techniques and Variations of the I. Howard Fine Clear Corneal Incision Course

1992 - August - Dr. Charles Williamson , Course Director

Lamellar Refractive Surgery Course

1997 – May, Dr.Stephan G. Slade, Baltimore, MD.

Visual Freedom Center

1998- February – Dr. Charles Casebeer, Course Director
Introduction / Visx Certification Course, Transition to Lasik/ Wet Lab

VISX University

1998- November – Visx Excimer Laser System
Hyperopia Training Course

Johns Hopkins Hospital, Wilmer Eye

1998- Preceptorship for PRK, Course Director, Terrance O'Brian MD.

Presentations: Cataracts, Glaucoma, Foldable Lens & Topical Anesthesia

- 1984- ARVO, Wilmer Eye Meeting, Sarasoto, FL.
- 1989- ARVO, Wilmer Eye Meeting, Sarasota, FL.
"Endothelial Cell Produce a Chemoattractant for Astrocytes"
- 1985- ARVO, Wilmer Eye Meeting, Sarasoto, FL.
"Retinal Pigment Epithelial Cells Release a Chemoattractant for Astrocytes"
- 1992- Greater Baltimore Medical Center Symposium, Baltimore, MD.
"The Use of Foldable Lenses in Cataract Surgery"
- 1993- Maryland Eye Physicians and Surgeons
"No Stitch Incision, Capsulorhexis, and Foldable Lenses" Invited Paper
- 1993- American Academy of Ophthalmology
IOLAB BOOTH " Perilimbal Incisions and Topical Anesthesia"
- 1994- American Society of Cataract and Refractive Surgeons, Boston, Mass.
"Perilimbal Incisions Using Topical Anesthesia "
- 1994- American Academy of Ophthalmology , San Francisco, CA
"Advanced Phacoemulsification and Combined Glaucoma- Phaco Surgery"
"Topical Anesthesia"
"Clinical Decisions in Management of Complications"
"What I'm Doing Differently This Year"
"Techniques and Variation of the I. Howard Fine Clear Corneal Incision Course"
- 1995- Staar Surgical: Course Director: Baltimore, MD.
"Techniques and Variation of the I. Howard Fine Clear Corneal Incision Course"
- 1995- American Society of Cataract and Refractive Surgery, San Diego, CA.
"The use of Miochol- E for Cataract Surgery and Topical Anesthesia"
"Advances in Topical Anesthesia and Clear Corneal Incisions"
"Topical Anesthesia and Clear Corneal Incisions" Staar Booth ASCRS.
- 1995 - American Academy of Ophthalmology: Atlanta, GA.
"Clinical Decision in Management of Complications"
"What I Am Doing Differently This Year"
"Advance Phacoemulsification and Combined Glaucoma- Phaco Surgery"
"Topical Anesthesia"
"Clear Corneal Incisions" Invited: ASCRS Symposium
- 1996- Techniques and Variations of the I. Howard Fine Clear Corneal Incision Course:
New Jersey
"Topical Anesthesia and Clear Corneal Incisions"
- 1996- The New Jersey Academy of Ophthalmology: New Jersey
"Topical Anesthesia and Clear Corneal Incisions"

- 1996-American Society of Cataract and Refractive surgery: Seattle, Washington
“Cataract Surgery for the 90’s” Staar and Chiron
“Advanced Phacoemulsification and Combined Glaucoma- Phaco Surgery”
- 1996-Techniques and Variations of the I. Howard Fine Clear Corneal Incision Course; Minneapolis
“Cataract Surgery for the 90’s” Course Director Invited Presentation
- 1996- American Academy of Ophthalmology”: Chicago, IL.
“Clinical Decisions in Management of Complication in Cataract Surgery”
“Cataract Surgery of the 90’s” Staar & Chiron
“Advanced Phacoemulsification and Combined Glaucoma – Phaco Surgery”
- 1996- Tarrant County Medical Society: Fort Worth, TX.
“ Cataract Surgery for the 90’s”
- 1997- Ophthalmology Society: Bethlehem, PA.
“Cataract Surgery for the 90’s”
- 1998- The Virginia Society of Ophthalmology: Williamsburg, VA.
“Posterior Chamber Phakic IOLS”
“Clear Cornea Cataract Surgery”
“ Co2 Laser for Blepharoplasty & Resurfacing”
- 1998- American Academy of Ophthalmology: New Orleans, LA.
“Clinical Decisions in the Management of Complication in Cataract and IOL Surgery”
Preceptor for ICL – Staar Booth
- 1998-Hawaii Eye Meeting / Slack Incorp: Hawaii
“Topical Clear Corneal Cataract with Diclofenac Sodium”
- 1998-Women in Ophthalmology: Aspen, CO.
“Cataract Surgery for the Millenium”
- 1998- Maryland Physicians & Eye Surgeons: Maryland
“ Cataract Surgery for the 90’s”
“ ICL Update”
“ Toric IOL’S”
- 1999-American Society of Cataract and Refractive surgery: Seattle, Washington
“Advanced Techniques for Cataract Surgery using Topical Anesthesia and Clear Corneal Incisions”
“Pre & Post Op Medications for the ICL”
Course Instructor – 2 hrs. “ Advance Techniques for Cataract Surgery, ICL’s & Toric Lenses”
- 1999- Greater Baltimore Medical Center Baltimore, MD.
“ICL Update”
- 1999-Society of Ophthalmology: Puerto Rico
“Cataract Surgery for the Millenium”
“ICL Update” “ Toric IOL’S for Cataract Surgery”
- 1999-Los Angeles Society of Ophthalmology: Los Angeles, CA.
“Cataract Surgery for the Millenium”
- 2000- American Society of Cataract and Refractive Surgery : Boston Mass.

“ International Challenges & Techniques in Advanced Cataract Surgery’

- 2002- American Academy Of Ophthalmology - Florida
“ Clinical Decision & Management of Complication 2002”
“ Prevention & Management of Iris Prolapse During Cataract Surgery”

Presentations: Cosmetic - Techniques using CO2 & Erbium Lasers:

- 1996- International Society of Cosmetic Laser Surgery: Chicago IL.
“CO2 Laser in a Traditional Ophthalmology Practice”
- 1996- Coherent / Pre- AAO, Chicago, IL.
“CO2 Laser in a Traditional Ophthalmology Practice”
- 1996- International Society of Cosmetic Laser Surgery: Washington, DC.
“CO2 Laser in a Traditional Ophthalmology Practice”
- 1998- The Virginia Society of Ophthalmology, Williamsburg, VA.
“Skin Resurfacing with the CO2 & Erbium laser”
- 1998- Maryland Optometric Association: Baltimore, MD.
“Cosmetic Laser Surgery using the CO2 & Erbium Lasers”
- 1998- 7th. International Society of Cosmetic Laser Surgeons: Orlando, FL.
“Great Marketing – Minimal Expense – Coordinated Skin care”
- 1999-International Society of Cosmetic Laser Surgeons: New Orleans, LA.
“Erbium Resurfacing for Xanthelasma”
“ CO2 Laser Blepharoplasty”
- 2002 – International Society of Cosmetic Laser Surgeons : New York
“Lower Lid Blepharoplasty Multi-Modal approved”
Presentations: Toric & Implantable Contact Lens:
- 1997- Taustin Eye Center: Louisville, KY.
“ Implantable contact lenses”
“ Toric IOL Update”
- 1998- Maryland Society of Eye Physicians & Surgeons: Baltimore, MD.
“Intraocular Contact Lens”
- 1998- Sixth Annual Ophthalmic Allied Health Symposium: Wilmington, DE.
“Implantable Contact Lens, My Personal Experience”
“Update: Phase 1 & 2”
- 1998- Women in Ophthalmology: Colorado
“Correction of High Myopia & Hyperopia with Intraocular contacts”
- 1998- American Society of Cataract and Refractive Surgery: San Diego, CA.
Staar Surgical: ICL
“Implantable Contact Lenses, My Personal Experience”
“Phase 1 & 2” “ ICL Update”
- 1998- Hoover Naquian Conference: Baltimore, Md.
“Implantable Contact Lenses for Myopia and Hyperopia”
- 1999- 44th Annual University of Rochester Medical Center: New York
“Toric Intraocular Lens”

“Implantable Contact Lens For Myopia & Hyperopia”

- 1999- American Society of Cataract and Refractive Surgery: Seattle Washington
Round Table Discussion Group: Starr Surgical: ICL
“Latest Technique and variations of Refractive Surgery and the Benefits of using the
Implantable Contact lens”
- 2000- Hawaii Eye Meeting / Slack Incorp. Hawaii
“Current Trends in Refractive Surgery”
“The Implantable Contact Lens FDA update, for Personal Experience & Techniques”
- 2002- New England Ophthalmological Society Inc,
“ Implantable Contact Lens , Personal Experiences”
“ FDA Update” “ Toric & IOL “

International Presentation:

1994- Starr Surgical: Australia

Five City Lectures: Sidney, Perth, Melbourne, Adelaide, and Brisbane

“Clear Corneal Incisions Using Topical Anesthesia”

1995- Live Cataract Surgery: Toulouse, France

“Topical Anesthesia and Clear Corneal Incisions”

1995- Live Cataract Surgery: Juan De Pain, France

“Topical Anesthesia and Clear Corneal Incisions”

1997- Live Cataract Surgery: Clinique Sourdille, France

“From Phaco to CO2”

“Topical Anesthesia for Cataract Surgery”

1997- Live Cataract Surgery: University of Bologna, Italy

“Live Cataract Surgery and Discussion”

1998- IV Congresso International DE-Cataract: Rio de Janeiro, Brazil

“Toric Update & Foldable Lens”

“Implantable Contact Lens”

“Advanced Cataract Techniques”

1999- European Society of Ophthalmology

“ Live Cataract Surgery” International Society of Women Eye Surgeons

Medical Doctor Curriculum Vitae

As of July 17, 2015

Thomas Tooma, MD

Dr. Tooma has performed more than 100,000 LASIK procedures and believes that laser vision correction at NVISION is as safe as it can be. In fact, he has performed LASIK surgery on hundreds of doctors, including 250 eye doctors. That's why NVISION and Dr. Tooma are The Eye Doctors' #1 Choice for their eyes and their patients' eyes. Dr. Tooma believes that the combination of experience and technology gives NVISION's patients the highest possible likelihood of achieving 20/20 or better vision through LASIK procedures.

A pioneer in the world of LASIK surgery, Dr. Tooma has been a principal investigator in the field of laser vision correction since 1993. He helped several excimer laser manufacturers obtain FDA approvals for their lasers in the United States. He holds the record for many firsts: he was the first doctor in California to perform LASIK surgery and was the first to perform custom Wavefront-guided LASIK. He was also the first in the U.S. to use the FemtoSecond Laser (IntraLase FS30 — bladeless all laser LASIK), which is safer and more precise than a traditional blade.

In 2010, Dr. Tooma purchased TLC's interest in the 8 Southern California locations and formed NVISION Laser Eye Centers. At NVISION, Dr. Tooma provides his patients with a lifetime commitment, giving them the assurance that if they need any enhancement surgeries in the future, they can be performed at any NVISION center, for life and at no cost.

Dr. Tooma received his M.D. from Loma Linda University School of Medicine, where he also completed his internship in internal medicine and residency in ophthalmology. He completed his fellowship in Corneal and Refractive Surgery at the Emory University Department of Ophthalmology in Atlanta, Georgia. He has been board certified in ophthalmology for more than 25 years.

For Dr. Tooma, helping patients achieve their vision goals is his passion. "I feel privileged and blessed to participate in what is a life-changing experience for my patients," he said.

In his spare time, Dr. Tooma has served on medical teaching missions to Romania, Bulgaria, China and Fiji, helping teach local ophthalmology doctors new surgical techniques. In 2008, he and his wife, Marta Tooma, D.D.S., founded the Mission at Natuvu Creek in Fiji. The Mission serves the 250,000 people living on the island, with medical, dental and eye care provided by visiting physicians, including the Toomas.



MEDICAL BOARD OF CALIFORNIA

Executive Office



January 31, 2011

Tom S. Tooma, M.D.
3501 S. Jamboree Road, Suite 1100
Newport Beach, CA 92660

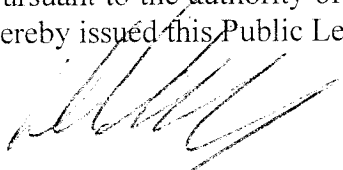
RE: Physician's and Surgeon's Certificate No. G 42262
Case No. 04-2008-195312

Public Letter of Reprimand

An investigation by the Medical Board of California revealed you failed to document a pre-operative examination and develop a surgical plan before meeting with a patient.

These actions constitute a violation of Business and Professions Code 2266.

Pursuant to the authority of the California Business and Professions Code section 2233, you are hereby issued this Public Letter of Reprimand by the Medical Board of California.



Linda K. Whitney
Executive Director