



2019 National Conference Planning Materials

*October 12-14, 2019
San Francisco, CA
JW Marriott Union Square*

Meeting at a Glance

JW Marriott Union Square
San Francisco, CA

Friday, October 11, 2019

| | | |
|-------------------|----------------------------|---------|
| 4:00 PM – 5:00 PM | Executive Committee | Salon I |
| 5:00 PM – 7:00 PM | Board of Directors Meeting | Salon I |
| 7:00 PM | New Orthoptist Reception | Salon I |

Saturday, October 12, 2019

| | | |
|--------------------|-----------------------------|-----------------------|
| 7:30 AM – 4:00 PM | Registration | Prefunction Area |
| 7:30 AM – 9:30 AM | Breakfast | Prefunction Area |
| 12:00 PM – 1:00 PM | Lunch | Gallery |
| 8:00 AM – 5:15 PM | Instruction Courses | Metropolitan ABC |
| 5:30 PM – 6:30 PM | Education Committee Meeting | Salon I |
| 8:00 PM – 11:00 PM | AACO President's Reception | Skyline B/C & Terrace |

Sunday, October 13, 2019

| | | |
|--------------------|-------------------------------|-----------------------------|
| 7:30 AM – 11:00 AM | Registration | Prefunction Area |
| 7:45 AM – 9:45 AM | Breakfast | Prefunction Area |
| 8:00 AM – 9:30 AM | Scientific Session I | Metropolitan ABC |
| 10:00 AM – Noon | AACO Business Meeting | Metropolitan ABC |
| 3:45 PM – 5:15 PM | AAO/AACO/AOC Sunday Symposium | Moscone Center Room 3020 |

No lunch provided this day

Monday, October 14, 2019

| | | |
|--------------------|------------------------------|------------------|
| 7:30 AM – 8:30 AM | Registration | Prefunction Area |
| 7:30 AM – 8:30 AM | Breakfast | Prefunction Area |
| 8:00 AM – 5:00 PM | Exhibits | Prefunction Area |
| 8:00 AM – 3:30 PM | Scientific Session II | Metropolitan ABC |
| 12:00 PM – 1:00 PM | Lunch | Gallery |
| 12:00 PM – 1:30 PM | BVOM Editorial Board Meeting | Salon I |
| 1:00 PM – 2:00 PM | Scobee Memorial Lecture | Metropolitan ABC |

Table of Contents

| General | Page |
|--|-------------|
| Meeting at a Glance | 2 |
| Table of Contents | 3 |
| Program Objectives | 4 |
| | |
| Saturday | |
| Instruction Course Schedule | 5 |
| Instruction Course Abstracts | 13 |
| President's Reception | 6 |
| | |
| Sunday | |
| Scientific Session Schedule I | 7 |
| Scientific Session I Abstracts | 16 |
| AACO Business Meeting | 8 |
| AAO/AOC/AACO Sunday Symposium Schedule | 9 |
| AAO/AOC/AACO Sunday Symposium Abstract | 18 |
| | |
| Monday | |
| AAP/AACO Joint Symposium Schedule | 10 |
| AAP/AACO Joint Symposium Abstracts | 19 |
| Scientific Session Schedule II | 11 |
| Scientific Session II Abstracts | 22 |
| Richard G. Scobee Memorial Lecture | 27 |
| Richard G. Scobee Memorial Lecture Abstract | 28 |
| | |
| General Information | |
| Committee Meeting List and Social Gatherings | 29 |
| AACO Officers and representatives | 29 |
| AACO Committee Chairpersons | 30 |
| Index of Authors | 31 |
| Future Meetings | 32 |
| Maps | 33 |
| CE Self - Reporting Form | Redacted |
| CE Certificate | Redacted |
| Notes | 37-39 |
| AACO Sponsors | 40 |

Target Audience

Orthoptists, orthoptic students, ophthalmic technicians with experience in pediatric or neuro-ophthalmology, pediatric and neuro-ophthalmologists, residents and fellows.

Course Level

Intermediate to advanced.

Overall Program Objectives

Educational Objectives: at the conclusion of the National Meeting, participants will be able to:

- Describe recent medical advances in the diagnosis, treatment, and management of conditions encountered while practicing orthoptics within the pediatric ophthalmology and adult strabismus community.
 - Apply improved techniques, use methods to compare and contrast current practices, and critically review empirical clinical research in order to provide the best possible treatment options for patients with strabismus and disorders of ocular motility and binocular vision.
 - Demonstrate methods of analysis and ethical treatment of patients.
 - Practice orthoptics with a new-found expertise based upon new methods discussed and demonstrated.
-

Specific Program Objectives

To review current therapies and new advances in diagnosis and management of diseases in each area of orthoptics, pediatric ophthalmology, and strabismus with particular emphasis on the following topics:

- Adult strabismus
- Pediatric Syndromes
- Traumatic Brain Injury
- Neurogenic strabismus
- Cortical Visual Impairment
- Diplopia
- Suppression and anomalous fusion

AACO Instruction Course Schedule

Saturday, October 12, 2019

JW Marriott Union Square

Metropolitan ABC

MODERATOR: Alex Christoff

8:00 – 9:00 am Shelley Klein, CO; May Chan-Ho, Orthoptic Student; Catherine Choi, MD
Respecting Ocular Dominance: Clinical and Surgical Implications

9:00 – 10:00 am Monte Del Monte, MD
Diagnosis and Management of Restrictive Strabismus

10:00 – 10:15 am **Break**

10:00 – 11:00 am Jonathan M. Holmes, M.D.; Lindsay D. Klaehn, CO; Andrea M. Kramer, CO
Assessing and Treating Torsion

11:00 – 12:00 am Gill Roper-Hall, DBOT, CO; Oscar Cruz, MD; Gabriella Espinoza, CO
The Changing Face of Thyroid Eye Disease

12:00 – 1:00 pm **Lunch**

MODERATOR: Leslie France, CO

1:00 – 2:00 pm Michael Chiang, MD
Information technology and big data for eye care: promises, challenges, solutions

2:00 – 2:30 pm Dusty Gronomeyer, CO Lori Wilson, MD
CVI & TVI - what you need to know about cortical visual impairment and teachers of the visually impaired

2:30 – 3:00 pm **Break**

3:00 – 4:00 pm Elias Traboulsi, MD
Congenital Cranial Dysinnervation Disorders

4:00 – 4:45 pm Ed Raab, MD, JD
Informed Consent: What It Is and the Certified Orthoptist's Role

4:45 – 5:00pm Q&A

5:00 pm **Adjourn**

President's Reception

Saturday, October 12, 2019

JW Marriott Union Square

Skyline B/C & Terrace

Join AACO President Shelley Klein, and invited members of AAPOS and the American Orthoptic Council Saturday October 12, from 8-11:00pm to mix and mingle with in the Skyline B & C Terrace at the JW Marriot Union Square hotel.

This location promises a wonderful view of downtown San Francisco and the surrounding bay area. Sample cuisine influenced by the rich cultural diversity that defines our host city. Enjoy music inspired by the city's jazz and countercultural folk-rock music scene as defined by groups like Craw Daddy, Moby Grape, Hot Tuna, The Jefferson Airplane, the Grateful Dead, Janis Joplin, and Fleetwood Mac. Then dance the night away to contemporary pop music favorites from 9-11 pm.

Come and join the fun, we hope to see you there.



AACO Scientific Session I Schedule

Sunday, October 13, 2019

JW Marriott Union Square

Metropolitan ABC

Metropolitan ABC

Moderator: Laura Kirkeby, CO

8:00 – 8:30

Wanda Pfeifer, OC(C), CO

Pediatric Retinal Inherited Disorders: Unraveling the Misconceptions.

8:30 – 8:45

Linda Colpa, OC(C)

The Value of the p-value: Differentiating Statistical from Clinical significance

8:45 – 9:00

Sarah Smith, Orthoptic Student

Craniofacial Syndromes: A Review of Three Syndromes Found in the Ophthalmology Clinic

9:00 – 9:15

Gill Roper-Hall DBOT, CO,

The Use of OCT in the Assessment of Ocular Torsion

9:15 – 9:30

Discussion

9:30 – 10:00

Break



**ATTENTION ALL AACO MEMBERS:
Our future needs YOU!**

Sunday, October 13, 2019, 10:00am – 12:00pm
JW Marriott Union Square
Metropolitan ABC

AACO NATIONAL BUSINESS MEETING

This year only 2 hours!

AAO/AOC/AACO Sunday Symposium Schedule

Sunday, October 13, 2019
Moscone Center, Room 3020

Traumatic Brain Injury in Children

| | | |
|--------------------|---|---|
| 3:45 – 3:50 | Bruce Furr, CO, PhD Ann Arbor, MI | <i>Lancaster Award Presentation</i> |
| 3:50– 3:55 | Shelley Klein, CO Boston, MA | <i>Introduction</i> |
| 3:55 – 4:05 | Darron Bacal, MD New Haven, CT, | <i>Introduction to Traumatic Brain Injury</i> |
| 4:05 – 4:15 | Mitchell Strominger, MD Reno, NV | <i>Neuroanatomy and Imaging Assessment in TBI</i> |
| 4:15 – 4:25 | <i>Ankoor Shah, MD</i> Boston, MA | <i>Hidden Visual Deficits in TBI patient: A key to the Vague Symptoms</i> |
| 4:25 – 4:35 | Kyle Arnoldi, CO Buffalo, NY | <i>Do the Eyes Have It? The Orthoptic Evaluation of Patients with TBI</i> |
| 4:35 – 4:45 | Ken Nischal, MD Pittsburgh, PA | <i>Concussion and Sports</i> |
| 4:45 – 4:55 | Sarah Whitecross, OC(C), CO Boston, MA | <i>The Psychological Effects of TBI</i> |
| 4:55 – 5:05 | Pattye Jenkins, CO Houston, TX | <i>Management and Treatment Modalities in TBI</i> |
| 5:05 – 5:15 | Geoff Bradford, MD Morgantown, WV | <i>Question and Answer, Closing remarks</i> |

AAP /AACO Joint Symposium

Monday, October 14, 2019

Metropolitan ABC

Cortical/Cerebral Visual Impairment: Identification, Function, and Interventions

Moderator: Sarah MacKinnon, MSc, OC(C), CO

- 8:00 - 8:05** ***Introduction & Pre-test***
Sarah MacKinnon, MSc, OC(C), CO
- 8:05 - 8:25** ***Cortical/Cerebral Visual Impairment: A Primer***
Sharon Lehman, MD
- 8:25 - 8:45** ***The Orthoptist's Role in Assessment of Patients with Cortical Vision Impairment***
Frances Edwards, CO
- 8:45 - 9:15** ***Considerations in the Design of Assessments and Interventions to Address Behavioral Outcomes of CVI***
Amanda Lueck, PhD
- 9:15 - 10:00** ***Cortical/Cerebral Visual Impairment: Case Presentation***
Laila Adle, MA
- 10:00 - 10:25** ***Questions***
- 10:25 - 10:30** ***Closing & Post-test***

AACO Scientific Session II Schedule

Monday, October 14, 2019
JW Marriott Union Square

Metropolitan ABC

Moderator: Amanda Yonkers, CO

- 10:45 – 11:00** Marla J Shainberg, CO
Ocular Alignment Outcomes in the Infant Aphakia Treatment Study (IATS) by 10.5 Years of Age
- 11:00 – 11:15** Yeana Kim, Orthoptic Student
Alternating Nystagmus in an Infant – A Case Study
- 11:15 – 11:30** Cindy Avilla, CO
Does Dissociation Affect Stereoacuity Performance in IXT?
- 11:30 – 11:45** Kyle Arnoldi, CO
Primary Convergence Insufficiency: Current Thinking and Future Directions
- 11:45 – 12:00** Panel Discussion
- 12:00 – 1:00** **Lunch**
- 1:00 – 1:10** Alex Christoff, CO
Introduction to the 50th Richard G Scobee Lecturer
- 1:10 – 1:55** Michael C. Brodsky, MD
Phoria Adaptation: The Ghost in the Machine.
- 1:55 – 2:00** Award Presentations
- 2:00 – 2:15** **Break**

AACO Scientific Session II Schedule, Cont'd

Monday, October 14, 2019

JW Marriott Union Square

Metropolitan ABC

Moderator: Samantha Pape, CO

- 2:15 – 2:30** Kiran Basi, OC(C)
Deceptive Improvement of Accommodative Esotropia: More Than Meets the Eye
- 2:30 – 2:45** Jocelyn Zurevinsky, OC(C); Alexandra Sherven, Orthoptic Student
Inter-examiner agreement of the 20 Prism Diopter Base OUT Prism Test as a predictor of motor fusion. An audience-based evaluation.
- 2:45 – 3:00** Michaela Justus, Orthoptic Student
Digging Through the Differential: Schwannomas of the Inferior Division of the Oculomotor Nerve
- 3:00 – 3:15** Malcolm Mazow, MD
When Enough is Enough
- 3:15 – 3:30** Questions / Discussion
- 3:30** **Adjourn**

Instruction Course Abstracts

Saturday, October 12, 2019

JW Marriott Union Square

Metropolitan ABC

Respecting Ocular Dominance: Clinical and Surgical Implications

8:00 -9:00AM

Shelley Klein, CO, May Chan-Ho, Catherine Choi, MD

We all have ocular dominance. In the non-strabismic and non-amblyopic population, there may be few ramifications associated with this dominance but in our clinical practice where ocular motility and vision disorders are common, the ramifications are significant. This course will explore ocular dominance in strabismus and amblyopia and will be divided into three parts. First, a review and comparison of how ocular dominance and laterality (handedness) develop in humans will be presented. Second, the clinical conditions we may encounter as a result of ocular dominance and the treatments to consider. Finally, what are the surgical implications when ocular dominance effects the sensorimotor exam and the prism measurements (e.g. DVD, DHD, primary and secondary deviations)? Conditions such as reverse amblyopia and Fixation Switch Diplopia will be discussed and cases will be presented.

Diagnosis and Management of Restrictive Strabismus

9:00 – 10:00 AM

Monte A Del Monte, MD

Mechanical restrictive strabismus often results in strabismus incomitance and diplopia that can be very debilitating and difficult to manage. The etiology can be varied including: developmental problems such as CFEOM and CPEOM, traumatic such as following ocular injury or orbital blowout fracture, iatrogenic such following retinal detachment, previous strabismus or glaucoma surgery, autoimmune such as in Graves Eye Disease or inflammatory such as following orbital myositis. Determination of the etiology as well as important features of the history and chief complaint, ocular motility, sensory and complete ocular examination are all important in treatment planning. This course will discuss the important aspects of history and clinical examination in patients with restrictive strabismus and how these features influence the choices and timing and goals of medical and surgical treatment in these often-challenging patients. The presenter will emphasize the importance of proper orthoptic as well as ophthalmologic evaluation both before and after surgery and the value of newer surgical techniques such as adjustable sutures and Botox in maximizing surgical success and patient satisfaction.

Keywords: Strabismus surgery, incomitant strabismus, Forced Duction testing, Active Force Generation testing, Restrictive Strabismus

Assessing and Treating Torsion

10:00 – 11:00 AM

Jonathan M. Holmes, M.D., Lindsay D. Klaehn, CO, Andrea M. Kramer, CO

Cyclotropias often present as classic torsional diplopia, but can also present as symptoms of strain, problems reading or other manifestations of fragile fusion. In this case-based course, we will illustrate the spectrum of presenting symptoms of torsion, and provide a step-wise approach to clinical assessment. We will discuss the critical role played by the orthoptist in creating successful treatment plans.

Keywords: Torsion, Excyclotropia, Incyclotropia

The Changing Face of Thyroid Eye Disease

11:00 - 12:00 PM

Gabriela M Espinoza, MD, Gill Roper-Hall DBOT, CO, Oscar A Cruz, MD

The introduction of new immunologic agents to treat the underlying cause of TED later this year may alter the course of the disease in the future. This would prevent development of the familiar and aggressive secondary changes affecting the ocular tissues, especially the extraocular muscles. This course reviews the surgical and non-surgical approaches currently considered standard of care, including orbital decompression, and non-surgical and surgical management of the associated strabismus and diplopia.

Information Technology and Big Data for Eye Care: Promises, Challenges, Solutions.

1:00 - 2:00 PM

Michael Chiang, MD

This talk will discuss three topics: (1) The promise of information technology to improve clinical care through mechanisms such as improved quality of care, reduced medical errors, better communication, and computer-based decision support. This will include discussion of trends in policy-making that have been promoting electronic health records and value-based purchasing. (2) Real-world challenges associated with information technology adoption. This will include discussion of challenges and trends in clinical efficiency, clinical documentation, and medical education. (3) Potential solutions to these challenges. This will include discussion of data analytics, ³big data², and registries.

CVI & TVI - What You Need to Know About Cortical Visual Impairment and Teachers of the Visually Impaired

Dusty Gronemyer, CO; Lori Wilson, MD

2:00 – 2:30 PM

The challenges in pediatric glaucoma extend to the definition, classification, exam, and management of this complex disease. Various forms of pediatric glaucoma will be discussed, including the classification system and subgroups of primary and secondary glaucoma. Each of these forms of glaucoma varies in the presenting signs and symptoms. Medical management of pediatric glaucoma includes diverse clinical situations, including topical therapy used to as a bridge until surgical treatment of congenital glaucoma and long-term mono- and multi-drop

treatment plans for JOAG. Surgical treatments differ depending on form of glaucoma. The types and indications of surgeries for pediatric glaucoma will be discussed. Specific discussion of the ways surgeries in children are unlike surgeries in adults will be included.

Congenital Cranial Dysinnervation Disorders

3:00 – 4:00 PM

Elias Traboulsi, MD, M.Ed

The Congenital Cranial Dysinnervation Disorders (CCDDs) are a heterogeneous group of genetic disorders that result from aberrant innervation of the ocular and facial musculature. They generally stem from abnormal development or dysfunction of individual or multiple cranial nerve nuclei or their axonal connections. Non-comitant strabismus is a major clinical manifestation of these disorders. This course gives an overview of the genetic etiology of these disorders, their classification and their management.

Keywords: CCDD, Genetics, Strabismus surgery, Duane syndrome, CFEOM

Informed Consent: What It Is and the Certified Orthoptist's Role

4:00 – 4:45 PM

Edward Raab MD, JD

Efforts that limit the risk of professional liability exposure employ the principles of best practice and result in better care of our patients. This presentation is designed to further the participant's understanding of medical malpractice and the related issue of informed consent, including additional safeguards for incapacitated persons, minors, and research subjects. These concepts arise from the ethical premise that patient care is a partnership between the caregiver and a fully informed patient capable of complete self-determination as to his or her best interests.

AACO Scientific Sessions I Abstracts

Sunday, October 13, 2019
JW Marriott Union Square
Metropolitan ABC

Pediatric Retinal Inherited Disorders: Unraveling the misconceptions

Wanda Pfeifer, OC(C), CO

8:00 – 8:30 AM

For many years there was limited need or availability to provide a confirmative diagnosis in children with a suspected inherited retinal disorder. Now with affordable genetic testing and the first U.S. Food and Drug Administration approved gene therapy for retinal dystrophy there is the now more than ever a critical need to identify these children. Many of these disorders can present with strabismus, decreased vision or nystagmus. Thus the orthoptist can play a pivotal role in helping to identify these children. This presentation will focus on the clinical characteristics of various retinal disorders, including Stargardt disease, Leber congenital amaurosis, achromatopsia, X-linked retinoschisis, Usher syndrome, and congenital stationary night blindness. This course will look at how our understanding of inherited retinal disorders in children has changed and briefly explore the treatment options used by physicians.

The Value of the p-value: Differentiating Statistical from Clinical Significance

Linda Colpa, OC(C)

8:30 – 8:45 AM

Orthoptists need to constantly read relevant literature to inform best clinical practices. We rely on the abstract to tell us the “important” results and conclusions of a paper and if we’re honest, sometimes that’s the only part of the paper we read. The p-value is ubiquitous in research literature. It is the primary statistical criterion used to validate data and obtaining it is the first step in getting a study published. Strict adherence to this narrow requirement (typically $p < 0.05$) becomes a researcher’s goal in and of itself, which stands the risk of creating publication bias. It unfortunately also does nothing to elucidate the clinical value of study results. Using examples from published ophthalmic literature, this course will discuss the meaning of the p-value, differentiate between statistical and clinical significance, and introduce Confidence Intervals as one way to represent data that reflect a study’s clinical relevance. Participants will be shown a simple process to (re)organize a study’s patient cohort findings to aid interpretation of its results.

Craniofacial Syndromes: A Discussion of Pathophysiology, Clinical Findings, and Implementation of Treatment Plans

Sarah Smith, Orthoptic Student

8:45 – 9:00 AM

Craniosynostosis is the premature closure of one or more cranial sutures during the embryonic period or early childhood. Skull deformity is a resultant of early cranial suture fusion and most commonly will restrict perpendicular bony growth during early stages of development. Craniosynostosis can be classified as primary and secondary; primary cases are due to early fusion of sutures while secondary cases are attributed to poor brain growth.

Craniosynostosis occurs in approximately 1 in 2,500 births. Of that number, 30% of the cases are syndromic. Patients with syndromic craniosynostosis present with airway malformations, complex ophthalmologic, and neurologic problems. Syndromic craniosynostosis may have overlapping features such as strabismus, hydrocephalus, limb abnormalities, or hypertelorism. Although the incidence is low, it is pertinent clinicians are aware of the complex components associated with the syndromes to ensure effective and appropriate patient care. This presentation will discuss three autosomal dominant craniofacial syndromes, specifically looking at their prevalence, pathophysiology, clinical findings, and common therapies.

The Use of OCT in the Assessment of Ocular Torsion

9:00– 9:15 AM

Gill Roper-Hall, DBOT, CO

Purpose:

Measurement of ocular torsion is an essential part of the evaluation of patients with strabismus and assists in differential diagnosis and management. Conventionally, double Maddox rod testing (DMRT) and dilated fundus photography are used to measure ocular torsion. Ocular Coherence Tomography (OCT) can be used to assess torsion easily without dilation, but this has not been clinically validated. We studied the correlation between DMRT, fundus photography, and OCT methods of measuring torsion.

Methods:

Patients with >5 degrees of ocular torsion were enrolled into an IRB-approved prospective study. Torsion was present from various mechanisms. The results were compared to normal controls without strabismus. Subjective measurements were obtained with DMRT and objective measurements with undilated OCT and dilated fundus photography.

Results:

Preliminary results showed good concordance in measurement of torsion between the two objective methods. None of the controls showed significant torsion by any method.

Conclusion:

DMRT has been the gold standard for assessing ocular torsion. However, the test is subjective, and some results may be unreliable. OCT imaging has the potential to be an accurate tool for measuring torsion. The test can be performed without prior dilation. Given the ease of performing OCT, we consider this a complementary tool to DMRT providing objective evidence of torsion without requiring dilation.

Annual AAO/AOC/AACO Sunday Symposium Abstract

Sunday, October 13, 2019
Moscone Center, Room 3020
3:45-5:15 PM

Cosponsoring Organization: American Orthoptic Council (AOC) / American Association of Certified Orthoptists (AACO) / American Academy of Ophthalmology (AAO)

Symposium Title: Traumatic Brain Injury in Children

Symposium Chairs: Geoffrey Bradford, MD, Shelley Klein, CO

Purpose/Relevance: While much attention in the media has been given to concussion, a mild form of traumatic brain Injury (TBI), we know that TBI is one of the most common causes of death and disability in children in the US. Depending on the severity of the injury, the visual systems of children with TBI are at risk, and diplopia, subnormal acuity, and visual processing difficulties often result. These children need careful evaluation and treatment by ophthalmologists and orthoptists. But many will also benefit from multidisciplinary team-based care. In this symposium, the assessment, diagnosis, and long-term follow-up of children with TBI will be reviewed.

Current Outcomes: These vulnerable patients often start out in the Emergency Department and will eventually end up in our ophthalmology practices. The course of management is more defined when the TBI is moderate to severe, but when the injury is mild or subclinical the “traditional” comprehensive eye exam may not uncover these subtle visual symptoms causing a delay treatment.

Results: Attendees of this symposium will be able to recognize both subtle and obvious visual deficits in children with TBI. They will be able to perform a comprehensive orthoptic and neuro-ophthalmic exam, formulate a management, monitoring and treatment plan and make appropriate referrals to other subspecialties, as needed.

References:

1. Ventura RE, Balcer LJ, Galetta SL. Ocular motor assessment in concussion: Current status and future directions. J. Neurol. Sci. 361 (2016) 79-86.
2. Ventura RE, Jancuska JM, Balcer LJ. Diagnostic Tests for Concussion: Is vision part of the puzzle? Neuro-ophthalmology 2015; 35:73-81.
3. Traumatic Brain Injury in the United States: Epidemiology and Rehabilitation. Submitted by the Centers for Disease Control and Prevention (2015) Report to Congress.

AAP /AACO Joint Symposium Abstracts

Monday, October 14, 2019

JW Marriott Union Square

Metropolitan ABC

Cortical/Cerebral Visual Impairment: A Primer

Sharon Lehman, MD

Cortical/Cerebral Visual Impairment (CVI) is the most common cause of visual loss in children in developed countries. Lack of a standardized method for evaluation, diagnosis and providing recommendations for children with CVI creates challenges for those who care for children with CVI. This symposium will provide practical information to close those existing gaps. The topics that will be covered include:

- Definition
- Diagnosis
- Causes
- Characteristics
- Cortical vs cerebral visual impairment
- Referral for vision service
- Prevention

References:

Lueck AH, Dutton GN, editors. Vision and the Brain: Understanding Cerebral Visual Impairment in Children. New York, NY: AFB Press; 2015

Roman-Lantzy C. Cortical Visual Impairment: An Approach to Assessment and Intervention. New York, NY: AFB Press; 2007

The Orthoptist Role in Assessment of Patients with Cortical Vision Impairment

Frances Edwards, CO

Orthoptists play an important role in the multidisciplinary team responsible for caring for patients with cortical/cerebral visual impairment (CVI). In the hospital and private practice setting this involves measurement of visual acuity and observation of visual responses to various targets. In most clinical settings, both in North America and Australia, the time spent performing preliminary testing is dictated by the booking schedule and can limit the extent of the functional eye exam. In the low vision disability sector in Australia orthoptists are able to conduct detailed functional vision assessments and provide recommendations to support the patient's family, therapy and educational teams in promoting visual access.

As the orthoptist is often the first point of contact for the patient, it is important they consider the possibility a CVI diagnosis. This will ensure detailed, specific CVI testing is performed during the initial consultation. A CVI diagnosis should be considered where there is a normal eye

examination with history of damage to the visual pathway and/or brain in combination with decreased visual acuity, visual field deficits or visual processing issues. Orthoptists can measure visual acuity via a range of methods depending on patient ability and evaluate visual fields as part of a standard eye exam. If examination time allows, elements of visual processing can also be evaluated. These elements include, how clutter, background noise, movement and different colours impact on how they use their vision, their ability to identify faces, and if using familiar vs unfamiliar objects alters their visual responses.

Patients with CVI are complex and varied in their presentation. This presentation will highlight the importance of having a flexible approach to each assessment and engaging with the family and other team members, where possible, to understand how the patient's vision impacts their learning, mobility, development and independence. It will also cover the benefits of considering the patient's medical history and location of visual pathway damage to assist with guiding the orthoptic exam.

Reference:

<https://nei.nih.gov/faqs/cortical-visual-impairment-cvi>

Considerations in the Design of Assessments and Interventions to Address Behavioral Outcomes of CVI

Amanda Lueck, PhD

Cortical/cerebral visual impairment (CVI) manifests differently in each child. It is critical to have an understanding of the range of potential effects of CVI in order to determine how these behavioral outcomes can affect children's performance in their home, school, and community. This comprehensive understanding helps to develop the most appropriate interventions and accommodations for each child. The discussion will present possible effects of CVI, the need to develop multidisciplinary paradigms to assess them, and considers examples of interventions specific to CVI that can be applied to selected performance skills.

Cortical/Cerebral Visual Impairment: A Case Presentation

Laila Adle, MA

This presentation will review the case of a girl, a twin, born at 34 weeks gestation and weighing 1690 grams at birth. She was admitted to the NICU for 3 weeks and another 2 weeks in the Intermediate Nursery for respiratory distress syndrome, apnea of prematurity, CNS malformation, septo-optic dysplasia, and other health issues. Later diagnosed with optic nerve hypoplasia, CVI, severe-profound hearing loss in the left ear, partial 'small' agenesis of the corpus callosum, the child received early intervention services, preschool and elementary services, and is currently in a special day program with mainstreaming into a 6th grade classes. Her visual acuity was measured at 20/20 when she was 7 years old.

Evaluation and instruction methods over a 4-year span will be reviewed. These started with the Nelson Functional Vision Assessment and the Roman CVI checklist. Later other functional

evaluations were administered including the Dutton Inventory Checklist which tapped additional types of behaviors. A list of challenges was compiled as well as strategies to address those challenges. The initial list included attention and distractibility concerns, difficulty in attention to areas of the visual field rather than visual field restrictions, visual fatigue, inconsistent labeling of pictures, impaired perception of fast movement, problems locating the beginning of a line of print. Accommodations and instructional strategies were put into place to meet the child's needs.

Two years later a small team of specialists came together to evaluate the child. Progress was noted in many areas, some issues came to the surface more clearly, and additional issues were noted by the team. Matching shapes of different sizes, counting pictures of objects, and left visual neglect seemed to be the major issues as the child matured and learned. Instructional supports included the use of a slant board, desk lamp, reduction of clutter, fewer lines presented during reading tasks, line guides, raised colored dots to indicate the start of lines when reading, clear and simple directions, and written directions instead of pictures. Methods that did not work, changes over time and future plans will also be discussed. Performance expectations at various stages will be highlighted and compared with actual performance at those stages. It will be shown that with appropriate instruction and environmental supports outcomes can exceed expectations. The positive effects of intervention will be illustrated when areas targeted for instruction are clearly delineated and addressed.

AACO Scientific Session II Abstracts

Monday, October 14, 2019
JW Marriott Union Square
Metropolitan ABC

Ocular Alignment Outcomes in the Infant Aphakia Treatment Study (IATS) by 10.5 Years of Age

Marla J. Shainberg, CO

10:45 – 11:00 AM

Background:

The Infant Aphakia Treatment Study (IATS) enrolled infants who had unilateral cataracts removed and followed them until age 10.5 +/-0.3 years of age. At the conclusion of this course, an attendee should be able to describe the ocular alignment outcome, assess the relationship between visual acuity and orthotropia, and discuss the effect of strabismus surgery on these children.

Purpose:

To report strabismus and strabismus surgery outcomes in children 10.5 years of age who underwent unilateral cataract surgery at 1 to 6 months of age.

Methods:

The Infant Aphakia Treatment Study (IATS) compared the treatment of aphakia with a primary intraocular lens versus a contact lens in 114 infants with a unilateral cataract. We performed a secondary analysis of strabismus and strabismus surgery outcomes in 109 children at age 10.5 +/-0.3 years of age. Alignment (1) and strabismus surgery outcomes (2) at age 5 years have been previously reported

Results:

At age 10.5 years, 49 (45%) of patients at distance (D) and 59 (54%) at near (N) had exodeviation (exo), 23 (21%) at D and 21 (19.3%) at N had esodeviation (eso), 26 (24%) at D and 23 (21%) at N had hyperdeviation (hyper), 40 (37%) at D and 33 (22%) at N had dissociated strabismus (DHD/DVD), and 23 (21%) at D and 22 (20%) at N were orthotropic (ortho). In contrast, at age 5 years, 33 (29%) at D and 29 (26%) at N were exo, 42 (37%) at D and 48 (42%) at N were eso, 22 (19%) were hyper at D and 17 (15%) were hyper at N and 42 (37%) at D, 34 (31%) had DHD/DVD and 29 (27%) at D and 31 (27%) at N were ortho.

Deviations at 10.5 years were compared to those at 5 years. Exo D and N at 10.5 years was greater than at 5 years D (p=0.0031) and N (p<0.001), eso D and N at 10.5 years less than at 5 years D (p=0.0023) and N (p<0.0001), hyper D and N at 10.5 years greater than at 5 years D (p=0.2) and N (p=0.18), DVD D and N at 10.5 years was greater than 5 years of age D (p=0.35) and N (p=0.55), and DHD D and N at 10.5 years of age was less than 5 years of age D (p=0.13) and N (p=0.31).

Visual acuity better than 20/40 in 20 (19%) children; 47% had vision of 20/200 or worse. Of the n=22 with ortho at D, 32% had better than 20/40 vision. Of the n=85 without ortho at D, 15%

had better than 20/40 vision ($p = 0.076$). Of $n=21$ with ortho at N, 23% had better than 20/40 vision. Of $n=86$ without ortho at N, 17% had better than 20/40 vision ($p = 0.50$) and DHD D and N at 10.5 years is less than at 5 years D ($p=0.13$) and N ($p=0.3$). Ortho D and N at 10.5 years were less than at 5 years of age D ($p=.27$) and N ($p=0.16$). Children at age 10.5 years old who had strabismus surgery and deviations at D and N > 8 PD were evaluated. $n=49$ exo at D, 39 of those children had > 8 PD of exo and of those, 83% had previous strabismus surgery; $n=59$ at N, 43 of those children had > 8 PD of Exo and of those 76.7% had previous strabismus surgery; $n=23$ eso at D, 10 of these children had > 8 PD of eso and of those, 62% had previous strabismus surgery; $n=21$ eso at N, 15 of these children had > 8 PD of eso and of those, 100% had previous strabismus surgery; $n=26$ hyper at N, 15 of those had > 8 PD of hyper and of those 42% had previous strabismus surgery.

Conclusion:

The rate of exotropia at age 10.5 years was greater than at 5 years of age ($p=0.0031$). The rate of esotropia at age 10.5 years is less than the rate at age 5 years ($p=0.0023$). At age 10.5 years, 20 % of patients had visual acuity better than 20/40 and were orthotropic. Patients with orthotropia at distance were about twice as likely to have vision better than 20/40 and those with orthotropia at near were 1.36 times more likely to have good vision. Strabismus surgery did not result in outcomes that could potentially lead to binocularity.

References:

- (1) Bothun E, Lynn M, Neely D, Vanderveen D, Lambert SR. Sensorimotor outcomes at age 5 years after monocular cataract surgery in the Infant Aphakia Treatment Study (IATS). JAAPOS 2016; 20:49-53.
- (2) Bothun E, Lynn M, Wilson L, Kruger S, Lambert SR. Strabismus surgery outcomes in the Infant Aphakia Treatment Study (IATS) at age 5 years. JAAPOS 2016; 20:501-505.

Alternating Nystagmus in an Infant – A Case Study

Yeana Kim, Orthoptic Student

11:00 – 11:15 AM

This is a case study of an interesting pediatric patient with an unusual presentation of vertical nystagmus. The child initially presented with downbeat nystagmus, but post-cycloplegia, her nystagmus seemed to resolve. In subsequent visits, the direction of the nystagmus alternated between a downbeat and upbeat waveform, with a different presentation at each follow-up visit. Possible mechanisms for this unique phenomenon will be discussed.

Does Dissociation affect Stereoacuity performance in Intermittent Exotropia?

Cindy Avilla, CO

11:15 – 11:30 AM

Purpose:

To determine if it is necessary to check stereoacuity first in patients with IXT prior to using dissociative tests like monocular vision testing, cover-uncover or prism and alternate cover.

Methods:

Nineteen patients with IXT of any type (basic, true divergence excess, simulated divergence excess, convergence insufficiency) were randomized into 2 groups.

Group 1 (N=9) had stereoacuity tested prior to the introduction of any dissociative test. Group 2 (N=10) had stereoacuity performed as the final test performed after fusion had been maximally disrupted by occlusion during vision testing and measurement of the deviation in at least 6 positions of gaze.

Patients were included in the study if they were neurologically normal, were wearing appropriate refractive correction, had not undergone prior amblyopia or surgical treatment and were able to perform both the Titmus and Randot stereo tests.

Results:

No patient in either group had deficient stereovision, indicating that fusional dissociation does not play a role in achieving normal levels of stereoacuity during the sensorimotor examination.

Conclusion:

It is not necessary to perform stereoacuity testing first, as the fusional convergence mechanism overcomes even periods of maximal dissociation of the 2 eyes, providing binocularity without interfering with stereoacuity.

Primary Convergence Insufficiency: Current Thinking & Future

Kyle Arnoldi, CO

11:30 – 11:45 AM

Convergence insufficiency (CI) is characterized by an inadequate amount of convergence to achieve and maintain comfortable, clear, single binocular vision at the preferred reading/computer distance. Secondary CI is well-defined, associated with obvious pathology and features symptoms that correspond to clinical findings. But Primary CI is quite different than Secondary CI and remains somewhat of a controversial mystery. There is a lack of consensus on etiology, diagnostic criteria, and management strategy amongst eye care professionals.

The characteristics of normal convergence have been studied in healthy individuals using eye movement recordings in a laboratory setting. These studies have elucidated the respective roles of proximal, fusional, and accommodative convergence in the near binocular posture. This presentation will relate these findings to the diagnostic tests used to evaluate Primary CI to better identify abnormalities that may clarify the etiology of Primary CI.

Introduction of the 50th Annual Richard G. Scobee, MD Memorial Lecturer

Alex Christoff, CO

1:00 – 1:10 PM

Phoria Adaptation: The Ghost in the Machine.

Michael Brodsky, MD

1:10 – 1:55 PM

(See page 29)

Deceptive Improvement of Accommodative Esotropia: More Than Meets the Eye

Kiran Bassi OC(C)

2:15 – 2:30 PM

A 3-year-old with a history of accommodative esotropia and improvement of the deviation over the course of one year, presented with anisocoria at a routine follow up. The child was diagnosed with physiologic anisocoria and discharged to a local ophthalmologist with routine orthoptic assessments. Within several months, it became clear that the child had a slowly progressive right third nerve palsy with pupillary involvement. Initial workup, including MRI/MRA, was normal. The palsy continued to progress and MR imaging was repeated along with an extensive infectious/inflammatory workup, which were unremarkable. As the child's condition worsened, additional neuro-radiologic testing was ordered; computed tomography angiography (CTA) revealed a compression of the right oculomotor nerve due to a persistent fetal posterior cerebral artery/tortuous PCOM complex – a rare anatomical variant that has been reported in only a few cases in literature. This case highlights the importance of detecting and investigating subtle clinical changes as spontaneous "improvement" can rarely be an indication of an underlying and serious condition.

Inter-examiner agreement of the 20 Prism Diopter Base OUT Prism Test as a predictor of motor fusion. An audience-based evaluation.

Jocelyn Zurevinsky, OC(C) Alexandra Sherven, Orthoptic Student

2:30 – 2:45 PM

Purpose:

Prism vergences assess patients' divergence and convergence fusional ability to cope with change in vergence demand, introducing retinal disparity and stimulating the vergence system to make a motor movement to regain fusion. For a small child, a single prism is used, and the eye care professional must efficiently perform the test and has a limited amount of time to judge whether the response is positive or negative. It is important for orthoptists and other trained professionals to reliably identify whether a patient has overcome the prism (positive response) as proof of peripheral fusion. A positive vergence test, combined with other positive tests for binocularity, may help to rule out the presence of a strabismus. To our knowledge, there is currently no previous literature showing the validity of the single prism vergence test.

Methods:

This presentation will serve to collect data. The research study consists of two parts; the first including patient participants, and the second consisting of orthoptists, ophthalmologists, residents and other trained eye care professionals. The first part was completed at the Eye Care Centre at Saskatoon City Hospital and consisted of filming 18 patient participants performing the 20 base out prism vergence test during their scheduled orthoptic assessment. In order to obtain a large sample of observer participants, in part two of the study, the collected videos will be shown to trained eye care professionals at the Scientific Sessions of The Canadian Orthoptic Society and the American Association of Certified Orthoptists. Observer participants will be shown each video individually, and then will electronically indicate whether the patient was able to overcome the 20 base out prism, or showed a negative response. The electronic responses will be collected and aggregated. Patients in part one of the study were orthophoric or had a manifest angle less than 10 prism diopters. Observer participants for part two must be

orthoptists, orthoptic students, ophthalmologists, residents or other eye care professionals who have experience with the single prism vergence test.

Results - Will be presented at The Canadian Orthoptic Society meeting in Vancouver, BC in 2020.

Conclusion: Pending

Digging Through the Differential: Schwannomas of the Inferior Division of the Oculomotor Nerve

Michaela Justus, Orthoptic Student

2:45 – 3:00 PM

Schwannomas are the most common benign peripheral nerve sheath tumor. They arise from the Schwann cells that produce the myelin sheath of the neuronal axons. These cells are essential to the function of the neurons and when schwannomas form, they can cause detrimental effects to the affected nerve. While they are most commonly found on the vestibulocochlear nerve, on rare occasions they can appear on the oculomotor nerve as well. The findings can range from a complete third nerve palsy, proptosis, or an incomplete third nerve palsy. Most intracranial schwannomas are less than one centimeter in size which means that they are often overlooked when reviewing MRIs. These are more commonly found in adult patients, although a few case studies have cited the presence of schwannomas in pediatric patients.

Patients struggle with diplopia, cosmesis, and the need for multiple strabismus surgeries in their lifetime. This case study will be examining a patient that had a unique history of a diagnosis of a superior oblique palsy at age 9 that was followed conservatively. At age 19, she returned with a right inferior third nerve palsy. Research and further study about the rarity and life-altering effects that schwannomas can have on patients from childhood into adulthood has provided an important diagnosis to consider in differentials. It is imperative to understand the complexities of an intrinsic nerve tumor to properly treat the schwannomas and the subsequent strabismus, and to set appropriate patient expectations.

When Enough is Enough

Malcolm Mazow, MD

3:00 – 3:15 PM

Ben Franklin said that “experience is the best teacher, but a fool will learn from no other.” And most pediatric ophthalmologists and orthoptists who have practiced for many years would agree that their knowledge is based upon the culmination of successes and failures with the patients under their care; journal articles read; meetings, lectures and courses presented and attended throughout their careers; discussion with their peers. However, younger colleagues may be uncertain of when to call it quits with patients in their care: when to discontinue unsuccessful amblyopia treatment; when to deny further surgical correction when it would be a disservice to the insistent patient; when to sever the doctor/patient relationship when compliance issues with treatment or follow-up care are consistent and affect the quality of medical care. This important information, accumulated through the lifetime of a career, will be a tremendous benefit to young pediatric ophthalmologists who will face these same issues in their careers.

The 50th Richard G. Scobee Memorial Lecturer

Michael C. Brodsky, MD

Michael C. Brodsky was born in San Francisco, California and grew up there during the hippie era. His father was a psychiatrist and his mother was an artist. Both his father and grandfather were psychiatrists. As a teenager, he became an avid guitar player. On weekends, the family would go to Golden Park and see the nascent San Francisco bands perform before they became famous. On weekends, he liked to take the streetcar to the Fillmore West and listen to different bands that played there. On holidays, he spent time with his cousins in Los Angeles, who were deep into music as well as body surfing.

Dr Brodsky's education sent him ricocheting around the country to UC San Diego for college, University of Texas, San Antonio for medical school, Dallas, Texas for his medical school internship, Wayne State University in Detroit for his ophthalmology residency, and finally UCSF for a neuro-ophthalmology fellowship with world-renowned William Hoyt. During that year he tagged along with Craig Hoyt and Art Jampolsky, and developed a burning interest in pediatric neuro-ophthalmology, which sent him to Duke University for a second fellowship with Ed Buckley. He then joined the faculty of the University of Arkansas in Little Rock and became Chief of Pediatric Ophthalmology at Arkansas Children's Hospital. Why Arkansas? To quote the Wizard of Oz when asked how he ended up in Oz, "...My balloon got blown of course and landed in Oz, and times being what they were, I took the job." Two years later, he was joined by an illustrious budding orthoptist from Iowa (Kathy Fray). In this position, he performed virtually every type of surgery known to pediatric ophthalmology, and had abundant time to think and study different complex disorders related to pediatric neuro-ophthalmology and strabismus. In 1998, Dr. Brodsky became interested in dissociated vertical deviation, traveling to Zurich, Switzerland for a sabbatical to study its origins in a neuro-vestibular laboratory with Dominik Straumann. Using the old German neurophysiology literature, he was able to develop a model that explained all aspects of this enigmatic condition, and was eventually able to extrapolate these findings to primary oblique overaction, latent nystagmus, infantile esotropia and infantile strabismus.

While in Arkansas Dr Brodsky met and married his wife Debbie and had a child, Matthew, who is now 16 years old. Debbie had two girls of her own at the time, Michele and Caroline, who are now adults. In 2007, Dr. Brodsky decamped to Rochester, Minnesota to join the department of Ophthalmology at the world-famous Mayo Clinic. He was soon joined by orthoptist Lindsay Klaehn, and then by two others, Andrea Kramer and Adam Hauglid. In 2015, Michael C. Brodsky was awarded the first Knights Templar Endowed Chair in pediatric ophthalmology. Mayo Clinic has been a wonderful experience, enabling him to write the third and final volume of his Pediatric Neuro-Ophthalmology textbook. His research time is now spent on investigating different forms of pediatric strabismus and incorporating them into common framework of neurologic mechanisms that explains their occurrence in otherwise normal children.

Dr Brodsky still manages to find time to run, swim, read fiction and travel with his family to different corners of the world.



2019 Richard G. Scobee Lecture Abstract

Monday, October 14, 2019

Phoria Adaptation: The Ghost in the Machine

Michael C. Brodsky, MD

1:10 – 1:55 PM

Metropolitan ABC

Importance:

Phoria adaptation is a central tonus mechanism that provides plasticity to binocular alignment.

However, its slow dissipation inevitably adulterates our clinical strabismus measurements.

Purpose: To examine the role of phoria adaptation in normal binocular control, understand its neural substrate, and explore how it can alter our clinical measurements in common forms of strabismus.

Methods:

Investigation into the role of phoria adaptation in maintaining binocular alignment and its role in altering clinical strabismus measurement.

Results:

Phoria adaptation permeates all aspects of binocular alignment. It accounts for the stability of orthophoria, “latent” phorias, tenacious proximal fusion in intermittent exotropia, large fusional vertical amplitudes in congenital superior oblique muscle palsy, the “eating up” of prisms in accommodative esotropia, the smaller measured distance deviation in patients with high AC/A ratio or convergence excess, absence of physiologic skew deviation during head tilt, fusional divergence amplitudes, and spread of comitance. This binocular control system arises from a cerebellar learning mechanism that involves input via climbing fibers to the inferior olive, which provide a powerful timing and error signal to the cerebellar Purkinje cells to produce activity-dependent modification analogous to long-term potentiation.

Conclusions:

Phoria adaptation is generated by a central neural integrator that provides inertia, plasticity, and positional stability to human binocular vision.

Meetings by Committee

| Committee | Date | Time | Location |
|------------------------------|-------------|-------------------|------------------|
| Executive Committee | Fri Oct 11 | 4:00PM – 5:00PM | Salon I |
| Board of Directors | Fri Oct 11 | 5:00PM – 7:00PM | Salon I |
| Education Committee | Sat Oct 12 | 5:30PM – 6:30PM | Salon I |
| Business Meeting | Sun Oct 13 | 10:00AM – 12:00PM | Metropolitan ABC |
| BVOM Ed Board Meeting | Mon Oct 14 | 12:00PM-1:30PM | Salon I |

Social Gatherings

| Event | Date | Time | Location |
|---------------------------------|-------------|----------------|-----------------------|
| New Orthoptist Reception | Fri Oct 11 | 7:00 PM | Salon I |
| President’s Reception | Sat Oct 12 | 8:00 –11:00 PM | Skyline B/C & Terrace |

AACO Officers and Representatives

Executive Committee

| | |
|----------------------|---------------------------|
| President | Shelley Klein |
| President Elect | Alex Christoff |
| Vice President | Alex Christoff |
| Vice President Elect | Laura Kirkeby |
| Secretary | Chantel Devould-Henderson |
| Secretary Elect | <i>TBD</i> |
| Treasurer | Alicia Baird |
| Past President | Cheryl McCarus |

Board of Directors

| | |
|----------------------------------|-------------------------------|
| Director of Finance | TBD |
| Eastern Regional Representative | Jennifer Lambert |
| Midwest Regional Representative | Laura May |
| Southern Regional Representative | Angela Dillon |
| Western Regional Representative | Cathy Hall |
| AOC Elected Representatives | Pam Houston & Rachael Jenkins |
| AOC Rep Elect | <i>TBD</i> |
| IOA Representative | Kyle Arnoldi |
| JCAHPO Representative | Sarah Whitecross |

2019-2020 Appointed Positions

AAP Representative
Fundraising

Sarah Mackinnon
Hilary Walsh

2019 – 2020 Committee Chairpersons

| | |
|-----------------------------|--------------------------------------|
| Bylaws | Mary DeYoung-Smith |
| Education | Dusty Stolz-Gronemyer |
| Ethics | Kimberley Beaudet |
| Finance | <i>TBD</i> |
| Fundraising | Hilary Walsh |
| Historical | Barbara Schneekloth |
| Honor Certificate | Emily Miyazaki |
| Instruction | Alex Christoff |
| Jean Robinson Library | David Hodgetts |
| Lancaster Award | Bruce Furr |
| Membership | Megan Evans |
| Newsletter | Gill Roper-Hall |
| Nominating | Pattye Jenkins |
| Practice Management | Megan Sheeley |
| Program | Amanda Yonkers |
| Public Relations | Marlo Galli / Samantha Pape |
| Registration | Julie Harmon |
| Scobee Memorial | Alex Christoff |
| Straight Scoop | Terra Haller |
| Student Advisory / New CO's | Philip Villanueva / Anthony Yamarino |
| Tribute | Randi Zuller |
| Vision Screening | Dipti Desai |
| Website | Miriam DiMenna / Sally Murray |

Ad-Hoc Committees

| | |
|------------------------------------|--|
| AACO Long Range Planning | Paula Edelman |
| International Affairs | Laura Hodges |
| Membership Expansion | Gill Roper-Hall, Jennifer Lambert, Paula Cashman |
| Retired Orthoptist Outreach | Gill Roper-Hall |

Index of Authors

| Name | Page | Name | Page |
|-----------------------|---------------|----------------------------|--------------|
| Adle, Laila MA | 10, 20 | Kim, Yeana | 11, 23 |
| Avilla, Cindy CO | 11, 23 | Klaehn, Lindsay CO | 5, 14 |
| Arnoldi, Kyle CO | 9, 11, 24 | Klein, Shelley CO | 5,9,13,14,18 |
| Bacal, Darron MD | 9 | Kramer, Andrea | 5, 14 |
| Bassi, Kiran | 12, 25 | Lehman, Sharon MD | 10,19 |
| Bradford, Geoff MD | 9,18 | Leuck, Amanda PhD | 10,20 |
| Brodsky, Michael MD | 11, 24, 27-28 | MacKinnon, Sarah CO, OC(C) | 10 |
| Chan-Ho, May | 5,13 | Mazow, Malcolm MD | 12,26 |
| Chiang, Michael MD | 5, 14 | Nischal, Ken MD | 9 |
| Choi, Catherine MD | 5, 13 | Pfeifer, Wanda CO, OC(C) | 7,16 |
| Christoff, Alex CO | 11, 24 | Raab, Edward, MD, JD | 5,15 |
| Colpa, Linda OC(C) | 7, 16 | Roper-Hall, Gill DBOT, CO | 5,7,14,17 |
| Cruz, Oscar MD | 5, 14 | Shah, Ankoor MD | 9 |
| Del Monte, Monte | 5, 13 | Shainberg, Marla | 11,22 |
| Edwards, Frances CO | 10, 19 | Sherven, Alexandra OC(C) | 12,25 |
| Espinoza, Gabriela MD | 5, 14 | Smith, Sarah | 7,16 |
| Furr, Bruce CO, PhD | 9 | Strominger, Mitch MD | 9 |
| Gronemyer, Dusty CO | 5, 14 | Traboulsi, Elias MD | 5,15 |
| Holmes, Jonathan MD | 5, 14 | Whitecross, Sarah CO | 9 |
| Jenkins, Pattye CO | 9 | Wilson, Lori MD | 5, 14 |
| Justus, Michaela | 12, 26 | Zurevinsky, Jocelyn OC(C) | 12,25 |

Save the Date - Future Meetings

March 2020

AAPOS Annual Meeting
www.AAPOS.org

Austin TX

May 3-7, 2020

ARVO

<https://www.arvo.org/annual-meeting/meeting-info/future-annual-meetings/>

Baltimore, MD

May 2020

AACO Midwest Regional Meeting
www.orthoptists.org

Minneapolis, MN

Jun 25 - 28, 2020

TCOS and COS Annual Meeting
<https://www.cos-soc.ca>

Vancouver, BC
Vancouver Convention Centre

June 25, 2020

AAPOS/ICO/SASPOS Joint WOC Pre-Meeting
<https://aapos.org/meetings/new-item>

Cape Town, South Africa
Cape Town International Conv Center

Nov. 14 – 17, 2020

AAO / AACO National Meeting
<https://www.aao.org/annual-meeting/past-and-future-meetings>
www.orthoptists.org

Las Vegas, NV
Sands Expo/Venetian

April 7-11, 2021

AAPOS 47th Annual Meeting
<https://aapos.org/meetings/new-item>

Boston, MA
Westin Boston Waterfront Hotel

May 2021

AACO Joint Western / Southern Regional Meeting
www.orthoptists.org

OHSU / Casey Eye
Portland, OR

May 2-6, 2021

ARVO

<https://www.arvo.org/annual-meeting/meeting-info/future-annual-meetings/>

San Francisco, CA

Nov. 13-16, 2021

AAO / AACO National Meeting
<https://www.aao.org/annual-meeting/past-and-future-meetings>
www.orthoptists.org

New Orleans, LA
Ernest N. Morial Convention Center

Hotel Maps

Saturday, Sunday, and Monday Meetings: Metropolitan ABC

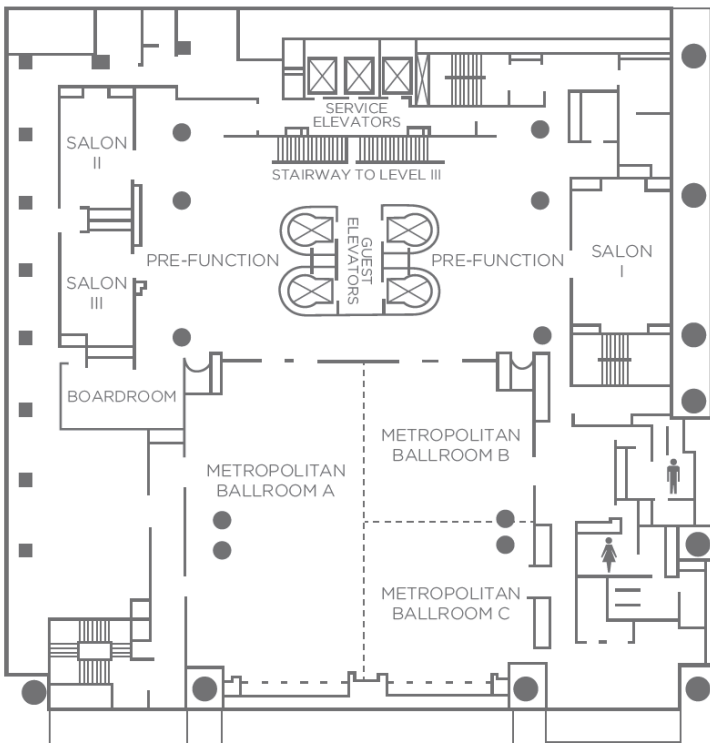
Other Meeting Spaces

BOD/Executive Committee – Salon I

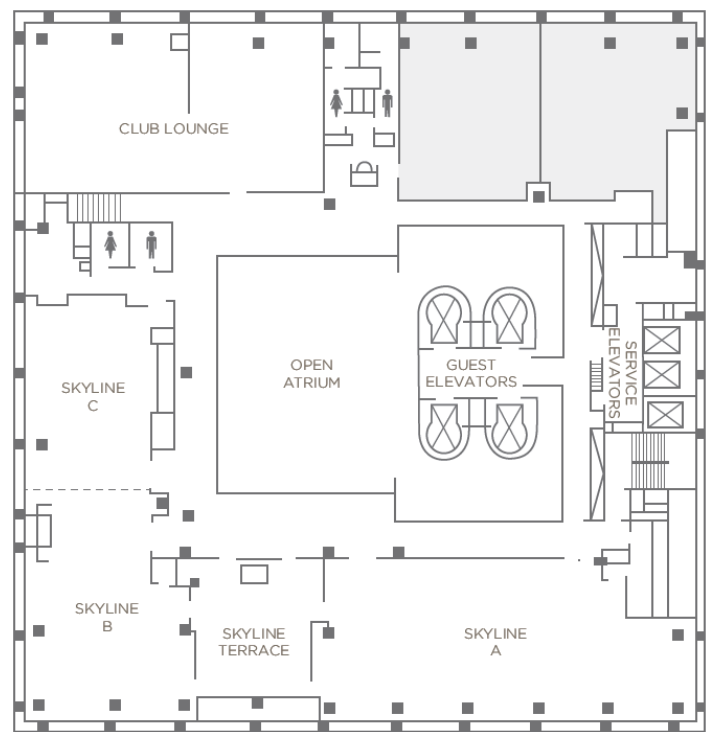
Education Committee – Salon I

Business Meeting – Metropolitan A, B & C

AOJ Editorial Board Meeting – Salon I



Ballroom – Level II



21st Floor

ATTENTION:

Attendance stickers are no longer used for the AACO National Meeting. Please make sure you sign in *each and every day* you attend the meeting sessions. Also, if you plan to seek credit for attending the Sunday symposium at the Moscone Center, please sign in ***in advance*** of the event. Sign in sheets will not be available on site the day of the symposium. Evaluation forms will only be handed out during each session, except for the Sunday symposium, which will be handed out Saturday during the Instruction Course day. Evaluation forms can be turned in to circulating registration personnel or at the registration desk.

This meeting has been approved for the following CE credits:

| | <u>AOC Core</u> | <u>AOC Non-Core</u> | <u>JCAHPO A</u> |
|-------------------------|-------------------|---------------------|-------------------|
| Sat Oct 12, 2019 | <u>8.00</u> | <u>0</u> | <u>8.00</u> |
| Sun Oct 13, 2019 | <u>3.00</u> | <u>0</u> | <u>1.50</u> |
| Mon Oct 14, 2019 | <u>6.00</u> | <u>0</u> | <u>6.00</u> |
| | <u> </u> | <u> </u> | <u> </u> |
| TOTAL | <u>17.00</u> | <u>0</u> | <u>15.50</u> |

2019 AACO Sponsors

Thank you to the following sponsors for their generous support of the AACO 2019 National Meeting:

Miraflex

www.miraflex.com

Eye Care and Cure

www.eyecareandcure.com

Fresnel Prism & Lens Co.

<http://www.fresnel-prism.com/>

Good-Lite

<https://www.good-lite.com/>