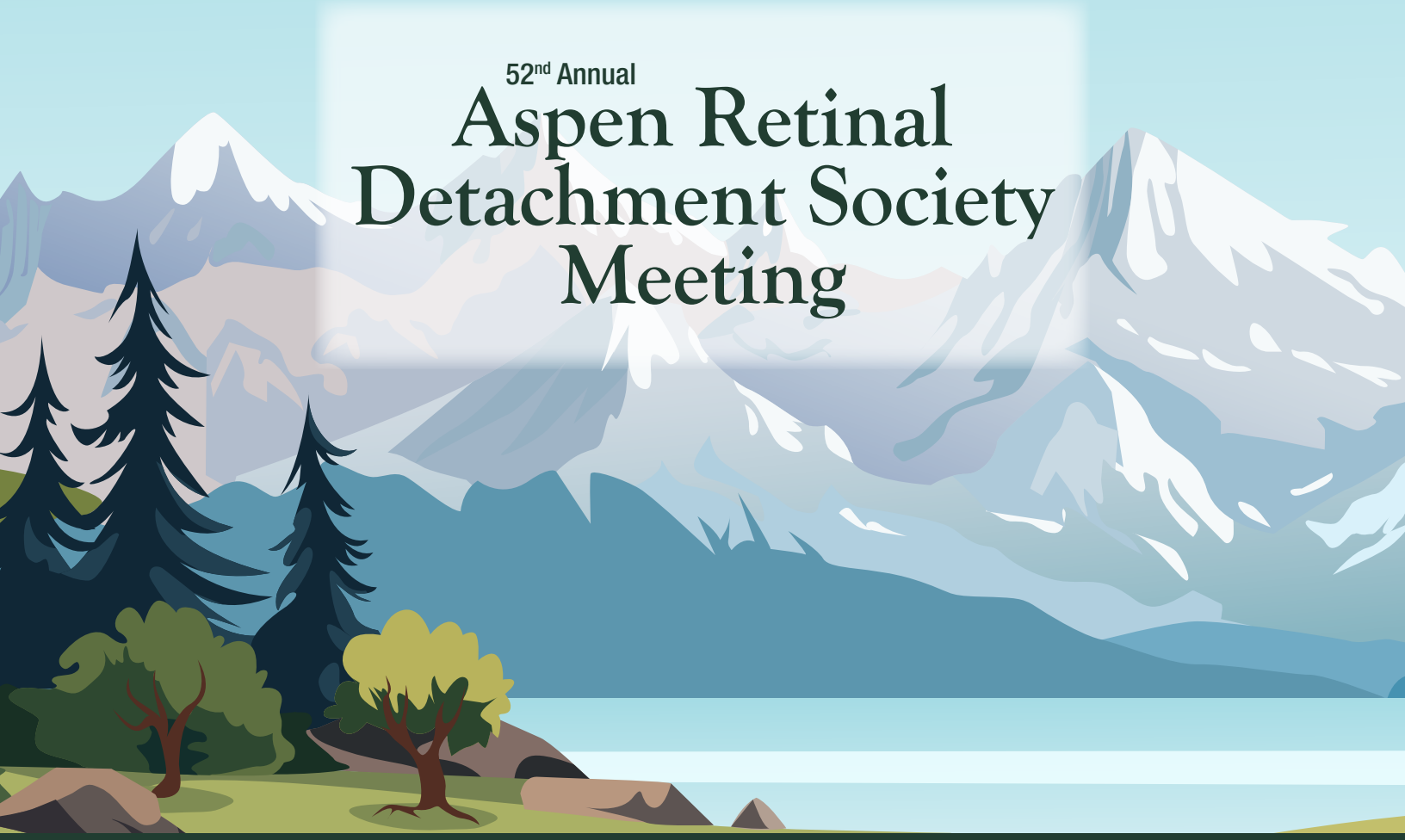
THE ASPEN RETINAL DETACHMENT SOCIETY

"Oh vitreous where is thy humor?"

ARDS2024



52nd Annual Aspen Retinal Detachment Society Meeting

MARCH 2-6, 2024 • SNOWMASS, COLORADO

ACCREDITATION

In support of improving patient care, this activity has been planned and implemented by Cine-Med and Medical Conference Planners International. Cine-Med is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

JOINTLY ACCREDITED PROVIDER™
INTERPROFESSIONAL CONTINUING EDUCATION

PHYSICIANS

Cine-Med designates this live activity for a maximum of ***12 AMA PRA Category 1 Credit(s)™***. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

OTHER HEALTHCARE PROFESSIONALS

All other healthcare professionals will receive a Certificate of Participation. For information on the applicability and acceptance of Certificates of Participation for activities designated for ***AMA PRA Category 1 Credits***™, consult your professional licensing board.

ARDS 2024

Dear Colleagues,

Welcome to the 52nd Aspen Retinal Detachment Society (ARDS) Annual Meeting. This year continues a tradition of long-format presentations and discussions focused on vitreoretinal surgical diseases. Speakers at ARDS continue to be remarkable leaders in the field of retina, and many of our most significant advances were first discussed at this meeting. Remarkably, nothing has stopped the ARDS meeting – much like our specialty overall, we have continued through pandemic, economic turmoil, and terrorism. We appear to have returned to our roots with a normal meeting format and continued close and personal interactions.

For this year, the Founders Lecture delivered by Dr. K. Bailey Freund, will enhance our understanding of macular disease with Pseudoxanthoma Elasticum as a focal point for his discussion on macular imaging. The Taylor Smith/Victor Curtin Lecture will be unique this year with Dr. David Boyer addressing advances in our understanding of Central Serous Maculopathy and Dr. Giovanni Staurenghi presenting on High Resolution OCT (having been unable to travel for his 41st Annual ARDS Presentation). This year, these three world's experts will focus on presentations and discussions of retinal/choroidal disease and the impact of advanced imaging on our understanding of retinal pathology.

In addition, our speakers truly represent the ARDS commitment to both advancement and education within our field. Drs. Maura Di Nicola and Basil Williams will present on Uveitis and Oncology respectively bringing their unique perspective to some of our most devastating diseases. Dr. Dan Martin will focus his expertise on AMD extending our discussions on treatment of Geographic Atrophy while Dr. Justis Ehlers will bring us up to date with ultra-wide field imaging in Diabetic Retinopathy. Drs.Barbara Parolini, Giovanni Staurenghi, and Justis Ehlers will highlight the advances in imaging, classification, and treatment of complex macular disease. Finally, Dr. Dean Eliott will discuss surgical techniques for vitreoretinal lymphoma while providing updates on his experience with the management of complex ocular trauma.

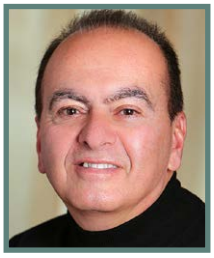
As always, the long format lectures will be followed by interactive discussions from our members and each day will include a specialty panel discussing the real-world impact of medical and surgical advances in retina. Further, we will continue to include morning sessions (for those interested) that will be case-based interactive discussions.

The 52nd Annual Meeting will further a meeting that is unique in our field. Incorporating outstanding speakers capable of integrating research advances, both surgical and medical, into the immediate world of clinical care, these presentations and panels deliver state-of-the-art information from top practitioners with insightful interactive discussions.

For the ARDS leadership, the uniqueness of this meeting, its caliber and impact, owe much to the incredible individuals who have spoken over these five decades but ALSO to our amazing members whose targeted questions and impactful comments anchor ARDS at its clinical roots.

Best regards,

Timothy G. Murray, MD, MBA
Program Director



Donald J. D'Amico, MD
Program Director

Karen Baranick
President, Medical Conference Planners Intl.

Guest Faculty

David S. Boyer, MD
Retina-Vitreous Associates Medical Group
Los Angeles, CA
TAYLOR SMITH & VICTOR CURTIN LECTURE

Maura Di Nicola, MD
Bascom Palmer Eye Institute
Miami, FL

Justis P. Ehlers, MD
Cole Eye Institute,
Cleveland Clinic
Cleveland, OH

Dean Eliott, MD
Massachusetts Eye and Ear Infirmary
Boston, MA

K. Bailey Freund, MD
Vitreous Retina Macula Consultants of New York
New York, NY
FOUNDERS LECTURE

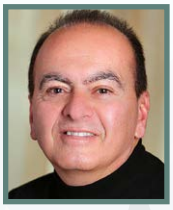
Daniel F. Martin, MD
Cole Eye Institute,
Cleveland Clinic
Cleveland, OH

Barbara Parolini, MD
Eyecare Clinic of Brescia
Brescia, Italy

Giovanni Staurenghi, MD
University of Milan
Milan, Italy
TAYLOR SMITH & VICTOR CURTIN LECTURE

Basil K. Williams, Jr., MD
Bascom Palmer Eye Institute
Miami, FL

Program Directors



Donald J. D'Amico, MD
Weil Cornell Medicine
Ophthalmology
New York, NY

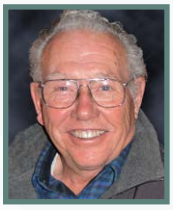
Timothy G. Murray, MD, MBA
Murray Ocular Oncology and Retina
Miami, FL

Meeting Planner

Karen Baranick
Medical Conference Planners International
Los Angeles, CA

Founders

William O. Edward, MD
1930-2012



Ottiwell W. Jones, III, MD
Spokane, WA

Meeting Notes Editor

R.V. Paul Chan, MD, MSc, MBA
UIC/Illinois Eye and Ear Infirmary
Chicago, IL

13th ANNUAL FOUNDERS LECTURE

MONDAY, MARCH 4, 2024 | 6:55 PM

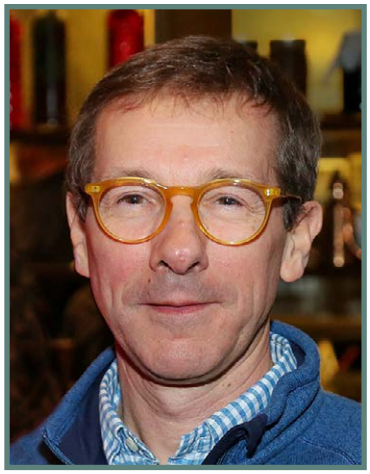
Pseudoxanthoma Elasticum (PXE): A Rare Disease with a Multitude of Retinal Imaging Findings

K. BAILEY FREUND, MD

K. Bailey Freund, MD, specializes in all retinal disorders including macular degeneration, diabetic retinopathy, and retinal vascular diseases. He is an expert in retinal imaging and diagnostically challenging and rare conditions. For those reasons, he routinely evaluates patients and images from around the world. Dr. Freund has initiated and conducted many clinical trials for treatments for retinal diseases. He is a Clinical Professor of Ophthalmology at NYU Grossman School of Medicine and a Senior Partner at Vitreous Retina Macula Consultants of New York, a single-specialty group with eleven retinal physicians. Dr. Freund is a founding member and trustee of the International Retinal Imaging Society. He is also a member of the Retina Society, Macula Society, and the American Society of Retina Specialists. He is on the Editorial Board of the journal *Retina* and is an Associate Editor for *Retinal Cases & Brief Reports*. He has authored over 580 peer-reviewed scientific manuscripts and has written numerous books and book chapters, most notably the second edition of *The Retinal Atlas*. He recently joined the editorial team for *Ryan's Retina 7th edition*. Dr. Freund has received numerous awards including the prestigious Young Investigator Award from the Macula Society, the Senior Achievement Award from the American Academy of Ophthalmology, and the J. Donald M. Gass Lectureship at the Retina Society. He is a graduate of Williams College and the New York University School of Medicine and completed his residency training in general ophthalmology and fellowship in medical and surgical retina at the Manhattan Eye, Ear, and Throat Hospital. Dr. Freund is also a prominent collector of vintage magic apparatus and a proud husband and father of two.

Founders Honorees

2012 Steve T. Charles, MD
2013 Joan W. Miller, MD
2014 Carl D. Regillo, MD
2015 Dean Eliott, MD
2016 Mark W. Johnson, MD
2017 Mark S. Humayun, MD, PhD
2018 Maria H. Berrocal, MD
2019 Allen C. Ho, MD
2020 Glenn J. Jaffe, MD
2021 Dennis P. Han, MD
2022 H. Culver Boldt, MD
2023 Gregg T. Kokame, MD, MMM
2024 K. Bailey Freund, MD



41st ANNUAL TAYLOR SMITH & VICTOR CURTIN LECTURE

TUESDAY, MARCH 5, 2024 | 3:55 PM

High Resolution OCT: What We Miss

GIOVANNI STAURENGHI, MD

Giovanni Staurenghi, MD, is presently professor of ophthalmology and chairman of the University Eye Clinic and director of the University Eye Clinic Department of Biomedical and Clinical Science at the Luigi Sacco Hospital in Milan, Italy.

He received his medical degree at the University of Pavia and his residency training at the University of Milan, both in Italy. He was a research fellow and, subsequently, a visiting scientist at the Schepens Eye Research Institute. His research, publications, and lectures have an important bearing on retinal degeneration; his work is focused on different types of imaging and treatment.

Dr. Staurenghi is a member of the Macula Society, The Association for Research in Vision and Ophthalmology (ARVO), Ophthalmic Photographer Society, and American Academy of Ophthalmology. He was a member of the Annual Meeting Program Committee of ARVO from 2008 to 2010. He is a scientific advisor for the Digital Angiography Reading Center and visiting professor and consultant for the Belfast Ophthalmic Reading Center at the Central Angiographic Resource Facility.

Dr. Staurenghi is a member of the editorial board of IOVS and Retina. He is a reviewer for many international scientific journals including the American Journal of Ophthalmology, Archives of Ophthalmology, British Journal of Ophthalmology, European Journal of Ophthalmology, Graefe's Archives of Ophthalmology, International Ophthalmology, IOVS, Ophthalmology, Ophthalmologica, and Retina.

42nd ANNUAL TAYLOR SMITH & VICTOR CURTIN LECTURE

TUESDAY, MARCH 5, 2024 | 6:50 PM

Central Serous Retinopathy: Past, Present, and Future

DAVID S. BOYER, MD

David S. Boyer, MD is a Board-certified ophthalmologist specializing in the treatment of diseases of the retina and vitreous. He received a Bachelor of Science Degree from the University of Illinois at Champaign, IL, after which he completed a medical degree at the Chicago Medical School. In 1976, he finished his residency at the Los Angeles County-USC County Medical Center. A year-long retinal surgery fellowship at the Wills Eye Hospital, in Philadelphia, completed his training.

He is Senior Partner at Retina-Vitreous Associates Medical Group with offices in Los Angeles, Beverly Hills, North Hollywood, Torrance, Pasadena, Tarzana and Glendale, California. Dr. Boyer is an Adjunct Clinical Professor of Ophthalmology with the University of Southern California/ Keck School of Medicine in Los Angeles, CA.

He has an extensive research background and is currently an investigator for various clinical trials. He is one of the leading retinal clinical researchers in the country for new treatments in macular degeneration and diabetic macular edema. A widely-published author and avid lecturer, Dr. Boyer lectures nationally and internationally on retinal research and the innovative approach to the treatment of retinal diseases.

Taylor Smith & Victor Curtin Honorees*

1983	Thomas M. Aaberg, Sr., MD	1994	Charles P. Wilkinson, MD	2005	Thaddeus P. Dryja, MD	2016	Neil M. Bressler, MD
1984	Robert E. Morris, MD	1995	George W. Blankenship, MD	2006	Jerry A. Shields, MD	2017	Gary W. Abrams, MD
1985	Michael Shea, MD	1996	Mary Lou Lewis, MD	2007	Mark S. Blumenkranz, MD	2018	Daniel F. Martin, MD
1986	Alexander Ray Irvine, Jr., MD	1997	Donald J. D'Amico, MD	2008	Allan E. Kreiger, MD	2019	Yale L. Fisher, MD
1987	William H. Spencer, MD	1998	Stanley Chang, MD	2009	Alexander R. Gaudio, MD	2020	Carol L. Shields, MD
1988	Victor T. Curtin, MD	1999	Harry W. Flynn, Jr., MD	2010	Carmen A. Puliafito, MD, MBA	2021	Robert L. Avery, MD
1989	Alan Bird, MD	2000	Ian J. Constable, MD	2011	David W. Parke, II, MD	2022	Timothy G. Murray, MD, MBA
1990	J. Donald M. Gass, MD	2001	Thomas R. Friberg, MD	2012	J. Brooks Crawford, MD	2023	Giovanni Staurenghi, MD
1991	Robert J. Brockhurst, MD	2002	William S. Tasman, MD	2013	Michael T. Trese, MD	2024	David S. Boyer, MD
1992	Stephen J. Ryan, MD	2003	Evangelos S. Gragoudas, MD	2014	Julia A. Haller, MD		
1993	Wayne E. Fung, MD	2004	Steve T. Charles, MD	2015	George A. Williams, MD		

Prior to 2017, this lecture was known as the Taylor Smith Lecture.

ARDS 2024

PROGRAM AT A GLANCE

Saturday

MARCH 2, 2024

4:00 – 9:00 PM
Registration

6:00 – 9:00 PM
Welcome Dinner

Sunday

MARCH 3, 2024

7:30 – 9:00 AM
Satellite Symposium with Breakfast (non-CME)^

7:30 – 8:00 AM
Breakfast

8:00 – 9:00 AM
Treating Patients With Retinal Disease: Real-World Experiences With Vabysmo
Jeremy D. Wolfe, MD, MS
(Sponsored by Genentech, Inc).

3:30 – 7:30 PM
Exhibits

4:00 – 4:20 PM
Multimodal Imaging in Uveitis
Maura Di Nicola, MD

4:20 – 4:35 PM
Discussion

4:35 – 4:55 PM
Quantitative Ultra-Widefield Angiography – A New Opportunity to Assess Diabetic Retinopathy Severity?
Justis P. Ehlers, MD

4:55 – 5:10 PM
Discussion

5:10 – 5:30 PM
Key OCT Signatures and Their Histologic Correlates Which Every Clinician Should Recognize
K. Bailey Freund, MD

5:30 – 5:45 PM
Discussion

5:45 – 6:15 PM
Break

6:15 – 6:35 PM
Treatment of Geographic Atrophy: How We Got Here and Where We Hope to Go
Daniel F. Martin, MD

6:35 – 6:50 PM
Discussion

6:50 – 7:30 PM
PANEL 1:
Imaging and Treatment of Complex Retinal Disease
Moderator:
Timothy G. Murray, MD, MBA

Panelists:
Maura Di Nicola, MD
Justis P. Ehlers, MD
K. Bailey Freund, MD
Daniel F. Martin, MD

Monday

MARCH 4, 2024

7:30 – 9:00 AM
Satellite Symposium with Breakfast (non-CME)^

7:30 – 8:00 AM
Breakfast

8:00 – 9:00 AM
Integration of Anti-Inflammatory Treatment for DME
Justis P. Ehlers, MD
(Sponsored by AbbVie)

3:30 – 7:30 PM
Exhibits

4:00 – 4:20 PM
Current Landscape and Future Opportunities in Surgical Visualization and Intraoperative OCT
Justis P. Ehlers, MD

4:20 – 4:35 PM
Discussion

4:35 – 4:55 PM
The Role of MNV Classification in Clinical Practice
Giovanni Staurenghi, MD

4:55 – 5:10 PM
Discussion

5:10 – 5:30 PM
Myopic Traction Maculopathy: From Pathogenesis to the Staging System, Leading to a Customized Management
Barbara Parolini, MD

5:30 – 5:45 PM
Discussion

5:45 – 6:15 PM
Break

6:15 – 6:55 PM
PANEL 2:
Cutting Edge Issues in Vitreoretinal Surgery
Moderator:
Donald J. D'Amico, MD

Panelists:
Justis P. Ehlers, MD
Barbara Parolini, MD
Basil K. Williams, Jr., MD

6:55 – 7:00 PM
Introduction of Founders Lecture
Donald J. D'Amico, MD

7:00 – 7:20 PM
13TH ANNUAL FOUNDERS LECTURE
Pseudoxanthoma Elasticum (PXE): A Rare Disease with a Multitude of Retinal Imaging Findings
K. Bailey Freund, MD

7:20 – 7:30 PM
Discussion

8:00 – 10:00 PM
Faculty Dinner

Tuesday

MARCH 5, 2024

7:30 – 9:00 AM

Satellite Symposium with Breakfast (non-CME)^

7:30 – 8:00 AM

Breakfast

8:00 – 9:00 AM

An Expert Discussion of OAKS, DERBY, and 1-Year GALE Data and Treating Appropriate Patients

Jeremy D. Wolfe, MD, MS

(Sponsored by Apellis Pharmaceuticals)

9:00 – 10:00 AM

Case Discussion with Experts (non-CME)^

Moderator:
Timothy G. Murray, MD, MBA

11:00 AM – 2:00 PM

NASTAR Ski Race and Lunch

3:30 – 7:30 PM

Exhibits

3:55 – 4:00 PM

Introduction of Taylor Smith & Victor Curtin Lecture

Donald J. D'Amico, MD

4:00 – 4:20 PM

41ST ANNUAL TAYLOR SMITH & VICTOR CURTIN LECTURE

High Resolution OCT: What We Miss

Giovanni Staurenghi, MD

4:20 – 4:35 PM

Discussion

4:35 – 4:55 PM

Vitrectomy After Trauma

Dean Eliott, MD

4:55 – 5:10 PM

Discussion

5:10 – 5:30 PM

Is There a Way to Be Successful Taking to Surgery Lamellar Macular Holes?

Barbara Parolini, MD

5:30 – 5:45 PM

Discussion

5:45 – 6:15 PM

Break

6:15 – 6:35 PM

Intraocular Surgery and Complications in Ocular Oncology

Basil K. Williams, Jr., MD

6:35 – 6:50 PM

Discussion

6:50 – 6:55 PM

Introduction of Taylor Smith & Victor Curtin Lecture

Timothy G. Murray, MD, MBA

6:55 – 7:20 PM

42ND ANNUAL TAYLOR SMITH & VICTOR CURTIN LECTURE

Central Serous Retinopathy: Past, Present, and Future

David S. Boyer, MD

7:20 – 7:30 PM

Discussion

8:00 – 10:00 PM

Closing Dinner

Wednesday

MARCH 6, 2024

7:30 – 9:00 AM

Satellite Symposium with Breakfast (non-CME)^

7:30 – 8:00 AM

Breakfast

8:00 – 9:00 AM

Join the Latest Conversations in Treating Wet AMD and DME

Scott Westhouse, DO

(Sponsored by Regeneron Pharmaceuticals, Inc.)

9:00 – 10:00 AM

Case Discussion with Experts (non-CME)^

Moderator:
Timothy G. Murray, MD, MBA

3:30 – 7:30 PM

Exhibits

4:00 – 4:20 PM

Diagnostic Techniques for Vitreoretinal Lymphoma

Dean Eliott, MD

4:20 – 4:35 PM

Discussion

4:35 – 4:55 PM

What the Retina Specialist Needs to Know About Managing Uveitis

Maura Di Nicola, MD

4:55 – 5:10 PM

Discussion

5:10 – 5:30 PM

CATT Tales: 20 Years of Science, Politics, and Persistence

Daniel F. Martin, MD

5:30 – 5:45 PM

Discussion

5:45 – 6:15 PM

Break

6:15 – 6:35 PM

Ocular Manifestations of New Anti-Cancer Drugs

Basil K. Williams, Jr., MD

6:35 – 6:50 PM

Discussion

6:50 – 7:30 PM

PANEL 3:

Retinal Diseases That Are Rare, Important, and Even Life Threatening

Moderator:
Donald J. D'Amico, MD

Panelists:
Maura Di Nicola, MD
Dean Eliott, MD
Daniel F. Martin, MD
Giovanni Staurenghi, MD

7:30 PM

Adjourn

^ Not part of the educational activity.

Sunday | MARCH 3

4:00 – 4:20 PM

Multimodal Imaging in Uveitis

MAURA DI NICOLA, MD

Uveitis presents a diagnostic challenge due to its diverse etiologies and complex manifestations. Multimodal imaging can aid in the comprehensive evaluation of the immunopathological changes that occur in inflammatory disorders of the eye. The latest advancements in multimodal imaging techniques, encompassing optical coherence tomography (OCT), optical coherence tomography angiography (OCTA), fundus autofluorescence (FAF), fluorescein angiography (FA), and indocyanine green angiography (ICGA) have allowed for the detection and monitoring of anatomic and functional changes that occur in uveitis. Furthermore, some imaging modalities have been helpful in elucidating the pathogenetic mechanism of some intraocular inflammatory conditions. By providing a comprehensive visualization of ocular structures and inflammatory activity, multimodal imaging empowers uveitis and retina specialists to tailor treatment strategies, optimize disease control, and preserve visual function in patients with uveitis.

4:35 – 4:55 PM

Quantitative Ultra-Widefield Angiography – A New Opportunity to Assess Diabetic Retinopathy Severity?

JUSTIS P. EHLERS, MD

Diabetic retinopathy remains a major cause of vision loss in the United States and throughout the world. The longstanding gold standard grading system utilizes a complex system based on clinical appearance of the retina. This grading system is the anchor for clinical trials in evaluating therapeutic impact on diabetic retinopathy severity. Anti-VEGF therapy has demonstrated dramatic improvements in the clinical appearance of diabetic retinopathy, but it remains used primarily in proliferative disease and with diabetic macular edema. The lack of more definitive risk stratification creates challenges for clinical management, treatment decision-making and clinical trial design. New and emerging technologies are allowing next generation characterization of disease phenotyping, including quantitative ultra-widefield angiography. This tool provides continuous metrics of specific phenotypic features of interest, such as leakage index and ischemic index. These continuous metrics may provide important insights for disease burden and prognostication, while providing unique opportunities for future clinical trial design.

5:10 – 5:30 PM

Key OCT Signatures and Their Histologic Correlates Which Every Clinician Should Recognize

K. BAILEY FREUND, MD

Beginning in 2010, Christine Curcio and I have collaborated on imaging-histology correlations intended to improve the interpretation of clinical optical coherence tomographic (OCT) imaging of patients with diseases of the retina and underlying choroidal vasculature, especially age-related macular degeneration (AMD). This is accomplished through microscopic analysis of human donor eyes with extensive clinical history and multimodal imaging. Eye tissues are processed for high-resolution histology and microscopy and compared to clinical images of the same eyes obtained while the patients were living. We seek histopathologic correlates of distinctive OCT signatures that appear commonly in patients with both non-neovascular and neovascular AMD.

This presentation will include multimodal retinal imaging and clinicopathologic correlates for several AMD phenotypes which can be mistaken for exudative macular neovascularization. Clinicians familiar with these findings will be less likely to initiate potentially unnecessary treatment with intravitreal anti-vascular endothelial growth factor therapy when they encounter such cases.

6:15 – 6:35 PM

Treatment of Geographic Atrophy: How We Got Here and Where We Hope to Go

DANIEL F. MARTIN, MD

Two drugs were recently FDA approved for the treatment of Geographic Atrophy, a major cause of vision loss in patients with AMD. The therapeutic effect for each drug is modest and associated with a significant treatment burden, cost and risk of important adverse events. The use of these drugs is highly variable across the retina community with some physicians enthusiastically embracing them and others choosing not to use them. This presentation will review the pathogenesis of geographic atrophy, provide a balanced review of the safety, efficacy and other emerging data for these drugs, and discuss how we got to the endpoints used in these trials as the primary outcome. The presentation will also cover the concerns of extending the use of these

drugs to other causes of macular atrophy that have never been studied in a clinical trial, discuss the evolving development of new clinical trial endpoints, and finally briefly review other treatments under study.

6:50 – 7:30 PM

Panel 1: Imaging and Treatment of Complex Retinal Disease

MODERATOR:
TIMOTHY G. MURRAY, MD, MBA

PANELISTS:
MAURA DI NICOLA, MD
JUSTIS P. EHLERS, MD
K. BAILEY FREUND, MD
DANIEL F. MARTIN, MD

This panel will use case-based learning to discuss the unique diagnostic challenges for complex retinal disease focusing on advanced sdOCT, OCTA, widefield fundus and FA imaging along with diagnostic ultrasound to establish a working diagnosis. Specific attention will be given to interactive patient discussions targeting both the risks and benefits of treatment. The panel will discuss the extension of treatment complications based on real world data in light of FDA approval of novel agents for advanced geographic atrophy in age related macular degeneration. This panel will highlight evolving clinical care indications and concerns to significantly broaden the retina specialist's awareness of these novel pharmacotherapies.

Monday | MARCH 4

4:00 – 4:20 PM

Current Landscape and Future Opportunities in Surgical Visualization and Intraoperative OCT

JUSTIS P. EHLERS, MD

Imaging and advanced visualization have pushed the envelope of our current approach to clinical management of retinal disease. High resolution OCT system and panretinal cameras provide in-depth assessment of clinical features and disease characteristics in ways not previously possible. Moving this technology to the operating room may open new doors to future innovation in surgical procedures, enhanced surgical efficacy, and provide better oversight of patient safety. Significant opportunities exist with integration of imaging diagnostics, such as intraoperative OCT, to provide a more precision surgical approach to vitreoretinal surgical diseases. In addition, digital technology and visualization are now providing a new flexible visualization canvas that more easily integrates these on-board diagnostics into the surgical theater. These technologies include 3D large screen system, digital ocular, and surgical visors.

4:35 – 4:55 PM

The Role of MNV Classification in Clinical Practice

GIOVANNI STAURENGHI, MD

In the past, choroidal neovascularization (CNV) classification relied on fluorescein angiography, categorizing lesions as occult or classic. However, in the 1990s, the introduction of indocyanine green angiography proposed two additional lesion types: polypoidal lesions and retinal angiomatous proliferation (RAP).

More recently, the CONAN group, employing optical coherence tomography (OCT), introduced a new classification system modifying the terminology from CNV to macular neovascularization (MNV). This adjustment arose from the recognition that some lesions do not originate from the choroid. The updated classification delineates three subtypes: type 1 (located under the retinal pigment epithelium), type 2 (located over the retinal pigment epithelium), and type 3 (lesions originating from retinal vessels, aligning with the prior RAP classification), alongside polypoidal choroidal lesion.

After this classification update, various retrospective studies including analyses of clinical trials, have been undertaken to evaluate the impact of this classification on treatment outcomes and potential side effects.

5:10 – 5:30 PM

Myopic Traction Maculopathy: From Pathogenesis to the Staging System, Leading to a Customized Management

BARBARA PAROLINI, MD

Myopic Traction Maculopathy (MTM) is a broad spectrum of clinical patterns that can affect up to 30% of eyes with pathologic myopia (PM) with and without posterior staphyloma.

In 2020, Parolini et al. proposed a new staging system that defined MTM as a progressive disease that initially affects the retinal innermost layers with an inner macular schisis and then progresses, involving the outermost retinal layers until the schisis disappears and the macular detachment develops. Providing information regarding the nomenclature, pathogenesis, and prognosis and being divided into 12 stages, the MTM Staging System (MSS) highlights the evolving nature of the disease. The MSS

aims to offer the pillar of tailored treatments per any specific stage.

A proposal for a tailored treatment was also published by Parolini et al. Herein, we report the long-term results of macular buckle and PPV for MTM following the guidelines of treatment based on the MSS.

Anatomical success rate can be reached in 95% of cases or more when only macular buckle is applied to treat MTM stage 2a, 3a, 2b, 3b, 4a, 4b and in 95% of cases or more when a combination of macular buckle with vitrectomy and ILM maneuvers is applied in stages 2c, 3c, 4c. In stage 1c vitrectomy and ILM maneuvers might lead to a high rate of success.

Functional improvement is associated to anatomical improvement and only limited by the degree of macular or optic atrophy, or by anterior media.

MTM can be successfully managed, based on the guidelines of a customized treatment.

6:15 – 6:55 PM

Panel 2: Cutting Edge Issues in Vitreoretinal Surgery

MODERATOR:
DONALD J. D'AMICO, MD

PANELISTS:
JUSTIS P. EHLERS, MD
BARBARA PAROLINI, MD
BASIL K. WILLIAMS, JR., MD

Despite predictions a few years ago that vitreoretinal surgery had reached a plateau and would become increasingly marginalized, the field has roared back with innovative approaches to macular hole, lamellar macular hole, myopic foveoschisis, intraocular gene therapy, accessing the suprachoroidal space for drug and gene therapy, and many more breakthroughs. These have been accompanied by continued advances and refinements of surgical instrumentation along with new methods of intraoperative visualization and real-time diagnostics. Coupled with a new sensitivity to the dramatic increase in patients symptomatic from vitreous opacities following multifocal IOLs and other causes, vitreoretinal surgery continues to flourish as a surgical discipline with increasing success in the treatment of many important and common conditions. This panel of experts will explore the cutting-edge issues in vitreoretinal surgery with an eye to future developments.

7:00 – 7:20 PM

13TH ANNUAL FOUNDERS LECTURE

Pseudoxanthoma Elasticum (PXE): A Rare Disease with a Multitude of Retinal Imaging Findings

K. BAILEY FREUND, MD

Pseudoxanthoma elasticum (PXE) is an inherited systemic disease caused by mutations in the ABCC6 gene on chromosome 16. The disorder primarily affects the elastic fibers of tissues, and the diagnosis is confirmed by skin biopsy or genetic testing. In addition to affecting the skin and circulatory system, PXE often cause ocular changes leading to decreased vision. It does so by damaging Bruch's membrane, an elastic rich layer of the outer retina that separates the retina from the highly vascular choroid. Over time, Bruch's membrane begins to mineralize and loses its elasticity, leading to changes in its structural integrity. A diverse spectrum of ocular manifestations occurs in PXE patients including peau d'orange, angioid streaks, choroidal neovascularization, disc drusen, pattern dystrophy, and comitial lesions. Acute retinopathy, first described by Gliem et al., is a more recently described ocular finding in some PXE patients involving the outer retina/retinal pigment epithelium/Bruch's membrane (RPE/BrM) complex. Acute retinopathy is characterized by rapid vision loss related to retinal findings resembling both multiple evanescent white dot syndrome (MEWDS) and punctate inner choroidopathy/idiopathic multifocal choroiditis (PIC/iMFC). Recognizing key imaging findings of retinal disease in PXE patients can improve visual outcomes in these patients and inform the diagnosis and management of similar changes occurring in more commonly encountered degenerative retinal disorders.

Tuesday | MARCH 5

4:00 – 4:20 PM

41ST ANNUAL TAYLOR SMITH & VICTOR CURTIN LECTURE

High Resolution OCT: What We Miss

GIOVANNI STAURENGHI, MD

High-Resolution OCT devices, developed collaboratively by Heidelberg Engineering and the MIT lab, have enabled a substantial increase in axial optical resolution, reaching up to 2.7-3 µm. It is important to note that the lateral resolution remains unaltered at 14 µm. This enhancement in axial resolution facilitates the identification of various retinal structures at both cellular and subcellular levels, a capability not achievable with commercial devices. Consequently, pathological changes,

especially in their early stages, can be visualized more effectively.

Moreover, the improved resolution of these devices allows for higher precision in the measurement of retinal vessels and their walls, contributing to a more detailed and accurate assessment.

4:35 – 4:55 PM

Vitrectomy After Trauma

DEAN ELIOTT, MD

The indications for vitrectomy after open globe injury include endophthalmitis, intraocular foreign body (IOFB), media opacity, progressive vitreoretinal traction (+/- retinal detachment), retinal incarceration (+/- retinal detachment), and retinal detachment. All suspected open globe injuries and all cases with a history of a high-speed projectile require CT scanning to rule out the presence of an IOFB. While endophthalmitis and IOFB cases require immediate treatment, vitrectomy for the other conditions is typically performed 7-14 days after the primary repair, as these are considered secondary procedures. Approximately one-third of open globe injuries will eventually develop retinal detachment, usually at the time of presentation or within the next few weeks, but some occur years later. The goals of vitrectomy are to create a PVD, relieve vitreous and/or retinal traction, and reattach the retina using a variety of techniques such as membrane peeling, scleral buckle, retinectomy, perfluorocarbon liquid, endolaser, and extended tamponade as needed. Compared with immediate vitrectomy, surgery at 7-14 days typically has less bleeding and easier PVD induction (closer to 14 days is recommended for young patients due to their firmly adherent hyaloid). When present, choroidal hemorrhage and other comorbidities can be addressed at the time of vitrectomy. For eyes with progressive vitreoretinal traction or retinal incarceration in a scleral wound, it is essential that all traction is relieved, and incarceration cases typically require retinectomy. The addition of a scleral buckle at the time of vitrectomy reduces the incidence of recurrent retinal detachment.

5:10 – 5:30 PM

Is There a Way to Be Successful Taking to Surgery Lamellar Macular Holes?

BARBARA PAROLINI, MD

Tractional and degenerative lamellar macular hole (LMH) is a debated entity that still holds uncertainties in the correct definition, pathogenesis and treatment. The study will shed light on both types of LMH and will lead to the best management.

In summary, both eyes with symptomatic ERM foveoschisis and eyes with LMH characterized by progressive thinning may benefit from surgical repair. ERM foveoschisis should be treated as epiretinal membrane with vitrectomy and peeling. LMH should be treated as full thickness macular hole with tissue embedding into the LMH. Results and cases will be reported.

6:15 – 6:35 PM

Intraocular Surgery and Complications in Ocular Oncology

BASIL K. WILLIAMS, JR., MD

Retina surgery in patients with intraocular tumors presents several challenges, necessitating a nuanced understanding of both surgical techniques and potential complications. Several concerning aspects have been discussed over time, including possible limited visual benefit when compared with the theoretical risks of extraocular extension, metastasis and potentially death. However, an increased emphasis has been placed on maximizing vision in patients treated for intraocular cancers in the last few decades, which in turn has led to detailed discussions with patient and overall more frequent procedures. The potential risks of extraocular spread can be minimized with some specific precautions. Despite the advancements in surgical techniques, intraocular surgery in patients affected by intraocular cancers is not without complications including inflammatory response, proliferative vitreoretinopathy, and vascular changes that can make some of these cases particularly complex.

6:55 – 7:20 PM

42ND ANNUAL TAYLOR SMITH & VICTOR CURTIN LECTURE

Central Serous Retinopathy: Past, Present, and Future

DAVID S. BOYER, MD

Central serous chorioretinopathy (CSCR) is an eye disease that affects the macula, the central part of the retina responsible for sharp, detailed vision. It's characterized by a buildup of fluid underneath the macula, causing the retina to detach and blur vision.

Past:

- The first description of CSCR dates back to 1866, but it wasn't until the 1950s that the condition was named and its clinical features were better understood.

- Early research focused on identifying the cause of CSCR, with theories ranging from emotional stress to hormonal imbalances.
- Treatment options were limited, mainly observation and supportive measures like stress management.

Present:

- The exact cause of CSCR remains unknown, but it's believed to be linked to a combination of factors, including:
  - **Choroidal hyperpermeability:** Increased leakage from blood vessels in the choroid, the layer beneath the retina.
  - **Retinal pigment epithelium (RPE) dysfunction:** The RPE normally pumps fluid out from under the retina, but malfunction can lead to fluid buildup.
  - **Stress, medications, and certain medical conditions:** These may play a contributory role in some cases.
- Diagnostic techniques like optical coherence tomography (OCT) indocynine green angiography (ICG) provide detailed images of the retina and fluid accumulation, enabling early and accurate diagnosis.
- Treatment options have expanded, with:
  - **Observation:** Most cases (70-80%) resolve spontaneously within a few months.
  - **Micropulse laser:** Heat shock protein activation enables retina to return to a more normal configuration.
  - **Photodynamic therapy (PDT):** Injects a light-sensitive medication into the bloodstream, then activates it with a laser to target and close leaky vessels. Gold standard
  - **Anti-VEGF medications:** Not helpful but what about brolucizumab?
  - **Spiranolactone?**
- Despite advancements, treatment outcomes can vary, and recurrence rates are high (30-50%).

Several conditions can mimic or masquerade as central serous chorioretinopathy (CSCR):

Choroidal Neoplasms:

- **Choroidal hemangioma:** This benign tumor can cause localized fluid accumulation and vision changes similar to CSCR, but often presents with a subtle, elevated lesion visible on fundus examination.
- **Polypoidal choroidal vasculopathy (PCV):** This condition involves abnormal blood vessels in the choroid, leading to fluid and lipid deposits under the retina, mimicking CSCR features. Must rule out in any studies in Southeast Asia.

Other Inflammatory Conditions:

- **Presumed ocular histoplasmosis syndrome (POHS):** This inflammatory condition, often triggered by past fungal infection, can cause scarring and fluid accumulation in the macula, resembling CSCR. However, POHS typically involves multiple, punched-out retinal lesions.
- **Multifocal choroiditis:** This inflammatory condition affects multiple areas of the choroid, leading to patchy subretinal fluid and vision changes. It often affects younger individuals and may be associated with systemic autoimmunity.
- **Age-related macular degeneration (AMD):** Dry AMD can sometimes present with subtle fluid accumulation, mimicking CSCR in early stages. However, AMD typically occurs in older individuals and involves drusen deposits and geographic atrophy in the macula.

Future:

- Ongoing research aims to:
  - Better understand the complex mechanisms behind CSCR.
  - Develop personalized treatment strategies based on individual patient characteristics.
  - Explore new therapeutic options.
- The hope is to improve treatment efficacy, reduce recurrence rates, and ultimately prevent vision loss from CSCR.
- Treatments Lumithera? Scleral windows? NSAIDs?

In conclusion:

CSCR research has come a long way, but there's still much to learn about its causes and optimal treatment. The future holds promise for more personalized and effective approaches to managing this sight-threatening condition.

If you have any further questions or concerns about CSCR, please consult with an ophthalmologist for personalized advice.

Wednesday | MARCH 6

4:00 – 4:20 PM

Diagnostic Techniques for Vitreoretinal Lymphoma

DEAN ELIOTT, MD

Primary vitreoretinal lymphoma is a high grade, non-Hodgkin's B-cell lymphoma that involves the vitritis, retina, and/or optic nerve. The diagnosis is often delayed since it has an insidious onset and often masquerades as vitritis +/- retinitis and/or choroiditis. Definitive diagnosis is essential and is established by obtaining a fluid or tissue specimen and conducting sophisticated laboratory analysis and/or skilled histopathologic examination. Diagnostic tests include the following: cytology, molecular diagnostics, and cytokine analysis. Cytology involves analysis of vitreous fluid using flow cytometry, where cells are isolated and undergo immunophenotyping. The presence of numerous cells with the CD20 antigen (a transmembrane protein on B lymphocytes) is consistent with the diagnosis. Unfortunately, the technique is not very effective due to the large number of cells that are required to make the diagnosis, and in many cases the vitreous has scant cells. Cytology can also involve histopathologic analysis of a retinal and/or chorioretinal biopsy. There is reluctance among retina surgeons to perform this highly invasive procedure, but when performed appropriately, an experienced ocular pathologist can readily establish the diagnosis. Molecular diagnostics includes analysis of vitreous fluid for IgH gene rearrangement (for B-cell lymphoma), TCR gene rearrangement (for T cell lymphoma), and the newly discovered MyD88 (myeloid differentiation primary response gene 88) gene mutation (for B cell lymphoma). The MyD88 test has high sensitivity and is considered a tremendous breakthrough. Cytokine analysis involves measurement of vitreous levels of IL-10 (produced by malignant B cells) and IL-6 (produced by inflammatory cells), and an IL-10:IL-6 ratio >1 is supportive of lymphoma.

4:35 – 4:55 PM

What the Retina Specialist Needs to Know About Managing Uveitis

MAURA DI NICOLA, MD

Due to the wide variety of clinical presentations and disease severity, uveitis often poses a unique challenge to retina specialists in terms of both diagnosis and management. In areas where uveitis specialists are not easily accessible, the retina specialist is often the provider in charge of managing complex cases of intraocular inflammation. Retina specialists also often face the challenges specific to managing uveitic complications affecting the posterior segment, such as macular edema, vitritis, and chorioretinitis. It is therefore important to be able to identify key clinical features and to select the appropriate laboratory and ancillary testing to reach the correct diagnosis. Several retrospective studies and prospective clinical trials have elucidated evidence-based therapeutic strategies, including local and systemic steroids and immunomodulatory agents, in order to optimize treatment regimens while minimizing potential ocular and systemic side effects. A deeper understanding of uveitis and its management principles tailored to the retina specialist's perspective empowers clinicians to deliver high-quality care while advancing the collective effort to mitigate the burden of uveitic disease.

5:10 – 5:30 PM

CATT Tales: 20 Years of Science, Politics, and Persistence

DANIEL F. MARTIN, MD

In 2003, the NEI awarded Stuart Fine, Maureen Maguire and Dan Martin an R34 Clinical Trials Planning Grant. The goal was to develop and launch the first trial for what would become an AMD Clinical Trials Network. After almost two years of work, a trial that compared PDT, PDT + IVK, pegaptanib alone and pegaptanib + PDT had been developed and was ready to be submitted. The MARINA results and a single case of intravitreal bevacizumab reported in July 2005 changed everything. Over the next few years, the Comparison of AMD Treatment Trials (CATT) was developed. There were many obstacles to be overcome before we ever enrolled a patient. Policy changes that were pursued by CATT leadership were enacted by CMS and the NEI along with a Congressional amendment (authored by CATT leadership) passed by Congress in July 2008. The CATT study was a randomized clinical trial that compared ranibizumab and bevacizumab given monthly or PRN. The study was conducted from 2008 to 2016 with the pivotal one-year results published in 2011 and the two-year results in 2012 and the five-year findings in 2016. The trial showed the two drugs were equivalent for visual acuity at one and two years and that PRN dosing was effective but resulted in a mean of two letters less visual acuity gain than monthly treatment when either drug was given. The results were confirmed in a series of five other international randomized clinical trials. The CATT Study Group ultimately published 67 papers, editorials, and commentaries, many of which continue to guide treatment of neovascular AMD today. The behind-the-scenes story of how CATT happened and overcame many of its challenges will be presented along with selected

highlights from the numerous CATT manuscripts. The continued importance of these findings relative to the anti-VEGF drugs that have been approved since the study was completed will be discussed.

6:15 – 6:35 PM

Ocular Manifestations of New Anti-Cancer Drugs

BASIL K. WILLIAMS, JR., MD

The approach to cancer treatment continues to evolve, especially in the setting of an increasing focus on personalized care. By targeting specific mutations in each individual's cancer, there has been an increased life expectancy in multiple malignancies. Additionally, the evolution of immunotherapy has revolutionized prognosis for many oncologic patients. However, in the setting of numerous new targeted therapies and immunotherapy, patients are experiencing ophthalmic side effects of these medications. While increased tumor cell specificity theoretically reduces complications, toxicity secondary to the drugs' mechanisms of action remains a challenge in the utilization of these medications. It is important for retina specialists to be aware of the vision-threatening and rarely life-threatening side effects of targeted anticancer agents, in order to appropriately manage them and maximize visual outcomes and quality of life of patients affected by cancer. Prompt recognition and appropriate management of ocular side effects often allows patient to avoid discontinuation of a potentially life-saving treatment.

6:50 – 7:30 PM

Panel 3: Retinal Diseases That Are Rare, Important, and Even Life Threatening

MODERATOR:
DONALD J. D'AMICO, MD

PANELISTS:
MAURA DI NICOLA, MD
DEAN ELIOTT, MD
DANIEL F. MARTIN, MD
GIOVANNI STAURENGHI, MD

Although vitreoretinal specialists are often fortunate to practice side-by-side with talented colleagues in uveitis, ocular oncology, and neuro-ophthalmology, as well as the vast array of medical and surgical specialists in our communities and medical centers, we are often the first to confront patients whose conditions represent a challenge to diagnosis, treatment, systemic health, and even mortality. Viral retinitis, paraneoplastic syndromes, toxic optic neuropathies, ocular manifestations of systemic infections, complications of new chemotherapies, acute intraoperative air embolism—these and many other conditions challenge the skills and vigilance of the vitreoretinal specialist daily. This panel of experts will present practical examples of this unique category of conditions and will offer advice on how to keep them squarely in view.

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