The Minnesota Eye Foundation

proudly presents

PERSPECTIVES IN EYE CARE 2023

Monday, May 22, 2023

Radisson Blu Hotel, Mall of America

COPE Activity ID # 125899

PERSPECTIVES IN EYE CARE 2023

MINNESOTA EYE FOUNDATION

On behalf of the Minnesota Eye Foundation, welcome to the 2023 Perspectives in Eye Care program and thank you for participating in this interactive and multi-faceted event. We are thrilled to gather again in person this year to provide our annual continuing education programming.

I hope you will enjoy learning from our esteemed faculty, connecting with colleagues, and supporting the efforts of the Minnesota Eye Foundation (MEF)'s outreach and mission. The organization was established to enrich the quality of life of our community members through charitable outreach and continuing education in the field of vision care. Later today, you will have the opportunity to hear more about the Foundation's work, specifically The Vision Project and Strides 4 Sight. Please 'save the date' for Sunday, September 10, 2023 for our walk/run fundraising event, Strides 4 Sight, as we'd welcome your participation and camaraderie outdoors at Normandale Lake Park Bandshell in Bloomington, MN.

Please know your continued support, commitment, and involvement in the Minnesota Eye Foundation is greatly appreciated.

Omar E. Awad, M.D., F.A.C.S
President, Minnesota Eye Foundation

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COPE CREDITS

We are using the following to verify attendance for this program.

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As in years past, you will receive an email following the event asking you to complete our online Post-Event Feedback Survey. Your feedback is incredibly important to us, so please take a few minutes to complete this.

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QUESTIONS?

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(*for iOS and Android*)

Optometrists can use the OE TRACKER mobile app to record attendance at continuing education courses and receive instant course credit. You can also review your CE transcript, change your license information, and submit CE certificates for ARBO to add to your account. Not only is it easy, but the OE TRACKER mobile app is FREE and can be used by any optometrist with an OE TRACKER number. The OE TRACKER mobile app is available for iPhones/iPads and Android phones/tablets.

How to Get the OE TRACKER App:

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Android Phone/tablet: Download the app from Google Play. Go to Google Play on your Android phone/tablet and search for "OE TRACKER." Find the OE TRACKER app and touch the install button.

How to Use the OE TRACKER Mobile App:
Once you have downloaded the app, you will be asked you to select one of two roles to login: Optometrist or Course Provider.

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Logging into the OE TRACKER mobile app as a Course Attendee:

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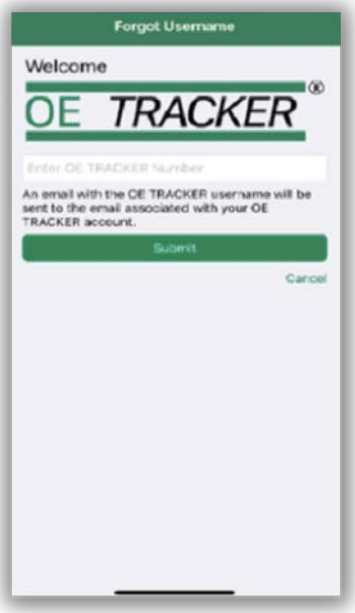

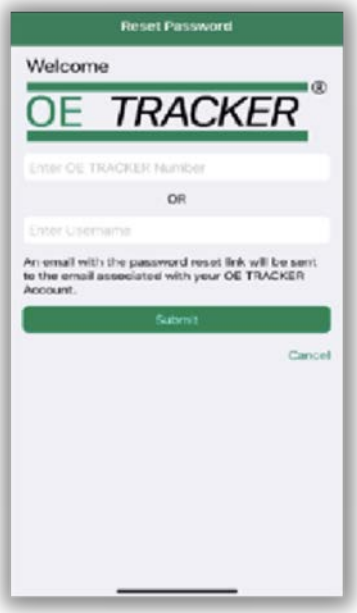

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Step Two: After you log in, the screen will display the following options:

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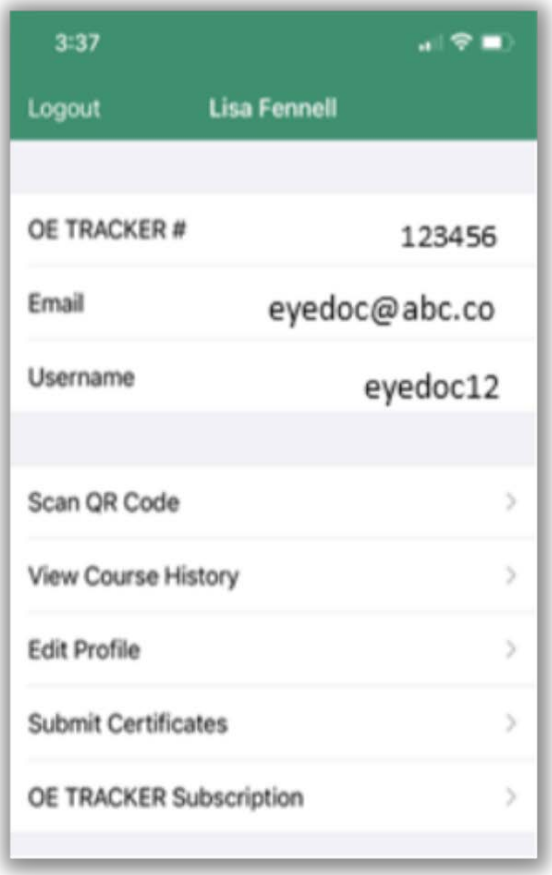

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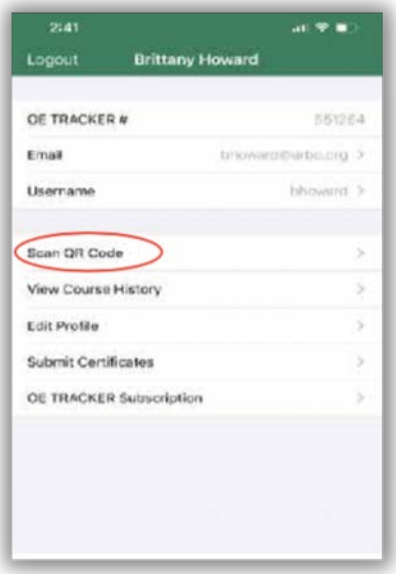

ARBO QR Code
(example)
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1. Your phone's camera will open and you will see "Scan QR Code" at the top of your screen.

2. Center the QR code on your screen and it will automatically scan. NOTE: If the code does not scan right away, try backing up your phone a little to make sure the entire QR code fits within the screen.

3. If you have scanned the QR code correctly, the Confirmation screen will appear, informing you that your attendance has been recorded in your OE TRACKER account.

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4. You will also be sent an e-mail from OE TRACKER within the next few minutes advising you that your credit for the course has been entered into your account.

5. Touch “Done” at the top right side of the screen to return to the Main screen.

6. To exit, simply close the app. You will stay logged in to the app to scan another QR code. To log out of the app touch the “Logout” button.

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AGENDA 2023

SESSION ONE

7:55 AM - Welcome & Announcements

8:00 AM - Oculoplastics - Case Studies
Jill S. Melicher, MD; Krista J. Stewart, MD

8:50 AM - Emotional IQ + Practice Leadership
Francie Broghammer, MD, Clinical Director of Inpatient Mental Health for the State of Minnesota

9:45 AM - Break in the Exhibit Area

10:05 AM - Glaucoma Update - 2023
The Changing World of Managing Patients with Narrow angles and Narrow angle Glaucoma - Patrick J. Riedel, MD
Cataract Surgery in the Glaucoma Patient - Christine L. Larsen, MD
Normal Tension Glaucoma - Clara M. Choo, MD
Selective Laser Trabeculoplasty: A Change in the Treatment Algorithm for Glaucoma - Chase A. Liaboe, MD
Glaucoma Lightning Rounds - Thomas W. Samuelson, MD (Panelists: Drs. Patrick Riedel, Christine Larsen, Clara Choo, Chase Liaboe & Marshall Huang)

11:55 PM - Announcements

12:00 PM - Lunch in the Exhibit Area

SESSION TWO

1:00 PM - The Vision Project & Strides 4 Sight
Omar E. Awad, MD, FACS; Marshall Huang, MD; Thomas Meirick, MD

1:20 PM - Optometry Panel Grand Rounds
Johnna D. Hobbs, OD; Mark R. Buboltz, OD, FAAO: Ahmad M. Fahmy, OD, FAAO; Mona M. Fahmy, OD, FAAO

2:10 PM - Retina Updates & Innovative Treatments
Mehdi Roozbahani, MD; Marni Feldmann, MD; Tara Schaab, MD

3:00 PM - Break in the Exhibit Area

3:20 PM - Challenging Cataract Surgery Cases
Elizabeth Davis, MD, FACS

Panelists:
David R. Hardten, MD, FACS; Sherman W. Reeves, MD, MPH; Omar E. Awad, MD, FACS; Mark S. Hansen, MD

4:10 PM - Cornea Grand Rounds
Moderators - Sherman W. Reeves, MD, MPH; Mark S. Hansen, MD

Panelists:
David R. Hardten, MD, FACS; Elizabeth A. Davis, MD, FACS; Omar E. Awad, MD, FACS; Thomas Meirick, MD

5:00 PM - Adjourn/Cocktail Reception

CONTENTS

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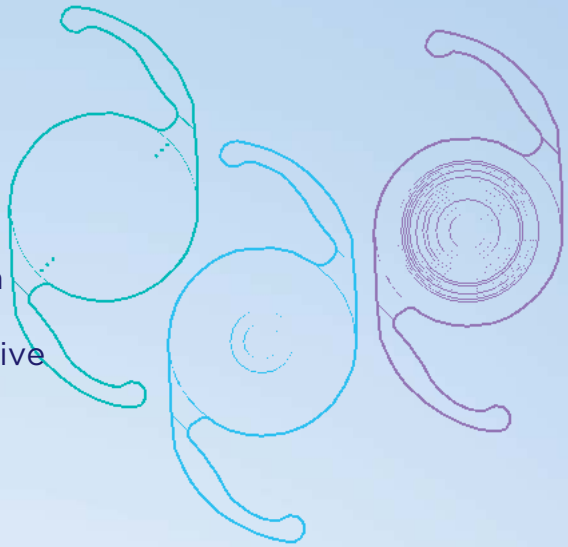

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* Defined as modified Miyata grade 0, <25mv/mm22 over 3 years (n=138), and over 9 years (n=20), respectively. ATIOL=Advanced Technology IOL.
† In vitro comparison, P <0.05.
‡ Results from a prospective, randomized, parallel group, subject- and assessor-masked, multisite trial of 107 subjects bilaterally implanted with the AcrySof® IQ Vivity® Extended Vision IOL and 113 with the AcrySof® IQ IOL with 6 months follow-up.
¶ Snellen VA was converted from logMAR VA. A Snellen notation of 20/20-2 or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 ETDRS chart letters in the line were identified correctly.
§ N=297.
|| Q4 2022.

IMPORTANT PRODUCT INFORMATION: CLAREON® FAMILY OF IOLS

CAUTION: restricts these devices to sale by or on the order of a physician.

INDICATION: Clareon® intraocular lenses (IOLs)Clareon® Aspheric Hydrophobic AcrylicClareon® Aspheric Toric IOLs family of includes the and , the **Clareon® PanOptix® Trifocal Hydrophobic IOL Clareon® PanOptix® Toric Clareon® Vivity® Extended Vision Hydrophobic Posterior Chamber IOLClareon® Vivity® Toric IOLs** . Each of these IOLs is indicated for visual correction of aphakia in **Clareon® Toric IOLs** cataract surgery. In addition, the are indicated to correct pre-existing corneal astigmatism at the time of cataract surgery. The **Clareon® PanOptix®** lens mitigates the effects of presbyopia by providing improved intermediate and near visual acuity, while maintaining comparable distance visual acuity with a reduced need for eyeglasses, compared to a monofocal IOL. The **Clareon® Vivity®** lens mitigates the effects of presbyopia by providing an extended depth of focus. Compared to an aspheric monofocal IOL, the lens provides improved intermediate and near visual acuity, while maintaining comparable distance visual acuity. All of these IOLs are intended for placement in the capsular bag.

WARNINGS / PRECAUTIONS:

General cautions for all Clareon® IOLs: Careful preoperative evaluation and sound clinical judgment should be used by the surgeon to decide the risk / benefit ratio before implanting any IOL in a patient with any of the conditions described in the Directions for Use that accompany each IOL. Physicians should target emmetropia, and ensure that IOL centration is achieved.

For the **Clareon® Aspheric Toric**, **PanOptix® Toric** and **Vivity® Toric IOLs**, the lens should not be implanted if the posterior capsule is ruptured, if the zonules are damaged, or if a primary posterior capsulotomy is planned. Rotation can reduce astigmatic correction; if necessary lens repositioning should occur as early as possible prior to lens encapsulation.

For the **Clareon® PanOptix® IOL**, some visual effects may be expected due to the superposition of focused and unfocused multiple images. These may include some perceptions of halos or starbursts, as well as other visual symptoms. As with other multifocal IOLs, there is a possibility that visual symptoms may be significant enough that the patient will request explant of the multifocal IOL. A reduction in contrast sensitivity as compared to a monofocal IOL may be experienced by some patients and may be more prevalent in low lighting conditions. Therefore, patients implanted with multifocal IOLs should exercise caution when driving at night or in poor visibility conditions. Patients should be advised that unexpected outcomes could lead to continued spectacle dependence or the need for secondary surgical intervention (e.g., intraocular lens replacement or repositioning). As with other multifocal IOLs, patients may need glasses when reading small print or looking at small objects. Posterior capsule opacification (PCO), may significantly affect the vision of patients with multifocal IOLs sooner in its progression than patients with monofocal IOLs.

For the **Clareon® Vivity® IOL**, most patients implanted with the **Vivity® IOL** are likely to experience significant loss of contrast sensitivity as compared to a monofocal IOL. Therefore, it is essential that prospective patients be fully informed of this risk before giving their consent for implantation of the Clareon® Vivity® IOL. In addition, patients should be warned that they will need to exercise caution when engaging in activities that require good vision in dimly lit environments, such as driving at night or in poor visibility conditions, especially in the presence of oncoming traffic. It is possible to experience very bothersome visual disturbances, significant enough that the patient could request explant of the IOL. In the parent AcrySof® IQ Vivity® IOL clinical study, 1% to 2% of AcrySof® IQ Vivity® IOL patients reported very bothersome starbursts, halos, blurred vision, or dark area visual disturbances; however, no explants were reported.

Prior to surgery, physicians should provide prospective patients with a copy of the Patient Information Brochure available from Alcon informing them of possible risks and benefits associated with these IOLs.

ATTENTION: Reference the Directions for Use labeling for each IOL for a complete listing of indications, warnings, and precautions.

REFERENCES:1. Werner L, Thatthamla I, Ong M, et al. Evaluation of clarity characteristics in a new hydrophobic acrylic IOL. J Cataract Refract Surg. 2019;45:1490-1497. **2**. Oshika T, Fujita Y, Inamura M, Miyata K. Mid-term and long-term clinical assessments of a new 1-piece hydrophobic acrylic IOL with hydroxyethyl methacrylate. J Cataract Refract Surg. 2020 May;46(5):682-687. **3**. Maxwell A, Suryakumar R. Long-term effectiveness and safety of a three-piece acrylic hydrophobic intraocular lens modified with hydroxyethyl-methacrylate: an open-label, 3-year follow-up study. Clin Ophthalmol. 2018;12:2031-2037. **4**. Alcon Data on File, 2017. **5**. Lane S, Collins S, Das KK, Maass S, Thatthamla I, Schatz H, Van Noy S, Jain R. Evaluation of intraocular lens mechanical stability. J Cataract Refract Surg. 2019 Apr;45(4):501-506. **6**. Clareon® Vivity® Extended Vision Hydrophobic IOL (CNWET0) Directions for Use – US. **7**. Clareon® PanOptix® Trifocal Hydrophobic Acrylic IOL Model: CNWTT0 DFU. **8**. Lehmann R, Maxwell A, Lubeck DM, Fong R, Walters TR, Fakadej A. Effectiveness and Safety of the Clareon® Monofocal Intraocular Lens: Outcomes from a 12-Month Single-Arm Clinical Study in a Large Sample. Clin Ophthalmol. 2021;15:1647-1657. Published 2021 Apr 20. **9**. Alcon Data on File, 2022.

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SESSION ONE

Jill S. Melicher, M.D.

Minnesota Eye Consultants
Ophthalmic Plastics, Orbit
and Reconstructive Surgery

Krista J. Stewart, M.D.

Minnesota Eye Consultants
Ophthalmic Plastics, Orbit
and Reconstructive Surgery

Oculoplastic Case Studies

COPE Course ID # 84129-TD

Course Description

In this course the instructors will present 5 cases discussing a variety of Oculoplastic conditions including conjunctival tumors, lower eyelid malposition, orbital tumors, periocular skin tumors, and upper eyelid malposition. Through case presentation the instructors will discuss differential diagnoses, surgical and medical treatment options.

Course Objective

1. Attendees will understand the presentation, differential diagnosis, and treatment options for conjunctival melanoma.
2. Attendees will be able to identify common lower eyelid and upper eyelid malposition's and the varying surgical treatment options available.
3. Attendees will also understand differential diagnoses, and treatment options for patients with mechanical ptosis/pseudoptosis presenting from malignancy.

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Oculoplastic Case Studies

Jill Meicher, M.D.
Krista Stewart, M.D.

1. Case 1: Extensive conjunctival and orbital melanoma presenting initially as upper eyelid swelling.
    a. Exam findings:
        i. Eyelid thickening, meibomian gland involvement, elevated pigmented lesions on conjunctiva, limbal invasion, adherent to sclera, enlarged vasculature.
        ii. Diagnosis: incisional biopsy, assess for genes expressed, depth and mitotic activity
    b. Workup:
        i. PET scan, liver function testing, referral to oncology and radiation oncology, orbital imaging for surgical planning
    c. Medical treatment:
        i. Radiation or adjuvant radiation, chemotherapy for melanoma (targeted based on gene expression of the tumor on biopsy)
    d. Surgical treatment:
        i. Exenteration, reconstructive options, neck and preauricular lymph node dissection
2. Case 2: A case of lower eyelid entropion
    a. Examination findings:
        i. Lid distraction, poor snap back, entropion elicited when patient is asked to squeeze the eyes closed, inferior superficial punctate keratitis or conjunctival injection, assess for cicatricial changes of the conjunctiva.
    b. Medical therapy:
        i. Surface lubrication, eyelid taping, bandage contact lens wear, botulinum toxin injections
    c. Surgical therapy:
        i. Lateral eyelid tightening (via tarsal strip), wedge resection, Quickert sutures, reinsertion of the lower eyelid retractors
3. Case 3: 58-year-old male presents with upper eyelid dermatochalasis to outside doctor
    a. Underwent visual field and work up, scheduled for bilateral upper eyelid blepharoplasty and browplasty
    b. As his surgery date approached, he sought a second opinion for progression of his symptoms

Notes

c. HPI:
    i. 4–5-month history of intermittent headache thought to be due to brow recruitment
d. Examination:
    i. Visual acuity:
        1. 20/20 Right eye
        2. 20/20-1 Left eye
e. Pupils normal
f. Extraocular motility full
g. Dermatochalisis, brow ptosis, mild edema LUL
    i. MRD1: 3.5 mm OU
    ii. MRDskin fold: 2 mm OU
    iii. Brow ptosis: 10 mm
    iv. LE: 15 mm OU
h. Slit lam exam/dilated fundus exam is otherwise normal
i. Preop patient photograph
j. Looks like straightforward blepharoplasty case, right?
k. WRONG
    i. On further questioning:
    ii. He had a headache behind his left eye, intermittent, now constant progressing over the last 4-5 months
    iii. He now has noted subtle diplopia at times while driving
    iv. He had an irregular nosebleed on 10/28
l. On detailed exam:
    i. 3 mm of hypoglobus
    ii. Dermatochalasis, brow ptosis, mild edema LUL
    iii. Hertel: Base- 105 mm, Right eye- 23, Left eye 27 [3 mm of proptosis]

4. Imaging Review
a. SMARCHB1-INI deficient sino-nasal carcinoma:
    i. Rare, locally aggressive malignancy
    ii. 200 cases reported in the literature
    iii. Presents late in disease with erosion into the orbit and intracranium
b. Treatment is radical surgery with chemoradiation/proton beam
c. Our patient underwent radical exenteration with transcranial resection of his frontoethmoidal mass
d. Preoperatively, I approached the patient about the possibility of living organ donation
e. Traditionally we think of organ donors as deceased, our patient had the ability to donate his eye/cornea as a living donor
f. He was the second living donor documented at the Minnesota Lions Eye Bank

Notes

5. Organ procurement photographs
    a. Minnesota Lions Eye Bank Organ Procurement Criteria
6. Case 4: 78-year-old female gradual drooping of her eyelids over the last several years
    a. Worse in the morning
    b. Uses her fingers to elevate her eyelids in the evenings while reading to improve her peripheral vision
    c. Family history of eyelid surgery
    d. Examination findings
        i. GVF
        ii. CPT Code Description 15823, 67904, 67900
    e. Preop Patient Photograph
    f. Surgical photographs
    g. Postop Patient Photograph
7. Case 5: 59-year-old male noticed progressive ptosis starting in July 2022
    a. He has noted pressure and pain in the eye
    b. When he wakes up in the morning, his eye is mattered shut
    c. Preop Patient Photograph
    d. Eyelid malignancy:
        i. 5-10% of all skin cancers occur on the eyelid with basal cell being most common and the lower eyelid being the most affected
    e. Mohs Surgery:
        i. Developed in 1938 by Dr. Fredric Mohs
        ii. Gold standard method of tumor removal with complete circumferential peripheral and deep margin assessment (CCPDMA) at the time of tumor removal using frozen section control
        iii. Cure rate of 97-98.8% for basal cell
    f. Squamous Cell Carcinoma:
        i. Mohs micrographic surgery has the highest cure rate of all treatment options for squamous cell carcinoma
        ii. Risk of perineural invasion and distant metastasis
        iii. Treatment may require adjuvant chemoradiation therapy
    g. Intraop Patient Photograph
    h. Postop Patient Photograph
    i. Questions?

Notes

SESSION ONE

Francie Broghammer, M.D.

Clinical Director of Inpatient Mental Health for the State of Minnesota

Emotional IQ and Practice Leadership

COPE Course ID # 83821-PM

Course Description

This course will explore how to take workplace communication from transactional to translational and provide practical advice on how to enhance workplace culture, improve retention, and combat burnout.

Course Objective

This presentation will equip healthcare leaders with the tools to more effectively communicate with their teams and to build strong workplace cultures.

1. Learn and practice techniques of effective communication that can be used in the workplace.
2. Gain a framework to better understand workplace culture and promote employee retention.
3. Explore how to hold team members accountable while also leading from a place of compassion.

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Emotional IQ and Practice Leadership

Francie Broghammer, M.D.

1. Emotional IQ + Practice Leadership
2. Effective Communication: Taking conversations from transactional to translational
    a. Feeling heard vs. unheard
3. Levels of Listening:
    a. Ignoring
    b. Pretend Listening
    c. Selective Listening
    d. Attentive Listening
    e. Empathic Listening
4. Most common Communication "Squirrels"
    a. [Too soon, Too Often...There is only one microphone]
    b. Advise
    c. Agree/Disagree
    d. Argue
    e. Assure
    f. Add your story
    g. Ask questions that take the speaker off course
5. Four Listening Skills
    a. Attending
    b. Following
    c. Silence
    d. Reflecting
6. Explore/Identify what the problem is
    a. "You think..."
    b. "You feel..."
    c. "So for you, the problem is..."
7. "What is the core of the issue here?"
8. Summarize

Notes

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9. Clarify the goal
    a. “What is your goal?”
    b. “What do you want to accomplish?”
10. Ask for their ideas
    a. “What have you thought of or done?”
11. Provide input and resolve
    a. “Would you like to hear my ideas?”
12. Summarize and agree on next steps
13. Once you have someone at the point where dissonance is noted:
    a. “What do you want to do about it?”
    b. “Say more about that?”
    c. "How can I be helpful?”
    d. “What are you going to do next?”
14. STAY Interviews:
    a. Improving employee retention and workplace relationships
15. Stay Interview:
    a. “A structured discussion a leader conducts with an individual employee to learn specific actions the leader can take to strengthen the employee’s engagement and retention with the organization”
16. Benefits:
    a. Employers care
    b. Supervisors take ownership over retention and engagement
    c. Employees are likely to stay longer
    d. Build trust and more productive relationships
17. How To:
    a. HR Should not be having these conversations
    b. Best 1:1
    c. Top down: be an employee before a leader
    d. Give advanced notice and set expectations (things we can control)
    e. Allot 20-30 min
    f. Cannot become a performance evaluation
    g. Don’t send questions in advance
    h. In person
    i. Listen 80% of the time, don’t think about the next question, but be curious about what is shared

Notes

SESSION ONE

Patrick J. Riedel, M.D.

Minnesota Eye Consultants
Glaucoma, Cataract and Refractive Specialist

Christine Larsen, M.D.

Minnesota Eye Consultants
Glaucoma & Cataract Specialist

Chase A. Liaboe, M.D.

Minnesota Eye Consultants
Glaucoma & Cataract Specialist

Clara M. Choo, M.D.

Minnesota Eye Consultants
Glaucoma & Cataract Specialist

Thomas W. Samuelson, M.D.

Minnesota Eye Consultants
Cornea, Cataract
& Refractive Specialist

Marshall Huang, M.D.

Minnesota Eye Consultants
Ophthalmic Fellow

Glaucoma Updates

COPE Course ID # 83990-PO

Course Description

This group lecture will review the current thought behind managing patients with primary narrow angles and primary angle closure glaucoma. We will also discuss why cataract surgery in a patient with glaucoma requires multiple considerations and what those considerations should be. We will review the pathogenesis, diagnosis, and management of normal tension glaucoma. We will do an overview of the use of selective laser trabeculoplasty (SLT) including updates in clinical research that supports early SLT intervention in open angle glaucoma.

Course Objective

1. Review and clarify the grading system for narrow angles.
2. Review what historical data can be useful in preparing a glaucoma patient for cataract surgery.
3. Review the diagnosis and evaluation of NTG: History/Examination (IOP, pachymetry, disc photos, VF and OCT), differential diagnosis (other diagnoses to consider and rule out).
4. Understand the history and mechanism of SLT and how to incorporate SLT in the treatment of open angle glaucoma.
5. We will do a lightning round panel to discuss glaucoma diagnosis, intracameral drug delivery, MIGS updates and more.

Glaucoma 1: The Changing World of Managing Patients with Narrow Angles and Narrow Angle Glaucoma

Patrick Riedel, M.D.

1. Terminology
    a. Narrow angle
        i. Definition of “narrow”
        ii. Brief gonioscopy review
        iii. Grading systems
            1. Van Herrick
            2. Spaeth
    b. Angle closure glaucoma versus angle closure suspect
        i. Primary angle closure (PAC)
        ii. Primary angle closure glaucoma (PACG)
2. Zhongshan Angle-Closure Prevention Trial (ZAP)
    a. Questions being asked
    b. Design
    c. Main outcome measures
    d. Results
    e. Conclusions
    f. How does this study change our thinking about patient care?
3. Effectiveness in Angle-Closure Glaucoma of Lens Extraction (EAGLE)
    a. Questions being asked
    b. Design
    c. Main Outcome measures
    d. Results
    e. Conclusions
    f. How does this study change our thinking about patient care?
4. What do these studies NOT teach us?
    a. Careful about extrapolating
        i. EAGLE trial was not:
            1. Under age 50
            2. No elevated IOP
    b. Studies aren’t unique individual patients
        i. Patient psychology
        ii. Realistic evaluation of disease course
5. Conclusions
6. Questions

Notes

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Glaucoma 2: Cataract Surgery in the Glaucoma Patient

Christine Larsen, M.D.

1. Considerations:
    a. Pre-operative
    b. Intra-operative
    c. Post-operative
2. Pre-operative Planning
3. What stage and type of glaucoma?
    a. Gonioscopy is important!
4. Are they currently well controlled and stable?
5. Any previous glaucoma procedures?
6. What medications is the patient taking currently?
    a. Any past intolerance/allergy?
7. History of steroid response?
8. Desired refractive outcome and candidacy for options?
9. What are the expectations for vision?
10. What we know about cataract removal and the effect on IOP
11. Ocular Hypertension Treatment Study
12. MIGS Pivotal Trials –
    a. > lens removal lowers IOP
13. Combined Procedures
    a. What stage and type of glaucoma? Well-controlled?
    b. iStent
    c. Hydrus
    d. ECP
    e. Goniotomy +/- Viscodilation
        i. OMNI
        ii. Kahook Dual Blade
        iii. Streamline
        iv. GATT
    f. XEN Gel Stent
    g. Trabeculectomy
    h. Tube Shunt

Notes

Minnesota Eye Foundation

14. Intra-operatively
15. IOP fluctuation during phacoemulsification
16. Thorough viscoelastic removal
17. Seidel test
18. Post-operative Pearls
19. Be on alert for a steroid response Glaucoma patients were 5 times more likely to have steroid response to topical prednisolone acetate 1.0% after uneventful cataract surgery
    a. Consider tapering steroid more quickly
    b. Consider following patients more frequently
    c. Plan ahead – any previous allergy/intolerance? What can I use in the event of a pressure spike?
20. Holding glaucoma meds?
    a. PGA?
21. Consider perioperative acetazolamide
22. Summary
    a. Keep IOP goal in mind in the setting of glaucoma type and stage
    b. Thoroughly discuss patient expectations including next steps for IOP management
    c. Monitor more frequently than standard cataract patient
    d. Be prepared if the IOP increases as opposed to decreases
23. Questions?

Notes

Glaucoma 3: Normal Tension Glaucoma

Clara Choo, M.D.

1. Normal Tension Glaucoma (NTG)
   a. Multi-factorial disease where there is a communal end point of retinal ganglion cell loss.
   b. Genetic risk factors include Optineurin (OPTN), TANK binding kinase (TBK1) and Myocilin (MYOC).
   c. Demographic risk factors include:
      i. Age
      ii. Family history
      iii. Female sex and thin central corneal thickness.
   d. Other medical risk factors include:
      i. Systemic hypertension
      ii. Nocturnal hypotension
      iii. Migraines
      iv. Raynaud phenomenon
      v. Obstructive sleep apnea and fronto-temporal and Alzheimer's dementia.
2. NTG is defined by population studies in healthy subjects, with the range of IOP being 11-21 mm Hg (2 SD from mean).
   a. Thus, patients with NTG are usually defined with an IOP <21 mm Hg.
   b. The epidemiology of NTG varies widely.
      i. One third of primary open angle glaucoma (POAG) in the white European population is attributable to NTG.
      ii. In East Asia, up to 95% of POAG cases are ascribed to NTG.
      iii. In the sub-Saharan African population, around 50% of POAG cases are linked to NTG.
3. Pathology findings in NTG are the same as POAG:
   a. Retinal ganglion cell and glial tissue loss.
   b. Supero-temporal and inferotemporal loss of retinal nerve fiber layers are the most common sectors of involvement leading to notches at the disc.
   c. Drance hemorrhages, localized and deep paracentral scotomas, and superior visual field loss is more frequent in NTG compared to POAG.

Notes

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4. The history and physical examination for NTG is also the same as POAG.
5. Suspicion for NTG is usually based on optic nerve appearance since the initial IOP screening is normal.
    a. History review should include prior history of IOP elevations, prior steroid use, ocular surgeries/injuries, associated medical conditions (sleep apnea, migraines, Raynaud) and family history of glaucoma.
    b. Physical exam is geared towards ruling out other causes of glaucoma that may present with normal IOPs on an isolated exam: uveitic, chronic angle closure, pigment dispersion and pseudoexfoliative glaucoma.
    c. Other optic neuropathies should also be considered, like optic neuritis, hereditary/ ischemic/ traumatic optic neuropathies, as well as intraorbital and intracranial tumors.
6. Imaging should be considered in patients:
    a. Who are young
    b. Rapid progressors
    c. Have no family history,
    d. Unilateral presentation,
    e. Disc pallor out of proportion to cupping
    f. VF defects respecting the vertical midline.
7. Diurnal variation of IOPs should be considered with NTG progression and setting a target IOP.
    a. Progression is usually slower than in POAG. Rapid progressors need to be identified and treated aggressively like POAG patients.
    b. NTG patients have more rapid VF progression at the same IOP target as their POAG counterparts. With lower target IOPs, both NTG and POAG patients have slower VF progression. Machine learning algorithms can be used to predict rate of VF loss at different target IOPs.
8. Active monitoring can be a suitable initial treatment plan.
9. The Collaborative Normal Tension Glaucoma Study (CNGTS) demonstrated that 65% of untreated eyes showed no progression over 5 years.

Notes

10. If there is demonstrated progression on optic nerve imaging:
    a. VF changes or optic disc hemorrhages, there should be a concern for visual morbidity.
    b. CNGTS showed that 12% of the treated group still progressed despite meeting the IOP lowering goal of 30% from baseline.
11. IOP is the only modifiable risk factor at this point shown to lower visual morbidity.
12. Brimonidine (over timolol) has been associated with less VF progression in NTG patients.
13. Trabeculectomy may be needed to achieve IOPs <10 mm Hg.
14. Modification of non-IOP risk factors includes:
    a. Management of nocturnal hypotension
    b. Sleep apnea
    c. Smoking cessation
    d. Avoidance of head-down positions that may raise IOP.
    e. Gingko biloba and nicotinamide are being investigated as nutritional supplements for NTG.
15. Questions?

Notes

Glaucoma 4: The History and Mechanism of SLT

Chase Liaboe, M.D.

1. Overview of SLT
   a. History of previous glaucoma therapies
2. Overview of original LiGHT Trial
   a. Objective
   b. Methods
   c. Results
   d. Conclusions
3. Overview of follow-up LiGHT Trial
   a. Objective
   b. Methods
   c. Results
   d. Conclusions
4. Brief overview of COAST Trials
   a. Conclusions
   b. Questions?

Notes

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Glaucoma 5: Glaucoma Lightning Rounds Panel

Thomas Samuelson, M.D.

Panelists: Drs. Patrick Riedel, Christine Larsen, Clara Choo, Chase Liaboe and Marshall Huang

1. Glaucoma diagnosis
   a. Tonometry techniques
   b. Home tonometry
   c. OCT
      i. NFL and GCL
   d. Visual Field
      i. FTD vs Standard perimetry
2. Initial Glaucoma Therapy
   a. Pharma
   b. Laser
   c. New laser platforms
3. Intracameral drug delivery
4. Pre and post op care for surgical glaucoma
5. MIGS update
6. MIGS limitations and traditional glaucoma surgery
7. IOL selection for patients with glaucoma
8. Consultative glaucoma
   a. Maximizing the patient experience
9. Questions?

Notes

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STRIDES 4 SIGHT 5K

A community event benefiting The Vision Project

Join us in changing lives, one eye at a time, through the Strides 4 Sight 5k Walk/Run and Kids Fun Run!

SUNDAY, SEPTEMBER 10

8:00 AM Check in
8:30 AM Kids Fun Run
9:00 AM 5K Run/Walk
10:00 AM Awards*

**Silent Auction will take place onsite to raise additional funds for the Minnesota Eye Foundation's Vision Project*

Normandale Lake Bandshell
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Bloomington, MN 55438

$30 **5K RUN/WALK**

**Day of Event Registration Fee for 5K Run/Walk is $40/person.*

$15 **KIDS 12 AND UNDER FUN RUN**

**Processing fee will apply for all registrants.*

STRIDES 4 SIGHT
MINNESOTA EYE FOUNDATION

REGISTER TODAY!

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For sponsorship information,
contact Maura at **mjmitchell@mneye.com**

SESSION TWO

Johnna Hobbs, O.D.

Minnesota Eye Consultants
Primary Eye Care and Dry Eye Specialist

Ahmad Fahmy, O.D., FAAO

Minnesota Eye Consultants
Primary Eye Care and Dry Eye Specialist

Mona Fahmy, O.D., FAAO

Minnesota Eye Consultants
Primary Eye Care

Mark Buboltz, O.D., FAAO

Minnesota Eye Consultants
Primary Eye Care, Specialty Contact Lenses, and Dry Eye Specialist

Optometry Panel Grand Rounds

COPE Course ID # 84096-GO

Course Description

This will be a “grand rounds” style course with four case presentations related to ocular disease.

Course Objective

1. The audience will learn about dupilumab related conjunctivitis, etiology, and how to treat.
2. The audience will learn about identifying optic neuritis signs and symptoms even in the pediatric population.
3. The audience will learn about identifying signs and symptoms of anterior ischemic optic neuropathy.
4. The audience will learn about treatment and management of limbal stem cell deficiency.

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Optometry Panel Grand Rounds

Johnna Hobbs, O.D.
Mark Buboltz, O.D., FAAO
Ahmad Fahmy, O.D., FAAO
Mona Fahmy, O.D., FAAO

Case 1: Dupilumab associated blepharoconjunctivitis

1. Presentation
    a. 60 year old, WF presents with severe red eye, dry, blurred vision OU, eyelid swelling
        i. Onset 7-8 months prior
        ii. Started Dupixent similar time as onset
        iii. Also had COVID-19 similar timing as well
        iv. Other notable systemic history
            a.HLA-B27+
            b. Eczema
            c. Pre-diabetic
    b. Entrance exam (notable findings)
        i. 20/40 OD, OS vision cc at distance
        ii. Lids: moderate thickening, complete madarosis BUL/BLL
        iii. Adnexa: multiple facial lesions/scabbing around cheeks, eyelids, and forehead
        iv. Conjunctiva: 1-2+ injection
        v. Cornea: 1-2+ PEK OU
    c. Differentials
        i. Demodex blepharitis and folliculitis
        ii. Acne rosacea blepharitis
        iii. Eczema
        iv. Contact Dermatitis
    d. Entering ocular treatments:
        i. Loteprednol 0.5% BID OU
        ii. Ivermectin Horse Paste around BUL/LL 1x/day as needed
        iii. Notably started oral ivermectin 25mg BID PO (Rx by virtual primary care doctor)

Notes

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e. Dupixent (dupilumab)
   i. Blocks IL-4 and IL-13 intracellular signaling
   ii. Used for eczema
   iii. Notable 8.5% risk of conjunctivitis, higher in patients with asthma
   iv. Peer reviewed journals noting increase in demodex populations in patients treated with dupilumab
f. Treatment
   i. Stop dupilumab
   ii. Topical Steroids
   iii. Topical T-cell inhibitors
   iv. Topical Ivermectin
   v. Role of oral ivermectin

Case 2

1. Optic Neuritis in a patient presenting with headache and loss of vision
   a. Referral to MEC from OD office:
   b. Eye pain and headache started on 3/2.
   c. Presented to referring doc on 3/6: vision 20/20, 20/200
   d. No report of CF or pupil measurement.
   e. She reports he has difficulty maintaining fixation due to eye pain. IOP 21, 21
   f. Dx from referring doctor is papilledema due to indistinct L ONH.
   g. Patient presents to MEC later that day with parents. Complains that he has been unable to eat for 2 days due to nausea and vomiting. Growing dizzy.
   h. Vision 20/20, 20/400 (in 4 hours)
   i. IOP 20, 25
   j. Color vision plates 14/14, 1/14
   k. Arrived still dilated- cannot check APD; constricted field
   l. OCTNFL (share) shows definite papilledema.
   m. Dx: left optic neuritis - immediately referred to Children's ED with call to provider
   n. Patient arrives at ED with pediatric neurologist consulted. MR of brain and orbits c/w left optic neuritis
   o. Patient also found to be Vitamin D deficient
   p. He was admitted and started on IV Methylprednisone Q6H. He started noticing improvement in his symptoms within 12 hours.
   q. By 3/9 the visual deficit was nearly resolved with mild blur remaining (exact acuity not measured).

Notes

r. Will be following up with neurology in 2 months. (I will be calling to try to get them back to MEC for further testing and get records from neurology to provide more details.)
s. CNS demyelinating disease is suspected.
t. Background on epidemiology of MS in children.

Case 3

1. Urgent clinic OD role at MEC – anything may land in your chair!
   a. Case of sudden, unilateral, painless vision loss
      i. Differential diagnoses
   b. How to tell apart from AAION
   c. Detailed look at history, Questions to ask
   d. Testing to perform
   e. Next steps to get care for the patient in an urgent manner
   f. Overview and Etiology of AION
   g. Treatment/ Risk Mitigation/ Patient Counseling
   h. Clinical trials

Case 4

1. Limbal Stem Cell Deficiency (LSC)
   a. Introduction:
      i. Adult stem cells
      ii. Maintain integrity of the corneal surface, and transparency of the cornea
      iii. Barrier to invasion of conjunctival epithelial cells onto clear cornea
      iv. Palisades of Vogt
         a. Highest density of LSCs – local stromal cells, ECM, soluble growth factors
2. Disruption of limbal niche environment eventually leads to:
   a. Neovascularization within corneal epithelium and stroma, scar
   b. Corneal staining with epithelial thinning, Vortex pattern
3. Primary etiologies:
   a. Aniridia
   b. Congenital epidermal dysplasia
   c. Endocrine deficiencies
   d. Turner Syndrome
   e. Secondary
   f. Chemical injury
   g. Stevens-Johnson Syndrome
   h. Contact lens use
   i. Iatrogenic / multiple ocular surgery
   j. History severe ocular infection
   k. History of ocular tumor

Notes

l. Neurotrophic Keratopathy
m. Bullous Keratopathy

Clinical Case Presentation:

1. Pertinent History
   a. 67-year-old patient
   b. Congenital nystagmus
   c. Congenital aniridia
   d. Salzmann's
   e. Aniridia with keratitis
   f. Limbal Stem Cell Deficiency
   g. History of strabismus surgery
   h. Glaucoma suspect
   i. History of Stromal HSV OS
2. Iris hypoplasia
3. Autosomal dominant mutations in PAX6
4. Affects all structures of the eye
5. Clinical findings
   a. Optic nerve and foveal hypoplasia
   b. 20/250 OD 20/150 OS
   c. Pressure 22 OD, 23 OS
   d. Bandage contact lenses replaced every 6 weeks
      i. Risk of infection
   e. FML PRN OS
   f. Ofloxacin QD OU
   j. Valacyclovir 500mg PO BID
   h. Restasis BID OU
   i. Failed Scleral Lens

Treatment

1. Add Autologous Serum
2. Superficial Keratectomy
3. Superficial Keratectomy with KLAL
4. Stem Cell Transplant
5. Keratoprosthesis

Questions?

Notes

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SESSION TWO

Marni Feldmann, M.D.

Minnesota Retina Associates
Retina and Vitreous Diseases

Mehdi Roozbahani, M.D.

Minnesota Retina Associates
Retina and Vitreous Diseases

Tara Schaab, M.D.

Minnesota Retina Associates
Retina and Vitreous Diseases

Retina Updates & Innovative Treatments

COPE Course ID # 83767-TD

Course Description

This course will present updates on the treatment of dry age-related macular degeneration (dry AMD). Discussion topics will include staging of macular degeneration, impact of dry AMD on the population, pipeline treatments on the horizon for dry AMD. We also discuss proper use of AREDS 2 formulation eye supplements. We will update audiences about the first FDA-approved treatment for dry AMD.

Course Objective

1. Attendees will learn about the impact of dry AMD in daily life of patients.
2. Attendees will be able to answer patients' questions about AREDS 2 formulation supplements.
3. Attendees will be updated on the latest clinical trials about dry AMD treatment.
4. Attendees will learn about the mechanism of effect and clinical use of the first and only FDA approved treatment for geographic atrophy.
5. Attendees will learn about consulting patients about treatment options available to them, which patients are a good candidate, and when to refer to retina specialists.

Retina Updates & Innovative Treatments

1. Natural History
   a. 2 out of 3 patients with bilateral geographic atrophy (GA) lost the ability to drive in a median time of <2 years from the earliest record indicating diagnosis of geographic atrophy.
   b. 63% of patients living with GA had difficulty reading for everyday tasks or for leisure
   c. 38% of patients felt helpless or embarrassed at their need for assistance.
   d. 31% of patients with geographic atrophy lose at least three lines of vision in 2 years.
   e. The growth rate median is 2.1 mm2/year, but with variation up to 10.2mm2/year.
   f. We know that best-corrected VA is poorly correlated with GA lesion size.
2. Disease Progression in GA is Constant and Irreversible
   a. Of the 397 patients who developed central GA, the median time to foveal encroachment was only 2.5 years from diagnosis according to a prospective AREDS study (N=3640).
3. Development of GA (%), Years after randomization
4. Great advances in treatment for exudative age-related macular degeneration.
   a. Many companies are moving to the forefront with research targeting the development of treatment for dry AMD.
5. Dry AMD pipeline
   a. Neuroprotection
      i. Repair Mitochondrial dysfunction/oxidative stress:
         1. elamipretide
         2. risuteganib
         3. photobiomodulation
      ii. Failed:
         1. NT-501-ciliary neutrophic factor
         2. Tandospirone
         3. OT-551

Notes

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6. Risuteganib
    a. In its most recent Phase 2a study, Risuteganib showed that 48% of patients had met the primary end goal of >8 letter gain in BCVA compared to the sham group, in which only 7.1% of patients had an improvement.
    b. Reduce Amyloid AB oligomer assembly:
        i. GAL-101
        ii. ALZ-801
    c. Reduce DHA peroxidation:
        i. RT011
    d. Failed:
        i. Fenretinide
        ii. emixustat
        iii. OT-551
7. Stem cell therapy
    a. Treatments aim to deliver stem cell–derived RPE cells into the subretinal space to replace or regenerate the RPE cells that are lost or damaged in GA.
    b. Opregen (Lineage Cell Therapeutics/ Roche/ Genentech) is an allogeneic RPE cell transplant that is delivered by subretinal injection.
    c. In the interim analysis, Opregen was well tolerated, with most adverse effects being related to pars plana vitrectomy or use of the Orbit Subretinal Delivery System.
8. Other Approaches
    a. Inflammasome Inhibition:
        i. Kamuvudine
        ii. Xiflam
    b. Matrix Modulation:
        i. Doxycycline
    c. HtrA1 Inhibitor
        i. FHTR2163
9. Anti-inflammatory agents:
    a. Inflammatory mediators contribute to choriocapillaris endothelial cell damage and breakdown in Bruch's membrane.
    b. Targeting these pathways may rescue endothelial cells, reduce deposition of inflammatory components that promote drusen formation, and prevent RPE atrophy.
    c. Oracea (Galderma Laboratories), a daily 40-mg oral doxycycline formulation, is currently under investigation in a randomized, double-blind, placebo-controlled, phase 3 clinical trial.

Notes

10. It has been shown through staining for C3 and C5, which complements accumulate in drusen and the sub-RPE space in elderly eyes.
11. Certain risk alleles that have been associated with complement activation are also associated with development of macular degeneration and progression of GA.
    a. There is also a higher level of complement in eyes that have GA postmortem.
12. How to Dx GA on exam, FAF and OCT
13. FDA Approves the First and Only Treatment for Geographic Atrophy (GA) 2023
14. Syfovre
    a. Compliment protein C3 inhibitor.
    b. FDA has approved Empaveli (pegcetacoplan) injection to treat adults with paroxysmal nocturnal hemoglobinuria (PNH), a rare, life-threatening blood disease.
    c. Over 24 months, the rate of infectious endophthalmitis was 0.34%, and the rate of intraocular inflammation was 0.24% per injection.
    d. These results are consistent with studies of other intravitreal therapies.
    e. The combined rate of new-onset wet AMD was 11.9%, 6.7%, and 3.1% in the pegcetacoplan monthly, every-other-month, and sham groups, respectively.
15. Should we get excited?!
    a. Monthly or every other month injection
    b. No stopping strategy
    c. No BCVA improvement
    d. Can't reverse or stop the progression
    e. Possible serious side effects (endophthalmitis, conversion to Wet AM.D.,...)
16. Best candidates for Syfovre
17. Share the news with your patients
    a. They deserve to know there is a treatment
18. Select the right patient to start treatment
19. Questions?

Notes

MinnesotaRetina ASSOCIATES

About Us

Offering Medical Retina services in Minnesota, our experienced, sub-specialty trained ophthalmologists provide compassionate, personalized care for a full range of retina conditions.

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Golden Valley

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Services

- Macular degeneration
- Diabetic retinopathy
- Retinal tears
- Retinal vascular occlusion
- Macular edema

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SESSION TWO

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Cornea, Cataract
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Challenging Cataract Surgery Cases

COPE Course ID # 83990-PO

Course Description

This course will be a series of case presentations in cataract surgery and panel discussions. Discussion topics will include preoperative assessment and preparation of patients for cataract surgery, IOL selection in eyes with ocular disorders, preoperative counseling, and postoperative management.

Course Objective

1. The audience will learn proper preoperative testing and examination of patients prior to cataract surgery.
2. Specific conditions that require pretreatment for optimal outcomes, how to determine which IOL(s) are appropriate in a variety of ocular disorders and diseases.
3. The panel will discuss treatment approaches they would consider for each case and why they recommend that treatment.

Challenging Cataract Surgery Cases

Elizabeth A. Davis, M.D., F.A.C.S.

Panelists:

David R. Hardten, M.D., F.A.C.S

Sherman W. Reeves, M.D., M.P.H

Omar E. Awad, M.D., F.A.C.S

Mark S. Hansen, M.D.

1. Case 1
   a. 72-year-old man presents 2 weeks after undergoing cataract surgery in his right eye. He has no complaints and feels his vision is excellent. He is using his postoperative drops correctly.
      i. VA sc OD: 20/20-1
      ii. MR OD:-0.25 + 0.50 x 165 20/20 +2.25J1+
      iii. IOP OD: 28 mm Hg
   b. What is your diagnosis?
   c. What is your approach to treatment?
2. Case 2
   a. 62-year-old woman undergoes uneventful cataract surgery in her right eye with placement of a monofocal IOL targeted for distance.
   b. The IOL was a single piece acrylic and the capsulorrhexis is overlapping the optic 360 degrees.
   c. At her 2 week follow up she complains of a persistent, constant dark arc-like shadow in her temporal visual field.
   d. Negative dysphotopsia
      i. How would you manage at this point (early postop period)?
      ii. What would you do if her symptoms persisted at 6 months and she was miserable?
3. Dysphotopsias
   a. Undesirable optical patterns on the retina
   b. Positive dysphotopsia (PD): bright artifact of light, described as arcs, streaks, starburst, rings, halos
   c. Negative dysphotopsia (ND): absence of light on a portion of the retina, described as a dark, temporal arcing shadow

Notes

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4. Incidence
    a. PD: as high as 50% early postop but only 1.5% at 1 year
    b. ND: up to 15% early postoperatively but only 3% at 1 year
5. Dysphotopsias:
    a. Dysphotopsias are incompletely understood.
    Data supports:
        i. PD is due to IOL material, design, location
            1. Only present with oblique source of light at ~35 degrees
            2. Square edge (most common)
            3. High index of refraction
        ii. ND is due to a gap between the light rays refracted by the IOL and those missing the IOL, thus leaving a crescent shaped shadow on the retina
    b. Dysphotopsias Treatment
        i. FIRST:
            1. WAIT (neuro-adaptation, anterior capsule fibrosis)
        ii. PD
            1. Pharmacologic pupil constriction: dilute pilocarpine, brimonidine
            2. IOL exchange for lower index of refraction IOL: silicone, collamer
        iii. ND
            1. Only occurs in perfectly centered IOLs with good overlap of the optic by the anterior capsulorhexis
            2. Pupil constriction makes symptoms worse
            3. YAG nasal anterior capsule
            4. Piggyback IOL-potentially scatters light into nasal retina
            5. Orient haptics horizontally (optic-haptic junction precludes gap in light rays)
            6. Reverse optic capture of IOL
            7. IOL exchange for 3-piece silicone or collamer IOL with reverse optic capture
6. Surgical intervention for negative dysphotopsias
    a. Of the surgical interventions for ND (piggyback IOL, reverse optic capture, IOL exchange), which of these have you performed and what was the success rate?

Notes

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7. Case 3

a. A 74 year old woman with 3+ NS and wet AMD (was receiving Lucentis injections, last one 1 month prior) underwent uncomplicated cataract surgery on her left eye.Monofocal IOL was used targeting distance.

b. On POD 1, her eye was comfortable, she didn't notice any redness or irritation, but she complained of very blurry VA. She was taking all of her drops as prescribed (Moxifloxacin, Ketorolac, Prednisolone—all QID)

c. VA sc OS HM

d. IOP OS: 24 mm Hg

8. Slit Lamp Exam:

a. What further evaluation would you perform?

b. What is your diagnosis?

c. How would you treat?

9. TASS: toxic anterior segment syndrome

a. An acute, noninfectious inflammation of the anterior segment following anterior segment surgery

b. Typically develops within 24 hrs of surgery

c. Findings

d. Corneal edema (limbus to limbus)

e. Significant AC cell, hypopyon

f. Fibrin

g. Dilated or irregular pupil

10. Etiology

a. Contaminants

b. Toxins (including bacterial endotoxins)

c. Imbalanced solutions (abnormal pH, osmolarity, ionic composition)

d. Preservatives

e. Inadequate sterilization of instruments or flushing of instruments

f. Topical ointments

g. How would you treat?

Notes

11. TASS: toxic anterior segment syndrome
    a. Treatment
        i. Retina evaluation to rule out endophthalmitis
        ii. Frequent topical steroids
        iii. If severe, consider oral steroids
        iv. Assess for inflammatory complications of other patients who underwent surgery that day
        v. Perform investigation: Evaluate intracameral medications and fluids administered intraoperatively (concentration, preparation, lot numbers), evaluate sterilization and cleaning solutions, evaluate prep solutions, etc.
    b. Complications
        i. Corneal decompensation due to endothelial damage
        ii. Glaucoma due to trabecular meshwork damage
        iii. Iris atrophy, dilated pupil, irregular pupil
        iv. CME
12. Case 4
    a. 68 year old man presents 1 month after uncomplicated cataract surgery OD complaining of a decline in vision. He has no pain, no flashes or floaters. The decline in VA was gradual over several days to a week.
    b. BCVA OD 20/80
    c. IOP: 16 mm Hg
    d. SLE: normal with well centered PCIOL, PC intact and clear
13. Fundus exam
    a. What is your diagnosis?
    b. Would you like any further tests?
14. Mac OCT
15. CME
    a. How do you treat?
    b. At what point do you send to a retina specialist?
16. Guttatae
    a. How do you assess the cornea in a cataract patient with guttatae?
        i. Slit lamp exam technique
        ii. Testing
17. Guttatae: retroillumination
    a. Testing
        i. Specular microscopy
        ii. Pachymetry

Notes

18. Guttatae
    a. What is your criteria for determining whether a patient with guttatae can undergo cataract surgery alone or requires a combined cataract surgery and EK (endothelial keratoplasty)?
19. Krachmer grading
20. Monovision
    a. In what percentage of patients undergoing cataract surgery do you perform a monovision correction?
    b. What patients are good candidates for MV in cataract surgery?
    c. Would you perform MV correction with IOLs in a patient who had never trialed it in contact lenses? If so, in what situations?
21. Presbyopia correction: Extended depth of focus IOLs
    a. Multifocal IOLs(MFIOL)
        i. Provides 2 or more discrete focal points
        ii. Simultaneous overlapping images from different focal points can create halos
        iii. Image quality may be reduced
        iv. Give most spectacle independence
        v. E.g. Bifocal (ReZoom, Restor, Technis MFIOL), Trifocal (Panoptix)
    b. Extended depth of focus IOLs (EDOF IOL)
        i. Has a longitudinally extended focal point
        ii. Elimination of overlapping near and far images reduce halo effect
        iii. Image quality may be reduced
        iv. Less spectacle independence (often require reading glasses as near is inadequate)
        v. E.g. Eyehance, IC-8, Symfony, Synergy, Vivity
22. Extended depth of focus can be created by manipulating one or more of the following:
    a. Spherical aberration
        i. An aberration of focal length difference between central and peripheral rays where peripheral rays are focused more anteriorly due to increased IOL curvature peripherally)
    b. Chromatic aberration
        i. Light of different wavelengths are refracted to different focal points
    c. Pinhole effect
        i. Reduction in pupil size increases depth of focus

Notes

23. Classification of EDOF IOL
    a. Pure EDOF IOL
        i. Spherical aberration based
            1. Eyehance
        ii. Pinhole effect based
            1. IC-8
    b. Hybrid EDOF/MFIOL
        i. Hybrid EDOF/MF diffractive
            1. Symfony
        ii. Hybrid EDOF/MF refractive-diffractive
            1. Synergy
    c. Beam-shaping nondiffractive IOL
        i. Vivity
24. EDOF IOLs
    a. In what percent of your patients who desire presbyopia correction do you use EDOF IOLs?
    b. In which patients would you use an EDOF IOL over a MFIOL?
    c. What is your preferred EDOF IOL or do you use several?
    d. What is your refractive target when using EDOF IOLs and is it the same in the dominant and nondominant eye?
    e. How do you counsel patients on advantages and disadvantages of EDOF IOLs?
25. Light adjustable lens (LAL)
    a. Which patients are ideal candidates?
    b. When would you choose a MFIOL or EDOF IOL over the LAL?
26. IOL options
    a. How can referring eye doctors counsel patients on IOL options?
    b. Do you find it helpful for the referring doctor to initiate the conversation on IOL options with the patient or even recommend an IOL or IOL refractive target?
27. Questions?

Notes

SESSION TWO

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Cornea Grand Rounds

COPE Course ID # 84022-TD

Course Description

This course will present a variety of corneal diagnostic and therapeutic problems in a case-based discussion format.

Course Objective

Case-based diagnosis of corneal edema, deposits, inflammatory and infectious keratitis will be presented. The therapeutic and management options of these conditions will be discussed.

Corneal Grand Rounds

Sherman W. Reeves, M.D., M.P.H.

Mark S. Hansen, M.D.

Panelists:

David R. Hardten, M.D., F.A.C.S.

Elizabeth A. Davis, M.D., F.A.C.S.

Omar E. Awad, M.D., F.A.C.S.

Thomas Meirick, M.D.

1. Cornea Grand Rounds
    a. Faculty Disclosures
    b. Overview
2. Keratitis
    a. Case # 1: Chronic superficial keratitis
        i. Presentation: 57 year-old female, RGP wearer, with eye irritation, watering and burning for the 2 weeks, no improvement with artificial tears or tobramycin from the Minute Clinic.
        ii. DDX: Dry eye, blepharitis, toxic, neurotropism, Thygeson's, HSV, VZV, Staph marginal keratitis, acanthamoeba, ABM.D., recurrent erosions, exposure, atopic/vernal
        iii. Workup: Thorough history, complete exam, corneal sensation, NaFl staining
        iv. Treatment: Varies by etiology. Removal of toxic exposures, lubrication, punctal plugs, bandage contact lenses for ocular surface support. Consider infectious causes before out beginning anti-inflammatory therapy or steroids then careful follow-up for response.
3. Corneal Deposits
    a. Case #2: Corneal opacity and mild vision blur
        i. Presentation: 56 year-old female, gradually increasing blur in right eye over past 6 months, sudden significant irritation this past weekend
        ii. DDX: Bacterial ulcer, marginal keratitis, recurrent erosion, corneal edema, medication effect, epithelial ingrowth, Salzmann's nodules, medication effect
        iii. Workup: Complete exam, corneal topography /tomography, pachymetry, specular microscopy
        iv. Treatment: Observation if not visually significant, removal of inciting agent, superficial keratectomy/PTK for surface nodules, lift and scrape of lasik flap interface

Notes

1. Topic 3 – Keratoplasty
    a. Case #3: PK v DALK
        i. Presentations: Herpetic Keratitis with peripheral neovascularization and center corneal scar. Sub case with KCN central striae, scar, and previous hydrops.
        ii. DDX: Corneal Scarring
        iii. Treatment: Discuss how to treat Neovascularization, corneal scar. Show indications that could consider PK v DALK.
    b. Case #4: Endothelial dysfunction
        i. Presentation: morning blur that improves throughout the day.
        ii. Work up: Pach, spec, topography
        iii. Treatment: discuss DMEK v DSEK
        iv. Diabetic Endothelial Keratoplasty Study (DEKS)
            1. NEI sponsored, randomized prospective trial
            2. Comparing DMEK graft survival from donors with diabetes to those without
5. Topic 4
    a. Case #4: Multiple presentations representing corneal disease with systemic associations
        i. Presentation: Photos of corneal pathology
        ii. DDX: Discuss differential diagnosis and potential systemic side effects
        iii. Workup: present the required workup and potential referral for testing and labs
        iv. Treatment: Treatments needed for corneal pathology and working in conjunction with primary care.
6. Questions / Discussion

Notes

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