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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

Title: Amblyopia: From front of the eye to back of the brain

Presenter: Leila Hajkazemshirazi, OD

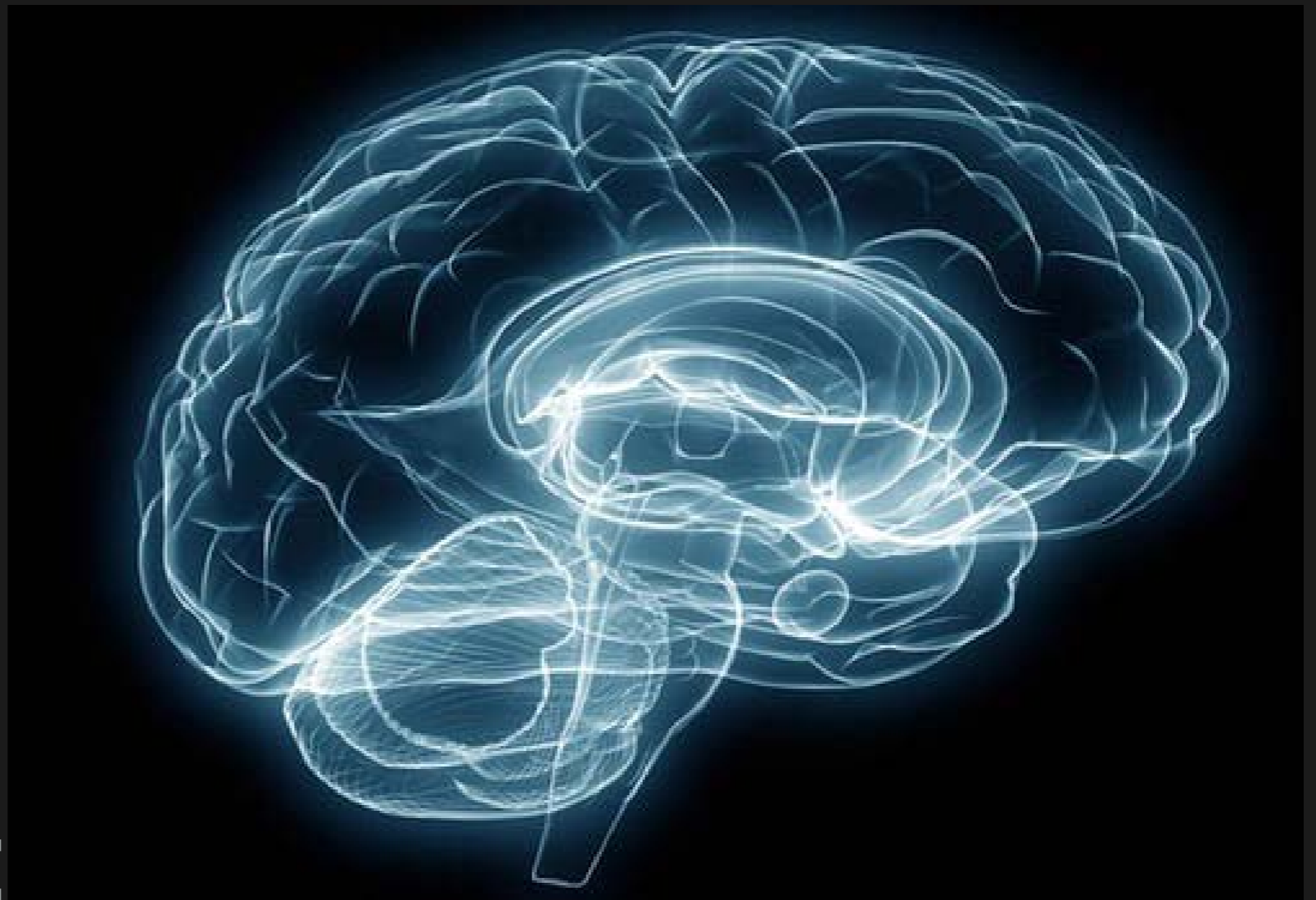
Summary:

This course will provide a comprehensive analysis of amblyopia diagnosis and management. The presentation will review various types of amblyopia, as well as prevalence and prognosis after collaborative optometric and ophthalmologic care according to the traditional treatment modalities. It will also discuss new treatment recommendations based on research conducted by the Pediatric Eye Disease Investigator Group (PEDIG) and other similar organizations. Furthermore, new research pertaining to the treatment of adult amblyopia will be discussed.

Amblyopia: From front of the eye to back of the brain
Leila Hajkazemshirazi, OD
UCSF Medical Center
Benioff Children's Hospital

Course Outline:

- Visual Acuity Development
- Types of Amblyopia & Prevalence
 - Deprivation
 - Congenital/traumatic cataracts
 - Corneal opacities
 - Congenital ptosis
 - Refractive
 - Isoametropic
 - Anisometropic
 - Strabismic/Nystagmus
 - Organic
 - Congenital anomalies & diseases
 - Toxic
 - Nutritional
- Diagnostic Tests
- Amblyopia treatment, Follow up care, Prognosis (individually discussed for each type, including case reports)
 - Surgical
 - Optical (glasses, contact lenses)
 - Occlusion therapy
 - Office based amblyopia therapy
- Development of Amblyopia Management through PEDIG
 - Review of ATS studies
 - New research for dichoptic treatment
- New research for treatment of amblyopia in adults
 - Brain plasticity
 - Occlusion therapy
 - Dichoptic therapy
 - Physical exercise



AMBLYOPIA:

FROM FRONT OF THE EYE TO BACK OF THE BRAIN

Leila H. Shirazi, OD
UCSF Benioff Children's
Hospital
Feb. 2017

VISUAL ACUITY

“Visual acuity is the capacity to discriminate detail or distinguish form”

- Max Schapero, OD

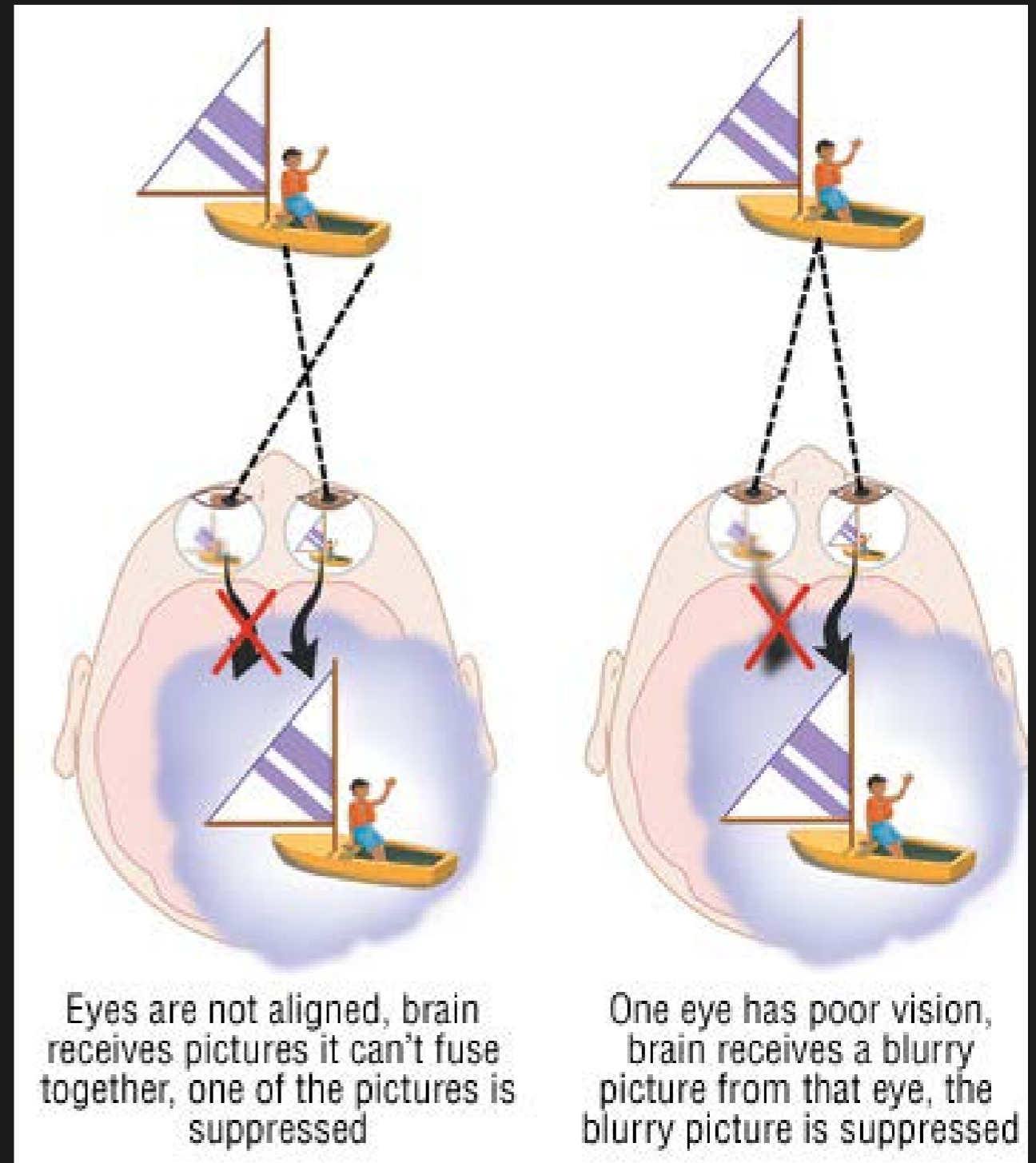
▶ Physical Factors

- Stimulus variables
- Optics of the eye

▶ Physiological Factors

- The retina
- Ocular movements

▶ Psychological Factors



DEVELOPMENT OF VISUAL ACUITY

Age	Acuity Level
4 months	20/2500
6 months	20/1000
9 months	20/240
1 year	20/166
2 years	20/40
3 years	20/30
4 years	20/25
5 years	20/20 or better

Chavasse's Acuity Levels (1939)

Age	Acuity Level
1 year	20/140
2 years	20/48+
3 years	20/46-
4 years	20/40
5 years	20/33-
6 years	20/27-
7 years	20/26+
8 years	20/24
9 years	20/23+
10 years	20/22
11 years	20/20-
12 years	20/20

**Slataper's Acuity Levels (1950)
(Interpreted by Weymouth in 1963)**

Age	Acuity Level
6 months	20/400
1 year	20/200
2 years	20/100
3 years	20/50

Schwartzing's Acuity Levels (1954)

MOST COMMON
CAUSE OF
MONOCULAR VISUAL
LOSS IN CHILDREN,
AFFECTING 1.3% TO
3.6% OF CHILDREN

Amblyopia:

TYPES OF AMBLYOPIA

▶ Organic

- Nutritional
- Toxic
- Congenital

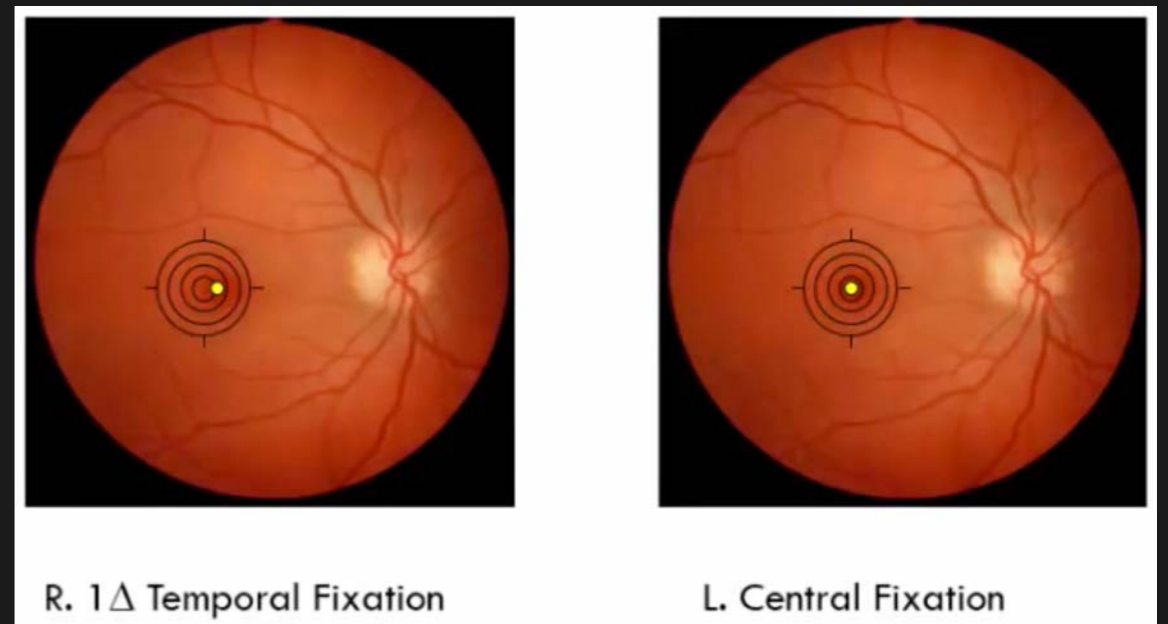
▶ Functional

- Hysterical
- Light Deprivation
- Isoametropic/Anisometropic
- Strabismic
- Nystagmus



DIAGNOSTIC TESTS

- ▶ **Case history**
- ▶ **Visual Acuity**
- ▶ **Cycloplegic Refraction**
- ▶ **Cover Test**
- ▶ **Stereo-acuity**
- ▶ Fixation (eccentric vs. central, steady vs. unsteady)
 - **Visuoscopy**
 - Haidinger Brush
 - Maxwell Spot
 - Angle Kappa comparison
 - Major amblyoscope
 - Brock-Givner After Image Transfer



TREATMENT OF AMBLYOPIA

Brain Plasticity: “capability of cerebral neurons to change in response to experience”

Binocular Rivalry: “the alternations in perception that occur when different images are presented to the two eyes”

- ▶ Elimination of amblyogenic factors
- ▶ Occlusion Therapy
 - Patching
 - Atropine
 - Bangetter Filters
- ▶ Antisuppression and amblyopia therapy
- ▶ Binocular (bi-ocular) Treatments (iPad games, etc)

HERE WE GO...

Amblyopia: How, Who, When to
treat!

DEPRIVATION AMBLYOPIA

1. Congenital cataracts & Lens Dislocation
2. Corneal Opacities
 - Anterior Segment Dysgenesis (Peters Anomaly, etc.)
 - Congenital Glaucoma
 - Limbal Stem Cell Deficiency
 - Trauma
3. Ptosis
 - Congenital vs. Neurological

1. CONGENITAL CATARACTS: PREVALENCE

- ▶ Race
- ▶ Sex
- ▶ Unilateral vs. Bilateral

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1. CONGENITAL CATARACTS: TREATMENT

- ▶ Cataract extraction
- ▶ Intraocular Lens Implants
- ▶ Aphakic glasses
- ▶ Aphakic contact lenses
- ▶ Occlusion Therapy



CONTACT LENSES USED FOR APHAKIA:

▶ Silsoft

- ▶ Dk: 340
- ▶ Base Curves: 7.5, 7.7, 7.9, 8.1
- ▶ Diameters: 11.3, 12.5
- ▶ Power:
 - ▶ +12.00 to +20.00 (1D steps)
 - ▶ +23.00 to +32.00 (3D steps)



- ▶ Cost: ~\$300 per lens
- ▶ Annual replacement
- ▶ Approved for up to 30 days



▶ RGP

- ▶ Biofinity XR
 - ▶ DK: 128
 - ▶ BC/Diam: 8.6/14.0
 - ▶ Power: +8.50 to +15.00, -12.50 to -20.00
- ▶ Proclear XR
 - ▶ DK:
 - ▶ BC/Diam:
 - ▶ Power: Up to +20.00
- ▶ Flexlens
 - ▶ Dk: 17.0 (60 for definitive material)
 - ▶ BC: 6.0 to 10.8 (in 0.1 mm steps)
 - ▶ Power: No limitations
 - ▶ Cost: ~\$150 per lens
 - ▶ Quarterly Replacement

1. CONGENITAL CATARACTS: PROGNOSIS & COMPLICATIONS

- ▶ Unilateral vs. Bilateral Aphakia
- ▶ IOL vs. Aphakic Contact Lens
- ▶ Risks:
 - Glaucoma
 - Retinal Detachment

TEXT

CASE #1

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2. CORNEAL OPACITIES: PREVALENCE

- ▶ Race
- ▶ Sex
- ▶ Unilateral vs. Bilateral

2. CORNEAL OPACITIES: TREATMENT

- ▶ Corneal Transplant
- ▶ Optical Correction:
 - RGP Lenses
 - Scleral Lenses
- ▶ Occlusion Therapy

2. CORNEAL OPACITIES: PROGNOSIS & COMPLICATIONS

- ▶ Graft failure
- ▶ Contact lens failure

TEXT

CASE #2

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3. PTOSIS: PREVALENCE

- ▶ Race
- ▶ Sex
- ▶ Unilateral vs. Bilateral
- ▶ Extent of ptosis and Head Posture
- ▶ Congenital vs. Neurological



3. PTOSIS: TREATMENT

- ▶ Ptosis surgery
- ▶ Observation
- ▶ Preventative Occlusion Therapy

3. PTOSIS: PROGNOSIS & COMPLICATIONS

- ▶ slide to be completed

TEXT

CASE #3

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REFRACTIVE AMBLYOPIA

1. Isoametropic

- A. Myopic: > -6.00 D OU
- B. Hyperopic: $> + .00$ D OU
- C. Meridional: > 2.00 D OU



2. Anisometropic

- A. Myopic
- B. Hyperopic
- C. Meridional



REFRACTIVE AMBLYOPIA: TREATMENT

1. Refractive Error Correction

A. Myopic

B. Hyperopic

C. Meridional

2. Occlusion Therapy

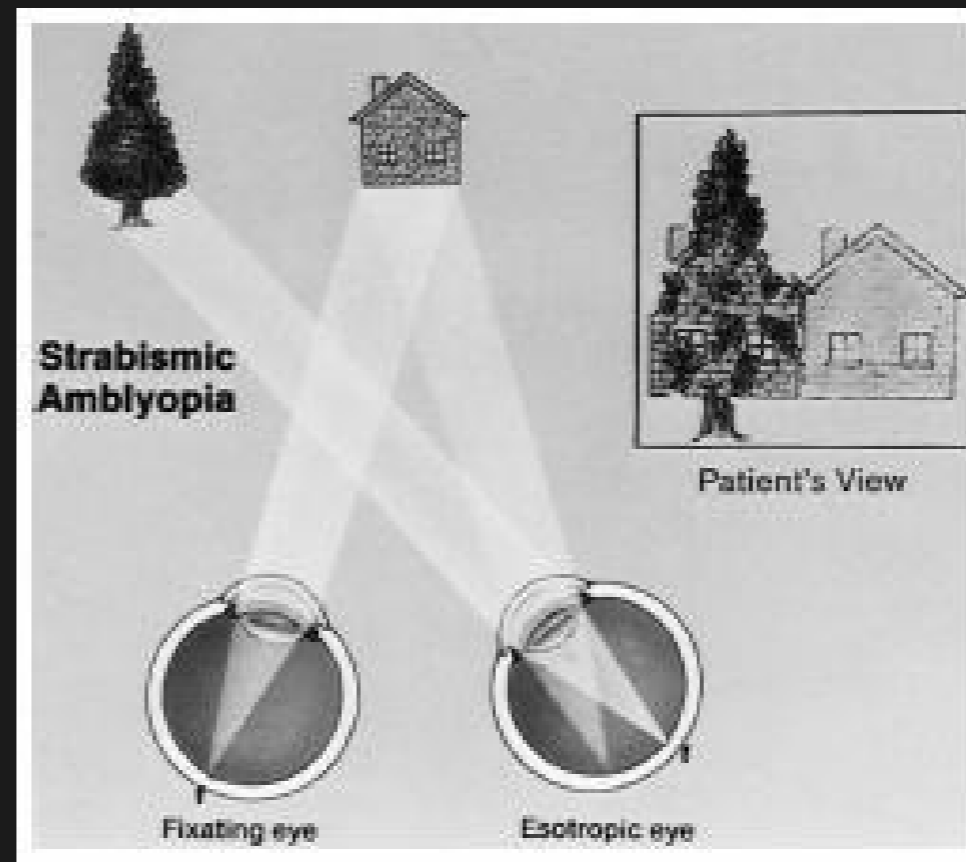
TEXT

CASE #4

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STRABISMIC AMBLYOPIA

- ▶ Esotropia, Exotropia, Hypertropia
- ▶ Constant Vs. Intermittent
- ▶ Fixation Preference



STRABISMIC AMBLYOPIA: TREATMENT

- ▶ Refractive Error Correction
 - Accommodative Esotropia
 - Intermittent Exotropia
 - Clarity for Fusion
- ▶ Fusional Therapy
 - Office-based Eye Exercises
 - HTS
- ▶ Surgical Correction



TEXT

CASE #5

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WHICH TYPE OF
TREATMENT IS
SUPERIOR?

Amblyopia Management:

OCCLUSION THERAPY



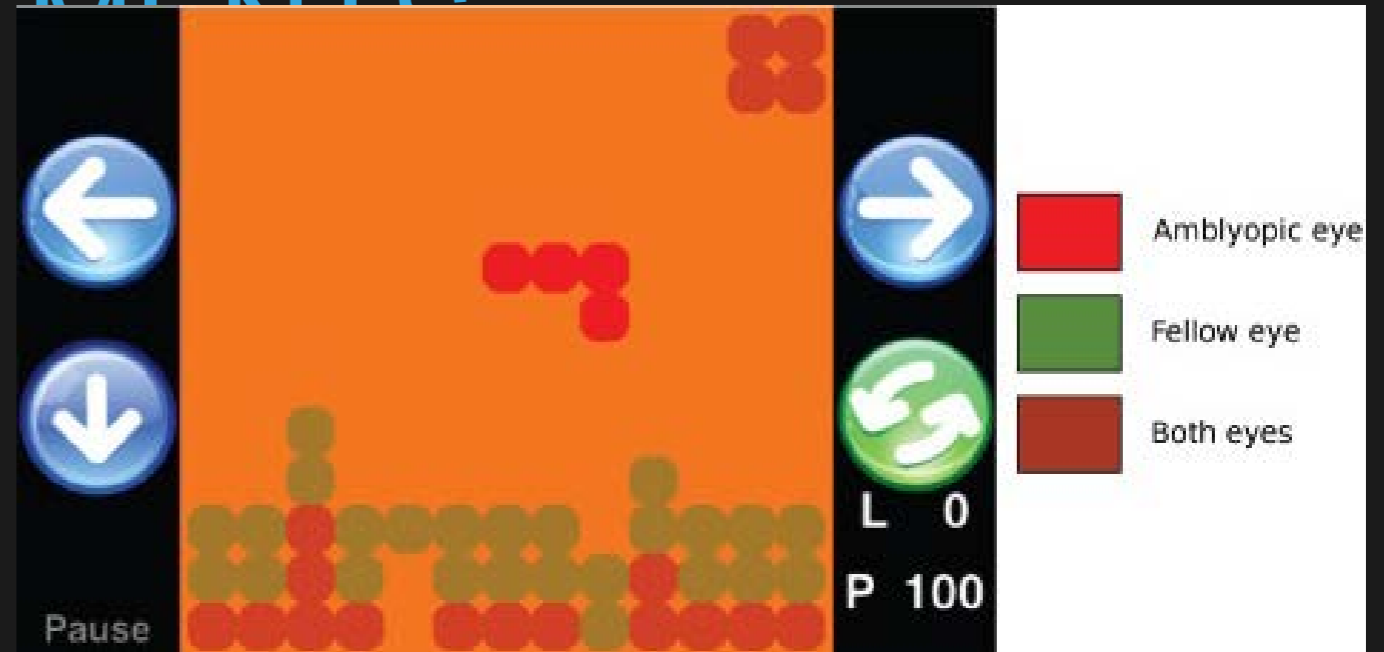
- ▶ Patching
 - ▶ Who benefits?
 - ▶ How long?
 - ▶ What type of activities while patching?
- ▶ Atropine (efficacy vs. side effects)
 - ▶ Daily vs. Part-time
- ▶ Bangerter Filters
- ▶ Vision Therapy
- ▶ ... Which of the above are more efficacious?



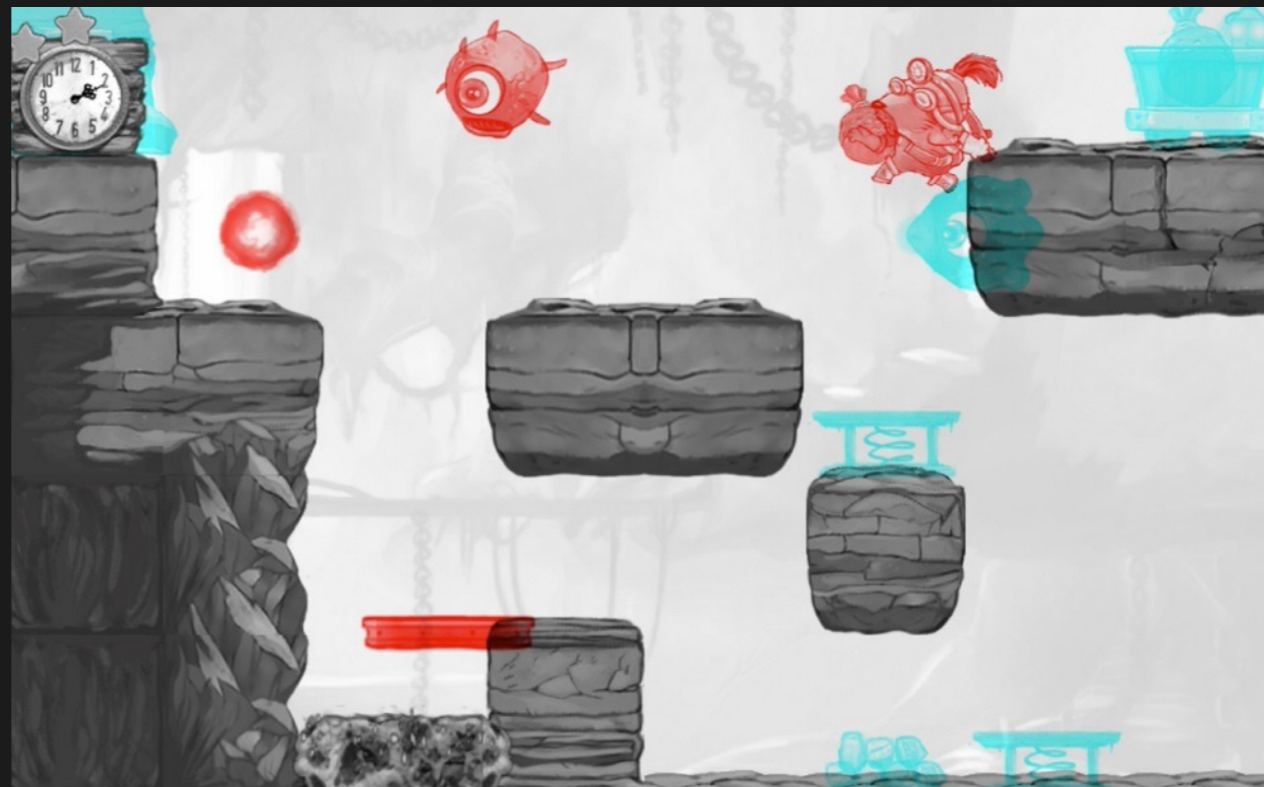
DICHOPTIC TREATMENTS

▶ PEDIG

- ATS 18
- ATS 20



▶ Hess Lab



PEDIATRIC EYE DISEASE INVESTIGATOR GROUP (PEDIG)

- ▶ ATS01 - Occlusion versus Pharmacologic Therapy for Moderate Amblyopia
- ▶ ATS02B - A Randomized Trial Comparing Part-time Versus Minimal-time Patching for Moderate Amblyopia
- ▶ ATS02A: A Randomized Trial Comparing Part-time Versus Full-time Patching for Severe Amblyopia
- ▶ ATS02C - An Observational Study on Recurrence of Amblyopia After Discontinuation of Treatment
- ▶ ATS03 - An Evaluation of Treatment of Amblyopia in 7 to <18 Year Olds
- ▶ ATS04 - A Randomized Trial Comparing Daily Atropine Versus Weekend Atropine for Moderate Amblyopia
- ▶ ATS05 - A Randomized Trial to Evaluate 2 Hours of Daily Patching for Amblyopia in Children 3 to <7 Years Old
- ▶ ATS06 - A Randomized Trial of Near versus Distance Activities while Patching for Amblyopia in Children 3 to < 7 years old
- ▶ ATS07 - Bilateral Refractive Amblyopia Treatment Study: Response to Treatment of Previously Untreated Presumed Bilateral Refractive Amblyopia
- ▶ ATS08 - A Randomized Trial Comparing Atropine to Atropine plus a Plano Lens for the Sound Eye as Prescribed Treatments for Amblyopia in Children 3 to < 7 Years Old
- ▶ ATS09 - A Randomized Trial Comparing Patching to Atropine for Amblyopia in Children 7 to < 13 Years Old
- ▶ ATS10 - A Randomized Trial of Full-time Bangerter Filters versus Part-time Daily Patching for the Treatment of Moderate Amblyopia in Children

PEDIATRIC EYE DISEASE INVESTIGATOR GROUP (PEDIG)

- ▶ ATS11 - A Randomized Trial to Evaluate Combined Patching-Atropine Treatment for Residual Amblyopia
- ▶ ATS12 - A Randomized Trial Comparing Patching with Active Vision Therapy to Patching with Control Vision Therapy as Treatment for Amblyopia in Children 7 to <13 Years Old
- ▶ ATS13 - An Observational Study of Optical Correction for Strabismic Amblyopia in Children 3 to <7 Years Old
- ▶ ATS14 - A Pilot Study to Evaluate Levodopa as Treatment for Residual Amblyopia in 8 to 17 Year Olds
- ▶ ATS15 - Increasing Patching for Amblyopia Study
- ▶ ATS16 - Augmenting Atropine Treatment for Amblyopia Study
- ▶ ATS17 - A Randomized Trial of Levodopa as Treatment for Residual Amblyopia
- ▶ **ATS18 - Study of Binocular Computer Activities for Treatment of Amblyopia**
- ▶ **ATS20 - Binocular Dig Rush Game Treatment for Amblyopia**

PEDIG: AMBLYOPIA TREATMENT RESULTS SUMMARY

- ▶ Atropine vs. Patching: Similar outcome (all age groups)
- ▶ Weekend Atropine vs. Daily Atropine: Similar outcome
- ▶ For moderate amblyopia (VA between 20/40 to 20/80): similar outcome for 2 hours vs. 6 hours of daily patching
- ▶ For Severe amblyopia (VA 20/100 to 20/400): similar outcome for 6 hours vs. full time daily patching
- ▶ 1/4 recurrence rate after cessation of patching, and worse if 6 hours of patching stopped abruptly vs. taper

PEDIG: AMBLYOPIA TREATMENT RESULTS SUMMARY

- ▶ 7 to <13 year olds: 2-6 hours of daily patching with near work improved VA despite previous treatment
- ▶ 13 to <18 year olds: 2-6 hours of daily patching with near work may improve VA when amblyopia has not been previously treated
- ▶ Refractive correction alone improves VA in many cases with resolution of amblyopia in at least 1/3 of 3 to <7 year olds with untreated anisometropic amblyopia
- ▶ Performing common near activities does not improve VA outcome when treating anisometropic/strabismic/combined amblyopia with daily patching
- ▶ Bangerter filters vs. patching: similar outcome

PEDIG: AMBLYOPIA TREATMENT RESULTS SUMMARY

- ▶ 16-week treatment trial of vision therapy was feasible with respect to maintaining protocol adherence; however, recruitment under the proposed eligibility criteria, necessitated by the standardized approach to vision therapy, was not successful. A randomized clinical trial of in-office vision therapy for the treatment of amblyopia would require broadening of the eligibility criteria and improved methods to gather objective data regarding the home therapy. A more flexible approach that customizes vision therapy based on subject age, visual acuity, and stereopsis might be required to allow enrollment of a broader group of subjects.
- ▶ Optical treatment alone of strabismic and combined-mechanism amblyopia results in clinically meaningful improvement in amblyopic eye visual acuity for most 3- to <7-year-old children, resolving in at least one quarter without the need for additional treatment.
- ▶ When amblyopic eye's VA stops improving with 2 hours of daily patching, increasing the daily patching dosage to 6 hours results in more improvement in VA after 10 weeks compared with continuing 2 hours daily.
- ▶ For children 7 to 12 years of age with residual amblyopia after patching therapy, oral levodopa while continuing to patch 2 hours daily does not produce a clinically or statistically meaningful improvement in VA compared with placebo and patching.

... AND SUMMARIZING THE SUMMARY:

- ▶ Start by prescribing optical correction
- ▶ Once VA-improvement plateaus, add monocular occlusion (patching, weekend atropine, Bangerter filter)
 - If VA better than 20/100: 2 hours daily
 - If VA worse than 20/100: 6 hours daily
 - If residual amblyopia persists with 2 hours of occlusion, increase occlusion therapy to 6 hours daily
 - For severe amblyopes, once amblyopia resolves, taper from 6 hours to 2 hours prior to discontinuing treatment
- ▶ Amblyopia still treatable beyond the magic age of 8
- ▶ For older children, prognosis is better if amblyopia is previously untreated

NEW RESEARCH: ADULT AMBLYOPIA TREATMENT

- ▶ Brain plasticity in adults (based on concept of binocular rivalry)
 - ▶ Occlusion
 - ▶ Dichoptic therapy
 - ▶ Physical exercise
 - ▶ Other

SUMMARY

- ▶ Early Diagnosis is key...
- ▶ But it's never too late!
- ▶ Treatment (risks/benefits of different modes of treatment)
- ▶ Dx of EXCLUSION
- ▶ Be ware of concurrent disease!

TEXT

REFERENCES:

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QUESTIONS?

THANK YOU!

Leila Hajkazemshirazi, O.D.

2455 Oakmont Drive • San Bruno, CA 94066
Phone: (650) 888-0131 • E-Mail: leishirazi@gmail.com

Education

Residency Pediatric Optometry and Vision Therapy	Marshall B. Ketchum University (SCCO)	June 2014 – June 2015
Doctor of Optometry Training included Glaucoma certification	UC Berkeley School of Optometry	Aug. 2010 – May 2014
Bachelor of Science Majored in Chemical Biology, Minored in Near Eastern Studies, and conducted research in Medicinal Chemistry	University of California, Berkeley	Aug. 2006 – Dec. 2008

Clinical Experience

UCSF Medical Center (San Francisco, CA) Pediatric and adult comprehensive and acute eye exams Adult and pediatric strabismus evaluations, including pre- and post-operative exams Adult and Pediatric contact lens fitting and evaluation, including contact lens examinations for aphakia		April 2016 – present
Jules Stein Eye Institute, UCLA (Los Angeles, CA) Pediatric eye exams Adult and pediatric strabismus evaluations, including pre- and post-operative exams Adult and Pediatric contact lens fitting and evaluation, including contact lens examinations for aphakia		June 2015 – March 2016
Marshall B. Ketchum University, Studt Center for Vision Therapy (Fullerton, CA) Comprehensive infant and pediatric exams, including the special needs group Neuro-optometry evaluations on adults with acquired brain injury (ABI) Pediatric contact lens fitting Binocular vision evaluations and vision therapy Clinical attending for the 3 rd and 4 th year optometry students in the pediatric and vision therapy clinics Teaching assistant for the strabismus course at the school of optometry Clinical and surgical observation with pediatric ophthalmology at UC Irvine		June 2014 – June 2015
Blind Children's Learning Center (Tustin, CA) Comprehensive eye examinations for the infant and pediatric patients with severe vision impairment and special needs		June 2014 – June 2015
UC Berkeley's Meredith Morgan Eye Center (Berkeley, CA) Clinical intern, performing comprehensive eye examinations, glaucoma follow-ups, contact lens fittings, binocular vision evaluations, vision therapy, perceptual skills assessments, low vision, pediatrics, geriatrics, and urgent care visits		May 2012 – May 2014

Castle Family Clinic (Atwater, CA)**Mar. 2014 – May 2014**

Clinical intern, providing comprehensive eye care to the low income population of Central California under faculty supervision
 Grand round presentations on a weekly basis

Southeast Health Center (San Francisco, CA)**Jan. 2014 – Mar. 2014**

Clinical intern, performing comprehensive eye exams as well as providing optical services to the low-income, homeless and imprisoned juvenile population of San Francisco

San Francisco VA Medical Center (San Francisco, CA)**Oct. 2013 – Dec. 2013**

Clinical intern, performing comprehensive eye exams for the geriatric veterans, weekly seminars and journal clubs, as well as grand rounds on ocular disease, glaucoma diagnosis and management, ocular oncology, and pediatric eye disease at UCSF Ophthalmology.

Alameda County Medical Center (Oakland, CA)**Aug. 2013 – Oct. 2013**

Clinical intern, performing comprehensive eye exams and medical eye services provided for all residents of the East Bay. General population included low-income residents of all ages and ethnicities.

Seymour Johnson Air Force Optometry Clinic (Goldsboro, NC)**May 2013 – Aug. 2013**

Clinical intern, performing primary and acute eye care, co-management of refractive surgery, and contact lens fitting for the Air Force unit and their families

UC Berkeley's Tang Center (Berkeley, CA)**Jan. 2013 – May 2013**

Clinical intern, performing comprehensive primary care eye exams, contact lens fittings, and urgent care visits

Over 60's Clinic (Oakland, CA)**Feb. 2013**

Clinical intern, performing primary eye care for low-income and homeless citizens over the age of 60 with exposure to a wide variety of systemic and ocular diseases

Clinical & Lecture Presentations

-
- Lecturer at the Orange County Optometric Society (2015): "Primary Care Management of Strabismus"
 - Management of Strabismus Lecture, SCCO (2015): "Esotropia Management: Vision Therapy or Surgery?"
 - Castle Eye Center (2014): "Systemic Lupus Erythematosus: Ocular Involvement and Manifestations"
 - Castle Eye Center (2014): "Multiple Sclerosis: Clinical Manifestations and Ocular Involvement"
 - Castle Eye Center (2014): "Optic Disc Edema: Clinical Management and Differential Diagnosis"
 - Castle Eye Center (2014): "Traumatic Angle Recession: Risk of Glaucoma and other Associated Findings"
 - San Francisco VA Medical Center (2013): "Double Vision: Diagnosis/Workup"
 - Alameda County Medical Center (2013): "Ocular Toxoplasmosis"
 - Contact Lens Clinic, UC Berkeley Eye Center (2012): "Contact Lenses for Presbyopia: Soft and Gas-Permeable Multifocal Contact Lenses as well as Monovision Fitting for Presbyopic patients"
 - Primary Care Clinic, UC Berkeley Eye Center (2012): "Hypertensive Retinopathy"

Work Experience

UCSF Medical Center (San Francisco, CA)	Optometrist	April 2016 – Present
<ul style="list-style-type: none"> • Comprehensive pediatric and adult eye examinations and strabismus evaluations • Contact lens fitting and evaluation for pediatric and adult patients 		
Jules Stein Eye Institute at UCLA (Los Angeles, CA)	Optometrist	June 2015 – March 2016
<ul style="list-style-type: none"> • Comprehensive pediatric eye exams and strabismus evaluations for pediatric and adult patients • Contact lens fitting and evaluation for pediatric and adult patients 		
Pediatric Eye Disease Investigator Group (PEDIG)	Investigator	Nov. 2014 – present
<ul style="list-style-type: none"> • Recruiting patients for various research trials • Masked examiner for the study visits 		
Rising Star Optometry (San Rafael, CA)	Vision Therapist	Oct. 2013 – June 2014
Vision Academy Optometry (San Francisco, CA)	Vision Therapist	Aug. 2013 – Oct. 2013
<ul style="list-style-type: none"> • Treating binocular vision deficiencies via vision therapy under the supervision of licensed optometrists 		
Drs. Hall & Szeto Optometry (San Francisco, CA)	Optometric Technician	Aug. 2009 – Aug. 2011
<ul style="list-style-type: none"> • Optometric Pretesting • Insurance authorizations and billing • Mass-ordering of contact lenses from the vendors 		
Trauner Research Group	Research Assistant	Oct. 2006 – Dec. 2008
<ul style="list-style-type: none"> • Synthesizing analogs of a bacterial DNA primase inhibitor to discuss a novel class of antibiotics • Preparing small molecule potential inhibitors of TFIIID, which were being tested in collaboration with the Tjian research group (Microbiology Department, UC Berkeley) • Synthesized T-shaped potassium channel blockers 		
Pasta Primavera (San Mateo, CA)	Waitress	Nov. 2004 – Jan. 2009
<ul style="list-style-type: none"> • Waiting on tables • Training new employees • Managing the restaurant in the absence of general manager • Filing the restaurant's billing statements and invoices 		
College of San Mateo (San Mateo, CA)	Tutor	Aug. 2004 – May 2006
<ul style="list-style-type: none"> • Tutoring students in math, physics, general and organic chemistry 		
Kia of Hayward (Hayward, CA)	File Clerk	June 2004 – Aug. 2004
<ul style="list-style-type: none"> • Filing invoices and bank statements 		

Volunteer Activities

- | | |
|---|------------------------------|
| • Vision Screening at the Special Olympics Southern California (Fountain Valley, CA) | Dec. 2014 |
| • Vision Screening at the Living Hope Health Fair (Stockton, CA) | June 2012 |
| • Vision Education Workshop at Washington Elementary (Berkeley, CA) | March 2012 |
| • Vision Screening at the Suitcase Clinic (Berkeley, CA) | April 2011, Oct. 2011 |
| • Student Representative at Optometry Legislative Day (Sacramento, CA) | March 2011 |
| • Vision Screening at Women and Youth Clinic (Berkeley, CA) | Oct. 2010 |
| • Vision Screening at the Community Health Forum, Let's Get Healthy (San Jose, CA) | Oct. 2010 |
| • Workshop Leader for "Expanding your Horizons in Science and Mathematics", a science conferences for young women (San Bruno, CA) | March 2006 |

Leadership Experience

- | | |
|---|------------------------------|
| • UC Berkeley School of Optometry Class of 2014 President | Aug. 2011 – May 2014 |
| • UCBSO Clinic Director Search Committee Student Representative | Feb. 2013 |
| • Sports Vision Regional Liaison at the UC Berkeley School of Optometry | June 2012 – June 2013 |
| • Honor Policy Committee at the UCBSO, member | Jan. 2013 – Mar. 2013 |
| • University of California Optometric Student Association, board Member | 2011 – 2014 |
| • Associated Students of College of San Mateo, student senator | 2005 – 2006 |
| • Accreditation Committee at College of San Mateo, member | 2005 – 2006 |
| • College of San Mateo Persian Club, co-founder | 2005 |

Professional Affiliations and Memberships

- | | |
|---|-----------------------|
| • Pediatric Eye Disease Investigator Group (PEDIG) | 2014 – present |
| • American Academy of Optometry (AAO) | 2010 – present |
| • American Optometric Association (AOA) | 2010 – present |
| • California Optometric Association (COA) | 2010 – present |
| • College of Optometrists in Vision Development (COVD) | 2010 – 2015 |
| • Neuro-Optometric Rehabilitation Association (NORA) | 2014 – present |
| • American Optometric Student Association (AOSA) | 2010 – present |
| • Beta Sigma Kappa – International Optometric Honor Society | Lifetime |
| • Phi Theta Kappa – Undergraduate Honor Society | Lifetime |

Awards

- Terrance N. Ingraham Pediatric Optometry Residency Support (2015)
- Professional Student Support Fund (PSSF) awarded for academic and clinical distinction, and for promoting cohesiveness among peers in class and in clinic (2013 and 2014)
- Dean's Departmental Award at the UC Berkeley School of Optometry (2010 – 2014)
- Great Western Council of Optometry Award for academic excellence and outstanding leadership (2012)
- UCOSA Board Member of the Month (Feb. 2012)
- The National Dean's List (2005-2006)

Certifications

- TLG (Therapeutic Pharmaceutical Agents with Lacrimal Dilation and Glaucoma) Certification
- Credentialed consultant for EyePACS teleretinopathy Program
- Adult/Child/Infant CPR & AED

Research Poster Presentations and Publications

- **L.H. Shirazi, OD**; L. Lowell, OD, FAAO, FCOVD. "Management of Dizziness Via Vision Therapy for Binocular Vision Dysfunction in a Patient with Acquired Brain Injury". *American Academy of Optometry Poster Presentation*. **Nov. 2014**.
- Lauterwasser, E.M.W.; **Shirazi, L.H.**; Trauner, D. "Rational Design of T-Shaped Potassium Channel Blockers." **2008**.
- Wilson, E.M.; **Shirazi, L.H.**; Rymer, R.; Berger, J.M.; Trauner, D. "Concise Synthesis of the Natural Product Bacterial DNA Primase Inhibitor (+)-Sch 642305 and Progress Toward a Co-Crystal Structure." **2007**.

Special Skills

- Proficient with Electronic Medical Records (Epic Hyperspace, Compulink and OfficeMate/ExamWriter)
- Experienced in vision and medical insurance coding and billing
- Experienced in blocking and edging ophthalmic lenses

Languages Spoken

- Farsi (fluent in speaking/reading/writing)
- Optometric Spanish, excluding patient consultation

Extracurricular Activities & Performances

- Represented the culture of West Asia at the Berkeley Breakfast Club's annual "Asian Occasion" event by performing a traditional Persian dance, as well as playing Santour, a traditional Persian instrument (Jan. 2013)
- Participated in dance & musical instrument performances at UC Berkeley's annual Iranian Students' Cultural Organization's Iranian New Year Events(2007-2008)
- Participated in a Dance Performance at UC Berkeley's "From all Perspectives: The ASUC's Student Group Showcase" multicultural show (April 2008)
- Organized multicultural events at the College of San Mateo (2004-2006)