



**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



February 1, 2017

California State Board of Optometry  
2450 Del Paso Road, Suite 105  
Sacramento, CA 95834

Dear California State Board of Optometry,

Re: Returned CE Course Approval Request – Corneal Dystrophies and Pathology

This letter serves to furnish the items requested after preliminary review of my initial application.

A sincere effort was made to submit the initial application 45 days in advance of the presentation date; however, I did not receive the presentation materials from Dr. Neda Shamie within an acceptable time frame. That said, I waited to mail the entire CE application packet until I was in possession of all presentations for the Kaiser Permanente 2017 Optometry Symposium. In the future, I will be more stringent with each instructor to ensure I have all necessary materials well in advance of the symposium date.

Additionally, there was a misunderstanding of the CE Course Approval Application process as I was unaware of the requirement that the application be submitted electronically and not by mail. Moving forward, I am now clear of the requirements and will submit future applications via email.

If you have any questions, please feel free to contact me at (626) 405 – 4648 or by email [jennifer.n.iacuaniello@kp.org](mailto:jennifer.n.iacuaniello@kp.org).

Sincerely,

A handwritten signature in cursive script that reads "Jennifer Iacuaniello".

Jennifer Iacuaniello

# \$350 Paid for the 7 Courses

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY

Cashiering and Board Use Only			
Receipt #	Payor ID	Beneficiary ID	Amount
1-2257	W23620	887855	50



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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.**

<b>Course Title</b> Corneal Dystrophies and Pathology	<b>Course Presentation Date</b> 02/11/2017
----------------------------------------------------------	-----------------------------------------------

### Course Provider Contact Information

<b>Provider Name</b> Jennifer iacuaniello Nami (First) (Last) (Middle)		
<b>Provider Mailing Address</b> Street 393 E. Walnut, 1st Fl City Pasadena State CA Zip 91188		
Provider Email Address jennifer.n.iacuaniello@kp.org		
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.

<b>Instructor Name</b> Neda Shamie (First) (Last) (Middle)		
License Number 71544	License Type Physician and Surgeon A	
Phone Number (310) 229-1220	Email Address nedashamiemd@gmail.com	

**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.**

*Jennifer Iacuaniello*  
 Signature of Course Provider

1.5.17  
 Date



[Home](#) | [Agenda](#) | [Faculty](#) | [Information](#) | [Location](#) | [Handouts](#) | [Attendees](#) | [Fees](#) | [Register](#)

## WELCOME!

Please join us at this informative conference for Kaiser Permanente optometrists, opticians and other interested health care professionals. This event will provide a congenial atmosphere to exchange ideas and learn from notable experts in optometry and related fields.

Madhu Chawla, OD  
Chairperson, Optometry Symposium Committee

## DATE & LOCATION

Saturday, February 11, 2017

[The Waterfront Beach Resort, A Hilton Hotel](#)  
21100 Pacific Coast Highway  
Huntington Beach, CA 92648  
(714) 845 - 8000

## AGENDA

Download the symposium agenda

## FACULTY

[Click here to meet the faculty](#)

## SOCIAL MEDIA

Follow us on facebook and twitter for up to date information on all symposia.



## Reminder

Name badges will no longer be printed.  
Please bring your Kaiser Permanente issued badge for identification.



## LEARNING OBJECTIVES

At the end of this activity, participants should be able to:

1. Enhance their knowledge surrounding the treatment and management of glaucoma
2. Co-manage patients with corneal disorders
3. Be informed and learn about new diagnostic technology available for patient care for the treatment and management of glaucoma and corneal disorders
4. Gain a better understanding of treatment options available for anterior segment disorders
5. Enhance knowledge of systemic disease as it applies to eye care
6. Reinforce knowledge of the standard of care within the profession and optimize care delivery

## TARGET AUDIENCE

Optometrists, Ophthalmologists, Opticians and any other interested health care professionals

## ACCREDITATION

**Optometrists** – California State Board of Optometry approval pending.

## PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, all reasonable efforts will be made to accommodate persons with disabilities at the meeting. If you have any special dietary or accommodation needs, please notify the meeting planner listed, prior to the symposium at (626) 405-4648 or tie-line 8-335-4648. This advance notice will help us serve you better.



# 2017 Optometry Symposium

Saturday, February 11, 2017

## Agenda

7:00 am	<b>Registration and Breakfast</b>
7:50 am	<b>Welcome and Introductions</b>
8:00 am	<b>Potpourri of Corneal Cases</b> Neda Shamie, MD
8:50 am	<b>Corneal Dystrophies and Pathology</b> Neda Shamie, MD
9:40 am	<b>Morning Break</b>
10:00 am	<b>Systemic and Medical Jeopardy</b> David Sendrowski, OD
10:50 am	<b>Viral Infections of the Anterior Segment</b> David Sendrowski, OD
11:40 am	<b>OD of the Year</b>
11:50 am	<b>Lunch</b>
12:50 pm	<b>Lessons Learned as a Malpractice Consultant</b> Andrew Mick, OD
2:30 pm	<b>Afternoon Break</b>
2:40 pm	<b>The Other Glaucoma</b> Andrew Mick, OD
3:30 pm	<b>Enlarged Optic Nerve Cupping</b> Andrew Mick, OD
4:20 pm	<b>Closing Comments and Raffle</b>

*Agenda is subject to change*

**Course:** Corneal Dystrophies and Pathology

**Speaker:** Neda Shamie, MD

**Time:** 8:50 am – 9:40 am

**CE Requested:** 1 Hour

**Summary:** The cornea consists of several layers, each can be the site of many different pathologies. Fuchs' Dystrophy features a gradual deterioration of the corneal endothelium. As the disease advances, vision becomes increasingly blurry with severe cases receiving a treatment recommendation of a corneal transplant. This lecture considers surgical treatment of Fuchs' Dystrophy comparing several options of transplantation.

### **Topical Outline**

1. Cornea: "The Window to the Soul"
2. Corneal Pathology:
  - a. Indications for Transplantation
3. PKP: Fraught with Problems
  - a. Delayed vision recovery
  - b. Suboptimal UCVA
  - c. Rejection
  - d. Graft Failure
4. Severe Complications of Penetrating Keratoplasty: Suture Problems and Wound Healing Problems
  - a. Endophthalmitis: From retained suture fragment
5. How do we minimize these problems with Penetrating keratoplasty?
  - a. Target the Treatment to the Corneal Layer Involved
  - b. Eliminate full thickness corneal incisions
  - c. Eliminate corneal sutures
  - d. Avoid violating the corneal surface
6. "One Size Fits All" Corneal Transplantation
7. Corneal transplantation: menu of options
  - a. PENETRATING KERATOPLASTY (PKP)
8. Endothelial Keratoplasty: A Paradigm Shift in Corneal Transplantation
9. Corneal Endothelial Keratopathy
10. Endothelial Keratoplasty Outcomes: Much improved as compared to PKP
11. Visual Acuity 3 years post DSAEK: all eyes with no ocular co-morbidities
12. Visual Acuity 3 years post DSAEK: all eyes with no ocular co-morbidities
13. Post DSAEK Visual Outcomes: 52 "healthy" Fuchs eyes with complete data sets
14. DMEK: pure anatomical transplantation

15. Ideal Cases for DMEK
  - a. Fuch's Endothelial Dystrophy
  - b. Uncomplicated pseudophakic bullous keratopathy
  - c. Especially ones with premium IOLs
  - d. Irreversible descemet's tear or trauma
16. DMEK
17. DMEK at 7 days post-op: Note clarity of graft and absence of visible graft edges
18. DMEK provides more 20/15 to 20/25 vision vs. DSAEK
19. Significantly Fewer Rejections with DMEK than PK and DSEK
  - a. Relative risk of immunologic rejection
  - b. Single center study
20. FIRST CONSECUTIVE 60 CASES of DMEK
  - a. Indications
21. DMEK Recipient Prep: strip a larger recipient bed
22. Use the Proper Donor Insertion Devices
23. Donor Opening & Positioning: use your options
24. Hope for (or insist on) the Double Scroll Up
25. DMEK Postoperative Management
  - a. Sequential OCT an important tool in assessing graft adhesion
26. DMEK: patient one day postop, inferior graft separation
27. DMEK: Where are we now?
  - a. Offers exact anatomical correction of underlying pathology
  - b. Vision with DMEK/DMAEK is better, SOONER!
  - c. 20/20 and 20/15 vision potential
  - d. 10x lower rejection rates
  - e. Learning curve is steeper than any other corneal surgery
28. Why do I Offer DMEK To Patients?
  - a. Better BCVA
  - b. Better Quality of Vision
  - c. Less Risk of Rejection Episodes
29. Managing the Unpredictable Cornea in Cataract Surgery
30. Patient with decreased vision -> cataract
31. Modern Day Cataract Surgery
  - a. Lens-based refractive procedure
32. Preoperative Assessment of the Cornea and Ocular Surface
33. Fuchs endothelial dystrophy
34. Cataract surgery in patients with fuchs' corneal dystrophy: expanding recommendations for cataract surgery without simultaneous keratoplasty
  - a. Seitzman, Gottsch JD, Stark W, Ophthalmology 2005
35. My approach to Fuchs & Cataracts Dmek triple vs. sequential: A Case for sequential DMEK then CE/IOL



36. DMEK performed 1st to optimize cornea
37. Dmek triple vs. sequential: A Case for sequential DMEK then CE/IOL
38. Laser Cataract Surgery
39. Modern Day Cataract Surgery
40. Capsulotomy
41. Lens fragmentation
42. Lens Fragmentation Data
43. Endothelial Cell Density

## Approaching Fuchs Dystrophy: State of the Art




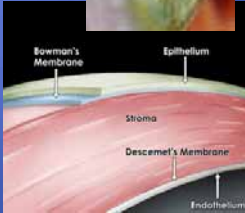
**Neda Shamie, MD**  
Advanced Vision Care  
Los Angeles, CA

## Financial disclosures

- ✎ Consultant: Alcon, Allergan, B&L, Nicox, Shire
- ✎ Corporate Medical Director, Tissue Bank International

### Cornea: "The Window to the Soul"


- ✎ Clear dome shaped structure
- ✎ Primary refractive layer
- ✎ Half a millimeter in thickness
- ✎ Every layer can be the site of many different pathologies

### Corneal Pathology: Indications for Transplantation

- ✎ Fuch's Corneal Endothelial Dystrophy
- ✎ Pseudophakic Bullous Keratopathy
- ✎ Keratoconus
- ✎ Keratoglobus
- ✎ Granular Dystrophy
- ✎ Lattice Dystrophy
- ✎ CHED
- ✎ PPMD
- ✎ Ectasia
- ✎ Corneal Scar
- ✎ Laceration
- ✎ Descemetocoele
- ✎ Limbal Stem cell deficiency
- ✎ Aniridia
- ✎ Failed prior corneal transplant
- ✎ Corneal ulcer
- ✎ And more.....


**Traditional Method of Replacing the Diseased Cornea Full Thickness PK**



**Beautifully clear graft, 20/20 vision, minimal irregular astigmatism.  
After sutures out at one year: MR: -8.00+5.00X70=20/20**

### PKP: Fraught with Problems

- Delayed vision recovery
- Suboptimal UCVA
- Rejection
- Graft Failure
- Suture tract related infection
- Wound Dehiscence



### Severe Complications of Penetrating Keratoplasty: Suture Problems and Wound Healing Problems



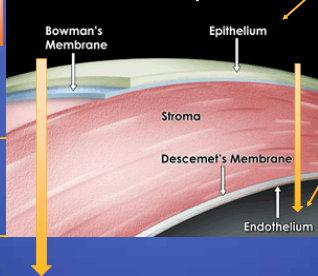
Endophthalmitis:  
From retained suture fragment

Expulsive Hemorrhage:  
From mild trauma 5 years s/p PK

### How do we minimize these problems with Penetrating keratoplasty?

- ✎ Target the Treatment to the Corneal Layer Involved
  - ✎ Lower immunogenic load
  - ✎ Maintain healthy layers
- IF POSSIBLE.....
- ✎ Eliminate full thickness corneal incisions
  - ✎ more stable globe
  - ✎ avoid intraoperative complications of "open sky"
- ✎ Eliminate corneal sutures
  - ✎ avoid suture related complications
- ✎ Avoid violating the corneal surface
  - ✎ faster wound healing
  - ✎ smoother topography

### "One Size Fits All" Corneal Transplantation Modern Day Selective Corneal Transplantation





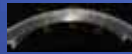
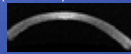
**Full Thickness Graft:**  
PKP  
IEK  
Keratoprosthesis

**Anterior Lamellar Graft:**  
Tectonic  
DALK

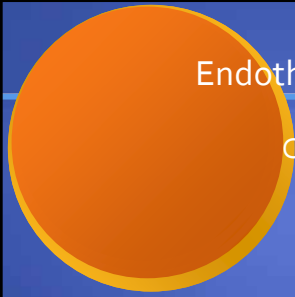
**Limbal Stem Cell Transplant:**  
KLAL  
CLAU  
LR-CLA

**Endothelial Keratoplasty:**  
DLEK  
DSEK  
DSAEK  
DMEK  
DMAEK

### Corneal transplantation: menu of options

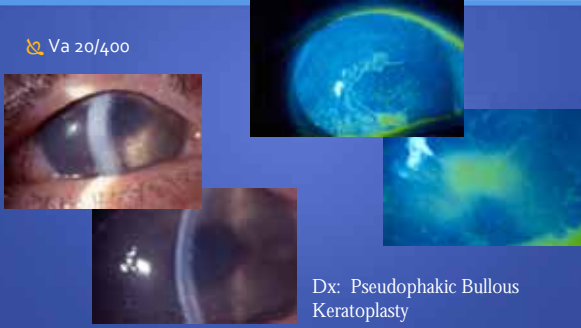
<p><b>PENETRATING KERATOPLASTY (PKP)</b></p> <ul style="list-style-type: none"> <li>• Indications: full thickness disease or scar</li> </ul> 	<p><b>DEEP ANTERIOR LAMELLAR KERATOPLASTY (DALK)</b></p> <ul style="list-style-type: none"> <li>• Indications: Stromal disease/scar with intact normal endothelium (Corneal stromal dystrophies, corneal ulcer scar, etc)</li> </ul> 
<p><b>DESCEMETS STRIPPING ENDOTHELIAL KERATOPLASTY (DSEK)</b></p> <ul style="list-style-type: none"> <li>• Indications: corneal endothelial disease with normal stroma/epithelium (Fuchs dystrophy, PBK, iatrogenic)</li> </ul> 	<p><b>DESCEMETS MEMBRANE ENDOTHELIAL KERATOPLASTY (DMEK)</b></p> <ul style="list-style-type: none"> <li>• Indications: same as DSEK but typically in uncomplicated eyes</li> </ul> 

### Endothelial Keratoplasty: A Paradigm Shift in Corneal Transplantation



### Corneal Endothelial Keratoplasty

✎ Va 20/400



Dx: Pseudophakic Bullous Keratoplasty

### Endothelial Keratoplasty Outcomes: Much improved as compared to PKP

- Targeted surgical treatment
- Intact globe
- Faster vision recovery
- Longer term excellent results
- Lower rejection rates

### Cut Corneal Stromal Fibers on Donor DSAEK graft =

optically impure interface

### Visual Acuity 3 years post DSAEK: all eyes with no ocular co-morbidities

	BSCVA	range
Preop N=576	20/67	20/20-HM
6 mo N=402	20/31	20/16-20/400
1 yr N=316	20/29	20/16-20/70
2 yrs N=157	20/26	20/16-20/50
3 yrs N=61	20/25	20/16-20/40

\* vision improved from preop but remains stable after 6 months

### Visual Acuity 3 years post DSAEK: all eyes with no ocular co-morbidities

	BSCVA	range
Preop N=576	20/67	20/20-HM
6 mo N=402	20/31	20/16-20/400
1 yr N=316	20/29	20/16-20/70
2 yrs N=157	20/26	20/16-20/50
3 yrs N=61	20/25	20/16-20/40

\* vision improved from preop but remains stable after 6 months

### Post DSAEK Visual Outcomes: 52 "healthy" Fuchs eyes with complete data sets

	≥20/20	≥20/25	≥20/30	≥20/40
Preop	2%	8%	15%	23%
6 mo.	15%	37%	75%	100%
1 yr.	19%	44%	83%	100%
2 yrs.	31%	62%	87%	100%
3 yrs.	39%	67%	87%	100%

### Endothelial Keratoplasty: An Evolution in Technique

- Arvo 1993, Ko et al: Experimental posterior lamellar transplantation of the rabbit cornea
- PLK, 1998.....G Melles
- DLEK, 2001.....MA Terry
- DSEK, 2005.....FW Price
- DSAEK, 2006.....M Gorovoy
- DMEK, 2006.....G Melles
- DMAEK, 2009.....B McCauley & FW Price

Precut Tissue resulted in "mainstream" acceptance of DSAEK

Will DMEK ever reach mainstream acceptance?

### DMEK: pure anatomical transplantation

DMEK: Stripping of pt's Descemet's membrane, followed by transplanting JUST Descemet's membrane of the donor

### Ideal Cases for DMEK

- Fuch's Endothelial Dystrophy
- Uncomplicated pseudophakic bullous keratopathy
  - Especially ones with premium IOLs
- Irreversible descemet's tear or trauma

### DMEK

### DMEK at 7 days post-op:

Note clarity of graft and absence of visible graft edges

1 week postop UCVA = 20/20-

### DMEK provides more 20/15 to 20/25 vision vs. DSAEK

Visual Acuity	6 month DMEK (%)	6 month DSAEK (%)
20/15	~5	0
20/20	~25	~5
20/25	~30	~10
20/30	~25	~40
20/40	~10	~30
20/50	~5	~10
20/60	0	~5

Cornea Research Foundation

### Significantly Fewer Rejections with DMEK than PK and DSEK

- Relative risk of immunologic rejection
  - DMEK 20 X less than PK
  - DMEK 15 X less than DSEK
- Single center study
  - Same steroid dosing regimen for all groups
  - Same criteria for diagnosis of rejection episode

\*Anshu A, Price MO, Price FW. Risk of corneal transplant rejection significantly reduced with DMEK. Ophthalmology 2011

*A novice DMEK surgeon's complications:*

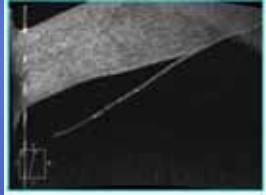
## **FIRST CONSECUTIVE 60 CASES of DMEK**

- ✂ Indications
  - ✂ 80% Fuchs & 20% PBK
  - ✂ No eyes with tubes/trabs
- ✂ 28% reached 20/20 or better vision within 1 month
- ✂ 5 (8.3%) rebubbling for partial detachment
- ✂ NO Primary Graft Failures
- ✂ NO Pupillary Block Cases
- ✂ NO rejections in the series....follow up of 3 years

## DMEK Recipient Prep:


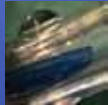
strip a larger recipient bed

- ✂ Descemet's doesn't stick to descemet's
- ✂ Larger descemetorhexis than donor graft




## Use the Proper Donor Insertion Devices

- ✂ Glass Pipette
- ✂ Straiko Modified Jones' Tube
- ✂ D mat & Tan Endoglide
- ✂ Others in the pipeline


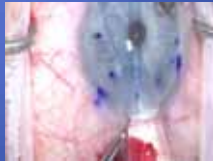
## Donor Opening & Positioning: use your options

- ✂ Yoeruek "no touch" Tap technique
- ✂ Melles/Price technique
- ✂ DMEK S mark
- ✂ Kruse peripheral punches



## Hope for (or insist on) the Double Scroll Up


- ✂ Allows for better orientation
- ✂ Opens easily with shallowing of the chamber and Yoeruek no touch tapping technique

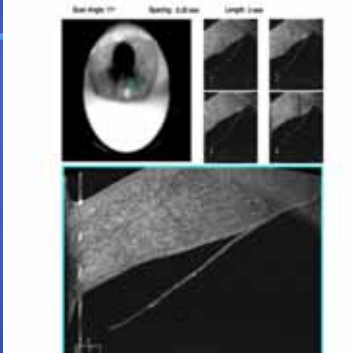
## DMEK Postoperative Management

- ✂ Sequential OCT an important tool in assessing graft adhesion
- ✂ Lower threshold for rebubbling
  - ✂ More than 30% area separated
  - ✂ Vision affected
  - ✂ Curling and progressive separation noted

### DMEK: patient one day postop, inferior graft separation



Vision improved to 20/40 by 5 days but inferior edema persists



### DMEK: Where are we now?

- ⌘ Offers exact anatomical correction of underlying pathology
- ⌘ Vision with DMEK/DMAEK is better, SOONER!
- ⌘ 20/20 and 20/15 vision potential
- ⌘ 10x lower rejection rates
- ⌘ Learning curve is steeper than any other corneal surgery
- ⌘ Surgeon resistant may slow mainstream acceptance....!



### Modern-Day "Selective" Corneal Transplantation: Options and Indications

BY NEDA SHAMIE, MD

ADVANCED OCULAR CARE SEPTEMBER 2010

No longer is PKP the mainstay of our surgical armamentarium. Our approach to patients' corneal pathology has rapidly diversified and our evaluation and treatment of surgical patients have become more targeted. These changes have led to better outcomes for our patients and have enriched our field!


### Why do I Offer DMEK To Patients?

- Better BCVA
- Better Quality of Vision
- Less Risk of Rejection Episodes
- Similar Cell Counts to DSEK

### Managing the Unpredictable Cornea in Cataract Surgery

Neda Shamie MD

### Patient with decreased vision → cataract

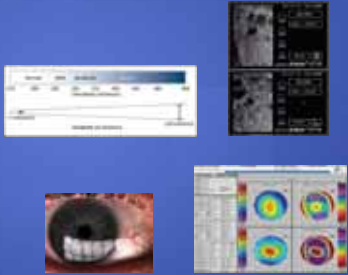


### Modern Day Cataract Surgery

- 🔗 = Lens-based refractive procedure
- 🔗 Patients & Surgeons with higher expectations
- 🔗 Maximize uncorrected visual acuity

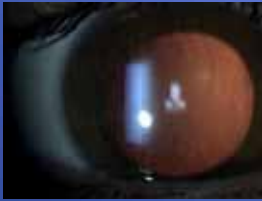
### Preoperative Assessment of the Cornea and Ocular Surface

- 🔗 IOL measurements
  - 🔗 Axial length
  - 🔗 Corneal curvature
- 🔗 Topography
- 🔗 Tomography
- 🔗 Pachymetry
- 🔗 Tear Osmolarity
- 🔗 LipiView
- 🔗 Specular microscopy




### Fuchs endothelial dystrophy

**Confluent guttae,  
BCVA 20/50 & morning blurring**



**Stromal edema,  
pachymetry 690**



Cataract surgery in patients with fuchs' corneal dystrophy: expanding recommendations for cataract surgery without simultaneous keratoplasty  
Seltzman, Gottsch JD, Stark W, Ophthalmology 2005

- Preoperative pachymetry used to help determine postoperative outcome of cataract surgery without simultaneous corneal transplant
- 136 eyes of Fuchs' patients underwent CE/IOL
- Pachy of < or = 640: postop VA 20/33 (20/15 20/250), 10% progressed to PKP within the first year
- Pachy of > or = 640: postop VA 20/50 (20/20 20/200), 17% progressed to PKP

**Take Home Message:**  
 With Fuchs' dystrophy,  
 Pachy >640 = consider combo surgery  
 Pachy <640 = consider CE/IOL only (myopic target)

### My approach to Fuchs & Cataracts


```

    graph TD
      A[Fuchs with Natural Lens] --> B[Symptomatic Fuchs, pachy >600-640, confluent guttae]
      A --> C[Mild guttae, pachy <600-640]
      B --> D[Needing readers or significant cataract]
      B --> E[Minimal cataract & not yet needing readers]
      C --> F[CE/IOL alone (consider laser, target -0.50)]
      D --> G[DMEK/CE/IOL (target -0.5)]
      D --> H[Sequential DMEK/CE/IOL (with optically premium IOLs ?) or DMEK/CE/IOL with postop PKP]
      E --> I[DMEK alone]
    
```

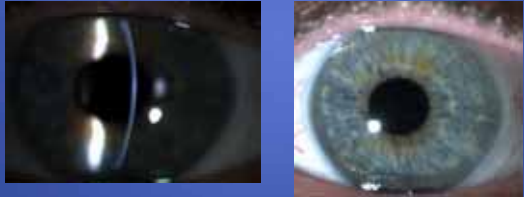
For optimal refractive outcome




Dmek triple vs. sequential:  
A Case for sequential DMEK then CE/IOL



DMEK performed 1<sup>st</sup> to optimize cornea



Dmek triple vs. sequential:  
A Case for sequential DMEK then CE/IOL



Preop:  
Avg K 46.62  
4.78 D of astigmatism

Postop DMEK:  
Avg K 43.50  
1.77 D of astigmatism

Ideal outcomes are within reach!

- ☞ Spectacle independence is no longer an unrealistic expectation with corneal transplantation
- ☞ Patients with Fuchs or corneal disease undergoing corneal transplantation should take advantage of latest technological advances in diagnostics and surgical treatment

## Laser Cataract Surgery

- ☞ Femtosecond lasers represent the first Disruptive technology in cataract surgery since ultrasonic phacoemulsification in the late 60 s and foldable IOLs in the 80's
- ☞ Introduced for LASIK in 2001 and for laser cataract surgery in 2009
- ☞ LenSx received regulatory clearance for use of the FS laser for anterior capsulotomy in August 2009 and for cutting corneal incisions in Dec 2009
- ☞ Adds unprecedented precision to some steps of cataract surgery
- ☞ Key questions shifted to commercial viability and business models

+





Modern Day  
Cataract Surgery




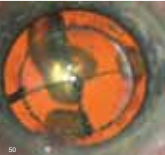
## Capsulotomy

	Traditional	Femtosecond laser assisted
<i>Capsulorhexis</i>	Manually torn with cystotomes and forceps	Programmed with precise size, shape, position

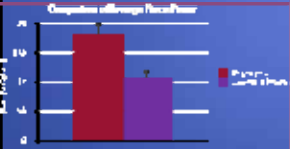
## Lens fragmentation

	Traditional	Femtosecond laser assisted
<i>Phaco</i>	Manual cracking or chopping to disassemble lens nucleus	Lens fragmentation programmed in pattern and depth; laser cut, followed by phaco-emulsification & aspiration

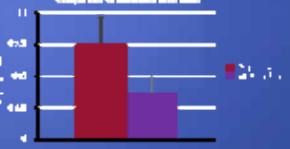



## Laser Phacofragmentation

- Cylinder pattern, utilized for the softer lens, enables removal with I & A only, no phaco power
- Chop pattern efficiently fragments the lens for removal with reduced phaco power and time:



51% reduction



43% reduction


## Lens Fragmentation Data

Cumulative Dissipated Energy (CDE) required for Nuclear Disassembly		
Cataract Grade	Control Phaco Data	Laser Phaco Data
1	4.40 (n=7)	2.28 (n=3)
2	8.20 (n=24)	1.38 (n=24)
3	15.20 (n=15)	5.83 (n=30)
4	41.20 (n=7)	18.53 (n=17)

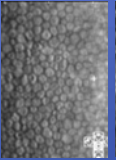
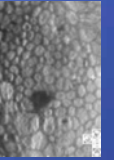
Percentage change in CDE compared to Conventional Phaco				
Grade	1	2	3	4
LensAR Fs Laser	-48.2%	-83.2%	-61.6%	-55.0%

Efficient Fragmentation at all Grades of Cataract

## Endothelial Cell Density



Overall	
Laser	Phaco
Mean	-0.4%    -2.6%
SD	11.3     9.6
n	309     123
p-value	0.09

In a series of 433 cases, utilization of the LensAR Laser resulted in significantly less endothelial cell loss. Decreased cell loss translates directly to increased long term corneal health.

Data Courtesy of LensAR, Inc.

## Summary

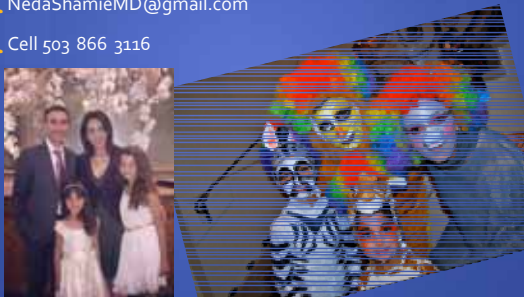
- 📌 The goals in addressing corneal disease with or without cataract:
  - 📌 Targetted approach to the corneal pathology
  - 📌 Optimized refractive outcome
  - 📌 Minimize collateral damage to fragile endothelial cells
- 📌 Modern day: "refractive customized corneal transplantation .....exciting advances for patients with Fuchs!



THANK YOU

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## EMPLOYMENT

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- 2003 – 2004     **University of California, Irvine**  
Assistant Clinical Professor of Ophthalmology
- 2005 – 2006     **The Portland Clinic, Portland, OR**  
Ophthalmic Surgeon on Staff
- 2006 – 2010     **Devers Eye Institute, Portland, OR**  
Associate Director  
Cornea Services
- 2010 – 2015     **USC-Keck School of Medicine**  
Associate Professor of Ophthalmology  
Division of Corneal and Anterior Segment Surgery  
USC Eye Institute
- 2010 – 2015     **USC Eye Center, Beverly Hills, CA**  
Medical Director
- 2015 – present   **Advanced Vision Care, Los Angeles, CA**  
Ophthalmic Surgeon

## EDUCATION

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- 1990 – 1994     **University of California, Los Angeles**  
Bachelor of Science, Summa cum laude
- 1994 – 1998     **University of California, San Francisco**  
Medical Degree
- 1998 – 1999     **UCLA-HARBOR Medical Center**  
Department of Internal Medicine  
Internship and Residency
- 1999 – 2002     **University of California, Irvine**  
Department of Ophthalmology  
Residency
- 2002 – 2003     **University of California, Irvine**  
Department of Ophthalmology  
Fellowship, Cornea, Anterior Segment & Refractive Surgery  
Mentor: Peter J. McDonnell, M.D.

## HONORS

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1993	<b>Golden Key Honors Society</b>
1994	<i>Summa cum laude</i>
1994	<b>Dean's Honors List</b>
1994	<b>Departmental &amp; College Honors</b>
1994	<b>Phi Beta Kappa Honors Society</b>
1994	<b>Senior Honors Thesis</b>

## PROFESSIONAL POSITIONS

---

2010-present	<b>Eye Bank Association of America Vice-Chairperson, Accreditation Committee</b>
2010-present	<b>American Academy of Ophthalmology Committee Member, Eye Banks Committee</b>
2011-present	<b>American Academy of Ophthalmology Program Committee Member</b>
2011-2011	<b>American Society of Cataract and Refractive Surgeons Cornea Clinical Committee Member</b>
2012-present	<b>Tissue Bank International Doheny Eye Bank Medical Director</b>
2012-2015	<b>American Academy of Ophthalmology Basic &amp; Clinical Science Course Editing Committee</b>
2012-present	<b>Los Angeles Ophthalmological Society Treasurer</b>
2013-present	<b>Los Angeles Research Study Club Board Member</b>
2013-present	<b>Los Angeles Ophthalmological Society Vice President</b>
2014-present	<b>Los Angeles Ophthalmological Society President</b>

**2014-present**      **Eye Bank Associate of America**  
**Scientific Program Chair**

**2014-2015**        **USC Eye Institute**  
**Director of Ophthalmology Education**

#### PROFESSIONAL MEMBERSHIPS

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**American Academy of Ophthalmology**  
**American Society of Cataract and Refractive Surgery**  
**Association for Research in Vision and Ophthalmology**  
**American Medical Association**  
**Castroviejo Corneal Society**  
**Cornea Society**  
**Los Angeles Ophthalmological Society**  
**Los Angeles Research Study Club**  
**Oregon Academy of Ophthalmology**  
**International Endothelial Keratoplasty Group**  
**Iranian Medical Association**

#### COURSE DIRECTORSHIP

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**Advanced Lamellar Corneal Surgery: Skills Transfer Course**  
November 2007  
AAO New Orleans  
Course Co-Director

**Thorny Issues in Ophthalmology: Focus on Cornea Diseases**  
September 2008  
Portland, Oregon  
Course Director

**Endothelial Keratoplasty (DSEK/DSAEK/DLEK): Current Strategies to Improve Results and Avoid Complications**  
November 2008  
AAO Atlanta  
Course Co-Director

**Deep Anterior Lamellar Keratoplasty (DALK) Training Course**  
April 2009  
Portland, Oregon  
Course Co-Director

**Endothelial Keratoplasty: A Simple and Safe Technique (Skills Transfer Course)**

April 2009  
ASCRS San Francisco  
Course Co-Director

**Endothelial Keratoplasty Techniques: Skills Transfer Course**

October 2009  
AAO San Francisco  
Course Co-Director

**Endothelial Keratoplasty: Current Strategies to Improve Results and Avoid Complications**

October 2009  
AAO San Francisco  
Course Co-Director

**Advances in Cornea Surgery: Decisions and Dilemmas in a Changing Field**

May 2013  
Santa Monica  
Course Director

**DMEK for the Novice Surgeon: Pearls and Pitfalls**

October 2013  
AAO  
Course Director

**Endothelial Keratoplasty: A Simple and Safe Technique (Skills Transfer Course)**

April 2014  
ASCRS  
Course Co-Director

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REVIEWER FOR SCIENTIFIC PUBLICATIONS

- ❖ **Ophthalmology**
- ❖ **Cornea**
- ❖ **Journal of Cataract and Refractive Surgery**
- ❖ **American Journal of Ophthalmology**

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PEER REVIEWED MANUSCRIPTS

Zhang Y, **Shamie N**, Daneshmand S. Assessment of Urologists' Knowledge of Intraoperative Floppy Iris Syndrome. *Urology*. 2016 Jul 21. pii: S0090-4295(16)30438-1

Ziaei M, Barsam A, **Shamie N**, Vroman D, Kim T, Donnenfeld ED, Holland EJ, Kanellopoulos J, Mah FS, Randleman JB, Daya S, Güell J. Reshaping procedures for the surgical management of corneal ectasia. ASCRS Cornea Clinical Committee J Cataract Refract Surg. 2015 Apr;41(4):842-72.

- Mah FS, Davidson R, Holland EJ, Hovanesian J, John T, Kanellopoulos J, **Shamie N**, Starr C, Vroman D, Kim T. Current knowledge about and recommendations for ocular methicillin-resistant Staphylococcus aureus. ASCRS Cornea Clinical Committee. J Cataract Refract Surg. 2014 Nov;40(11):1894-908.
- Terry MA, Straiko MD, Goshe JM, **Shamie N**, Shah A, Alqudah AA, Davis Boozer D. Endothelial keratoplasty: prospective, randomized, masked clinical trial comparing an injector with forceps for tissue insertion. Am J Ophthalmol. 2013 Jul;156(1):61-68.
- JY, Terry MA, Goshe J, Davis-Boozer D, **Shamie N**. Three Year visual outcomes after DSEK. Ophthalmology 2012 June;119:1126-9.
- Li JY, Terry MA, Goshe J, **Shamie N**, Davis-Boozer D. Graft rejection after DSEK: graft survival and endothelial cell loss. Ophthalmology 2012 Jan;119:90-4.
- Goshe J, Terry MA, **Shamie N**, Li J. Ophthalmic viscosurgical device-assisted incision modification for the big bubble technique in deep anterior lamellar keratoplasty. J Cataract Refract Surg. 2011 Nov;37:1923-7.
- Straiko MD, Terry MA, **Shamie N**. Descemet stripping automated endothelial keratoplasty under failed penetrating keratoplasty: a surgical strategy to minimize complications. Am J of Ophthalmology 2011 Feb;151(2):233-7.
- Terry MA, **Shamie n**, Straiko MD, Friend DJ, Davis-Boozer D. Endothelial keratoplasty: the relationship between donor tissue storage time and donor endothelial survival. Ophthalmol 2011 Jan.;118(1):36-40.
- Hayes DD, Shih CY, **Shamie N**, Terry MA, Price FW, Price MO, Ritterband DC, Hannush SB, Gorovoy MS, Weisenthal RW, Ritch R, Liebmann JM, Udell IJ. Spontaneous reattachment of Descemet stripping endothelial keratoplasty lenses: a case series of 12 patients. Am J of Ophthalmol 2010 Dec; 150(6);790-7.
- Chen ES, Phillips PM, Terry MA, **Shamie N**, Friend D. Endothelial cell damage in descemet stripping automated endothelial keratoplasty with the underfold technique: 6 and 12 month results. Cornea 2010 Sep;29(9);1022-4.
- Straiko MD, **Shamie N**, Terry MA. Endothelial keratolasty: past, present and future directions. International Ophthalmol Clinics 2010; 50(3);123-35.
- Shah AK, Terry MA, **Shamie N**, Chen ES, Phillips PM, Hoar KL, Friend DJ, Davis-Boozer D. Complications and Clinical Outcomes of DSAEK with intraocular lens exchange. Am J Ophthalmol 2010 Mar; 149(3):390-7.
- Phillips PM, Terry MA, **Shamie N**, Chen ES, Hoar KL, Dhoot D, Shah AK, Friend DJ. Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) in Eyes with Previous Trabeculectomy and Tube Shunt Procedures: Intra-operative and early post-operative complications. Cornea 2010 May;29(5):534-40.
- Chen ES, Terry MA, **Shamie N**, Friend DJ. Endothelial Keratoplasty: Endothelial Cell Loss after Deep Lamellar Endothelial Keratoplasty with Retention of an Anterior Chamber Intraocular Lens. Cornea 2010 Feb; 29(2):162-6.
- Terry MA, Saad HA, **Shamie N**, Shah AK. Peripheral endothelial cell damage after trephination of donor tissue. Cornea 2009 Dec; 28(10):1149-52.



Terry MA, **Shamie N**. Avoiding eccentric trephination. *Ophthalmol* 2009 Dec. 116(12):2481-2.

Phillips PM, Terry MA, **Shamie N**, Chen ES, Hoar KL, Stoeger C, Friend DJ. Descemet's stripping automated endothelial keratoplasty (DSAEK) Using Corneal Donor Tissue Not Acceptable for Use in Penetrating Keratoplasty due to anterior stromal scars, pterygia, and previous corneal refractive surgeries. *Cornea*. 2009 Sep;28(8):871-6.

Chen ES, Terry MA, **Shamie N**, Phillips PM. Busin Glide vs Forceps in DSAEK: Not All Forceps Insertions are Created Equal. *Am J Ophthalmol*. 2009 Jul;148(1):175;

Chen ES, Terry MA, **Shamie N**, Hoar KL, Friend DJ. The Stability of Hyperopic Refractive Shift Following Descemet's Stripping Automated Endothelial Keratoplasty. *J Cataract Refract Surg*. 2009 Aug;35(8):1473

Chen ES, Terry MA, **Shamie N**, Hoar KL, Phillips PM, Friend DJ. Endothelial Keratoplasty: A Comparative Case Series of Fellow Versus Attending Surgeon Utilizing an Established Technique. *Am J Ophthalmol*. 2009 Jul;148(1):26-31.

Chen ES, Terry MA, **Shamie N**, Phillips PM, Friend DJ. Management of pseudophakic bullous keratopathy by combined Descemet-stripping endothelial keratoplasty and intra-ocular exchange. (Letter) *J Cat Refract Surg* 2009

Nguyen VT, Hwang TN, **Shamie N**, Chuck RS, McCulley TJ. Amyloidosis-associated neurotrophic keratopathy precipitated by overcorrected blepharoptosis. *Cornea*. 2009 Jun;28(5):575-6.

Chen ES, Terry MA, **Shamie N**, Phillips PM. Retention of host embryonic Descemet's membrane in endothelial keratoplasty. *Cornea*. 2009 Apr;28(3):351-3.

Chen ES, Terry MA, **Shamie N**, Hoar KL, Phillips PM, Friend DJ. Endothelial Keratoplasty: Endothelial survival and complications in a comparative case series of fellow vs. attending surgeon. *Am J Ophthalmol*. 2009 Jul;148(1):26-31.e2. Epub 2009 Apr 17.

Terry MA, **Shamie N**, Chen ES, Phillips PM, Shah AK, Hoar KL, Friend DJ. Endothelial keratoplasty for Fuchs' dystrophy with cataract: Complications and clinical results with the new Triple Procedure. *Ophthalmology* 2009 Apr;116(4):631-9.

Chen ES, Terry MA, **Shamie N**, Phillips PM, Friend DJ. Retention of an anterior chamber IOL versus IOL exchange in endothelial keratoplasty. *J Cataract Refract Surg*. 2009 Apr;35(4):613.

Terry MA, Saad HA, **Shamie N**, Chen ES, Friend DJ, Holiman JD, Stoeger C. Endothelial Keratoplasty: The influence of insertion techniques and incision size on donor endothelial survival. *Cornea* 2009; 28:24-31.

Terry MA, **Shamie N**, Chen ES, Phillips PM, Hoar KL, Friend DJ. Pre-cut tissue for Descemet's stripping endothelial keratoplasty: Vision, astigmatism, and endothelial survival. *Ophthalmology* 2009;116:248-56

Terry MA, **Shamie N**, Chen ES, Hoar KL, Friend DF. Endothelial Keratoplasty: The influence of pre-operative donor endothelial cell densities on dislocation, primary graft failure, and one year donor cell loss. *Cornea* 2008; 27:1131-1137.

Phillips PM, Terry MA, **Shamie N**. Transscleral sulcus fixation of a small diameter iris diaphragm intraocular lens in combined penetrating keratoplasty and cataract extraction for correction of traumatic cataract, aniridia, and corneal scarring. *J Cataract and Refract Surg.* 2008; 34:2170-3.

Klassen H, Warfvinge K, Schwartz PH, Kiiilgaard JF, **Shamie N**, Jiang C, Samuel M, Scherfig E, Prather RS, Young MJ. Isolation of progenitor cells from GFP-transgenic pigs and transplantation to the retina of allorecipients. *Cloning Stem Cells.* 2008 Sep;10(3):391-402.

Chen ES, Terry MA, **Shamie N**, Phillips PM, Friend DJ, McLeod SD. Descemet-stripping automated endothelial keratoplasty: insertion using a novel 40/60 underfold technique for preservation of donor endothelium. *Cornea* 2008; 27:941-3.

Saad HA, Terry MA, **Shamie N**, Chen ES, Friend DF, Holiman JD, Stoeger C. An easy and inexpensive method for quantitative analysis of endothelial damage by using vital dye staining and Adobe photoshop software. *Cornea* 2008; 27: 818-824.

Chen ES, Terry MA, **Shamie N**, Hoar KL, Friend DF. Descemet's stripping automated endothelial keratoplasty : Six-month results in a prospective study of 100 eyes. *Cornea* 2008; 27:514-520.

Chen ES, **Shamie N**, Terry MA. Descemet's Stripping Endothelial Keratoplasty: Improvement in Vision Following Replacement of a Healthy Endothelial Graft. *J Cataract Refract Surg.* 2008 Jun;34(6):1044-6.

Chen ES, **Shamie N**, Terry MA, Hoar KL. Endothelial Keratoplasty : Improvement of vision after healthy donor tissue exchange. *Cornea* 2008; 27: 279-282.

Chen ES, Terry MA, **Shamie N**, Hoar KL, Friend DJ. Pre-cut tissue in Descemet's Stripping Automated Endothelial Keratoplasty: Donor characteristics and early post-operative complications. *Ophthalmology* 2008; 115: 497-502

Terry MA, Chen ES, **Shamie N**, et al. Endothelial cell loss after Descemet's stripping endothelial keratoplasty in a large prospective series. *Ophthalmology* 2008;115(3):488-96 e3.

Terry MA, **Shamie N**, Chen ES, Hoar KL, Friend DF. Endothelial Keratoplasty: A simplified technique to minimize graft dislocation, iatrogenic graft failure and pupillary block. *Ophthalmology* 2008; 115: 1179-1186.

Chen ES, **Shamie N**, Terry MA. Endothelial Keratoplasty : First report of ruptured globe following selective endothelial replacement with DLEK. *Cornea* 2007; 26(7):874-5

Memarzadeh F, **Shamie N**, Gaster R, Chuck RS. Corneal and conjunctival toxicity from hydrogen peroxide: a patient with chronic self-induced injury. *Ophthalmology.* 2004; 111(8):1546-9.

Sarayba MA, **Shamie N**, Reiser BJ, Sweet PM, Taban M, Graff JM, Kessler-Diaz A, Osann KE, McDonnell PJ. Fluoroquinolone therapy in *Mycobacterium chelonae* keratitis after lamellar keratectomy. *J Cataract Refract Surg*. 2005; 31(7):1396-402.

Memarzadeh F, Fahd AK, **Shamie N**, Chuck RS. Comparison of de-epithelialized amniotic membrane transplantation and conjunctival autograft after primary pterygium excision. *Eye*. 2006; 10:1038.

## BOOK CHAPTERS

---

**Shamie N**, McDonnell PJ. Online Ophthalmic Hyperguide-Refractive Surgery. Slack publishing. 2002.

**Shamie N**. Ocular Manifestations of Systemic Disease. Chapter in Agarwal: The Handbook of Clinical Ophthalmology for Eyecare Professionals. 2<sup>nd</sup> Edition, Slack Inc. 2004.

**Shamie N**, McDonnell PJ. LASIK Complications and Management. Smolin and Thoft's: The Cornea. 4<sup>th</sup> Edition, Lippincott Williams and Wilkins, 2004.

Chen ES, **Shamie N**, Terry MA. Descemet's stripping endothelial keratoplasty. In: Fontana L, Tassinari, G. Eds. Atlas of Lamellar Keratoplasty, San Giovanni, Italy: Fabiano S.r.l. 2007: Section 2, topic 4: 193-202.

Chen ES, **Shamie N**, Terry MA. Deep lamellar endothelial keratoplasty and posterior lamellar keratoplasty. In: Fontana L, Tassinari, G. Eds. Atlas of Lamellar Keratoplasty, San Giovanni, Italy: Fabiano S.r.l. 2007: Section 2, topic 4: 185-192.

**Shamie N**, Chen ES, Terry MA. Posterior Lamellar Keratoplasty and Deep Lamellar Endothelial Keratoplasty. In: Brightbill FS, McDonnell PJ, McGhee C. Corneal Surgery: Theory, Technique and Tissue. St. Louis, MO: 4<sup>th</sup> edition, C.V. Mosby; 2008.

**Shamie N**, Phillips, P, Terry MA. Descemet's Stripping Endothelial Keratoplasty. In Duanes Clinical Ophthalmology 2009, Volume 6, Chapter 29. (In Press 2009)

## INVITED REVIEW ARTICLES

---

**Shamie N**, Chen ES, Terry MA.: Endothelial Keratoplasty: Re-defining the Surgical Therapy of Endothelial dysfunction. *Expert Rev. Ophthalmol*. 2006; 1:31-39

Chen ES, **Shamie N**, Hoar KL, Terry MA: The New Triple Procedure : DSAEK with concurrent Phaco with IOL. *Techniques in Ophthalmology* 2007; 5 (4): 143-149

**Shamie N**, Phillips PM, Terry MA. Corneal endothelial replacement: Long-term outcomes and future prospects. *Contemporary Ophthalmology* 2008; 7:1-8.

Chen ES, Terry MA, **Shamie N**, Phillips PM. Complications in endothelial keratoplasty (EK). *Expert Rev. Ophthalmol*. 2008.

INVITED LECTURES

---

**- *Ocular Surface Tumors***

Resident Clinical Lectures  
Casey Eye Institute  
Portland, OR  
September 2007

**- *Deep Anterior Lamellar Keratoplasty***

**- *Endothelial Keratoplasty: a selective approach to corneal endothelial disease***

Pacific Coast Oto-Ophthalmological Society  
San Diego, CA  
June 2008.

**- *Advanced Cataract Surgery***

Complementary Ophthalmic Resident's Education  
San Diego, CA  
September 2008.

**- *Iris Defects: surgical repair options***

**- *Limbal Stem Cell Transplants and Amniotic Membranes: challenges we face***

**- *Corneal Conundrums***

Thorny Issues  
Portland, OR  
September 2008

**- *Endothelial Keratoplasty: historical perspective and forward momentum (keynote lecture)***

**- *DMEK: the next frontier in EK surgery***

**- *Refractive Surgery and Dry Eyes***

**- *Corneal complications of cataract surgery: recognition and treatment***

Iranian Ophthalmological Congress  
Tehran, Iran  
November 2009.

**- *Permanent Keratoprosthesis: a much needed alternative***

**- *Ocular Surface Disease: current diagnostic and treatment options***

**- *Advanced endothelial keratoplasty: when extreme measures are needed***

Hawaiian Ophthalmological Society Annual Meeting  
Honolulu, HI  
July 2010

**Shamie N**, Pirnazar JR, Behrens A, McDonnell PJ, Suarez A, Vongthongsri A, Chuck RS. Evaluation of LASIK Outcomes in a Hispanic and a Thai Population. Invest Ophthalmol Vis Sci 2001;42:S4.  
ARVO 2001, Ft. Lauderdale, Florida.

**Shamie N**, Sarayba M, Reiser BJ, Sweet P, McDonnell PJ. The Effectiveness of Topical Gatifloxacin in an Animal Model of *Mycobacterium chelonae* Keratitis After Lamellar Keratectomy.  
ASCRS 2003, San Francisco, CA.

Sarayba M, **Shamie N**, Reiser BJ, Sweet P, Taban M, McDonnell PJ. Fluoroquinolone Therapy in an Animal Model of *Mycobacterium chelonae* Keratitis after Lamellar Keratectomy.  
ARVO 2003, Ft. Lauderdale, Florida.

**Shamie N**, Taban M, Ohanessian R, Chuck RS. Keratopigmentation: a Surgical Technique with Improved Cosmetic Results for the Removal of Limbal Dermoids.  
ASCRS 2003, San Francisco, CA.

**Shamie N**, Chuck RS, McCulley T. Systemic AL Amyloidosis and Bilateral Neurotrophic Keratopathy: a case report.  
AAO 2003, Anaheim, CA.

**Shamie N**, Chuck RS, Kurtz R. Corneal Sensation After LASIK Flap Creation by a Femtosecond Laser versus a Microkeratome.  
AAO 2003, Anaheim, CA.

**Shamie N**, Klassen H, Kenny C, Schwartz P. Localization of P-63 to Fluorescent GFP Expressing Cells in a Corneal Epithelial Cell Culture Derived from Cornea-scleral Rim Explants of GFP Transgenic Pig.  
ARVO 2004, Ft Lauderdale, Florida.

Memarzadeh F, **Shamie N**, Chuck RS, Erb M, McCulley T. A Novel Surgical Approach to Fornix Reconstruction in Stevens Johnson Syndrome.  
ARVO 2004, Ft. Lauderdale, Florida.

**Shamie N**, Terry MA, Chen ES, Saad H, Friend D. Descemet Stripping Automated Endothelial Keratoplasty: Predictive Factors for Good Visual Acuity at Six Months.  
AAO 2007.

**Shamie N**, Terry MA, Phillips P, Friend D. Comparison of Best Corrected Visual Acuity and Endothelial Cell Loss at 6 months and one year after DLEK vs. DSEK/DSAEK surgery.  
AAO 2007.

Saad H, Terry MA, **Shamie N**, Chen ES, Friend D, Holliman JD, Stoeger C. A Novel, Easily Reproducible and Inexpensive Method for Quantitative Analysis of Endothelial Damage Using Vital Dye Staining and Adobe Photoshop Software.  
AAO 2007.

**Shamie N**, Chen E, Terry MA, Friend D. Comparison of Postoperative Visual Acuity, Corneal Topography, and Astigmatism: DLEK, DSEK, and DSAEK. ASCRS 2007.

Terry MA, **Shamie N**, Chen E, Friend D. Evaluation of Whether a High Donor Cell Count Helps Prevent Dislocation in Endothelial Keratoplasty. ASCRS 2007.

Chen ES, Terry MA, **Shamie N**, Friend D. Hyperopic Shift in DSEK Surgery. ASCRS 2007.

**Shamie N**, Shah A, Phillips P, Friend D. Endothelial Keratoplasty: Does Donor death to surgery time impact endothelial cell loss? AAO 2008.

**Shamie N**, Terry MA, Phillips P, Saad HA, Chen ES, Hoar K, Friend DJ. Endothelial Keratoplasty: Does Donor Graft Size in Descemet's Stripping Endothelial Keratoplasty (DSAEK) Affect Complication Rates or 6 Month Postoperative Outcomes? ARVO 2008.

Terry MA, **Shamie N**, Phillips P, Chen ES, Hoar KL, Saad HA, Friend DJ. Endothelial Keratoplasty: Are Post-Op Results and Complications Different With Fuchs' Dystrophy Eyes Than With Non-Fuchs Eyes? ARVO 2008.

Dhoot D, Terry MA, **Shamie N**, Phillips P, Friend D. Descemet's Stripping Automated Endothelial Keratoplasty Outcomes in Glaucoma Patients and Steroid Responders. ARVO 2008.

Friend DJ, Phillips P, Terry MA, **Shamie N**, Dhoot D, Saad H. Is DSAEK Safe in Patients With Previous Glaucoma Filtering Surgeries? ARVO 2008.

Terry MA, Saad H, **Shamie N**, Phillips PM, Friend D. Comparison of Insertion Techniques with 3.0 mm or 5.0 mm Incisions on Endothelial Damage in DSAEK. ASCRS 2008.

Saad H, **Shamie N**, Terry MA, Phillips PM, Friend D. Comparison of Visual Acuity and Endothelial Survival at 6 and 12 Months After DLEK and DSAEK in Fellow Eyes. ASCRS 2008.

Chen ES, Terry MA, **Shamie N**, Saad H, Friend D. Intraoperative Graft Manipulation in DSAEK: Effect on Postoperative Complications and Endothelial Cell Loss. ASCRS 2008.

Phillips PM, Terry MA, **Shamie N**, Saad H, Friend D. Safe Use of Donor Corneas with Scars, LASIK, and RK for DSAEK Surgery. ASCRS 2008.

**Shamie N**, Chen E, Friend D, Terry MA. DSAEK: Two year results. Cornea Society Meeting, 2008.

Shah A, **Shamie N**, Phillips P, Terry MA, Davis-Boozer D, Friend D. Endothelial Keratoplasty: Does DSAEK with IOL Exchange Have Different Outcomes than DSAEK Alone?  
Cornea Society Meeting, 2008.

**Shamie N**, Terry MA, Shah A, Davis-Boozer D, Friend D. Descemet-Stripping Endothelial Keratoplasty: Two-Year Prospective Results.  
ASCRS 2009, San Francisco, California.

Terry MA, **Shamie N**, Shah AK, Davis-Boozer D, Friend DJ. Endothelial Keratoplasty: Effect of Optisol Donor Storage Time on Dislocation Rates and Endothelial Cell Loss at 1 and 2 Years.  
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Shah AK, **Shamie N**, Phillips PM, Friend DJ, Terry MA. Endothelial Keratoplasty: Outcomes in DSAEK with IOL Exchange and DSAEK Alone.  
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Chen ES, Terry MA, **Shamie N**, Friend DJ. Correlation of Intraocular Pressure with Pachymetry After DSAEK in Pseudophakic Eyes.  
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Phillips PM, Terry MA, **Shamie N**, Friend DJ, Shah AK. Descemet-Stripping Automated Endothelial Keratoplasty in Eyes with Severe Preoperative Visual Acuity Loss.  
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Phillips PM, Terry MA, **Shamie N**, Chen ES, Friend DJ, Shah AK. Descemet-Stripping Automated Endothelial Keratoplasty in Eyes with Previous Trabeculectomy and Tube Shunt Procedures: Intraoperative and Postoperative Complications.  
ASCRS 2009.

## MEDIA COVERAGE

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First Keratoprosthesis Surgery in the State of Oregon  
News coverage on CNN, Good Morning America & local news channels  
May 2009

“A new vision for Wheeler man after Oregon’s first artificial corneal transplant”  
Featured Story  
The Oregonian Newspaper  
May 2009

“Pride of Community”  
Cover Story  
Javanan International Iranian Magazine  
June 2009

Iranian Political Affairs – Panelist  
Straight Talk  
KOIN Channel 8  
June 2009

Triumphs of a Professional Mother  
Featured Story  
KGW Channel 6  
July 2009

“Eye Surgeon Gains New Outlook”  
Featured Story  
The Oregonian Newspaper  
January 2010

“Tanzanian woman gets rare eye surgery in Portland”  
Featured Story  
KGW Channel 6  
February 2010

#### PROFESSIONAL LICENSURE

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DEA: BS7059454

CA Lic: A71554

OR Lic: MD25952 - *inactive*

#### FOREIGN LANGUAGES SPOKEN

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Spanish, Farsi (Persian)