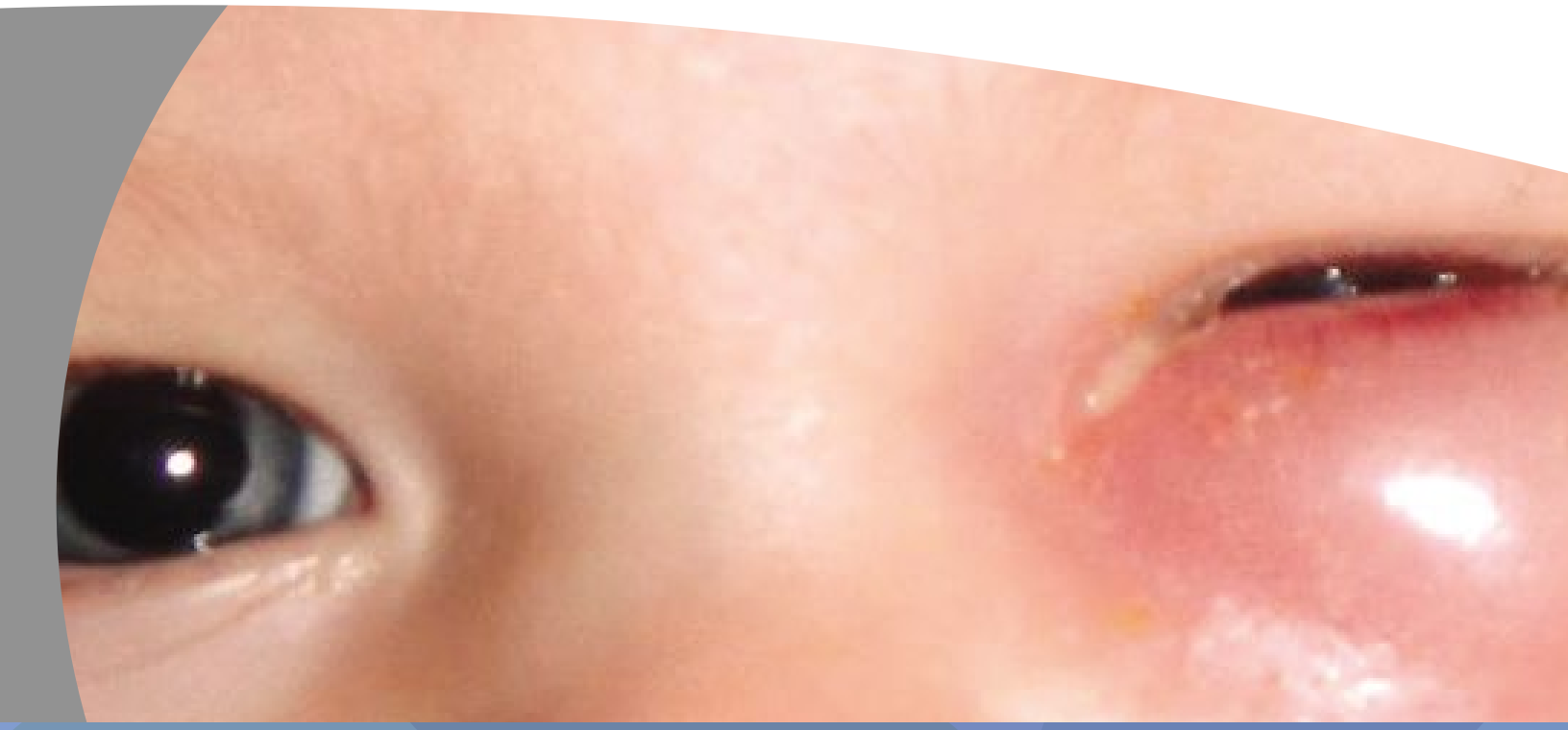
AMERICAN ACADEMY
OF OPHTHALMOLOGY®



Pediatric Ophthalmology 2022

Pediatric Ophthalmology in the Roaring 20s

Subspecialty Day | AAO 2022

Chicago | Sept 30

Protecting Sight. Empowering Lives.®

Pediatric Ophthalmology 2022

Pediatric Ophthalmology in the Roaring ’20s

Program Directors
David K Wallace MD MPH and David G Morrison MD

In conjunction with the American Association for Pediatric Ophthalmology and Strabismus and the American Academy of Pediatrics

McCormick Place
Chicago, Illinois
Friday, Sept. 30, 2022

American Association for Pediatric Ophthalmology and Strabismus

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Presented by:
The American Academy of Ophthalmology

AMERICAN ACADEMY OF OPHTHALMOLOGY®
Protecting Sight. Empowering Lives.

Pediatric Ophthalmology Subspecialty Day 2022 Planning Group

On behalf of the American Academy of Ophthalmology, the American Association for Pediatric Ophthalmology and Strabismus (AAPOS), and the American Academy of Pediatrics (AAP), it is our pleasure to welcome you to Chicago and **Pediatric Ophthalmology Subspecialty Day 2022: Pediatric Ophthalmology in the Roaring '20s.**

David K Wallace MD MPH
Program Director

None

David G Morrison MD
Program Director

None

Program Planning Group

Robert A Clark MD
None

No photo available

David K Coats MD
None

Sharon F Freedman MD
Qlaris Bio: C

Sergul A Erzurum MD
None

Nandini G Gandhi MD
None

Amy K Hutchinson MD
None

Deborah K VanderVeen MD
Ocular Therapeutix: S
Ophtec: C,S

Subspecialty Day 2022 Advisory Committee

R Michael Siatkowski MD, Associate Secretary (Pediatric Ophthalmology)
None

Maria M Aaron MD (Secretary for Annual Meeting)
None

Bonnie An Henderson MD (Refractive Surgery)
Alcon Laboratories, Inc.: C
Allergan, Inc.: C
Horizon: C

Michael S Lee MD (Neuro-Ophthalmology)
Horizon: US
Panbela: C
Pfizer, Inc.: US
Springer: P
UpTodate: P

Jennifer Irene Lim MD (Retina)
Adverum Biotechnologies: S
Aldeyra Therapeutics: S
Allergan, Inc.: C
Aura Biosciences: C
Chengdu Kanghong: S
Cognition Therapeutics: C
CRC Press/Taylor and Francis: P
Eyenuk: C
Genentech: C,S,L
Greybug: S | Iveric Bio: C
JAMA Ophthalmology Editorial Board: C
Luxa: C | NGM: S
Novartis Pharma AG: C
Opthea: C | Quark: C
Regeneron Pharmaceuticals, Inc.: C,S
Santen, Inc.: C
Stealth: S | Unity: C
Viridian: C

Shahzad I Mian MD (Cornea)
Kowa American Corporation: S
Novartis: S
Vison Care: S

Jody R Piltz MD (Glaucoma)
Aerie Pharmaceuticals: C,L

AAO Staff

Ann L'Estrange
None

Melanie Rafaty
None

Debra Rosencrance
None

Beth Wilson
None

Disclosure list contains individual's relevant disclosures with ineligible companies. All relevant financial relationships have been mitigated.

Pediatric Ophthalmology 2022 Contents

CME Credit

The Academy's CME Mission Statement

The purpose of the American Academy of Ophthalmology's Continuing Medical Education (CME) program is to present ophthalmologists with the highest quality lifelong learning opportunities that promote improvement and change in physician practices, performance, or competence, thus enabling such physicians to maintain or improve the competence and professional performance needed to provide the best possible eye care for their patients.

Pediatric Ophthalmology Subspecialty Day 2022 Meeting Learning Objectives

This meeting will enable attendees to:

- Improve their ability to diagnose and manage pediatric ophthalmology and strabismus conditions
- Improve their outcomes in the management of pediatric ophthalmology and strabismus conditions
- Explain recent advances in pediatric oculoplastics, pediatric retina, and myopia control
- Apply the best evidence to clinical disease management in pediatric ophthalmology

Pediatric Ophthalmology Subspecialty Day 2022 Meeting Target Audience

The intended target audience for this program is pediatric ophthalmologists, comprehensive ophthalmologists, medical professionals, visual physiologists, and orthoptists who are involved in maintaining high-quality health care for the pediatric and strabismus populations.

Teaching at a Live Activity

Teaching instruction courses or delivering a scientific paper or poster is not an *AMA PRA Category 1 Credit*™ activity and should not be included when calculating your total *AMA PRA Category 1 Credits*™. Presenters may claim *AMA PRA Category 1 Credits*™ through the American Medical Association. To obtain an application form, please contact the AMA at www.ama-assn.org.

Scientific Integrity and Disclosure of Conflicts of Interest

The American Academy of Ophthalmology is committed to ensuring that all CME information is based on the application of research findings and the implementation of evidence-based medicine. It seeks to promote balance, objectivity, and absence of commercial bias in its content. All persons in a position to control the content of this activity must disclose any and all financial interests. The Academy has mechanisms in place to resolve all conflicts of interest prior to an educational activity being delivered to the learners.

Control of Content

The Academy considers presenting authors, not coauthors, to be in control of the educational content. It is Academy policy and traditional scientific publishing and professional courtesy to acknowledge all people contributing to the research, regardless of CME control of the live presentation of that content. This acknowledgment is made in a similar way in other Academy CME activities. Though coauthors are acknowledged, they do not have control of the CME content, and their disclosures are not published or resolved.

Subspecialty Day 2022 CME Credit

The American Academy of Ophthalmology is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide CME for physicians.

Friday Subspecialty Day Activity: Glaucoma, Pediatric Ophthalmology, Refractive Surgery, Retina (Day 1), and Uveitis

The Academy designates this Other (blended live and enduring material) activity for a maximum of *12 AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Saturday Subspecialty Day Activity: Cornea, Oculofacial Plastic Surgery, and Retina (Day 2)

The Academy designates this Other (blended live and enduring material) activity for a maximum of *12 AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Physicians registered as In Person and Virtual are eligible to claim the above CME credit.

Attendance Verification for CME Reporting

Before processing your requests for CME credit, the Academy must verify your attendance at AAO 2022 and/or Subspecialty Day. Badges are no longer mailed before the meeting. Picking up your badge onsite will verify your attendance.

How to Claim CME

Attendees can claim credits online. For AAO 2022, you can claim CME credit multiple times, up to the 50-credit maximum, through Aug. 1, 2023. You can claim some in 2022 and some in 2023, or all in the same year. For 2022 Subspecialty Day, you can claim CME credit multiple times, up to the 12-credit maximum per day, through Aug. 1, 2023. You can claim some in 2022 and some in 2023, or all in the same year.

You do not need to track which sessions you attend, just the total number of hours you spend in sessions for each claim.

Academy Members

CME transcripts that include AAOE Half-Day Coding Sessions, Subspecialty Day and/or AAO 2022 credits will be available to Academy members through the Academy's CME Central web page.

The Academy transcript cannot list individual course attendance. It will list only the overall credits claimed for educational activities at AAOE Half-Day Coding Sessions, Subspecialty Day and/or AAO 2022.

Nonmembers

The Academy provides nonmembers with verification of credits earned and reported for a single Academy-sponsored CME activity.

Proof of Attendance

You will be able to obtain a CME credit reporting/ proof-of attendance letter for reimbursement or hospital privileges, or for nonmembers who need it to report CME credit:

Academy Members

When you claim CME credits and complete the evaluation, you will be able to print a certificate/proof of attendance letter from your transcript page. Your certificate will also be emailed to you.

Nonmembers

When you claim CME credits and complete the evaluation, a new browser window will open with a PDF of your certificate. Please disable your pop-up blocker. Your certificate will also be emailed to you.

CME Questions

Send your questions about CME credit reporting to cme@aao.org. For Continuing Certification questions, contact the American Board of Ophthalmology at MOC@abpo.org.

The Leonard Apt Lecture

Thirty Years of Pediatric Ophthalmology: Thoughts and Thanks

Gregg T Lueder MD

Friday, Sept. 30, 2022
9:37 AM – 9:57 AM

Gregg T Lueder MD

Gregg Lueder completed a pediatric residency at St. Louis Children's Hospital in 1988. He then completed an ophthalmology residency at the University of Iowa in 1991. Following residency, he completed a one-year fellowship in pediatric ophthalmology at the Hospital for Sick Children in Toronto. He has been board certified in both Pediatrics and Ophthalmology.

Dr. Lueder has been a faculty member at Washington University Medical Center in St. Louis, Missouri, since completing his training, practicing primarily at St. Louis Children's Hospital. He was promoted to the rank of Professor of Ophthalmology and Visual Sciences and Pediatrics in 2006. His research interests include ophthalmic manifestations of pediatric systemic disease, lacrimal disorders, and ophthalmic education for pediatricians.

Dr. Lueder has received a lifetime honor award from the American Association for Pediatric Ophthalmology and Strabismus and a Senior Achievement Award and Secretariat Award from the American Academy of Ophthalmology, and he has been listed in America's Best Doctors since 1996. He has served as chair of the pediatric ophthalmology and strabismus book for the Academy's Basic and Clinical Science Course. He is an associate editor of the *Journal of the American Association for Pediatric Ophthalmology and Strabismus*. He became a member of the American Ophthalmological Society in 2014. He is past chair of the American Academy of Pediatrics Section on Ophthalmology. He has authored or coauthored over 100 peer-reviewed manuscripts and has written several book chapters. He authored the book *Pediatric Practice: Ophthalmology*, an ophthalmic guide for pediatricians, in 2011.

Faculty

Richard C Allen MD PhD
Houston, TX

John P Campbell MD MPH
Lake Oswego, OR

Linda R Dagi MD
Boston, MA

Cynthia L Beauchamp MD
Dallas, TX

No photo available

Kara M Cavuoto MD
Miami, FL

No photo available

Alejandra G de Alba Campomanes MD
San Francisco, CA

Yasmin Bradfield MD
Madison, WI

Robert A Clark MD
Long Beach, CA

Joseph L Demer MD PhD
Los Angeles, CA

No photo available

Steven Elliot Brooks MD
Augusta, GA

No photo available

David K Coats MD
Houston, TX

Laura B Enyedi MD
Durham, NC

K David Epley MD
Kirkland, WA

Nandini G Gandhi MD
Davis, CA

Jonathan M Holmes MD
Tucson, AZ

Sergul A Erzurum MD
Poland, OH

No photo available

Guita Ghiasi MD
Tehran, Iran

Amy K Hutchinson MD
Atlanta, GA

No photo available

Meghan S Flemmons MD
Brentwood, TN

Kathryn M Haider MD
Fishers, IN

Ramesh Kekunnaya MD FRCS
Hyderabad, India

Sharon F Freedman MD
Durham, NC

Gena Heidary MD
Cambridge, MA

Sylvia R Kodsi MD
New York, NY

Sarah A Logan MD
Jacksonville, FL

No photo available

Justin D Marsh MD
Maitland, FL

Stacy L Pineles MD
Los Angeles, CA

Irene H Ludwig MD
Franklin, TN

Emily A McCourt MD
Denver, CO

Michael X Repka MD MBA
Baltimore, MD

Gregg T Lueder MD
Saint Louis, MO

David G Morrison MD
Franklin, TN

David I Silbert MD
Lancaster, PA

Ramiro S Maldonado MD
Lexington, KY

Evelyn A Paysse MD
Houston, TX

Donny Won Suh MD
Irvine, CA

Benjamin H Ticho MD
Chicago Ridge, IL

David K Wallace MD MPH
Indianapolis, IN

Michael B Yang MD
Cincinnati, OH

Virginia Miraldi Utz MD
Cincinnati, OH

Rupa K Wong MD
Honolulu, HI

Yoshihiro Yonekawa MD
Bryn Mawr, PA

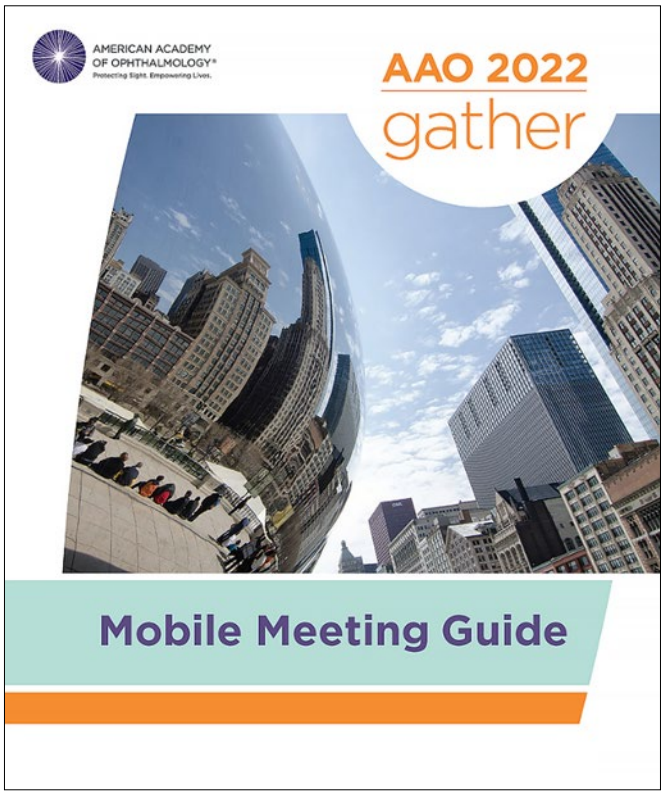
Deborah K VanderVeen MD
Boston, MA

Ask a Question and Respond to Polls Live During the Meeting Using the Mobile Meeting Guide

To submit an answer to a poll or ask the moderator a question during the meeting, follow the directions below.

- Access at www.aao.org/mobile
- Select "Polls/Q&A"
- Select "Current Session"
- Select "Interact with this session (live)" to open a new window
- Choose "Answer Poll" or "Ask a Question"

Note: Polling will only be available for Section VII.



Pediatric Ophthalmology Subspecialty Day 2022

Pediatric Ophthalmology in the Roaring '20s

FRIDAY, SEPT. 30

8:00 AM	Welcome and Introductions	David K Wallace MD MPH David G Morrison MD	

Section I: The Untouchables—Are Good Results Possible With Less Surgery?

Moderators: David K Wallace MD MPH and David K Coats MD

8:02 AM	Introduction	David K Coats MD David K Wallace MD MPH	
8:03 AM	Esotropia, Larger at Near: Augment With Posterior Fixation	Emily A McCourt MD	1
8:09 AM	Esotropia, Larger at Near: Bilateral Medial Rectus	Yasmin Bradfield MD	1
8:15 AM	Questions		
8:17 AM	Esotropia, Duane Syndrome: Surgery on the Antagonist	Guita Ghiasi MD	1
8:23 AM	Esotropia, Duane Syndrome: Ipsilateral Medial Rectus Recession	Alejandra G de Alba Campomanes MD	1
8:29 AM	Questions		
8:31 AM	Consecutive Exotropia After Bilateral Medial Rectus: Advance Medial Recti	Sylvia R Kodsi MD	1
8:37 AM	Consecutive Exotropia After Bilateral Medial Rectus: Bilateral Lateral Rectus Recession	Justin D Marsh MD	1
8:43 AM	Questions		
8:45 AM	Adjustable Sutures	Linda R Dagi MD	1
8:51 AM	Surgery Without Adjustable Sutures	Kathryn M Haider MD	1
8:57 AM	Questions		
8:59 AM	CN VI Palsy: Transpose 2 Verticals ± Foster Sutures	Steven Elliot Brooks MD	1
9:05 AM	CN VI Palsy: Transpose Single Vertical Muscle	Cynthia L Beauchamp MD	1
9:11 AM	Questions		
9:13 AM	CN III Palsy: Surgical Options Including Contralateral Eye	Stacy L Pineles MD	1
9:19 AM	CN III Palsy: Ipsilateral Lateral Rectus Transposition	Sarah A Logan MD	1
9:25 AM	Questions		
9:27 AM	In These Unprecedented Times . . .	K David Epley MD	2

Leonard Apt Lecture

9:32 AM	Introduction of the Lecturer	Donny Won Suh MD	
9:37 AM	Thirty Years of Pediatric Ophthalmology: Thoughts and Thanks	Gregg T Lueder MD	4
9:57 AM	Presentation of the Award	Donny Won Suh MD	
9:58 AM	REFRESHMENT BREAK		

Section II:	**Puttin' on the Ritz—New Technologies in Vision Testing and Amblyopia Treatment**		
	Moderators: Sergul A Erzurum MD and David G Morrison MD		
10:30 AM	Introduction	Sergul A Erzurum MD David G Morrison MD	
10:31 AM	Vision Screening Apps	Gena Heidary MD	5
10:39 AM	Digital Therapeutics in Amblyopia	Michael X Repka MD MBA	6
10:47 AM	PEDIG Dig Rush Trials	Jonathan M Holmes MD	7
10:55 AM	Refractive Surgery for Amblyopia	Evelyn A Paysse MD	8
11:03 AM	Limitations of Refractive Surgery for Amblyopia	Kara M Cavuoto MD	9
11:11 AM	Panel Discussion: Health Care Disparities in Access to New Technologies, What's Wrong with Patching?		
11:20 AM	Questions/Closing Remarks		

Section III:	**The Fast Lane—Pediatric Oculoplastics**		
	Moderators: Sharon F Freedman MD and Nandini G Gandhi MD		
11:30 AM	Introduction	Sharon F Freedman MD Nandini G Gandhi MD	
11:32 AM	Nasolacrimal Duct Obstruction: Updates on an Old Friend	David I Silbert MD	10
11:40 AM	Lids—Getting It Just Right—Ptosis Repair and Other Procedures in the Peds Lane	Meghan S Flemmons MD	13
11:48 AM	Pediatric Oculoplastics: The Frontier	Richard C Allen MD PhD	14
11:56 AM	Questions/Closing Remarks		
12:00 PM	LUNCH		

Section IV:	**Most Wanted—A Practical Approach to Pediatric Retina and Uveitis**		
	Moderators: Sharon F Freedman MD and Amy K Hutchinson MD		
1:00 PM	Introduction	Sharon F Freedman MD Amy K Hutchinson MD	
1:02 PM	Retinal Diseases You Can't Miss	Yoshihiro Yonekawa MD	15
1:14 PM	Retinal Dystrophies and Degenerations: Where to Start	Ramiro S Maldonado MD	16
1:26 PM	Practical Approach to Evaluation and Management of Uveitis	Virginia Miraldi Utz MD	17
1:38 PM	ROP: Ground Rules in a Rapidly Changing Landscape	John P Campbell MD MPH	19
1:50 PM	Questions/Closing Remarks		

Section V:	**Prohibition of Myopia Progression**		
	Moderators: Robert A Clark MD and David G Morrison MD		
2:00 PM	Introduction	Robert A Clark MD David G Morrison MD	
2:01 PM	The Science of Myopia Mitigation	K David Epley MD	20
2:11 PM	Orthokeratology	Deborah K VanderVeen MD	21
2:21 PM	Peripheral Defocus Contact Lenses and Glasses	Rupa K Wong MD	22
2:31 PM	Update on Atropine	Benjamin H Ticho MD	24

2:41 PM	Effects of Overminus	Donny Won Suh MD	25
2:51 PM	Questions/Closing Remarks		
3:00 PM	REFRESHMENT BREAK		

Section VI: Top Secret Tips for Pediatric Ophthalmologists

Moderators: David K Coats MD and Amy K Hutchinson MD

3:30 PM	Introduction	David K Coats MD Amy K Hutchinson MD	
3:31 PM	Tip 1	Evelyn A Paysse MD	26
3:34 PM	Tip 2	David I Silbert MD	26
3:37 PM	Tip 3	Virginia Miraldi Utz MD	26
3:40 PM	Tip 4	Sharon F Freedman MD	26
3:43 PM	Tip 5	Meghan S Flemmons MD	26
3:46 PM	Tip 6	Richard C Allen MD PhD	26
3:49 PM	Tip 7	Nandini G Gandhi MD	26
3:52 PM	Tip 8	Joseph L Demer MD PhD	26
3:55 PM	Tip 9	Sylvia R Kodsi MD	26
3:58 PM	Tip 10	Irene H Ludwig MD	26
4:01 PM	Tip 11	Deborah K VanderVeen MD	26
4:04 PM	Tip 12	Ramesh Kekunnaya MD FRCS	26
4:07 PM	Tip 13	David K Coats MD	26
4:10 PM	Questions/Summary		

Section VII: Speakeasy—Talking Points and Counterpoints

Moderators: Robert A Clark MD and Deborah K VanderVeen MD

4:15 PM	Introduction	Robert A Clark MD Deborah K VanderVeen MD	
4:16 PM	Exotropia, Surgical Approach 1	Ramesh Kekunnaya MD FRCS	27
4:20 PM	Exotropia, Surgical Approach 2	Laura B Enyedi MD	27
4:24 PM	Rebuttal/Discussion		
4:29 PM	Adult Distance Esotropia, Surgical Approach 1	Joseph L Demer MD PhD	27
4:33 PM	Adult Distance Esotropia, Surgical Approach 2	Irene H Ludwig MD	27
4:37 PM	Rebuttal/Discussion		
4:42 PM	Zone 2 ROP, Treatment 1	Amy K Hutchinson MD	27
4:46 PM	Zone 2 ROP, Treatment 2	Michael B Yang MD	27
4:50 PM	Rebuttal/Discussion		
4:55 PM	Audience Poll		
5:00 PM	Closing Remarks	David G Morrison MD David K Wallace MD MPH	
5:01 PM	ADJOURN		

The Untouchables—Are Good Results Possible With Less Surgery?

Esotropia, Larger at Near: Augment With Posterior Fixation – Emily A McCourt MD

Esotropia, Larger at Near: Bilateral Medial Rectus – Yasmin Bradfield MD

Esotropia, Duane Syndrome: Surgery on the Antagonist – Guita Ghiasi MD

Esotropia, Duane Syndrome: Ipsilateral Medial Rectus Recession – Alejandra G de Alba Campomanes MD

Consecutive Exotropia After Bilateral Medial Rectus: Advance Medial Recti – Sylvia R Kodsi MD

Consecutive Exotropia After Bilateral Medial Rectus: Bilateral Lateral Rectus Recession – Justin D Marsh MD

Adjustable Sutures – Linda R Dagi MD

Surgery Without Adjustable Sutures – Kathryn M Haider MD

CN VI Palsy: Transpose 2 Verticals ± Foster Sutures – Steven Elliot Brooks MD

CN VI Palsy: Transpose Single Vertical Muscle – Cynthia L Beauchamp MD

CN III Palsy: Surgical Options Including Contralateral Eye – Stacy L Pineles MD

CN III Palsy: Ipsilateral Lateral Rectus Transposition – Sarah A Logan MD

In These Unprecedented Times . . .

2022 Pediatric Ophthalmology Subspecialty Day

K David Epley MD

Action Requested: Support Ophthalmology's Advocacy Efforts

Please respond to your Academy colleagues and be part of the community that contributes to OPHTHPAC®, the Surgical Scope Fund, and your State Eye PAC. Be part of the community that ensures ophthalmology has a strong voice in advocating for patients.

Where and How to Invest

During AAO 2022 in Chicago, invest in OPHTHPAC and Surgical Scope Fund at either of our two convention center booths (in the Grand Concourse and Lakeside Center) or online. You may also invest via phone by texting **MDEYE** to **41444** for OPHTHPAC and texting **SCOPE** to **51555** for the Surgical Scope Fund.

We also encourage you to support our congressional champions by making a personal investment to their re-election campaign via OPHTHPAC Direct, a unique and award-winning program that lets *you decide* who receives your political support.

Surgical Scope Fund contributions are completely confidential and may be made with corporate checks or credit cards. PAC contributions may be subject to reporting requirements.

Why Invest?

Academy Surgical Scope Fund contributions are used to support the infrastructure necessary in state legislative/regulatory battles and for public education. OPHTHPAC investments are necessary at the federal level to help elect officials who will support the interests of our profession and our patients. Similarly, state Eye PAC contributions help elect officials who will support the interests of our patients at the state level. Contributions to EACH of these three funds are necessary and help us protect sight and empower lives.

Protecting quality patient eye care and high surgical standards is a "must" for everybody. Our mission of "protecting sight and empowering lives" requires robust funding of both OPHTHPAC and the Surgical Scope Fund. Each of us has a responsibility to ensure that these funds are strong so that ophthalmology continues to thrive and patients receive optimal care.

OPHTHPAC for Federal Advocacy

OPHTHPAC is the Academy's award-winning nonpartisan political action committee, representing ophthalmology on Capitol Hill. OPHTHPAC works to build invaluable relationships with our federal lawmakers to garner their support on issues such as:

- Improving the Medicare payment system, so ophthalmologists are fairly compensated for their services
- Securing payment equity for postoperative visits, which will increase global surgical payments
- Stopping optometry from obtaining surgical laser privileges in the veterans' health-care system
- Reducing prior authorization and step therapy burdens

Academy member support of OPHTHPAC makes all this possible. Your support provides OPHTHPAC with the resources needed to engage and educate Congress on our issues, helping advance ophthalmology's federal priorities. Your support also ensures that we have a voice in helping shape the policies and regulations governing the care we provide. Academy member support of OPHTHPAC is the driving factor behind our advocacy push, and in this critical election year, we ask that you get engaged to help strengthen our efforts.

At the Academy's annual Mid-Year Forum, the Academy, the American Association for Pediatric Ophthalmology and Strabismus (AAPOS) and the American Academy of Pediatrics-Ophthalmology Section (AAP-Ophthalmology Section) ensure a strong presence of pediatric ophthalmologists to support ophthalmology's priorities. As part of this year's meeting, the two pediatric ophthalmology societies each supported participation of fellowship trainees via the Academy's Advocacy Ambassador Program. During Congressional Advocacy Day, they visited members of Congress and their key health-care staff—either in person or virtually—to discuss ophthalmology priorities. The two pediatric ophthalmology societies remain crucial partners with the Academy in its ongoing federal and state advocacy initiatives.

Surgical Scope Fund for State Advocacy

The Surgical Scope Fund (SSF) provides grants to state ophthalmology societies in support of their efforts to protect patient safety from dangerous optometric surgery proposals. Since its inception, the Surgery by Surgeons campaign and the SSF, in partnership with state ophthalmology societies, have helped 43 state/territorial ophthalmology societies reject optometric scope of practice expansions into surgery.

If you have already made a SSF contribution, please go to safesurgerycoalition.org to see the impact of your gift.

Dollars from the SSF are critical to build complete cutting-edge political campaigns, including media (TV, radio, and social media), educating and building relationships with legislators, and educating the voting public to contact their legislators. This helps to preserve high surgical standards by defeating optometry's surgical initiatives.

Each of these endeavors is very expensive, and no one state has the critical resources to battle big optometry on their own. Ophthalmologists must join together and donate to the SSF to fight for patient safety.

The Academy's Secretariat for State Affairs thanks AAPOS and the AAP-Ophthalmology Section, which have joined state

Surgical Scope Fund	OPHTHPAC®	State Eye PAC
To protect patient safety by defeating optometric surgical scope-of-practice initiatives that threaten quality surgical care	Support for candidates for U.S. Congress	Support for candidates for state House, Senate, and governor
Political grassroots activities, government relations, PR and media campaigns No funds may be used for campaign contributions or PACs.	Campaign contributions, legislative education	Campaign contributions, legislative education
Contributions: Unlimited Individual, practice, corporate, and organization	Contributions: Personal contributions are limited to $5,000. Corporate contributions are confidential.	Contribution limits vary based on state regulations.
Contributions are 100% confidential.	Personal contributions of $199 or less and all corporate contributions are confidential. Personal contributions of $200 and above are on the public record.	Contributions are on the public record depending upon state statutes.

ophthalmology societies in the past in contributing to the SSF, and looks forward to their 2022 contributions. These ophthalmic organizations complete the necessary SSF support structure for the protection of our patients' sight.

State Eye PAC

The presence of a strong State Eye PAC providing financial support for campaign contributions and legislative education to elect ophthalmology-friendly candidates to the state legislature is critical as scope-of-practice battles and many regulatory issues are fought on the state level.

Support Your Colleagues Who Are Working on Your Behalf

Two Academy committees made up of your ophthalmology colleagues are working hard on your behalf. The OPHTHPAC Committee continues to identify Congressional Advocates in each state to maintain close relationships with federal legislators to advance ophthalmology and patient causes. The Surgical Scope Fund Committee is raising funds used to protect Surgery by Surgeons during scope battles at the state level.

OPHTHPAC Committee

Sohail J Hasan MD PhD (IL)—Chair
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Renee Bovelle MD (MD)
Thomas A Graul MD (NE)
Jeffrey D Henderer MD (PA)
S Anna Kao MD (GA)
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George A Williams MD (MI)

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K David Epley MD (WA)
Nina A Goyal MD (IL)
Gareth M Lema MD PhD (NY)
Darby D Miller MD MPH (FL)
Christopher C Teng MD (CT)

Ex-Officio Members

John D Peters MD (NE)
George A Williams MD (MI)

Thirty Years of Pediatric Ophthalmology: Thoughts and Thanks

Gregg T Lueder MD

NOTES

Vision Screening Apps

Gena Heidary MD

NOTES

Digital Therapeutics in Amblyopia

Michael X Repka MD MBA

Introduction

Digital therapeutics are a new class of software-driven interventions intended to treat various medical conditions. In eye care, digital games with dichoptic binocular stimulation are being introduced, with great interest among the media and parents. Not generally available outside of the research setting in the past, some of these therapies are now being marketed more prominently around the world. However, mostly modest improvement has been reported in uncontrolled studies. An assessment from the Academy in 2019 found no clear evidence to switch from occlusion and optical therapy to these digital programs.[1] A Cochran review published in early 2022 comparing these with occlusion found no clear evidence for efficacy, recommending future RCTs with VA and stereo endpoints.[2] Early versions based on falling block designs failed to show significant benefits, but were limited by compliance with recommended treatment duration.[3-5]

Digital Therapeutics for Amblyopia

Dig Rush

Developed by Amblyotech (acquired by Novartis, April 2020) to treat amblyopia as a dichoptic (red-green separation) video game with reduced contrast images presented to the fellow eye. Strabismus of no more than 4 prism diopters measured at near by simultaneous prism and cover test and ability to play the game. The Pediatric Eye Disease Investigator Group conducted 2 randomized studies comparing 1 hour, 5 days per week, of binocular video game with continued glasses to prove these approaches could be effective. Primary endpoint was at 4 weeks, with a secondary outcome at 8 weeks.

For the older cohort (7 to 12 years of age), after 4 weeks mean VA improved from baseline by 1.3 letters (2-sided 95% CI, 0.1-2.6) with binocular treatment and 1.7 (2-sided 95% CI, 0.4-3.0) with continued spectacles. After adjustment for baseline VA, the difference between groups (binocular minus control) was –0.3 letter (95% CI, –2.2 to 1.5; P = .71). No difference was observed when the analysis was repeated after 8 weeks of treatment (adjusted mean: –0.1; 98.3% CI, –2.4 to 2.1). For the binocular group, 58% of the participants completed >75% of prescribed treatment by the 4-week visit.

For the younger cohort (4 to 6 years of age), mean amblyopic VA improved 1.1 logMAR lines with binocular treatment and 0.6 logMAR lines with continued spectacles alone. After adjustment the difference was 0.5 lines (95.1% CI, 0.1 to 0.9) favoring binocular treatment.[6] After 8 weeks, the results were inconclusive; mean amblyopic eye VA improved 1.3 logMAR lines with binocular treatment and 1.0 logMAR lines with spectacles alone. After adjustment the difference was 0.3 lines; 98.4% CI, –0.2 to 0.8. For the binocular group, 47% of children completed >75% of the prescribed Dig Rush treatment at 4 weeks, and 43% at 8 weeks.

Luminopia One

Developed by Luminopia. Participants select popular television shows and movies presented in a head-mounted display. In a Phase 3 RCT,[7] contrast to the fellow eye was 15% of that in the amblyopic eye, and complementary masking of the images presented to the 2 eyes. Children 4-7 years of age with no strabismus or ≤5 prism diopters. Fifty-one children were randomized to the treatment group (1 hour, 6 days per week), and 54 were randomized to the spectacles-only group. At 12 weeks, amblyopic eye VA improved by 1.8 lines (95% CI, 1.4-2.3 lines; n = 45) in the treatment group and by 0.8 lines (95% CI, 0.4-1.3 lines; n = 45) in the comparison group. At the planned interim analysis (adjusted α = 0.0193), the difference between groups was significant (1.0 lines; P = 0.0011; 96.14% CI, 0.33-1.63 lines) and the study was stopped early for success, according to the protocol. No serious adverse events were reported. FDA approval was granted (10/2021) as follows: "Luminopia One is indicated for improvement in visual acuity in children with amblyopia, aged 4-7, associated with anisometropia and/or with mild strabismus."

Other products are being evaluated for use in amblyopia therapy. These include Vivid Vision (Vivid Vision, Inc., registered with the FDA as a Class 1 device) and CureSight (NovaSight, investigational in the U.S.) dichoptic treatment, with nonrandomized results showing treatment benefits. Additional products are anticipated for amblyopia treatment for children and young adults in the next few years

References

1. Pineles SL, Aakalu VK, Hutchinson AK, et al. Binocular treatment of amblyopia: a report by the American Academy of Ophthalmology. *Ophthalmology* 2020; 127(2):261-272.
2. Tailor V, Bossi M, Bunce C, et al. Binocular versus standard occlusion or blurring treatment for unilateral amblyopia in children aged three to eight years. *Cochrane Database Syst Rev.* 2022; 2(2):CD011347.
3. Holmes JM, Manh VM, Lazar EL, et al. Effect of a binocular iPad game vs part-time patching in children aged 5 to 12 years with amblyopia: a randomized clinical trial. *JAMA Ophthalmol.* 2016; 134(12):1391-1400.
4. Gao TY, Guo CX, Babu RJ, et al. Effectiveness of a binocular video game vs placebo video game for improving visual functions in older children, teenagers, and adults with amblyopia: a randomized clinical trial. *JAMA Ophthalmol.* 2018; 136(2):172-181.
5. Manh VM, Holmes JM, Lazar EL, et al. A randomized trial of a binocular iPad game versus part-time patching in children aged 13 to 16 years with amblyopia. *Am J Ophthalmol.* 2018; 186:104-115.
6. Manny RE, Holmes JM, Kraker RT, et al. A randomized trial of binocular Dig Rush game treatment for amblyopia in children aged 4 to 6 years. *Optom Vis Sci.* 2022; 99(3):213-227.
7. Xiao S, Angjeli E, Wu HC, et al. Randomized controlled trial of a dichoptic digital therapeutic for amblyopia. *Ophthalmology* 2022; 129(1):77-85.

PEDIG Dig Rush Trials

Jonathan M Holmes MD

I. RCT in Older Children
   A. Major inclusion criteria
      1. Age 7 to 12 years
      2. Strabismic/anisometropic/combined amblyopia; amblyopic eye VA: 33 to 72 letters (approximately 20/200 to 20/40)
      3. Previous optical treatment for at least 16 weeks or no improvement for 8 weeks
   B. Randomization (*N* = 138 participants)
      1. Dichoptic binocular Dig Rush tablet game (1 hour per day, 5 days a week) vs.
      2. Continued spectacle correction
   C. Outcomes
      1. Primary: Change in amblyopic eye VA from baseline to 4 weeks
      2. Secondary: Change in amblyopic eye VA from baseline to 8 weeks
   D. Results
      1. Primary outcome: No difference in mean improvement in letter score at 4 weeks
         a. Mean improvement with binocular treatment: 1.3 letters
         b. Mean improvement with continued glasses: 1.7 letters
         c. Adjusted mean difference (binocular minus control): –0.3 letters (95% CI, –2.2 to 1.5 letters)
      2. Secondary outcome: No difference in mean improvement in letter score at 8 weeks
         a. Mean improvement with binocular treatment: 2.3 letters
         b. Mean improvement with continued glasses: 2.4 letters
         c. Adjusted mean difference (binocular minus control): –0.1 letters (98% CI, –2.4 to 2.1 letters)
   E. Discussion

II. RCT in Younger Children
   A. Major inclusion criteria
      1. Age 4-6 years
      2. Strabismic/anisometropic/combined amblyopia; amblyopic eye VA: 20/40 to 20/200
      3. Previous optical treatment for at least 16 weeks or no improvement for 8 weeks
   B. Randomization (*N* = 182 participants)
      1. Dichoptic binocular Dig Rush tablet game (1 hour per day, 5 days a week) vs.
      2. Continued spectacle correction
   C. Outcomes
      1. Primary: Change in amblyopic eye VA from baseline to 4 weeks
      2. Secondary: Change in amblyopic eye VA from baseline to 8 weeks
   D. Results
      1. Primary outcome: Greater improvement at 4 weeks in those treated with binocular therapy
         a. Mean improvement with binocular treatment: 1.1 logMAR lines
         b. Mean improvement with continued glasses: 0.6 logMAR lines
         c. Adjusted mean difference (binocular minus control): 0.5 lines (95% CI, 0.1 to 0.9 lines)
      2. Secondary outcome: No difference in mean improvement at 8 weeks
         a. Mean improvement with binocular treatment: 1.3 logMAR lines
         b. Mean improvement with continued glasses: 1.0 logMAR lines
         c. Adjusted mean difference (binocular minus control): 0.3 lines (98% CI, –0.2 to 0.8 lines)
   E. Discussion

Selected Readings

1. Holmes JM, Manny RE, Lazar EL, et al, for Pediatric Eye Disease Investigator Group. A randomized trial of binocular Dig Rush game treatment for amblyopia in children aged 7 to 12 years. *Ophthalmology* 2019; 126:456-466.
2. Manny RE, Holmes JM, Kraker RT, et al; for Pediatric Eye Disease Investigator Group. A randomized trial of binocular Dig Rush Game treatment for amblyopia in children aged 4 to 6 years. *Optom Vis Sci*. 2022; 99:213-227.

Refractive Surgery for Amblyopia

Evelyn A Paysse MD

I. Introduction

Pediatric refractive surgery is a reasonable treatment for severe refractive error in children with amblyopia who are nonresponsive with standard therapy. If nothing else is offered, the result is certain severe levels of amblyopia.

II. Diagnoses to Consider for Pediatric Refractive Surgery

Moderate to severe amblyopia with:

A. Severe anisometropia

B. Severe isoametropia

C. Facial anatomic anomalies and other special needs

D. *All* patients should have failed standard amblyopia therapy.

III. Reasons for Failure of standard Therapy

A. Severe anisometropia

1. Aniseikonia
2. Asthenopia

B. Severe isoametropia

1. Children with neurobehavioral disorders
2. Tactile aversion, anxiety, autistic behavior, oppositional defiant behavior

C. Anatomic issues

1. Poor fit
2. Flat nasal bridge
3. Microtia
4. Neck weakness (hypotonia)

IV. Types of Refractive Surgery

A. Extraocular: Change the corneal power

1. Excimer
   a. PRK
   b. LASEK
   c. LASIK

B. Intraocular

1. Phakic IOLs
2. Refractive lens exchange

V. Results of Pediatric Refractive Surgery in the Literature

A. Ophthalmologic

B. Excimer laser surgery for severe anisometropia (world) meta-analysis

1. ≥ 800 children
2. Follow-up: 12 to 48+ months
3. Age at treatment: 2-16 years
4. Improvement in:
   a. Visual acuity: average 3+ lines
   b. Stereopsis
   c. Few and minimal complications
   d. Similar visual results with isoametropic amblyopia and so much more

C. Functional/behavioral: Isoametropia associated with amblyopia (bilateral)

1. Truly life-changing
2. Live in a world of visual blur and isolation where visual stimuli are averse/noxious/frightening
3. Long-term developmental improvement in areas of:
   a. Communication
   b. Daily living skills
   c. Socialization
   d. Motor
   e. Adaptive

VI. Summary

Refractive surgery in children with severe refractive amblyopia is effective and results in improvements in:

A. Refractive error

B. Vision

C. Stereopsis

D. Communication skills

E. Activities of daily living

Limitations of Refractive Surgery for Amblyopia

Kara M Cavuoto MD

Pro/Con Debate

Traditional treatment options for amblyopia include glasses for correction of refractive error, patching, and/or atropine of the contralateral eye to promote the use of the amblyopic eye. Despite studies demonstrating the success of traditional amblyopia therapy, several challenges limit successful treatment of amblyogenic anisometropic refractive error. These include optical issues such as aniseikonia and visual distortion, as well as other issues such as compliance.

Laser refractive surgery to address amblyogenic refractive error in children has been studied as an alternative to these mechanisms. This technology has potential merits, as well as several limitations, including logistical and safety concerns. Higher-quality studies with long-term follow-up are needed to make conclusive recommendations.

Nasolacrimal Duct Obstruction: Updates on an Old Friend

David I Silbert MD

I. Congenital Nasolacrimal Duct Obstruction (NLDO)
   A. Incidence 1%-6%
   B. 25% of cases bilateral
   C. Medical management
      1. Massage of NL sac: unclear efficacy
      2. Topical or systemic antibiotics only to control infection
   D. Majority resolve spontaneously by 6-12 months.

II. Surgical Treatment of Congenital NLDO
   A. Probing is often performed around 12 months of age.
   B. Literature shows high success rate.
      1. 90%-95% success if performed by 15 months of age
      2. Pediatric Eye Disease Investigator Group (PEDIG) studies show similar success rate up to 36 months.
      3. PEDIG NLD1, more stringent failure criteria
         a. 78% for the 421 eyes in children aged 6 to <12 months
         b. 79% for the 419 eyes in children aged 12 to <24 months
         c. 79% for the 37 eyes in children aged 24 to <36 months
         d. 56% for the 11 eyes in children aged 36 to <48 months
      4. PEDIG NLD2 success rate for secondary procedure after failed probing
         a. Balloon group: 77%
         b. Intubation group: 84%
         c. Not randomized so not directly comparable

III. PEDIG NLD1 and NLD2 and Practice
   A. Primary probing has good success rate up to 3 years of age.
   B. Previous teaching that probing success declines after 15 months no longer seems valid.
   C. Balloon and NLD intubation both work well for failed probings

IV. PEDIG Studies
   A. PEDIG NLD2
      1. Not randomized
      2. Success rate for secondary procedure after failed probing:
         a. Balloon group: 77%
         b. Intubation group: 84%
         c. Either are good options after failed probing.
   B. PEDIG NLD3
      1. Immediate office-based probing vs. a 6-month period of observation followed by probing, as needed, in a facility setting for children 6 to <10 months of age.
      2. Prospective and randomized
      3. Approximately two-thirds of the eyes in the observation group resolved within 6 months with nonsurgical management (with the addition of lacrimal massage and antibiotic eyedrops as needed).
      4. Cost analysis demonstrated that, on average, the immediate office-based probing approach is likely more cost-effective than the approach of observation followed by in-facility probing as needed.
      5. Office probing was successful in 75% of eyes overall.
         a. Bilateral NLDO 63% compared with unilateral NLDO 80%
         b. NLD1-2: 80% success rate in 691 probings performed in a surgical facility under general anesthesia

V. My Approach
   A. Will perform probing in children up to 36 months of age
   B. Consent parents for probing, possible endoscopic stent or balloon
   C. If probing is challenging, it is usually due to false passage. Convert to endoscopic stent or balloon.
   D. Cases of previous failed probing
      1. Do not repeat probing.
      2. Consent for endoscopic balloon vs. stent vs. dacryocystorhinostomy (DCR)
      3. Minimizes return to OR

VI. Primary Balloon Dacryoplasty

A. Primary balloon or stent at discretion of surgeon. I use balloon as primary treatment in older kids with partial NLDO with intermittent symptoms with URI.

B. Children over 18 months

1. Initial studies showed 90% success rate.
2. Used topical and oral steroids and antibiotics; I believe this enhances outcome by minimizing scarring.

C. 2.0 mm for <30 months age

D. 3.0 mm for ≥30 months of age

E. I typically use 3.0 mm for all.

F. Deflated profile: 0.90 mm

G. Balloon length: 15.0 mm

H. Inflation pressure: 8.0 atmospheres

VII. Endoscopic Balloon Dacryoplasty

A. Silicone intubation

1. Pass probe and recover beneath inferior turbinate.
2. Direct visualization is best.
3. Failure is primarily due to false passage and incorrect placement of tube.
4. Securing tubes
   a. Square knots
   b. Knot can be rotated out of punctum to remove but sometimes fracture.
5. Other options
   a. Bolsters (silicone band)
   b. Suture to nose
   c. Require OR to remove

B. Complications/issues with tubes: cheese wiring

1. Enlargement of punctum if tube too tight in nose
2. Premature dislodging of tubes
3. Retention of bolster or knot in nose

C. Newer options for self-retaining tubes

1. Monocanalicular tubes: Ritleng Monoka
2. Bicanalicular self-retaining tubes, no retrieval
   a. Kaneka Lacriflow stent
   b. Nunchaku
3. Bicanalicular self-retaining tubes that require retrieval
   a. Ritleng+ autostable bicanalicular NL intubation set
   b. Quest STENTube: self-retaining but larger diameter

VIII. The Kaneka Lacriflow Stent

A. Self-retaining

1. Differential gauge with narrow portion in superior and inferior canaliculus
2. Wider portion in the NLD; distal to the common canaliculus
3. Self retention of stent without tying in nose
4. Easy removal in the office at punctum

B. Placement of Lacriflow stent

1. Bicanalicular
2. Stent is placed via the upper and lower canaliculus.
3. Utilizes a bougie (stylet)
4. Bougie is removed after placement.
5. Does not require recovery from the nose

C. Special properties of Lacriflow stent

1. Hydrophilic polymer coating; polyurethane resin mixture
2. Stent passes exceptionally easily.
3. Topical or local anesthetic
4. Placement
   a. In office (local)
   b. In OR (MAC vs. general)

D. Inferior turbinate

1. Pass stent with bougie
   a. Directing nasally
   b. Directing inferoposteriorly
2. Endonasal visualization stent
   a. Without infracture
   b. Turbinate infractured

E. Superior placement

F. Bending bougie (optional)

1. Straight vs. bent
2. 20 degree at second hash-mark

G. Rotating bent bougie

1. Base of nasal fossa reached
2. Bent bougie rotated posteronasally to fully pass
   a. Blue mark centered
   b. Below inferior turbinate

H. Lacriflow in nose

1. No infracture
2. Infracture inf. turbinate

I. Hash-mark centered

J. Lacriflow at valve of Hasner

IX. FCI Nunchaku
   A. Pushed silicone self-retaining bicanalicular NL intubation stent
   B. The metallic guides are located inside the lumen.
   C. No nasal retrieval is needed.
   D. No need for knots or suture in the nasal fossa to retain tube 2 lengths
      1. 90 mm
      2. 105 mm
   E. Medical grade silicone

X. Bicanalicular Self-Retaining Stent: Conclusion
   A. Kaneka and Nunchaku
      1. Similar functionality
      2. Different polymers
   B. Easier insertion than typical stent
   C. No retrieval from nose necessary
   D. No need for preprobing
   E. In-office use
   F. Can be used in children and adults
   G. New, less invasive option for punctal, canalicular, and partial NLDO

XI. Monocanalicular Tubes
   A. Ritleng Monoka
      1. Masterka most popular
      2. Don't have to retrieve from nose
   B. Only 1 tube is passed.
   C. Typically through the inferior punctum
   D. Self-retaining plug in punctum
   E. Tube can be removed in office.
   F. Disadvantages
      1. Difficult to seat plug
      2. Corneal abrasion if plug seated poorly
      3. Pyogenic granuloma
      4. No drainage of tears around stent

XII. Other Innovations (FCI)
   A. LacriJet: preloaded and self-retaining monocanalicular NL intubation set
   B. Ritleng: silicone tube connected at each extremity to a polyether ether ketone (PEEK) thread guide
      1. Ritleng+ autostable bicanalicular NL intubation; self-retaining thanks to 2 wider silicone portions on the silicone tube
      2. Ritleng intubation system
         a. Silicone (or PVP) tube connected to a PEEK thread guide
         b. Requires tying in nose

XIII. NLO: Conclusion
   A. Probing effective up until 36 months of age
   B. Balloon dacryoplasty and tubes good secondary procedure
   C. Many innovations in tubes
   D. Endoscope helpful in determining proper placement of tubes and balloon
   E. Endoscopic DCR useful procedure if false passage while passing tubes
   F. Steroids and antibiotics likely helpful to prevent restenosis

Lids—Getting It Just Right—Ptosis Repair and Other Procedures in the Peds Lane

Meghan Flemmons MD

I. Pediatric Ptosis Procedures
   A. History
   B. Examination
      1. Amount of ptosis, marginal reflex distance-1
      2. Levator function
      3. Brow use
      4. Presence of Bell phenomenon
      5. Unilateral vs. bilateral
      6. Ocular motility
      7. Other facial features
   C. When to repair?
      1. Visual development/amblyopia risk
      2. Age of patient
      3. Other ocular or craniofacial issues
      4. Managing parental, patient, and surgeon expectations
   D. What procedure to choose, and how much to adjust?
      1. Levator function
         a. Poor: frontalis sling
         b. Moderate: frontalis sling vs. levator resection
         c. Good: levator resection
      2. Frontalis sling
         a. Infection prevention
            i. preoperative/intraoperative antibiotics
            ii. soaking implant in antibiotic solution
         b. Incisions/technique/closure
            i. multiple configurations and sling material
            ii. Height of lid intraoperatively
         c. Postoperative care
            i. aggressive lubrication to eye
            ii. antibiotic ointment to incisions
      3. Levator resection
         a. Incisions/technique/sutures
         b. Height of lid is determined by levator function.
         c. Postoperative care: aggressive lubrication, antibiotic ointment
   E. Complications
      1. Over-/undercorrection
         a. Immediate postoperative care
         b. When to adjust
      2. Infection, early and late: removal of sling vs. conservative treatment
      3. Extrusion

II. Other Eyelid Procedures
   A. Chalazion
   B. Molluscum contagiosum
   C. Epidermal inclusion cyst
   D. Papilloma

Selected Readings

1. Rizvi SA, Gupta Y, Yousuf S. Evaluation of safety and efficacy of silicone rod in tarsofrontalis sling surgery for severe congenital ptosis. *Ophthalmic Plast Reconstr Surg*. 2014; 30(1):11-14.
2. Morris CL, Buckley EG, Enyedi LB, Stinnett S, Freedman SE. Safety and efficacy of silicone rod frontalis suspension surgery for childhood ptosis repair. *J Pediatr Ophthalmol Strabismus*. 2008; 45(5):280-288; quiz 289-290.
3. Landau Prat D, Ramakrishnan M, Zhao C, Revere K, Katowitz WR, Katowitz JA. Silicone sling frontalis suspension for congenital ptosis: outcome of 174 consecutive cases. *Clin Exp Ophthalmol*. Epub ahead of print 2022 May 24. doi: 10.1111/ceo.14112.
4. Maripudi S, Grumbine FL, Merbs S, Alexander JL. Segmental removal of infected frontalis sling. *Digit J Ophthalmol*. 2021; 27(4):60-63.
5. Ben Simon GJ, Macedo AA, Schwarcz RM, Wang DY, McCann JD, Goldberg RA. Frontalis suspension for upper eyelid ptosis: evaluation of different surgical designs and suture material. *Am J Ophthalmol*. 2005; 140(5):877-885.
6. Lee MJ, Oh JY, Choung HK, Kim NJ, Sung MS, Khwarg SI. Frontalis sling operation using silicone rod compared with preserved fascia lata for congenital ptosis a three-year follow-up study. *Ophthalmology* 2009; 116(1):123-129.

Pediatric Oculoplastics: The Frontier

Richard C Allen MD PhD

I. Surgical Advancements
   A. Frontalis flap
      1. Replacement for synthetic sling at a young age
      2. Durability is still a question.
      3. Advantages: no foreign body, possibly long-lasting
   B. Corneal neurotization
      1. Improved ocular surface in patients with neurotrophic keratopathy
      2. Improvement in vision is guarded.
      3. May have a role for early intervention

II. Medical Advancements
   A. Vascular tumors/malformations
      1. Propranolol for infantile hemangioma
      2. Sclerotherapy for lymphatic malformations
      3. Sirolimus for microcystic lymphatic malformations
   B. Plexiform neurofibromas: Selumetinib
   C. Thyroid eye disease: Teprotumumab is *not* approved for children.

Selected Readings

1. Medel R, Molina S, Vasquez LM, Visa J, Wert A, Wolley-Dod C. Frontalis muscle flap versus maximal anterior levator resection as first option for patient with severe congenital ptosis. *Ophthalmic Plast Reconst Surg*. 2018; 34:565-569.
2. Solyman O, Elhusseiny AM, Ali SF, Allen R. A review of pediatric corneal neurotization. *Int Ophthalmol Clin*. 2022; 62:83-94.
3. Shoji MK, Shishido S, Freitag SK. The use of sirolimus for treatment of orbital lymphatic malformation: a systemic review. *Ophthalmic Plast Reconstr Surg*. 2020; 36:215-221.
4. Dombi E, Baldwin A, Marcus LJ, et al. Activity of selumetinib in neurofibromatosis type 1-related plexiform neurofibromas. *N Engl J Med*. 2016; 375:2550-2560.

Retinal Diseases You Can't Miss

Yoshihiro Yonekawa MD

Children are supposed to have normal retinas. When they don't, the retinal findings usually cause uncertainty for the ophthalmologist and anxiety for the parents. Thankfully, most pediatric retinal conditions are not emergencies. However, some diagnoses cannot be missed because they are *treatable* and either life- or vision-threatening.

In this talk we will provide an overview of some of the most important diagnoses that pediatric ophthalmologists can keep in mind when considering retinal diagnoses in children. We will start with retinoblastoma, which is always the #1 disease to diagnose or rule out.[1] We will also discuss the diagnosis and management of rhegmatogenous retinal detachment,[2,3] Stickler syndrome,[4] exogenous endophthalmitis,[5] abusive head trauma,[6] familial exudative vitreoretinopathy,[7] Coats disease,[8,9] and sickle cell retinopathy.[10] Type 1 ROP and posterior uveitis are certainly posterior segment diagnoses not to miss, but they will be covered by my colleagues.

We will also spend some time on pearls for examining the retina in children. Some techniques are well known to all pediatric ophthalmologists, such as using various toys for distraction and controlling gaze. Other hacks include using dimmer, smaller, and diffuse lighting on the indirect ophthalmoscope, using wide-field imaging and B-scan ultrasonography, and if necessary, having a low threshold for performing examinations under anesthesia for high-risk situations.

References

1. Abramson DH, Shields CL, Munier FL, Chantanda GL. Treatment of retinoblastoma in 2015: agreement and disagreement. *JAMA Ophthalmol*. 2015; 133(11)1341-1347.
2. Fivgas GD, Capone A Jr. Pediatric rhegmatogenous retinal detachment. *Retina* 2001; 21(2):101-106.
3. Rossin EJ, Tsui I, Wong SC, et al. Traumatic retinal detachment in patients with self-injurious behavior: an international multicenter study. *Ophthalmol Retina*. 2021; 5(8):805-814.
4. Khanna S, Rodriguez SH, Blair MA, Wroblewski K, Shapiro MJ, Blair MP. Laser prophylaxis in patients with Stickler syndrome. *Ophthalmol Retina*. 2022; 6(4):263-267.
5. Nguyen AM, Roberts TL, Ryu WY, Lambert SR. Endophthalmitis after pediatric cataract surgery in the United States: report using an insurance claims database. *J Cataract Refract Surg*. 2021; 47(9):1161-1166.
6. Christian CW, Levin AV; Council on Child Abuse and Neglect, Section on Ophthalmology; American Association of Certified Orthoptists; American Association for Pediatric Ophthalmology and Strabismus; American Academy of Ophthalmology. The eye examination in the evaluation of child abuse. *Pediatrics* 2018; 142(2):e20181411.
7. Kashani AH, Brown KT, Chang E, Drenser KA, Capone A, Trese MT. Diversity of retinal vascular anomalies in patients with familial exudative vitreoretinopathy. *Ophthalmology* 2014; 121(11):2220-2227.
8. Shields JA, Shields CL, Honavar SG, Demirci H, Cater J. Classification and management of Coats disease: the 2000 Proctor Lecture. *Am J Ophthalmol*. 2001; 131(5):572-583.
9. Soares RR, Fine HF, Yonekawa Y. Diagnosis and management of Coats' disease. *Ophthalmic Surg Lasers Imaging Retina*. 2021; 52(12):630-635.
10. Li J, Bender L, Shaffer J, Cohen D, Ying GS, Binenbaum G. Prevalence and onset of pediatric sickle cell retinopathy. *Ophthalmology* 2019; 126(7):1000-1006.

Retinal Dystrophies and Degenerations—Where to Start

Ramiro S Maldonado MD

I. Tips for Recognizing a Patient With an Inherited Retinal Dystrophy (IRD) and/or Syndromic Condition
   A. Most common symptoms
   B. Visual function problems
   C. Exam findings
   D. Systematic approach to effectively evaluate patients with IRDs

II. The workup

   A review of the "old" and "new" testing for pediatric patients (structural and functional).

   A. Conventional electrophysiology
   B. The portable electroretinograph (ERG)
      1. Indications
      2. Tips and tricks for using this device effectively
      3. Diagnostic utility: Cases will be presented to show the audience when this new device helps in the diagnosis and when it doesn't.
   C. Structural imaging in children
      1. Ultrawide-field color and autofluorescence
      2. The OCT in children with IRDs
      3. Portable OCT
   D. Functional testing in children
      1. New methods of doing perimetry (simplified static vs. virtual reality methods)
      2. Color testing
   E. When we need to do an exam under anesthesia

III. Genetic Testing: When and How
   A. Review inheritance patterns
   B. Brief overview of types of genetic testing
   C. In practice, what are your options for ordering genetic testing?
   D. How to interpret the results

IV. A New Era in the Management of IRDs
   A. Brief overview of current management
   B. Gene therapy and Luxturna
   C. The future: Overview of main clinical trials
   D. Ophthalmic Genetics center

Practical Approach to the Initial Evaluation and Management of Uveitis

Virginia Miraldi Utz MD

I. Evaluation of the Child Presenting With Uveitis

A. Detailed history of present illness, past medical history (immunization status), family history, social history, review of symptoms

B. Review old records (preferably before you see the patient)

1. Temporal (acute, subacute, chronic)?
2. Anatomic involvement: Anterior, intermediate, posterior, pan-uveitis—Where was the primary site (if one) of inflammation?
3. Other phenotypic features (eg, Was the IOP high on presentation or after corticosteroids were initiated?)

C. *Remember that although 80%-90% of cases in children are noninfectious, 10%-20% are infectious. (Differential diagnosis also includes masquerade, trauma, drug-induced.)*

D. The exam

1. Suggestions for examining children <3 years
2. Slit-lamp exam
   a. Conventional slit-lamp exam is a must to rule out anterior segment inflammation. (Cellular inflammation is not readily seen with portable.)
   b. Clues suggestive of herpetic uveitis (see Table 1)

Table 1.

Cornea	• Keratitis, endotheliitis (or history of) • Non-Arlt distribution of keratic precipitates (can be nongranulomatous or granulomatous, "stellate" in some), diffuse, central paracentral distribution should raise suspicion
Iris	• Iris transillumination defects • Mydriasis (rather than miosis)
Presentation	Subacute or chronic
Laterality	Unilateral, nonalternating is suspicious. (May be bilateral in children.)
IOP	Elevated from trabeculitis (classically)

Additional Academy resources: Goldstein, DA. Anterior uveitis: when to suspect herpes simplex (1-minute video). https://www.aao.org/1-minute-video/anterior-uveitis-when-to-suspect-herpes-simplex. Jap A, Chee, S. Viral anterior uveitis: diagnosis and management. AAO Focal Points: Clinical Practice Perspectives, 2016.

3. IOP is important. Measure at each exam.
4. Fundus exam

   If posterior segment pathology or unable to adequately examine, you may want to do EUA in younger children so that you can fully assess.

5. Diagnostic and management role of imaging
   a. OCT macula/optic nerve in most patients at baseline
   b. Wide-field imaging
   c. Fluorescein angiography strongly considered to rule out low grade (or even significant) posterior segment inflammation[1-3]
   d. Ultrasound (B-scan, ultrasound biomicroscopy)

II. Diagnostic Testing

A. Phenotypically driven based on presentation (see Figure 1)

1. *Do not assume noninfectious.*
2. *Other: trauma, medication, toxic*

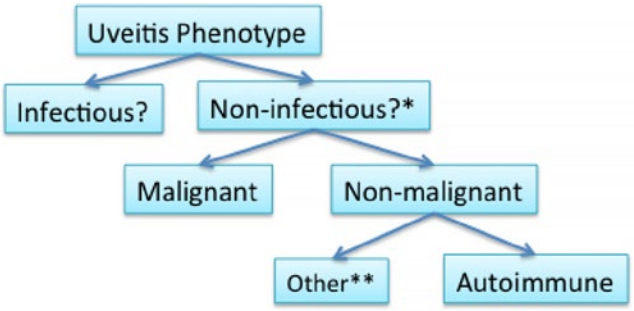

Figure 1. Diagnostic considerations to drive workup based on history, uveitis phenotype, temporal sequence, and systemic considerations/risk factors.

B. Labs to consider in any child (no evidence-based consensus)

1. General/nonspecific: complete blood count, complete metabolic panel, urinalysis, ?ESR/CRP
2. Infectious: syphilis serology ± nonspecific treponemal testing (VDRL/RPR), TB, Lyme serology (if endemic)
3. Autoimmune: ANA, urine b2-microglobulin
4. Further laboratory studies based on clinical presentation (eg, chorioretinal scarring/vitritis, consider toxoplasmosis, *Toxocara*, etc.)

References

1. Abraham A, Saboo US, Ducca BL, et al. The detection of occult retinal vasculitis on fluorescein angiography in pediatric uveitis. *Ophthalmol Retina*. 2020; 4:198-203.
2. Tripathy K, Ying H, Maldonado Cerda A, et al. Widefield fundus fluorescein angiography features of uveitis associated with juvenile idiopathic arthritis. *Ocul Immunol Inflamm*. Epub ahead of print 2020 Dec 2. doi: 10.1080/09273948.2020.1834586.
3. Sen HN, Read RW, eds. *Multimodal Imaging in Uveitis*. Springer Internatonal Publishing; 2018.

ROP: Ground Rules in a Rapidly Changing Landscape

J Peter Campbell MD MPH

1. What is changing in the epidemiology of ROP?

A. Higher income countries

B. Lower income countries

Take-home point: ROP is increasingly becoming a problem in lower income countries, as neonatal mortality decreases.

2. What is changing in the way we classify ROP?

A. International Classification of ROP (ICROP) (1984)

B. International Classification of ROP (ICROP) Revisited (2005)

C. International Classification of ROP (ICROP) 3 (2021)

Take-home point: Standardization of nomenclature aids research, teaching, and clinical care but remains limited by interobserver variability.

3. What is changing in the way we diagnose ROP?

A. Ophthalmoscopy vs. imaging

B. In person vs. telescreening

Take-home point: All methods can be effective, but all have unique challenges, risks, and benefits.

4. What is changing in the decision of when to treat ROP?

A. CRYO ROP

B. ETROP

Take-home point: Definition of type 1 ROP has not changed (officially); however, there are data that suggest clinicians may be treating at lower levels of disease compared to the ETROP era.

5. What is changing in the decision of how to treat ROP?

A. BEAT-ROP

B. RAINBOW

C. ROP1/2

D. ROP3/4

E. BUTTERFLEYE/FIREFLEYE

Take-home point: Both laser and anti-VEGF continue to play a role in treatment, with different risk/benefit profiles and some unknowns (eg, neurodevelopment). Anti-VEGF is increasingly preferred in eyes with more posterior disease.

6. What is changing in the way we think about ROP as a lifelong disease?

A. Persistent avascular retina

B. Other (myopia, glaucoma)

Take-home point: ROP can lead to late ocular sequelae, even in children who had less severe ROP in the acute phase.

Selected Readings

1. Chiang MF, Quinn GE, Fielder AR, et al. International classification of retinopathy of prematurity. *Ophthalmology* 2021; 128(10):e51-e68.
2. Fielder AR, Quinn GE, Paul Chan RV, Holmström GE, Chiang MF. Retinopathy of prematurity classification updates: possible implications for treatment. *J AAPOS*. 2022; S1091-S8531 (22)00086-6. doi: 10.1016/j.jaapos.2022.03.003.
3. Multicenter trial of cryotherapy for retinopathy of prematurity: preliminary results. *Arch Ophthalmol*. 1988; 106(4):471-479.
4. Early Treatment for Retinopathy of Prematurity Cooperative Group. Revised indications for the treatment of retinopathy of prematurity: results of the Early Treatment for Retinopathy of Prematurity randomized trial. *Arch Ophthalmol*. 2003; 121(12):1684-1694.
5. Mintz-Hittner HA, Kennedy KA, Chuang AZ; BEAT-ROP Cooperative Group. Efficacy of intravitreal bevacizumab for stage 3+ retinopathy of prematurity. *N Engl J Med*. 2011; 364(7):603-615.
6. Stahl A, Lepore D, Fielder A, et al. Ranibizumab versus laser therapy for the treatment of very low birthweight infants with retinopathy of prematurity (RAINBOW): an open-label randomised controlled trial. *Lancet* 2019; 394(10208):1551-1559.
7. Wallace DK, Kraker RT, Freedman SF, et al. Assessment of lower doses of intravitreous bevacizumab for retinopathy of prematurity: a Phase 1 dosing study. *JAMA Ophthalmol*. 2017; 135(6):654-656.
8. Blencowe H, Moxon S, Gilbert C. Update on blindness due to retinopathy of prematurity globally and in India. *Indian Pediatr*. 2016; 53 suppl 2:S89-S92.

The Science of Myopia Mitigation

Options to Prevent Progression

K David Epley MD

I. Introduction

II. DIMS: Defocus Incorporated Multiple Segments (MiyoSmart)

III. DOT: Diffusion Optics Technology (Sightglass)

IV. HALT: Highly Aspherical Lenslet Target (Stellest)

V. Conclusions Change in Axial Growth and Myopia Progression Observed After Initiation of Treatment With a Dual-Focus Myopia Control Contact Lens

Orthokeratology

Deborah K VanderVeen MD

I. Ortho-K History and FDA-Approved Lenses

II. Corneal Changes With Ortho-K Wear

  A. Central flattening, mid-peripheral steepening

  B. Epithelial cell redistribution vs. local remodeling/ compression

III. Effects on Myopia Progression

  A. Oblate corneal shape reduces peripheral hyperopic defocus that is thought to drive myopic progression.

  B. Refractive error

  C. Axial length

  D. Rebound

IV. Safety

  A. Microbial keratitis

  B. Other: corneal pigmentary lines, sub-basal nerve morphology, corneal sensitivity

V. Candidates and Contraindications

Selected Readings

1. VanderVeen DK, Kraker RT, Pineles SL, et al. Use of orthokeratology for the prevention of myopic progression in children: a report by the American Academy of Ophthalmology. *Ophthalmology* 2019; 126(4):623-636.

2. Szczotka-Flynn LB, Shovlin JP, Schnider CM, et al. American Academy of Optometry Microbial Keratitis Think Tank. *Optom Vis Sci*. 2021; 98(3):182-198.

3. Charm J. Orthokeratology: clinical utility and patient perspectives. *Clin Optom (Auckl)*. 2017; 9:33-40.

Peripheral Defocus Contact Lenses and Glasses

Rupa Krishnamurthy Wong MD

I. Growing Incidence of Myopia Worldwide
   A. By 2050, 50% of the population is predicted to have myopia.
   B. Myopia onset is occurring younger and younger.
      1. In 1983, average onset age of myopia was 11 years old.
      2. In 2000, the average onset age of myopia was 8 years old.
   C. Effect of distance learning on myopia during COVID-19 pandemic
      1. Prospective, cross-section study using school-based photoscreenings in 123,535 children, aged 6-13 years old
      2. Six-year-olds: 3-fold increase in myopia; 8-year-olds: 1.4-fold increase in myopia
   D. Parents exploring myopia prevention options

II. Myopia Prevention Glasses
   A. HOYA Miyosight in randomized, controlled trial of 2 years
      1. Slowed myopia progression by 52%
      2. Slowed axial elongation by 62%
      3. Six-year data presented at ARVO 2022
   B. Essilor Stellest Lens
      1. HALT, highly aspheric lenslet target
      2. Two-year randomized controlled trial: Slowed myopia progression by 67%, axial elongation

III. Daily Disposable Distance-Centered Soft Multifocal Contact Lenses
   A. Create areas of myopic defocus peripherally and clear foveal vision
   B. Three-year randomized clinical trial
      1. 148 eyes, 109 subjects
      2. Eight- to 12-year-olds at initiation of treatment, 10 hours of wear a day
         a. Reduced myopia progression by 59%
         b. Resulted in FDA approval

IV. My Protocol
   A. Refraction and axial length measurement every 6 months
   B. Educate patient and parents before office visit through videos and summary folders we have created.
   C. Use virtual assistant to minimize chair time.
   D. Myopia assessment with paragraph summary explaining risk factors for myopia
   E. Separate contact lens training fitting/training after patient has watched contact lens homework video

V. Honolulu Eye Clinic Experience
   A. First clinic in the state to fit FDA-approved soft multifocal contacts for kids for purpose of myopia prevention
   B. Offer to children 8 years and older, with less than 0.5 D of astigmatism
   C. Currently, 24 patients in MiSight contacts, age 8-16 years

VI. Case Reports
   A. Case 1
      1. Glasses prescription
         a. OD: –2.75 sphere
         b. OS: –2.50 sphere
      2. Cycloplegic refraction
         a. OD: –4.25 sphere
         b. OS: –3.50 sphere
      3. Peripheral defocus soft contact lens
         a. OD: –3.75
         b. OS: –3.50

Table 1. Refraction and Axial Length Measurements Over 18 Months, Case 1

	Initial Visit	1 Year	18 Months
Refraction OD	–4.25	–4.00	–4.00
Refraction OS	–3.50	–3.50	–3.50
Axial length OD	26.13	26.26	26.27
Axial length OS	26.12	26.19	26.17

B. Case 2

1. Patient on low-dose atropine but noncompliant and progressing myopia
2. Cycloplegic refraction
   a. OD: –1.50 –0.50 x 80
   b. OS: –1.75 sphere
3. Peripheral defocus soft contact lens: –1.75 OU

Table 2. Refraction and Axial Length Measurements Over 12 Months, Case 2

	Initial Visit	6 Months	1 Year
Refraction OD	1.50 –0.50 x 80	–1.75	–2.00
Refraction OS	–1.75	–1.75	–2.00
Axial length OD	24.70	24.87	25.00
Axial length OS	24.75	24.88	24.99

C. Case 3: off-label use

1. 15-year-old girl with progressive myopia, despite atropine 0.01%
2. Glasses prescription
   a. OD: –4.75 sphere
   b. OS: –5.25 sphere
3. Cycloplegic refraction
   a. OD: –6.00 sphere
   b. OS: –5.75 sphere
4. Peripheral defocus soft contact lens
   a. OD: –5.50
   b. OS: –5.25

Table 3. Refraction and Axial Length Measurements Over 12 Months, Case 3

	Initial Visit	6 Months	1 Year
Refraction OD	–5.50	–5.50	–5.50
Refraction OS	–5.25	–5.25	–5.25
Axial length OD	25.33	25.25	25.29
Axial length OS	25.19	25.13	25.18

VII. Myopia Modules on Optical Biometer

Graphs demonstrating atropine vs. soft contact lens use until age 18

Selected Readings

1. Chamberlain P, Peixoto-de-Matos S, Logan N, et al. A 3-year randomized clinical trial of Misight lenses for myopia control. *Optom Vis Sci*. 2019; 96(8):556-567.
2. Lam CSY, Tang WC, Tse DY-Y, et al. Defocus incorporated multiple segments (DIMS) spectacle lenses slow myopia progression: a 2-year randomised clinical trial. *Br J Ophthalmol*. 2020; 104:363-368.
3. Wang J, Li Y, Musch D, et al. Progression of myopia in school-aged children after COVID-19 home confinement. *JAMA Ophthalmol*. 2021; 139(3):293-300.
4. Wolffsohn JS, Calossi A, Cho P, et al. Global trends in myopia management attitudes and strategies in clinical practice. *Cont Lens Anterior Eye*. 2016; 39:106-116.

Update on Atropine

Benjamin H Ticho MD

Use of low-dose atropine eyedrops to retard the progression of myopia began around 20 years ago, with interest growing after publication of the Atropine for Treatment of Myopia (ATOM1 and ATOM2) and Low-Concentration for Myopia Progression (LAMP) studies. Ongoing prospective, masked, and randomized clinical trials (including ATOM3 in Singapore, a Pediatric Eye Disease Investigator Group collaboration with the NEI, and Sydnexis' STAAR study) aim to further clarify the efficacy of low-dose atropine. This presentation will review the current status of this treatment option from regulatory, research, financial, and patient-impact perspectives.

Effects of Overminus

Overminus Lens Therapy for Children 3 to 10 Years of Age With Intermittent Exotropia—Its Impact on Myopic Progression

Donny W Suh MD

Importance

This is the first large-scale randomized clinical trial evaluating the effectiveness and safety of overminus spectacle therapy for treatment of intermittent exotropia (IXT).

Objective

To evaluate the effectiveness of overminus spectacles to improve distance IXT control and measure myopic progression.

Design, Setting, and Participants

This randomized clinical trial conducted at 56 clinical sites between January 2017 and January 2019 associated with the Pediatric Eye Disease Investigator Group enrolled 386 children aged 3 to 10 years with IXT, a mean distance control score of 2 or worse, and a refractive error between 1.00 and –6.00 D.

Interventions

Participants were randomly assigned to overminus spectacle therapy (–2.50 D for 12 months, then –1.25 D for 3 months, followed by nonoverminus spectacles for 3 months) or to nonoverminus spectacle use.

Main Outcomes and Measures

Primary and secondary outcomes were the mean distance IXT control scores of participants examined after 12 months of treatment (primary outcome) and at 18 months (3 months after treatment ended) assessed by an examiner masked to treatment group. Change in refractive error from baseline to 12 months was compared between groups. Analyses were performed using the intention-to-treat population.

Results

The mean (SD) age of 196 participants randomized to overminus therapy and 190 participants randomized to nonoverminus treatment was 6.3 (2.1) years, and 226 (59%) were female. Mean distance control at 12 months was better in participants treated with overminus spectacles than with nonoverminus spectacles (1.8 vs. 2.8 points; adjusted difference, –0.8; 95% CI, –1.0 to –0.5; $P < .001$). At 18 months, there was little or no difference in mean distance control between overminus and nonoverminus groups (2.4 vs. 2.7 points; adjusted difference, –0.2; 95% CI, –0.5 to 0.04; $P = .09$). Myopic shift from baseline to 12 months was greater in the overminus than the nonoverminus group (–0.42 D vs. –0.04 D; adjusted difference, –0.37 D; 95% CI, –0.49 to –0.26 D; $P < .001$), with 33 of 189 children (17%) in the overminus group vs. 2 of 169 (1%) in the nonoverminus group having a shift higher than 1.00 D.

Conclusions and Relevance

Children 3 to 10 years of age had improved distance exotropia control when assessed wearing overminus spectacles after 12 months of overminus treatment; however, this treatment was associated with increased myopic shift. The beneficial effect of overminus lens therapy on distance exotropia control was not maintained after treatment was tapered off for 3 months and children were examined 3 months later.

Top Secret Tips for Pediatric Ophthalmologists

Evelyn A Paysse MD, David I Silbert MD, Virginia Miraldi Utz MD, Sharon F Freedman MD, Meghan S Flemmons MD, Richard C Allen MD PhD, Nandini G Gandhi MD, Joseph L Demer MD PhD, Sylvia R Kodsi MD, Irene H Ludwig MD, Deborah K VanderVeen MD, Ramesh Kekunnaya MD FRCS, and David K Coats MD

NOTES

Speakeasy—Talking Points and Counterpoints

Exotropia, Surgical Approach 1 - Ramesh Kekunnaya MD FRCS

Exotropia, Surgical Approach 2 - Laura B Enyedi MD

Zone 2 ROP, Treatment 1 - Amy K Hutchinson MD

Zone 2 ROP, Treatment 2 - Michael B Yang MD

Adult Distance Esotropia, Surgical Approach 1 - Joseph L Demer MD PhD

Adult Distance Esotropia, Surgical Approach 2 - Irene H Ludwig MD

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EO	Owner of Company Ownership or controlling interest in a company, other than stock.
SO	Stock Options Stock options in a private or public company.
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Richard C Allen MD PhD
None

Cynthia L Beauchamp MD
None

Yasmin Bradfield MD
None

Steven Elliot Brooks MD
None

John P Campbell MD MPH
Boston AI Labs: C
Genentech: S
Siloam Vision: E,O

Kara M Cavuoto MD
None

Robert A Clark MD
None

David K Coats MD
None

Linda R Dagi MD
None

Alejandra G de Alba Campomanes MD
Novartis Pharma AG: C

Joseph L Demer MD PhD
None

Laura B Enyedi MD
Cooper Vision: C
Nevakar: C
Novartis: C
Tarsus: C

K David Epley MD
AbbVie: US
Nevakar: C

Sergul A Erzurum MD
None

Meghan S Flemmons MD
None

Sharon F Freedman MD
Qlaris Bio: C

Nandini G Gandhi MD
None

Guita Ghiasi MD
None

Kathryn M Haider MD
None

Gena Heidary MD
None

Jonathan M Holmes MD
None

Amy K Hutchinson MD
None

Ramesh Kekunnaya MD FRCS
None

Sylvia R Kodsi MD
None

Sarah A Logan MD
None

Irene H Ludwig MD
None

Gregg T Lueder MD
None

Ramiro S Maldonado MD
ProQR Therapeutics: C

Justin D Marsh MD
None

Emily A McCourt MD
None

David G Morrison MD
None

Evelyn A Paysse MD
None

Stacy L Pineles MD
Asteroid 3D: S
Horizon Surgical: P,S

Michael X Repka MD MBA
AbbVie: C
Alcon Laboratories, Inc.: C
Luminopia: C

David I Silbert MD
Amblyopia Home: E,O
Kaneka: C
Plusoptix, Inc.: C

Donny Won Suh MD
None

Benjamin H Ticho MD
None

Virginia Miraldi Utz MD
None

Deborah K VanderVeen MD
Ocular Therapeutix: S
Ophtec: C,S

David K Wallace MD MPH
None

Rupa K Wong MD
CooperVision: L

Michael B Yang MD
None

Yoshihiro Yonekawa MD
Alcon Laboratories, Inc.: C
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