



**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
- Advertising (optional)
- CV for EACH Course Instructor
- License Verification for Each Course Instructor
  - Disciplinary History?  Yes  No



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**CONTINUING EDUCATION COURSE APPROVAL APPLICATION**

**\$50 Mandatory**

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 and topical outline of the subject matter. Applications must be submitted 45 days prior to the course presentation date.

Please type or print clearly.

Course Title <u>"Taste of The Islands CE"</u> <u>The Evolution of Stera Lenses</u>	Course Presentation Date <u>8am - 4:30pm</u> 04/20/2017
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**Course Provider Contact Information**

Provider Name <u>Coastal Vision Medical Group</u> <u>Gina</u> (First) <u>Valdemar</u> (Last) _____ (Middle)
--

Provider Mailing Address Street <u>243 S. Main St. #100</u> City <u>Orange</u> State <u>CA</u> Zip <u>92660</u>
--

Provider Email Address <u>gina.valdemar@coastal-vision.com</u>
--

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 <u>Justin</u> (First) <u>Kwan</u> (Last) <u>T</u> (Middle)		
License Number <u>13749 TLG</u>	License Type <u>OD, FAAO</u>	
Phone Number <u>(714) 746-9679</u>	Email Address <u>gina.valdemar@coastal-vision.com</u>	

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]  
Signature of Course Provider

3-20-17  
Date



March 23, 2017

State Board of Optometry  
2450 Del Paso Road, Ste. 105  
Sacramento, CA 95834

RE: Late submission of CE course approval-Taste of the Islands 8 Hour CE-April 30, 2017:  
Five Retinal Diagnoses You Don't Want to Miss; Cataract Surgery in Patients with Corneal Pathology;  
Buried Treasure: Connecting the Dots to Treating Binocular Misalignment; Patient-reported  
Outcomes with Lasik: Interpreting the PROWL study; What We Know about Topography Guided  
Refractive Surgery: Case Studies in Clinical Practice; Do You See What I See?; Crosslinking for Corneal  
Ectasia: The Evolution of Sclera Lenses; Blink and You'll Miss It: Dry Eye in the Cosmetic Patient; Is the  
Symphony Toric Lens the Answer for Every Eye Condition; Should My Glaucoma Patient with a  
Cataract have a MIGS Surgery; Vitreous: Friend or Foe; Is it Cancer? The Optometrist Role in the  
Diagnosis and Management of Periocular Skin Cancer; Oral Presentations of Systemic Disease: Case  
Presentations; Glaucoma Management: What Should I do Next?

Dear Practice and Education committee,

I am writing this letter in regards to late submission for the multi-course symposium titled "Taste of the Islands CE" scheduled for presentation on 04/30/2017. We are short of the 45 day submission request, and wanted to include a letter for late submission with our CE approval application.

We continue to work diligently to get all required items to the board needed for CE approval in a timely manner. Due to multiple speakers at the upcoming CE, we had difficulty obtaining all the lectures to meet the submission requirement timeline and would appreciate your consideration of our continuing education approval request.

Please feel free to reach out to us with any other questions. We look forward to continued relations with the State Board of Optometry and the practice and education committee.

Sincerely,

Gina Valdemar  
Affiliate Relations and Education Director  
Coastal Vision Medical Group  
ginavaldemar@coastal-vision.com

## Schedule of Events:

7:00 am-7:50 am	Registration & Breakfast	
7:50 am-8:00 am	Dan B. Tran, MD	Welcome & Opening Remarks
8:00 am-8:25 am	Timothy You, MD	5 Retinal Diagnoses You Don't Want to Miss
8:25 am-8:50 am	Jennifer Lee Wu, MD	Cataract Surgery in Patients with Corneal Pathology
8:50 am-9:15 am	Gary Lovcik, OD	Buried Treasure: Connecting the Dots to Treating Binocular Misalignment
9:15 am-9:40 am	Elizabeth Hofmeister, MD, MC, USN	Patient-reported Outcomes with LASIK: Interpreting the PROWL Study
9:40 am-10:05 am	Dan B. Tran, MD	What We Know about Topography Guided Refractive Surgery: Case Studies in Clinical Practice
10:05 am-10:30 am	Madhu Agarwal, MD	Do You See What I See?
10:30 am-11:00 am	Break	
11:00 am-11:50 am	Jennifer Lee Wu, MD	Crosslinking for Corneal Ectasia
11:50 am-12:15 pm	Justin Kwan, OD, FFAO	The Evolution of Sclera Lenses
12:15 pm-12:40 pm	Jeffrey Joseph, MD	Blink and You'll Miss It: Dry Eye in the Cosmetic Patient
12:40 pm-1:50 pm	Lunch/Luau	
1:50 pm-2:15 pm	Dan B. Tran, MD	Is the Symphony Toric Lens the Answer for Every Eye Condition?
2:15 pm-2:40 pm	Betsy Nguyen, MD	Should My Glaucoma Patient with a Cataract have a MIGS Surgery?
2:40 pm-3:05 pm	Raj Rathod, MD, MBA	Vitreous: Friend or Foe
3:10 pm-3:35 pm	Jeffrey Joseph, MD	Is it Cancer? The Optometrist's Role in the Diagnosis and Management of Periocular Skin Cancer
3:35pm-3:40 pm	Lisa D. Garbutt, MD	Ocular Presentations of Systemic Disease: Case Presentations
4:00 pm-4:25 pm	Betsy Nguyen, MD	Glaucoma Management: What Should I Do Next?
4:25 pm-4:30 pm	Closing Remarks/Raffle	

\*At time of print, pending CA Board of Optometry approval. Topics and speakers are subject to change.

**Taste of the Islands 8 hour CE  
(8 of 15 lectures)**

**Course Title: The Evolution of Sclera Lenses**









**Course Presentation date: 4/30/17**

**Speaker: Justin Kwan, OD, FAAO**

**Target Audience: This lecture is intended for optometrist seeking continuing education**

Course Description: Scleral lenses and their numerous applications have revolutionized what practitioners can do for their patients. Particularly in the realm of irregular corneas, patients have benefited from sharper and more stable vision with excellent comfort while minimizing corneal microtrauma. The nuances and customization of scleral lens design and diagnostic fitting have also greatly advanced over the past three to five years.

CE Credit: .50 CE Units

- 1  **Evolution of Scleral Lenses**  
Justin Kwan, OD, FAAO  
Assistant Professor  
Chief, Stein Family Cornea and Contact Lens Center  
Ketchum Health
- 2  **Financial Disclosures**
  - Johnson & Johnson Vision Care, Inc.
  - Research grants
  - Speakers bureau
- 3  **Resource**
  - Eef van de Worp
  - A guide to scleral lens fitting
  - Second edition (2015)
  - 3,000+ downloads
  -
- 4  **Muriel Schornack, OD**
  - Survey
  - 1/12/2015 to 3/31/2015
  - 989 practitioners responded
  - 723 reported fitting 5 or more patients with scleral lenses
  - Initial correction for corneal irregularity
- 5  **A bit of history**
  - Glass: 1920s
  - PMMA
  - Gas permeable
    - Optimum Extra
    - Optimum Extreme
    - Boston XO
    - Boston XO2
    - Tyro-97
- 6  **Two generations**
- 7  **Scleral Toricity**
  - Pacific University College of Optometry
  - Corneal toricity has no correlation to scleral toricity
  - n = 20
    - Asymmetric: 7
    - ATR: 4
    - Oblique: 5
    - WTR: 4
- 8  **Scleral Toricity**
  - sMap3D
  - Needs fluorescein

- 22 mm range
- 360 degrees
- 10 micron precision

9  **Scleral Toricity**

- d

10 

- d

11  **Valley Contax Custom Stable**

- 15.8 mm diameter workhorse
- ELITE
  - Toric periphery
  - 180 microns difference in sagittal height
  - Able to do AURORA multifocal
    - Think Biofinity MF, D and N lens
    - Note pupil size
  - Flat meridian delineated by two oval marks

12  **Valley Contax Custom Stable**

- Josh Adams in collaboration with Andrew McLeod, OD (NECO)
- Diagnostic fitting, mostly used
  - 41.00, 4.280 mm sag (x2)
  - 43.00, 4.540 mm sag (x2)
- New ELITE fitting set
- 

13  **Posterior Corneal Toricity**

- 38 year old Indian male
- OBGYN surgeon
- Dyna Cone corneal GP lenses
  - 20/30
  - With glasses over corneal GP lenses, 20/20

14  **Posterior Corneal Toricity**

- d

15  **Posterior Corneal Toricity**

- d











16  **Soft Toric Rotational Stability**17  **Scleral Rotation Stability**18  **Javal's rule**

- d

19 

- Retrospective, age and gender matched case control study

20

- d
- 21  **Zenlens**
  - Oblate and prolate designs
  - Fully customizable
    - Microvault
    - Control sagittal height
  -
- 22  **Zenlens**
  - d
- 23  **Ampleye (Art Optical)**
  - 16.5 mm OAD
  - 9 lens diagnostic fitting set
  - Front toric option
  - Quadrant specific option
  - 3,800 to 5,600 micron sag ht
  - 0.300 mm ct, think oxygen Dk/t
  - Each step = 25 microns
  - Toric periphery: 150 micron difference
- 24  **Onefit 2.0**
  - Trustworthy multifocal optics (Jason Jedlicka, OD)
  - 14.9 mm OAD
    - In the ballpark of soft torics
    - Can get by with spherical peripheral curves
  -
- 25 
- 26  **Severe kones**
  - Reverse geometry may have too much mid peripheral and limbal clearance
  - Prolate designs may work better
- 27 
- 28  **All about elevation**
  - d
- 29  **43 year old Hispanic male**
  - Diagnosed with keratoconus in 2005 at the age of 32
  - BCVA in manifest refraction 20/30
  - Corneal GPs: OD 20/20-, OS 20/25-
    - CLP: OD -7.25, OS -9.00
    - OAD: 9.0
    - OZD: 7.0
  - Occupation: social work
- 30  **43 year old Hispanic male**
  - d



- 31  **43 year old Hispanic male**
- Valley Contax Custom Stable, ELITE
  - Optimum Extra
  - CLP
    - OD: -2.00
    - OS: -3.00
  - Relative to corneal GPs
    - Improved comfort
    - Larger optic zone
- 32  **Keratoconus**
- Tim Edrington, OD
    - You'll never go blind
    - Have as many kids as you'd like
    - Lay off the eye rubbing
    - LASIK is not for you
- 33  **Sterile Saline**
- Addipak
    - 5 mL for newbies
    - 3 mL after 1<sup>st</sup> purchase
  - Lacripure (Menicon)
    - Practice branding
    - 10% of sales
    - FDA approved
    - Inexpensive for patient
      - < \$88 per year
- 34  **Lacripure**
- d
- 35  **Disinfection & Deposits**
- ClearCare Plus, Peroxyclear for average sagittal depth
  - Unique pH, Boston Simplus, Optimum CDS
  - Progent every 1-2 months
- 36  **Wettability**
- Significant challenge
    - Most labs will ship sclerals wet
  - Biotrue, Optifree Puremoist, Revitalens
    - Cotton tipped applicator scrubbing while lens on eye
  - Hydra-PEG
    -
- 37  **Manage the Lids**
- d
- 38  **The hunt for VSP med nec**

- Any meridian  $\geq \pm 10.00$  D
- Anisometropia 3.00 D
- Peripheral corneal opacity
  - ICD-10: H17.823
  - Post-RK
- Recurrent corneal erosion
  - ICD-10: H18.83\_

39  **Resources**

- gpli.info
- Monthly webinars

40  **Resources**

- Facebook group: Scleral Lens Fitters


41 

- d

42  **Scleral Lens Assessment in Practitioners and Patients (SLAPP)**

43  **Conclusions**

- Candidates
  - High corneal astigmats,  $> 3.25$  DC
  - Presbyopic corneal astigmats
  - Dry eyes, all ages
  - Irregular corneas
    - But mild cones deserve a corneal GP for long term oxygen
- Embrace the newer designs
  - Pick two sets and master them



Marshall B.  
KETCHUM UNIVERSITY

### Evolution of Scleral Lenses

Justin Kwan, OD, FAAO  
Assistant Professor  
Chief, Stein Family Cornea and Contact Lens Center  
Ketchum Health

### Financial Disclosures


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### Resource

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- A guide to scleral lens fitting
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- 3,000+ downloads



### Muriel Schornack, OD



- Survey
  - 1/12/2015 to 3/31/2015
  - 989 practitioners responded
  - 723 reported fitting 5 or more patients with scleral lenses
  - Initial correction for corneal irregularity

Lens Type	Percentage
Corneal GP lens	44%
Scleral GP lens	34.5%
Standard Hy or SiHy	12.7%
Hybrid	4.9%
Custom Hy or SiHy	3.3%
Piggyback	0.5%


### A bit of history

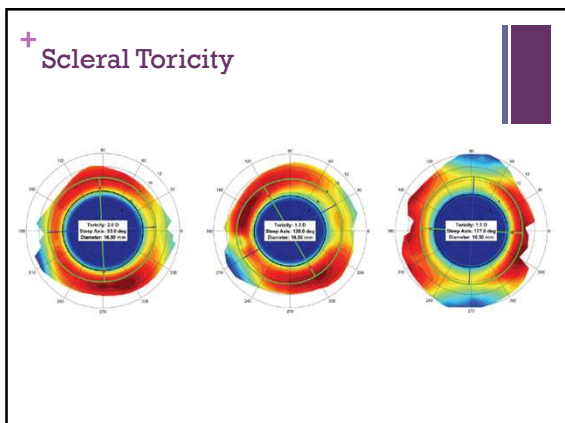
- Glass: 1920s
- PMMA
- Gas permeable
  - Optimum Extra
  - Optimum Extreme
  - Boston XO
  - Boston XO2
  - Tyro-97



### Two generations

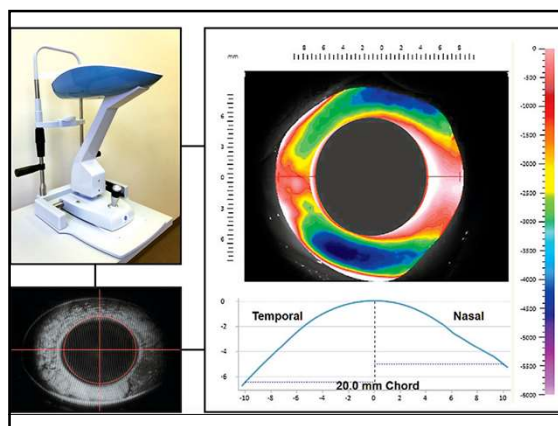
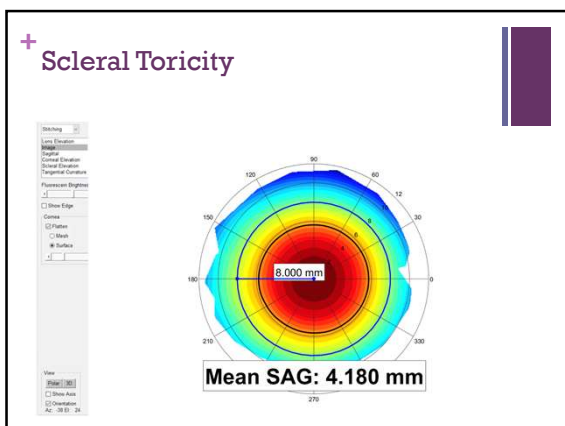
2008 2012	2012 2016
Prolate	Reverse geometry > Prolate
Spherical peripheral curves	Toric peripheral curves
Thicker center thickness	Thinner center thickness
18.0 mm	16.0 mm





### + Scleral Toricity

- sMap3D
  - Needs fluorescein
  - 22 mm range
  - 360 degrees
  - 10 micron precision



### + Valley Contax Custom Stable

- 15.8 mm diameter workhorse
- ELITE
  - Toric periphery
  - 180 microns difference in sagittal height
  - Able to do AURORA multifocal
  - Think Biofinity MF, D and N lens
  - Note pupil size
  - Flat meridian delineated by two oval marks

Custom Stable 15.8			
Sagittal Depth	Base Curve	Power	Dia
3920 µm	38/868	3.00	15.8
4040 µm	39/863	2.00	15.8
4180 µm	41/823	PLANO	15.8
4400 µm	42/804	-1.00	15.8
4540 µm	42/785	-2.00	15.8
4820 µm	43/750	-4.00	15.8
4970 µm	46/734	-5.00	15.8
5130 µm	47/718	-6.00	15.8
5400 µm	49/689	-8.00	15.8
5670 µm	50/675	-9.00	15.8


Custom Stable 15.8 Elite			
Flat (°)	Steepest (°)	Base Curve	Power
3890 µm	4070 µm	39/865	2.00
4130 µm	4310 µm	41/823	0.00
4350 µm	4510 µm	43/785	-2.00
4630 µm	4850 µm	45/750	-4.00
4980 µm	5160 µm	47/718	-6.00
5340 µm	5510 µm	49/689	-8.00

### + Valley Contax Custom Stable

- Josh Adams in collaboration with Andrew McLeod, OD (NECO)
- Diagnostic fitting, mostly used
  - 41.00, 4.280 mm sag (x2)
  - 43.00, 4.540 mm sag (x2)
- New ELITE fitting set

### Posterior Corneal Toricity

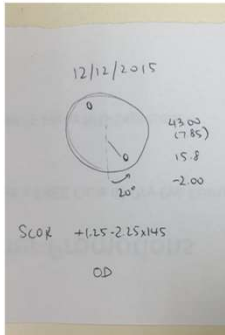
- 38 year old Indian male
- OBCYN surgeon
- Dyna Cone corneal GP lenses
  - 20/30
  - With glasses over corneal GP lenses, 20/20



### Posterior Cornea

CS custom stable™  
 PRIME  ELITE  AURORA

12/12/2015



Trial Lens Info			
Vertical Axis	Horizontal Axis	Power	Axis
00			
05			

Fitting Information			
Central Thickness	Initial Curvature	Binding Curve	Zone Refraction
00		<input type="checkbox"/> H <input type="checkbox"/> A <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> P	
05		<input type="checkbox"/> H <input type="checkbox"/> A <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> P	

Final Lens Order

Notes

valleycontact | 800-547-8815 | valleycontact.com

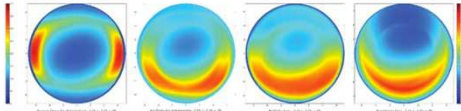
### Posterior Corneal Toricity

BASE CURVE	AXIS	SPH	CYL	AXIS	DIAMETER	MATERIAL LOT #/MFR
R 8.23 / 8.23	0	+1.25	-2.00	35	15.80	N001381
Center thickness		0.40	Limbal Clearance	0.00	Scleral Landing Flat	5.00
Scleral Landing Steep		-2.00	LARS	70.00		

BASE CURVE	AXIS	SPH	CYL	AXIS	DIAMETER	MATERIAL LOT #/MFR
L 8.13 / 8.13	0	+1.00	-2.25	60	15.80	N001381
Center thickness		0.40	Limbal Clearance	0.00	Scleral Landing Flat	5.00
Scleral Landing Steep		-2.00	LARS	-55.00		


### Soft Toric Rotational Stability

Air Optix	Biofinity Toric	Proclear Toric
5.50 ± 5.35 deg	2.25 ± 4.12 deg	8.75 ± 8.56 deg
60.20 ± 35.68 sec	28.50 ± 16.53 sec	89.25 ± 59.84 sec

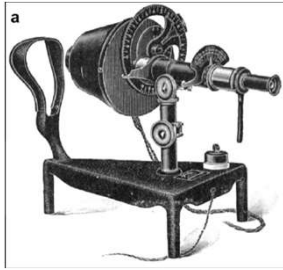



Momeni-Moghaddam et al. Cont Lens Anterior Eye. 2014 Oct;37(5):346-50.

### Scleral Rotation Stability

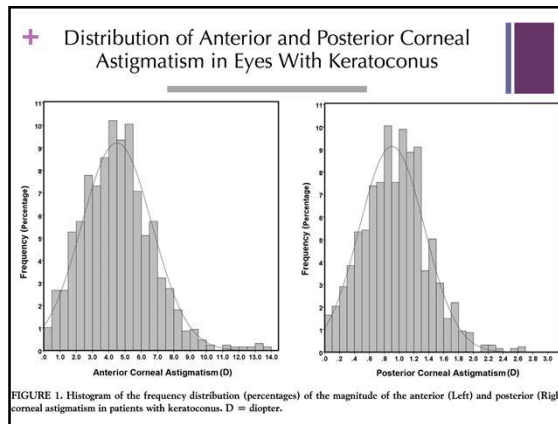


### Javal's rule

**TABLE 1. Baseline Characteristics and Clinical Findings of Keratoconus Patients and Control Participants**

Feature	Keratoconus (N = 1273)	Control (N = 1035)	P Value
Age (y)	25 ± 7	25 ± 5	.138 <sup>a</sup>
Sex (male)	739 (58.1%)	580 (56.0%)	.176 <sup>b</sup>
Mean K (D)	50.2 ± 4.6	43.1 ± 1.15	<.001 <sup>a,c</sup>
CCT (μm)	450 ± 38	547 ± 32	<.001 <sup>a,c</sup>
TCT (μm)	431 ± 40	531 ± 33	<.001 <sup>a,c</sup>
<b>Astigmatism (D)</b>			
ACA	4.49 ± 2.16	0.93 ± 0.74	<.001 <sup>a,c</sup>
PCA	0.90 ± 0.43	0.26 ± 0.14	<.001 <sup>a,c</sup>
<b>ACA orientation</b>			
WTR	92 (7.2%)	740 (71.5%)	<.001 <sup>a,c</sup>
ATR	731 (57.4%)	65 (6.3%)	
Oblique	450 (35.3%)	230 (22.2%)	
<b>PCA orientation</b>			
WTR	805 (63.2%)	10 (1.0%)	<.001 <sup>a,c</sup>
ATR	94 (7.4%)	925 (89.4%)	
Oblique	374 (29.4%)	100 (9.7%)	
M	-5.56 ± 4.2	-2.69 ± 1.8	<.001 <sup>a,c</sup>
Blur	6.24 ± 4.00	2.80 ± 1.81	<.001 <sup>a,c</sup>



**Zenlens**

- Oblate and prolate designs
- Fully customizable
  - Microvault
  - Control sagittal height

**Comprehensive 24-lens diagnostic set—four "mini sets" of six lenses**

All diagnostic lenses are -2.00 diopters and are laser marked with the diagnostic lens number

**Zenlens**

**Diagnostic Set Configuration**

Design	16MM	Z-1	Z-2	Z-3	Z-4	Z-5	Z-6
PROLATE	4200 SAG	4300 SAG	4400 SAG	4500 SAG	4600 SAG	4700 SAG	4800 SAG
	8.20 BC	7.60 BC	7.00 BC	6.40 BC	5.80 BC	5.20 BC	4.60 BC
	4300 SAG	4400 SAG	4500 SAG	4600 SAG	4700 SAG	4800 SAG	4900 SAG
	9.20 BC	8.60 BC	8.00 BC	7.40 BC	6.80 BC	6.20 BC	5.60 BC
	4400 SAG	4500 SAG	4600 SAG	4700 SAG	4800 SAG	4900 SAG	5000 SAG
	10.20 BC	9.60 BC	9.00 BC	8.40 BC	7.80 BC	7.20 BC	6.60 BC
OBLATE	4300 SAG	4400 SAG	4500 SAG	4600 SAG	4700 SAG	4800 SAG	4900 SAG
	10.00 BC	9.50 BC	9.00 BC	8.50 BC	8.00 BC	7.50 BC	7.00 BC
	4400 SAG	4500 SAG	4600 SAG	4700 SAG	4800 SAG	4900 SAG	5000 SAG
	11.00 BC	10.50 BC	10.00 BC	9.50 BC	9.00 BC	8.50 BC	8.00 BC
	4500 SAG	4600 SAG	4700 SAG	4800 SAG	4900 SAG	5000 SAG	5100 SAG
	12.00 BC	11.50 BC	11.00 BC	10.50 BC	10.00 BC	9.50 BC	9.00 BC

**Ampleye (Art Optical)**

- 16.5 mm OAD
- 9 lens diagnostic fitting set
- Front toric option
- Quadrant specific option
- 3,800 to 6,600 micron sag ht
- 0.300 mm ct, think oxygen Dk/t
- Each step = 25 microns
- Toric periphery: 150 micron difference

**Onefit 2.0**

- Trustworthy multifocal optics (Jason Jedlicka, OD)
- 14.9 mm OAD
  - In the ballpark of soft torics
  - Can get by with spherical peripheral curves



**Onefit** | DESIGNED BY **blanchard**

CONTACT LENSES

### Benefits of the BostonSight SCLERAL Fitting System


#### The Development of BostonSight SCLERAL

Leveraging 6 years of patient data of approximately 7,000 eyes, BostonSight SCLERAL offers a data-driven fitting system that optimizes fitting efficiency and increases satisfaction for patients and practitioners alike.


6 YEARS   
 ~7,000 EYES 

#### Simultaneous Customization of Right and Left Lenses


The BostonSight SCLERAL lens fitting system features right and left anatomical designs, eliminating complex fitting algorithms and the guesswork from scleral lens fitting. The fitter customizes with options including:



Quadrant-specific toric peripheral haptic system (PHS™)




Front surface eccentricity to improve both quantitative and qualitative vision



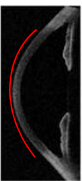
18.0mm, 18.5mm, and 19.0mm diameter designs


### + Severe kones

- Reverse geometry may have too much mid peripheral and limbal clearance
- Prolate designs may work better

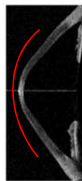


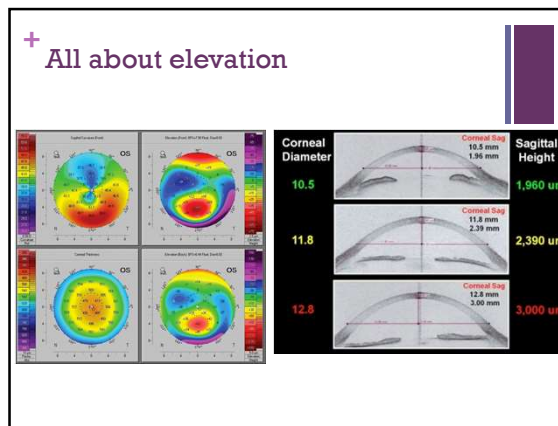
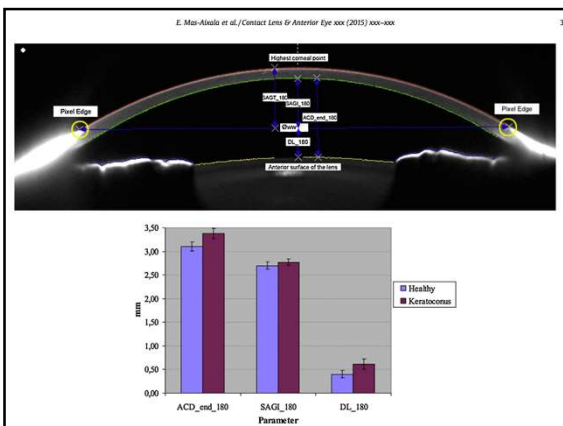
Normal






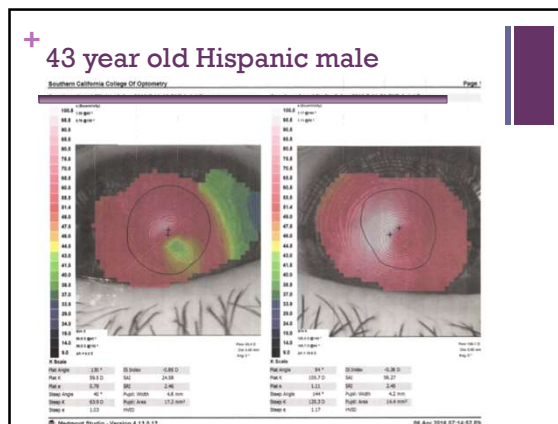
Keratoconus





### + 43 year old Hispanic male

- Diagnosed with keratoconus in 2005 at the age of 32
- BCVA in manifest refraction 20/30
- Corneal GPs: OD 20/20-, OS 20/25-
  - CLP: OD -7.25, OS -9.00
  - OAD: 9.0
  - OZD: 7.0
- Occupation: social work

### + 43 year old Hispanic male

- Valley Contax Custom Stable, ELITE


BASE CURVE	AXIS	SPH	Cyl	AXIS	DIAMETER	MATERIAL LOT # / MP#	
R 7.50 / 7.50	0	-2.00	-2.00	0	15.80	N000310	
Minimum center thickness		0.30	Center thickness		0.30	Limbal Clearance	0.00
Scleral Landing Flat		5.00	Scleral Landing Steep		-2.00		

BASE CURVE	AXIS	SPH	Cyl	AXIS	DIAMETER	MATERIAL LOT # / MP#	
L 7.50 / 7.50	0	-3.00	-3.00	0	15.80	N000746	
Minimum center thickness		0.30	Center thickness		0.30	Limbal Clearance	0.00
Scleral Landing Flat		5.00	Scleral Landing Steep		-2.00		

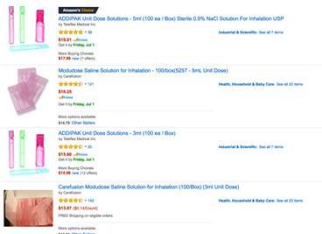
### + Keratoconus

- Tim Edrington, OD
  - You'll never go blind
  - Have as many kids as you'd like
  - Lay off the eye rubbing
  - LASIK is not for you



### + Sterile Saline

- Addipak
  - 5 mL for newborns
  - 3 mL after 1<sup>st</sup> purchase
- Lacripure (Menicon)
  - Practice branding
  - 10% of sales
  - FDA approved
  - Inexpensive for patient
    - < \$88 per year

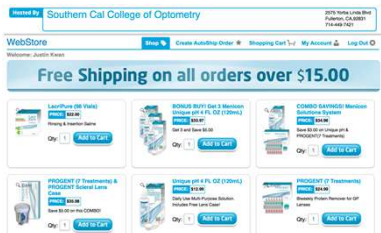


### + Lacripure




### + Disinfection & Deposits

- ClearCare Plus, Peroxiclear for average sagittal depth
- Unique pH, Boston Simplus, Optimum CDS
- Progent every 1-2 months



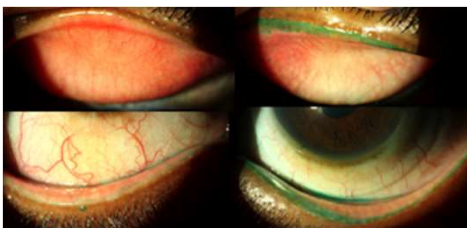
### + Wettability

- Significant challenge
  - Most labs will ship sclerals wet
- Biotrue, Optifree Puremoist, Revitalens
  - Cotton tipped applicator scrubbing while lens on eye
- Hydra-PEG
  - tangible SCIENCE





## + Manage the Lids



## + The hunt for VSP med nec

- Any meridian  $\geq \pm 10.00$  D
- Anisometropia 3.00 D
- Peripheral corneal opacity
  - ICD-10: H17.823
  - Post-RK
- Recurrent corneal erosion
  - ICD-10: H18.83\_

**GPLI GP Lens Institute**  
The Education Resource for Customized Contact Lenses™

HOME ABOUT EDUCATION WEBINARS RESOURCES EDUCATORS RESIDENTS & STUDENTS

### Coding and Billing Resources

The following resources are available pertaining to medical necessary contact lenses:

- Billing, Coding and ICD-10 for Medically Indicated Contact Lenses (as of January 2016)
- Coding and Billing FAQ
- CPT Codes, HCPCS Codes and ICD-10 Codes (February 2016)
- Sample Patient Brochure
- Sample Insurance Letter of Medical Necessity 1
- Sample Insurance Letter of Medical Necessity 2
- Sample Insurance Letter of Medical Necessity 3
- Top 10 Errors in Coding and Billing

Additional resources listed include: Laboratory Consultant FAQ, Specialty Lab Directory, Searchable Lens Database, Find A GP Specialist, Coding And Billing, Professional Fee Calculator, Order Printed Materials, Calculators, Conversion Charts, GP Product Lists, GP Practitioner Of The Year, and Useful Websites For GP Professionals.



**FERRIS STATE UNIVERSITY**  
Michigan College of Optometry  
Vision Research Institute

## SCLERAL LENS FIT SCALES

**CENTRAL VAULTING**

50 Microns, 150 Microns, 300 Microns, 600 Microns, 600 Microns

**LIMBAL VAULTING**

None, Good, Moderate

**EDGE RELATIONSHIP**

Severe Lm with bubble, Good Edge - Aligned, Mild Impingement, Severe Impingement, Severe Impingement

Authors: Josh Lonsbury, OD; Chad Reese, OD; Craig W. Norman, FCLSA  
Contact info: Craig@norman@ferris.edu

**+ Scleral Lens Assessment by Practitioners and Patients**

**SLAPP**  
SCLERAL LENS ASSESSMENT BY PRACTITIONERS AND PATIENTS  
PARTICIPATE NOW!

GLOBAL Specialty Lens Symposium

## + Conclusions

- Candidates
  - High corneal astigmats, > 3.25 DC
  - Presbyopic corneal astigmats
  - Dry eyes, all ages
  - Irregular corneas
    - But mild kones deserve a corneal GP for long term oxygen
- Embrace the newer designs
  - Pick two sets and master them

Justin T. Kwan, OD, FAAO

5460 E. La Palma Ave | Anaheim, CA 92807 ~ (510) 541-6422 ~ jkwan@ketchum.edu  
Southern California College of Optometry, Marshall B. Ketchum University

**EDUCATION**

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- 2005-2009 **University of California, Berkeley School of Optometry (UCBSO)**  
Doctor of Optometry, May 2009
- 2001-2005 **University of California, Berkeley**  
Bachelor of Arts, Molecular and Cell Biology, May 2005

**PROFESSIONAL LICENSURE**

---

- 2009-present Optometric Licensure, California, #13749TLG
- 2009-present Drug Enforcement Administration Licensure, #MK1990779

**WORK EXPERIENCE**

---

- 2011-present **Assistant Professor, Cornea and Contact Lens** *SCCO @ MBKU; Fullerton, CA*
  - Chief, Stein Cornea and Contact Lens Service, University Eye Center, Ketchum Health
  - Instructor of Record: Evidence Based Practice, 2013-present (interprofessional)
  - Clinical Instructor: third and fourth year students in contact lens patient care
  - Laboratory Instructor: contact lens I, II; case analysis I; problem based learning
  - Course Instructor: contact lens II, III, IV; case analysis I, contact lens grand rounds
  - Dry Eye Institute: direct patient care and with students
  - Clinical seminars: drug update, pricing, insurance
  - Instructor in Masters of Vision Science program and adviser to masters candidates
  - Liaison to NVISION Fullerton for refractive surgery co-management
- 2011-2012 **Optometrist, Argo Optometry, Nancy Wang, OD** *Upland, CA*
  - Primary care and keratoconus
- 2010-2011 **Optometrist, Emily Wenzler-Chapman, OD** *Corona, CA*
  - Primary care, soft and gas permeable lens fittings
- 2010-2012 **Research Fellow** *SCCO @ MBKU; Fullerton, CA*
  - Dry eye research and patient care under direct mentorship of Jerry Paugh, OD, PhD
  - Specialty contact lens patient care under direct mentorship of Timothy Edrington, OD, MS
  - Instruct third and fourth year interns in primary care and contact lens clinic

**CLINICAL AND RESEARCH INTERESTS**

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- Tear film, dry eye, Meibomian gland dysfunction, Demodex, allergic conjunctivitis
- Corneal dystrophies and degenerations
- Refractive Surgery
- Myopia Control
- Orthokeratology
- Scleral Lens Fitting and Applications
- Keratoconus and irregular corneas

**SPECIAL MEETINGS & TRAININGS**

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- 02.08.2013 Contact Lens Educators Seminar *Jacksonville, FL*

## PEER-REVIEWED PUBLICATIONS

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1. Paugh JR, **Kwan J**, Christensen M, Nguyen AL, Senchyna M, Meadows D. Development of a Meibomian Gland Dysfunction-Specific Symptom Questionnaire. *Eye Contact Lens*. 2016 Jul 27. [Epub ahead of print]
2. **Kwan JT**, Dalton K, Weissman BA. Contact Lens Applications and the Corneal Dystrophies: A Review. *Eye Contact Lens*. 2015 Aug 25. PMID: 26309025
3. Pucker AD, Jones-Jordan LA, Li W, **Kwan JT**, Lin MC, Sickenberger W, Marx S, Srinivasan S, Jones LW. Associations with Meibomian Gland Atrophy in Daily Contact Lens Wearers. *Optom Vis Sci*. 2015 Jul 3. PMID 26154690.
4. Azartash K, **Kwan J**, Paugh JR, Nguyen AL, Jester JV, Gratton E. Pre-corneal tear film thickness in humans measured with a novel technique. *Mol Vis* 2011; 17:756-767.

## ABSTRACTS

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1. **Kwan J**, et al. How has comfortable wear time of soft contact lenses changed? AAO, November 2016, Anaheim, CA. Abstract #165269.
2. Jones-Jordan L, et al. **Kwan J**. Psychometric Analysis of the SPEED Questionnaire. AAO, November 2016, Anaheim, CA. Abstract #160019.
3. Pucker A, Jones-Jordan L, **Kwan J**, et al. Race, Ethnicity, and Lifestyle Choice Associations with Meibomian Gland Atrophy. AAO, November 2016, Anaheim, CA. Abstract #160024.
4. Schachter S, Schachter A, **Kwan J**, Hom M. Gender Differences of Meibomian Gland Atrophy in a Younger Population. AAO, November 2016, Anaheim, CA. Abstract #160023.
5. DeLoss K, et al., **Kwan J**. Can Social Media Help Clinicians Understand the Efficacy of Dry Eye Treatments in Graft Versus Host Disease? AAO, November 2016, Anaheim, CA. Abstract #165230.
6. Schachter A, Schachter S, **Kwan J**. Impact of Digital Device Use on Dry Eye Symptoms. AA, November 2016, Anaheim, CA. Abstract #165090.
7. Mastrota K, et al., **Kwan J**. Dry Eye Symptoms with Digital Device Use in Patients Over and Under 45 Years of Age. AAO, November 2016, Anaheim, CA. Abstract #165086.
8. Halleran C, **Kwan J**, et al. The Importance of Evaluating Both Upper and Lower Eyelids with Meibography. AAO, November 2016, Anaheim, CA. Abstract #165223.
9. Halleran C, **Kwan J**, Hom M. Agreement in Reading Center Grading of Meibomian Gland Lid Tortuosity and Atrophy. AAO, November 2016, Anaheim, CA. Abstract #165079.
10. **Kwan J**, et al. 21<sup>st</sup> Century Digital Device Use and OSDI. TFOS, September 2016, Montpellier, France. Abstract #40.
11. Kunnen C, Jones-Jordan L, **Kwan J**, et al. The Association Between Meibomian Gland Width, Clinical Tests, and Patient-Reported Outcomes in Contact Lens and Non-Contact Lens Wearers. TFOS, September 2016, Montpellier, France. Abstract #67.
12. **Kwan J**, et al. Impact of Electronic Device Use on Contact Lens Wearers. ARVO, May 2016, Seattle, WA. Abstract #1483-A0163.
13. Pucker A, Jones-Jordan L, **Kwan J**, et al. A Comparison of SPEED Scores in Contact Lens and Non-Contact Lens Wearers. ARVO, May 2016, Seattle, WA. Abstract #2855-A0064.
14. Harthan J, O'Dell L, **Kwan J**, et al. Dry Eye Symptoms and Visual Function with Digital Device Use. ARVO, May 2016, Seattle, WA. Abstract #2843-A0052.
15. Halleran C, **Kwan J**, et al. Agreement in Reading Center Grading of Isoretinoin(Accutane)-induced Meibography Changes. ARVO, May 2016, Seattle, WA. Abstract #6219-A0147.
16. **Kwan J**, et al. Prevalence of Stand-Alone Ocular Surface Disease and Their Mixed Counterparts. AAO, October 2015, New Orleans, LA. Abstract #155239
17. **Kwan J**, O'Dell L, Hom M. Relationship Between Dry Eye and Dry Mouth Symptoms. AAO, October 2015, New Orleans, LA. Abstract #155056
18. Harthan J, **Kwan J**, et al. Meibomian Gland Dysfunction in Pre- and Post-Menopausal Women. AAO, October 2015, New Orleans, LA. Abstract #155055
19. Chang A, Huang K, **Kwan J**. Ortho-Quitters: What Happens When You Stop Wearing Your Lenses? AAO, October 2015, New Orleans, LA. Abstract #155117

20. Optiz D et al, **Kwan J**. Efficacy of Loteprednol Etabonate Ophthalmic Gel 0.5% for the Treatment of Evaporative dry Eye and Meibomian Gland Dysfunction. AAO, October 2015, New Orleans, LA. Abstract #155234
21. Jones-Jordan L et al, **Kwan J**. A Comparison of Meibomian Gland Expressibility Methods in Contact Lens and Non-contact Lens Wearers. British Contact Lens Association, Liverpool, United Kingdom. Abstract #41
22. Srinivasan et al, **Kwan J**. Meibomian Gland Atrophy Rate in Pre-presbyopic Contact Lens and Non-Contact Lens Wearers. AAO, November 2014, Denver, CO. Abstract #140081.
23. Pucker et al, **Kwan J**. Factors Associated with Meibomian Gland Atrophy in Daily Contact Lens Wearers. AAO, November 2014, Denver, CO. Abstract #140082.
24. Chang A, **Kwan J**. Relationship Between Visual Acuity and Corneal Toricity in Patients Successfully Fit with Orthokeratology Lenses. AAO, November 2014, Denver, CO. Abstract #145036.
25. Paugh J et al, **Kwan J**. Test Efficacy of the Fluorescein Tear Break-up Time (TBUT) in Dry Eye Diagnosis. AAO, November 2014, Denver, CO. Abstract #145059.
26. Paugh et al, **Kwan J**. Correlation of Signs and Symptoms in Dry Eye: A Re-examination. AAO, November 2014, Denver, CO. Abstract #145223.
27. **Kwan J**, Optiz D, Hom M, Paugh J. Gender Differences in a Meibomian Gland Dysfunction-Specific Symptom Questionnaire. ARVO, May 2014, Orlando, FL. Abstract #22-A0010
28. Optiz D, **Kwan J**, Harthan J, Baas E, Hom M. Prevalence of Allergic Conjunctivitis, Ocular Surface Disease Subtypes, and Mixed Disease. ARVO, May 2014, Orlando, FL. Abstract #2751-A0133.
29. Hom M, Optiz D, **Kwan J**, Bielory L. Severity and Frequency of Allergic Conjunctivitis Symptoms. AAAAI, March 2014, San Diego, CA. Abstract #959.
30. Tong J, **Kwan J**, et al. Comparison of Bepotastine Besilate 1.5% vs. Loteprednol Etabonate 0.2% in Subjects with Moderate to Severe Allergic Conjunctivitis. AAO, October 2013, Seattle, WA. Abstract #135106.
31. **Kwan J**, Hom M. Analysis of a Potential Meibomian Gland Dysfunction Specific Symptom Questionnaire in an Independent Sample. ARVO, May 2013. Abstract #6013-A0076.
32. Hom M, **Kwan J**. Prevalence of Dry Eye Sub-types and Severity of Evaporative Dry Eye Using Objective Tests. ARVO, May 2013, Seattle, WA. Abstract #4339-C0077.
33. **Kwan J**, Paugh J, et al. Preliminary Analysis of a Meibomian Gland Dysfunction Questionnaire. ARVO, May 2012, Fort Lauderdale, FL. Abstract #609-A77.
34. **Kwan J**, Paugh J, et al. Diagnostic Test Efficacy in Meibomian Gland Dysfunction. AAO, October 2011, Boston, MA. Abstract #115271.
35. Paugh J, **Kwan J**, et al. Comparison of Upper and Lower Eyelid Meibomian Glands: Are They Different? AAO, October 2011, Boston, MA. Abstract #115721.
36. Azartash K, **Kwan J**, et al. Preliminary Tear Film Thickness Data in Humans Measured with a Novel Technique. ARVO, May 2010, Fort Lauderdale, FL.
37. Truong T, Graham A, **Kwan J**, et al. Do Soft Lens Fitting Characteristics Predict Post-Lens Tear Mixing? ARVO, May 2010, Fort Lauderdale, FL.

## RESEARCH

2017	CLAY-SCORE	<i>Multicenter</i>
2015	Ethnic, Regional, and Lifestyle Associations with Meibomian Gland Atrophy	<i>AAO</i>
2014-2016	Controlling Myopia Progression through Optical Interventions (JJVCI)	<i>Multicenter</i>
2014-2015	Multiphase Qualitative On-Eye Non-Dispensing Printed Limbal Soft Contact Lens Clinical Trial	
2015	Evaluation of 1 Day Acuvue Moist Multifocal CL in High Myope Asian Population	<i>Multicenter</i>
2014	Impact of nutrition on macular health (FDR)	<i>AAO</i>
2014	Evaluation of New Limbal Ring Prototypes	<i>Multicenter</i>
2014	A Non-Dispensing Fit Evaluation of etafilcon A Investigational Limbal Ring Contact Lenses with polyvinylpyrrolidone (PVP) in an Asian Population	<i>Multicenter</i>
2013-2014	Impact of Meibomian Gland Atrophy on Contact Lens Comfort: A Pilot Study	<i>Multicenter</i>
2013	Influence of Optic Disc Size and Neuro-retinal Rim Configuration on Accurate Identification of Glaucomatous Optic Neuropathy (FDR)	<i>AAO</i>
2013	Contact Lens Comfort Relative to MGD Status (JJVCI)	<i>SCCO</i>
2013	Tear Osmolarity Prevalence in Clinic Patients Study (TearLab – TP00108)	<i>Multicenter</i>
2012	Dry Eye Symptoms and Tear Osmolarity (FDR)	<i>AAO</i>

2011-2012	A Single-Center, Masked, Randomized Study Comparing Bepreve vs. Alrex in Subjects with Moderate to Severe Allergic Conjunctivitis	SCCO
2011	Evaluation of the Efficacy of an Ocular Emulsion on the Signs and Symptoms of Meibomian Gland Dysfunction	SCCO
2010	Meibomian Gland Studies: Sensitivity and Specificity of Diagnostic Criteria	SCCO
2009	Tear Film Thickness Measured Using a Novel Technique	SCCO
2006	Soft Lens Fitting Characteristics and Post-Lens Tear Mixing	Berkeley

## AWARDS & HONORS

Oct 2012	Fellowship, American Academy of Optometry	Phoenix, AZ
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## SERVICE

Sep 2016	Elementary School Vision Screenings, Lions Club	Monterey Park, CA
Apr 2016	<b>Legislative Day</b> (COA)	Sacramento, CA
2015-present	<b>AOA Faculty Liaison</b> , Southern California College of Optometry	
2015-present	<b>Fellows Doing Research Special Interest Group</b> , executive committee	
2015-present	<b>Orange County Optometric Society (OCOS)</b> , board member, legislative chair, public relations	
2009-present	<b>AOA, COA, OCOS</b> , member	
2009-present	<b>American Academy of Optometry</b> , member	
2015-present	<b>Tear Film Ocular Surface</b> , member	
2013-present	<b>Asian American Optometric Society</b> , member	
2015-present	<b>The Ocular Surface</b> , journal reviewer	
2015-present	<b>Contact Lens Anterior Eye</b> , journal reviewer	
2014-present	<b>Allergan and NVISION</b> , advisory panel member	
2011-present	<b>Optometry Vision Science</b> , journal reviewer	
2010-present	<b>Troy High School Tech Program</b> , mentor to high school summer intern	Fullerton, CA
2006-present	<b>Association for Research in Vision and Ophthalmology (ARVO)</b> , member	
Oct 2015	<b>Care Harbor</b> , volunteer optometrist	Los Angeles, CA
Feb 2015	<b>House of Delegates</b> , represented OCOS	San Jose, CA
Sep 2014	<b>Care Harbor</b> , volunteer optometrist	Los Angeles, CA
July 2014	<b>La Raza Health Fair</b> , optometrist	Los Angeles, CA
May 2014	<b>Key Person Day</b>	Sacramento, CA
Feb 2014	<b>Casa Bernabe Orphanage</b> , volunteer optometrist	Guatemala
Dec 2013	<b>Kids Vision for Life OC</b> , volunteer optometrist	Fort Irwin, CA
Oct 2013	<b>Rowland Heights Community Christian Church</b> , community health fair	Rowland Heights
Oct 2013	<b>Care Harbor</b> , volunteer optometrist	Los Angeles, CA
Feb 2013	<b>Legislative Day</b>	Sacramento, CA
Dec 2012	<b>Special Olympics</b> , volunteer optometrist	Irvine, CA
Nov 2012	<b>Kids Vision for Life OC</b> , volunteer optometrist	Santa Ana, CA
Sep 2012	<b>Care Harbor</b> , volunteer optometrist	Los Angeles, CA
Aug 2012	<b>Boys and Girls Club Vision Screening</b> , volunteer optometrist	Garden Grove, CA
Aug 2012	<b>Medical Mission Trip</b> , volunteer optometrist	Mexico City
June 2012	<b>Special Olympics</b> , volunteer optometrist	Long Beach, CA
Mar 2012	<b>Illuminations Foundation</b> , volunteer optometrist	Garden Grove, CA
Oct 2011	<b>CareNowUSA</b> , volunteer optometrist	Los Angeles, CA
Aug 2011	<b>Covina Community Outreach, Back 2 School Blast</b>	Covina, CA
Aug 2010	<b>Covina Community Outreach, Back 2 School Blast</b>	Covina, CA
Apr 2010	<b>Remote Area Medical</b> , volunteer optometrist	Los Angeles, CA
Aug 2009	<b>Remote Area Medical</b> , volunteer optometrist	Los Angeles, CA
Jan 2008	<b>Volunteer Optometric Services to Humanity (VOSH)</b>	Thailand

## PROFESSIONAL SKILLS

- Conversational and exam level Cantonese and Spanish
- Electronic Health Records: Officemate, Compulink, and MaximEyes
- Corneal Topographers: Medmont E300 topographer, Nidek OPD III, Oculus Keratograph 5M

- Dry eye instrumentation: Oculus K5M, MiBo Thermoflo, TearLab
- Google Drive, Dropbox
- Microsoft Word, Excel, Powerpoint, Publisher
- Scleral Lens Fitting: Custom Stable, Zenlens, EUROPA
- UberConference
- Orthokeratology designs: Paragon CRT, Euclid, iSee, Forge
- OCT: Cirrus
- Photography: fundus and anterior segment, Optos Daytona
- Auto-phoropter: Marco TRS-5100
- Synergeyes fitting
- EndNote, ClinicalKey