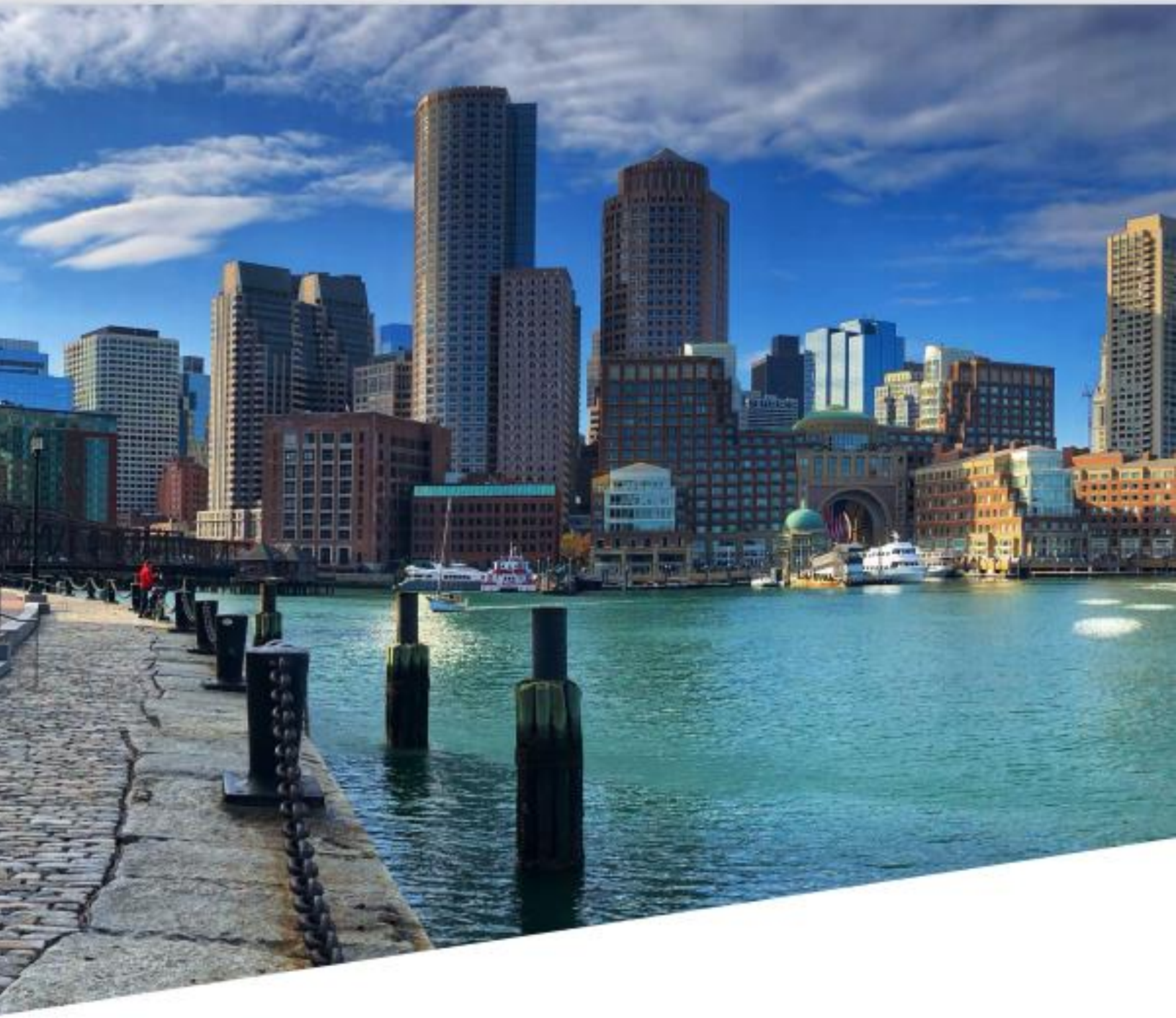

OPTOMETRIC GLAUCOMA SOCIETY

19TH ANNUAL SCIENTIFIC MEETING

NOVEMBER 1-3, 2021


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President's Welcome

WELCOME BACK!!!!

It is with great joy and a huge sense of pride that I write this message welcoming you to the 19th Annual Meeting of the Optometric Glaucoma Society. After not having the opportunity to convene last year, I am so looking forward to this year's meeting; to be able to exchange fist bumps and see the smiling (albeit masked) faces of my colleagues in the OGS.

I am extremely honored to accept the role as only the 5th President of this esteemed organization. I am humbled at being named President and I hope that I can carry the torch as ably as my predecessors have. The pandemic robbed us of a lot of things last year and one of them was the opportunity to thank and honor our outgoing President, Michael Chaglasian. Michael served as the OGS President for 4 years and had served on the Board seemingly forever. His leadership will be a permanent part of the OGS and his thoughtfulness and foresight has helped lead this group to great heights. Please help me say thank you to Michael. When you see him over the next few days, give him a high five and a heartfelt thank you. This organization would not be what it is without Michael Chaglasian. THANK YOU MICHAEL!!

Planning for this meeting was very challenging and full of twists and turns up until the final weeks. Through it all our Board, made up of Danica Marrelli, Justin Schweitzer, Sarah Dougherty Wood and Michael Chaglasian have kept an upbeat sense of determination to carry this meeting to the finish line today. I applaud our stance of mandating vaccinations to be able to attend this meeting. We did so before the AAO. It was a gutsy call, but we never gave it a second thought once we unanimously decided upon it. I cannot thank you all enough for your guidance. Suresh Viswanathan has once again crafted a wonderful program. Wondering whether we were going to have to go virtual, having to deal with travel restrictions for our speakers and holding together an idea from 2020, Suresh has been a rock. Thank you sir.

I want to say thank you to our esteemed faculty as well. They have been extremely flexible and willing to work with us through the topsy-turvy times that the pandemic created. Our speakers steadfastly stood beside us and were willing to defer plans and their presentations for more than a year. Unfortunately, travel restrictions by some of the institutions in which they practice forced us to have some of these presentations virtually. On the flip side, we are blessed to have one of our speakers step up literally 1 month before the meeting to help us in a time of need. A huge thank you to all of our speakers for your flexibility and your patience as we wrestled with some hefty decisions.

And I would be remiss if I didn't thank our sponsors who have likewise stood with us through these unprecedented times. There was uncertainty as to whether the meeting would be held live, virtually or at all; yet there was never any uncertainty as to if our Corporate Partners would be there for us. Thank you. Your continued support of this meeting does not go unnoticed.

And finally, I would like to welcome our new members. At tonight's banquet we will welcome 9 new members. The OGS will continue to flourish because of the energy and input of new and younger members, so please take time to seek out these doctors and welcome them into our society.

I am so proud to be your President and I look forward to speaking with as many of you as I can throughout the day. I am likewise so proud of this organization. Thank you.

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Monday, November 1st, 2021

Time & Location	Title
Burroughs	
3:00 – 4:30 PM	Executive Committee Meeting
4:30 – 5:30 PM	General Business Meeting (for all members)
MJ O'Connor's (Inside the Westin)	
5:30 – 8:00 PM	Welcome Reception

Tuesday, November 2nd, 2021

Time & Location	Title	Speaker
Harbor Ballroom		
7:20 – 7:50 AM	Breakfast (opportunity to visit vendor exhibits)	
7:50 AM	Welcome	Eric Schmidt *OGS President*

Session 1: Glaucoma – Its functional impact and care in the present and future
Moderator: Rich Madonna

8:00 – 8:30 AM	Functional impact of glaucoma *(Remote)*	Pradeep Ramulu, MD, PhD
8:30 – 8:40 AM	Discussion and Questions	*President's Lecturer*
8:40 – 9:10 AM	Determining Glaucoma progression	Felipe Medeiros, MD, PhD
9:10 –9:20 AM	Discussion and Questions	*OGS Honoree*
9:20 – 9:50 AM	The future of glaucoma care, how we will be monitoring and caring for patients in the years to come	David Friedman, MD, PhD, MPH
9:50 – 10:00 AM	Discussion and Questions	
10:00 – 10:30 AM	Morning Break (opportunity to visit vendor exhibits)	

Session 2: Artificial Intelligence basics and applications for glaucoma
Moderator: Nimesh Patel

10:30 – 11:00 AM	Translation of AI models to real world products *(Remote)*	Naama Hammel, MD
11:00 – 11:10 AM	Discussion and Questions	
11:10 – 11:40 AM	Artificial Intelligence and glaucoma	Felipe Medeiros, MD, PhD
11:40 – 11:50AM	Discussion and Questions	
Noon – 1:00 PM	Lunch (opportunity to visit vendor exhibits)	

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Session 3: Updates on animal models, aqueous outflow and angle closure glaucoma
Moderator: Andrew Hartwick

1:00 – 1:20 PM	Animal models of glaucoma	Billie Beckwith-Cohen, DVM, MBA, PhD
1:20 – 1:30 PM	Discussion and Questions	*OGS Ezell Fellow*
1:30 – 1:55 PM	How the Inner Wall of Schlemm's Canal and the JCT Region Respond to Elevation of IOP: A definite contributor to increased outflow resistance	Thomas Freddo, OD, PhD *Research Excellence Awardee*
1:55 – 2:05 PM	Discussion and Questions	
2:05 – 2:30 PM	All you need to know to manage angle closure and angle closure glaucoma	David Friedman, MD, PhD, MPH
2:30 – 2:40 PM	Discussion and Questions	
2:40 – 3:10 PM	Afternoon Break (opportunity to visit vendor exhibits)	

Session 4: The Glaucoma Suspect Conundrum: Case presentations
Moderators: Shira Kresch

3:10 – 4:25 PM	Case Presentations	Michael Chaglasian, OD David Friedman, MD, PhD, MPH Felipe Medeiros, MD, PhD

Session 5: Panel discussion
Moderator: Murray Fingeret

4:25 – 5:00 PM	Panel Discussion	Thomas Freddo, OD, PhD David Friedman, MD, PhD, MPH Felipe Medeiros, MD, PhD

OGS Banquet and Awards Presentation
Harbor Ballroom

5:00 - 6:00 PM	Reception
6:00 – 9:00 PM	Dinner & Awards Presentation

OGS/AAO Joint Symposium
Wednesday, November 3rd, 2021

Time & Location	Title	Speaker
8:00 – 8:25 AM	Artificial Intelligence and glaucoma	Felipe Medeiros, MD, PhD
8:25 – 8:50 AM	All you need to know to manage angle closure and angle closure glaucoma	David Friedman, MD, PhD, MPH
8:50 – 9:20 AM	Flare, Uveitis and IOP: Putting the Pieces Together	Thomas Freddo, OD, PhD
9:20 –9:40 AM	Panel discussion and questions	

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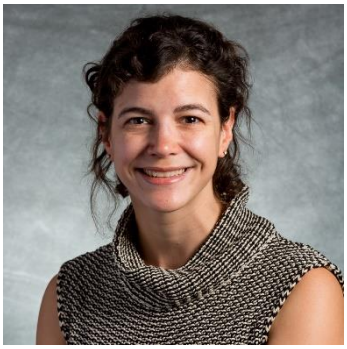
Speakers & Awardees



Billie Beckwith-Cohen, DVM, MBA, PhD

OGS Ezell Fellow

Dr. Billie Beckwith-Cohen is a vision scientist and veterinarian. Billie completed her doctorate in veterinary medicine at the Hebrew University of Jerusalem in Israel. She holds an MBA from the Tel Aviv university in Israel. Billie has a PhD in Vision Science from the University of California, Berkeley where she studied synaptic retinal function and retinal degeneration at the Kramer Laboratory. She is a Fellow of the American Academy of Optometry in Vision Science, and has completed a fellowship in comparative ocular pathology at the University of Wisconsin Madison. Dr. Beckwith-Cohen's is currently completing a residency in comparative ophthalmology at Michigan State University, where she studies treatments for retinal degeneration at the Petersen-Jones laboratory.

Thomas Freddo, OD, PhD

Research Excellence Award

Dr. Thomas Freddo is currently a semi-retired part-time Professor at the MCP Health Sciences University. He completed his B.A at The University of Connecticut, his O.D at The New England College of Optometry and Ph.D. (Anatomy/Pathology) at Boston University School of Medicine, where he also completed a Fellowship in Surgical Ophthalmic Pathology. Dr. Freddo served for 25 years as Professor of Ophthalmology Pathology and Anatomy at Boston University School of Medicine. During this time he maintained a part time, hospital-based practice of Optometry and Directed the Surgical Eye Pathology Service for both Boston Medical Center hospitals. In this role, he was the first OD voted to membership in the American Association of Ophthalmic Pathologists, a section of the American Academy of Ophthalmology. At Boston Medical Center, Dr. Freddo also directed his NIH-funded research programs in anterior uveitis and glaucoma. During those 25 years, Dr. Freddo was the first OD to serve as a Vice-Chairman of an academic Department of Ophthalmology in the US. In 2006, Dr. Freddo was named Professor and Director of the School of Optometry at The University of Waterloo. He retired in 2016, returning to the US and agreeing to take his current part-time teaching position in 2017. He is a recipient of the Glenn Fry Award for Research Excellence and is this year's recipient of the Research Excellence Award from The Optometric Glaucoma Society. He has received 12 teaching awards from 3 institutions and two honorary doctorates, one from the State University of New York and the other from University of Montreal. He is a past-President of the International Society for Eye Research, and served on the Boards of the American Academy of Optometry and the Massachusetts Society of Optometrists. He also served on the Scientific Advisory Committee of Research to Prevent Blindness, as a consultant to the FDA Ophthalmic Medical Devices committee, and as a permanent member on several NIH study sections and the glaucoma review panel for the Bright Focus Foundation. He currently serves as a member of the Board of Regents of Academic Honor Fraternity, Beta Sigma Kappa. He has served on the editorial boards of Experimental Eye Research and Optometry and Vision Science. He is the author of over 100 original research articles, chapters and review articles, plus a widely-used clinical textbook on anatomy of the eye and orbit. In 2018, Dr. Freddo was named a Fulbright Senior Fellow by the U.S. State Department. With broad interests across pathobiology of disease, he has consulted for a series of medical device and pharma companies in the ophthalmic, dermatological and cardiovascular spaces. Most recently, he was selected by the World Health Organization to serve on their Development Group to help United Nations member states outline priorities for managing conditions of the anterior segment and adnexa of the eye.

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David Friedman, MD, PhD, MPH

Dr. Friedman is the Alfred and Diane Kaneb Professor of Ophthalmology at Massachusetts Eye and Ear, Director of the Glaucoma Division, and the Medical Director of Clinical Research. Until May, 2019, he was the Alfred Sommer Professor of Ophthalmology at the Wilmer Eye Institute of Johns Hopkins University School of Medicine with joint appointments as Professor in the Departments of Epidemiology and International Health at Johns Hopkins Bloomberg School of Public Health. He also was the director of the Dana Center for Preventive Ophthalmology, the only World Health Organization collaborating center for vision in the United States. He graduated summa cum laude from Yale College, received his medical degree from Harvard Medical School, and received an MPH and a PhD in epidemiology from Johns Hopkins.

Dr. Friedman has pursued excellence in clinical care, research and education and is considered a leader in all three fields. As a clinician he has been a "Best Doctor" for many years, and has been selected for the Power 100 list of leading ophthalmologists globally in 2016, 2018 and 2020.

Dr. Friedman's research has focused on angle closure glaucoma, ophthalmic epidemiology, and glaucoma therapy with an emphasis on medication adherence among glaucoma patients. Dr. Friedman co-edited a definitive book on angle-closure glaucoma and has published over 300 peer-reviewed articles. He has served on the editorial boards of Ophthalmology, the Cochrane Collaboration, and the Journal of Glaucoma, and plays a leadership role in the World Glaucoma Association. He was the Senior Ophthalmologist for Helen Keller International, a large non-profit organization dedicated to alleviating blindness worldwide and is a Board member of Orbis International. He recently completed a CDC-funded program to identify novel approaches to screen underserved populations for eye diseases, especially glaucoma, and helped lead a Hilton Foundation project to work towards expanding the care provided by successful eyecare institutions in sub-Saharan Africa.

Dr. Friedman is world renown for his contributions to the study of the mechanisms, epidemiology and prevention of angle-closure glaucoma. Over the last 20 years he has worked closely with researchers in Singapore, Guangzhou, Beijing and south India on this research. He identified novel dynamic risk factors for angle closure. His work formed the foundation for two seminal studies of angle closure glaucoma treatment including the EAGLE Trial and the Zhongshan Angle Closure Prevention (ZAP) Study, both of which were published in Lancet. Dr. Friedman was a key member of the EAGLE Trial study team, a pivotal research study that demonstrated that early lens extraction is effective at treating angle-closure glaucoma. He was the co-principal investigator of the ZAP study which screened over 10,000 individuals in order to determine if prophylactic laser iridotomy is effective at preventing angle closure glaucoma. Dr. Friedman is a member of the Glaucoma Research Society (limited to the 100 leading glaucoma researchers) and the Alcon Research Institute (composed of the top 6 researchers in ophthalmology each year).

Naama Hammel, MD

Dr. Hammel is a clinical research scientist in Google Health. In this role she focuses on developing machine learning models for the detection of ocular and systemic diseases from medical images. Naama is an ophthalmologist with a subspecialty in glaucoma. She completed her medical and ophthalmology training at Tel-Aviv University; her glaucoma fellowship at the Shiley Eye Institute, UC San Diego; and her ophthalmic informatics fellowship at the UC Davis Eye Center.

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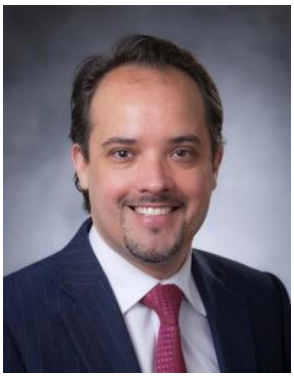

Felipe Medeiros, MD, PhD

OGS Honoree

Felipe A. Medeiros, M.D., Ph.D. is Distinguished Professor of Ophthalmology and the Joseph AC Wadsworth Endowed Chair at Duke University. He is also Vice-Chair for Technology and the Director of the Clinical Research Unit, where he leads clinical research efforts in the Department of Ophthalmology. He is also Professor of Electrical and Computer Engineering at the Pratt School of Engineering and Professor of Biostatistics and Bioinformatics at Duke School of Medicine.

Dr. Medeiros graduated from the University of Sao Paulo, Brazil, where he also completed residency and a PhD. Before moving to Duke University, he was Professor of Ophthalmology and the Ben and Wanda Hildyard Chair at University of California San Diego. Dr. Medeiros' research has been focused on the development of innovative methods and technologies for early diagnosis and detection of glaucoma progression, the main cause of irreversible blindness in the world. More recently, his work has focused on how artificial intelligence can improve screening, diagnosis and monitoring of eye diseases. He has published over 400 peer-reviewed scientific articles and 6 books in ophthalmology. His publications have received over 20,000 citations, for an h-index of 80. His research has been funded by the National Institutes of Health (NIH) and through many other public and private institutions.

Dr. Medeiros has been the recipient of several international awards, including the Cogan Award from the Association for Research in Vision and Ophthalmology (ARVO), the World Glaucoma Association Research Award, the American Academy of Ophthalmology (AAO) Senior Achievement Award, the Moacyr Alvaro Gold Medal (the most prestigious award in Ophthalmology in Latin America), the American Glaucoma Society Clinician-Scientist and Mid-Career Awards, among many others. He has trained numerous students, fellows and postdocs from many parts of the world.

Pradeep Ramulu, MD, PhD

President's Lecture

Dr. Pradeep Ramulu was born in Chicago, Illinois, graduated with Honors from Stanford University, and then joined the MD/PhD program at Johns Hopkins University, completing his PhD work on retinal biology with Jeremy Nathans. He subsequently completed his Ophthalmology residency at the Johns Hopkins Wilmer Eye Institute and a Glaucoma Fellowship at Bascom Palmer Eye Institute.

After his fellowship, he returned to Wilmer's Glaucoma Division, where he began a program to study the functional consequences of visual impairment. Using a variety of tools including patient reported outcomes, observation of task performance, and real-world behavioral monitoring, Dr. Ramulu has helped define when, how, and why visual impairment results in disability. His current work is focused on the possible protective role of physical activity against eye disease, developing methods to assess/prevent falls in older adults, particularly those with visual impairment, and the use of ocular imaging to identify persons at risk for cognitive impairment.

Dr. Ramulu's work has resulted in over 180 peer-reviewed publications, 10 book chapters, and 2 books. Because of his expertise, he has helped various agencies including the Federal Bureau of Investigation to set vision standards for work. He also holds leadership positions in various national and international ophthalmic societies, including Program Chair for the American Glaucoma Society Director of the Education Committee for the World Glaucoma Association. He has mentored numerous medical students, MPH students, residents and fellows clinically and in research projects. He twice won the resident teaching award and, in a model that has now become the standard for Wilmer, reorganized glaucoma teaching by placing lectures

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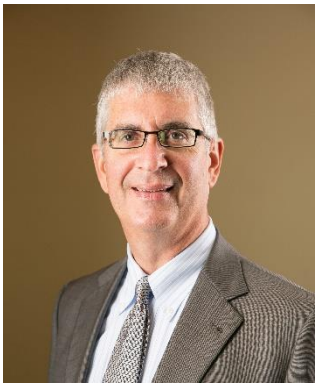
on-line and using in-class time for interactive sessions using game-based learning and small-group interactive case review. On top of caring for his patients' needs, he now serves as Director of the Wilmer Glaucoma service, consisting of 10 faculty and over 20 research, clinical, and administrative staff members. Dr. Ramulu has received continuous NIH funding since 2007 and has received the Secretariat, Achievement, and Senior Awards from the American Academy of Ophthalmology and the Pisart Award for Vision Science. He was also named to Newsweek's list of "America's Best Eye Doctors" in 2021.

Dr. Ramulu credits any success to his extraordinarily mentors and colleagues at Johns Hopkins, and also to his ever-supportive parents, Yammanuru and Aruna Ramulu, his 20 years of loving marriage to his wife and spiritual beacon, Vandana, and his two talented and inspiring children – his son Shreyas and daughter Priyanka.



Michael Chaglasian, OD

Distinguished Service Award

Dr. Michael Chaglasian is an associate professor at ICO and chief of staff of the Illinois Eye Institute. He is a graduate of State University of New York College of Optometry and completed a residency in primary eye care/ocular disease at the Pennsylvania College of Optometry. Dr. Chaglasian is in charge of the Glaucoma Service at the Illinois Eye Institute, providing patient care while instructing residents and students. He is a founding member and treasurer of the Optometric Glaucoma Society and has a number of published articles and has contributed chapters to several popular textbooks on the topics of glaucoma and visual fields.

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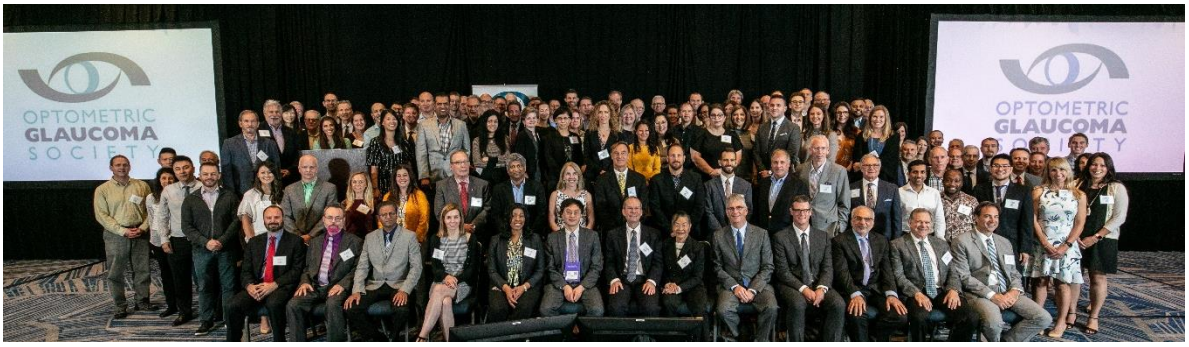
OGS Mission Statement

The Optometric Glaucoma Society (OGS) mission is to promote excellence in care of glaucoma patients through professional education and scientific investigation. The society's major objectives are to promote education of optometrists related to all aspects of glaucoma; promote the acquisition of new knowledge about glaucoma, in part through the development of glaucoma research within optometry; facilitate the dissemination of information about glaucoma to healthcare providers and the public; and establish collaborative relationship with other related organizations.



OGS 2019 Annual Meeting Attendees, Orlando, FL

OGS Leadership & Committees

Officers/Executive Committee
Eric Schmidt – President
Danica Marrelli – Vice President
Justin Schweitzer– Treasurer
Sarah Dougherty Wood– Secretary
Michael Chaglasian – Executive Vice President

Past Presidents
Murray Fingeret 2001-2008
John Flanagan 2008-2012
Ben Gaddie 2012-2016
Michael Chaglasian 2016-2020

Members at Large
Jennifer Gould
John McSoley

By-Laws
Daniel Roberts – Chair

Industry Relations
Chris Lievens

Nominating
Richard Madonna- Chair

Membership & Recruitment
Mark Dunbar – Membership Co-Chair
Tony Litwak – Recruiting – Co-Chair
Barry Frauens
Richard Madonna
Trennda Rittenbach
Justin Schweitzer
Sarah Dougherty Wood

Program
Suresh Visvanathan – Chair
Shira Kresch

E-Journal / PCON Newsletter
Carl Jacobsen – Chair
Derek MacDonald
Mark Eltis
Lisa Young

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Optometric Glaucoma Foundation

Mission Statement

The mission of the Optometric Glaucoma Foundation is to support glaucoma education for the optometric profession. This includes supporting and developing educational programs for students, residents, educators and practitioners. The OGF will work with different groups to meet our goals including industry and educational institutions, as well as optometric and ophthalmologic organizations.

OGF 5th Annual Glaucoma Educators Meeting (2021)

The Optometric Glaucoma Foundation held its 5th Annual Glaucoma Educators meeting on September 18th, 2021. Like last year, the meeting was held online. The meeting objective is to bring together individuals involved in the teaching of glaucoma at the schools and colleges of optometry and provide focused education.

This year Shira Kresch, OD discussed the evolving area of telemedicine and how optometry can use this technology to meet patient needs. Dr. Kresch also discussed how COVID has impacted our practices and changes made to keep our patients and ourselves safe. Also Dr. Dr Kresch reviewed gonioscopy and steps included in this important technique. John McSoley, OD led the discussion period followed Dr Kresch's talk. Next Dr. Alex Huang discussed angle closure and the signs and symptoms of this disease. Dr. Huang also described a technique he has developed, aqueous angiography that allows better understanding of the mechanism by which MIGS devices lower intraocular pressure. Finally, Paul Singh, MD discussed advances in surgical management and how these advances are changing the care of our glaucoma patients. These talks are available at the OGS YouTube channel.

46 Faculty from 16 schools of optometry participated in the program with attendees attending from as far away as Australia. Our 6th Annual Glaucoma Educators meeting will be held at SUNY Optometry on September 12th, 2022.

This event was made possible through our sponsors:

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OGS Annual Meetings

Dates	Location	President's Lecturer	OGS Honoree
November 2, 2021	Boston, MA	Pradeep Ramulu, MD, PhD	Felipe Medeiros, MD, PhD
September 12, 2020	Virtual		
October 21-23, 2019	Orlando, FL	Shan Lin, MD	Louis Pasquale, MD
November 5-7, 2018	San Antonio, TX	Robert Feldman, MD	L. Jay Katz, MD
October 9-11, 2017	Chicago, IL	David Friedman, MD, MPH, PhD	Robert Fechtner, MD
November 7-9, 2016	Anaheim, CA	Felipe A. Medeiros, MD, PhD	George A. Cioffi, MD
October 5-7, 2015	New Orleans, LA	Jonathan S. Myers, MD	Mae Gordon, PhD
November 10-12, 2014	Denver, CO	Steven L. Mansberger, MD, MPH	David Garway-Heath, MD
October 22-23, 2013	Seattle, WA	Anthony Realini, MD, MPH	Claude Burgoyne, MD
October 23-24, 2012	Phoenix, AZ	Brad Fortune, OD, PhD	Jost Jonas, MD
October 11-12, 2011	Boston, MA	Keith Martin, MD, FRCOphth	Jeffrey Liebmann, MD
November 15-16, 2010	San Francisco, CA	Kuldev Singh, MD, MPH	Wallace L.M. Alward, MD
November 9-11, 2009	Orlando, FL	Christopher A. Girkin, MD	George L. Spaeth, MD
October 20-22, 2008	Anaheim, CA	Theodore Krupin, MD	Robert Ritch, MD
October 22-23, 2007	Tampa, FL	David Greenfield, MD	Paul Kaufman, MD
December 5-6, 2006	Denver, CO	Balwantray Chauhan, PhD	Harry Quigley, MD
December 7, 2005	San Diego, CA		Stephen Drance, OC, MD
December 8, 2004	Tampa, FL		Douglas R. Anderson, MD
December 9, 2003	Dallas, TX		Anders Heijl, MD
December 11, 2002	San Diego, CA		Robert N. Weinreb, MD

OGS Ezell Fellows

2020 Billie Beckwith-Cohen, DVM, MBA, PhD
2018 Laura Pardon, OD, MS
2017 Nevin W. El-Nimri, OD, MS
2016 Jack Phu, BOptom, MPH
2015 Lakshmi Priya Rajagopalan, BS, PhD
2013 Kevin Ivers, OD, PhD
2012 Kevin Ivers, OD, PhD
2011 Nimesh Patel, OD, PhD
2010 Nimesh Patel, OD, PhD
2008 Joe Wheat, OD, PhD

Distinguished Service Award

2021 Michael Chaglasian, OD
2016 Ben Gaddie, OD
2013 John G. Flanagan, MCOPtom, PhD
2012 Louis J. Catania, OD
2011 Tom L. Lewis, OD, PhD
2010 V. Michael Patella, OD
2008 Murray Fingeret, OD

Founders Award

2016 Gerhard Zinser, PhD
2015 Harry A. Quigley, MD
2012 Robert N. Weinreb, MD
2011 Douglas R. Anderson, MD

Research Excellence Award

2021 Thomas Freddo, OD, PhD
2019 William Swanson, PhD
2014 Donald Hood, PhD
2013 Ronald S. Harwerth, OD, PhD
2009 Sir Peng Tee Khaw, MD, FRCOphth

Corporate Partnership Award

2019 John Hawley
2018 V. Michael Patella, OD
2016 Rick Halprin
2013 Richard D. Bay

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Award Descriptions

Optometric Glaucoma Society Ezell Fellow

The Optometric Glaucoma Society established an Ezell Fellowship in 2007, dedicated to fund post-graduate research in the area of glaucoma. The award is done in partnership with the American Optometric Foundation and meant to encourage talented individuals to pursue a career in research and education.

Founders Award

This award to is provided to an individual who has made significant contributions in research or patient care to the glaucoma community throughout their career.

Distinguished Service Award

This award is provided to an individual who has provided outstanding service to the growth and administration of the OGS.

Research Excellence Award

This award is provided to an individual researcher whose lifetime of work has led to a better understand of glaucoma.

Corporate Partnership Award

This award is provided to an individual has made significant contributions to the glaucoma community through their passion and dedication for product development and improvement.

OGS Honoree

The recipient of the OGS Honoree is an individual who has achieved noteworthy accomplishments in glaucoma patient care, research and education. Scholarly and leadership activities throughout the individual's career should be evident. A collegial interaction with optometry is desirable.

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Welcome New OGS Members

Rex Ballinger, OD
Department of Veterans Affairs
Baltimore, MD

Jose De Jesus, OD, MD, MA
Miami Beach Medical Group
Miami, FL

Michael Gerstner, OD
Southern College of Optometry
Memphis, TN

Paul Hammond, OD
North Suburban Eye Specialists
Coon Rapids, MN

Adam LePosa, OD
VA Maryland Healthcare System
Baltimore, MD

Tricia Newman, OD
Illinois College of Optometry
Chicago, IL

Laura Pardon, OD, MS
KBR
Houston, TX

Laura Ristin, OD
Jesse Brown VAMC
Chicago, IL

Ashley Speilburg, OD
Illinois College of Optometry
Chicago, IL

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Optometric Glaucoma Society

20th Annual Meeting

October 24-26, 2022

San Diego, CA

optometricglaucomasociety.org

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SUN OPHTHALMICS

TOPCON Healthcare
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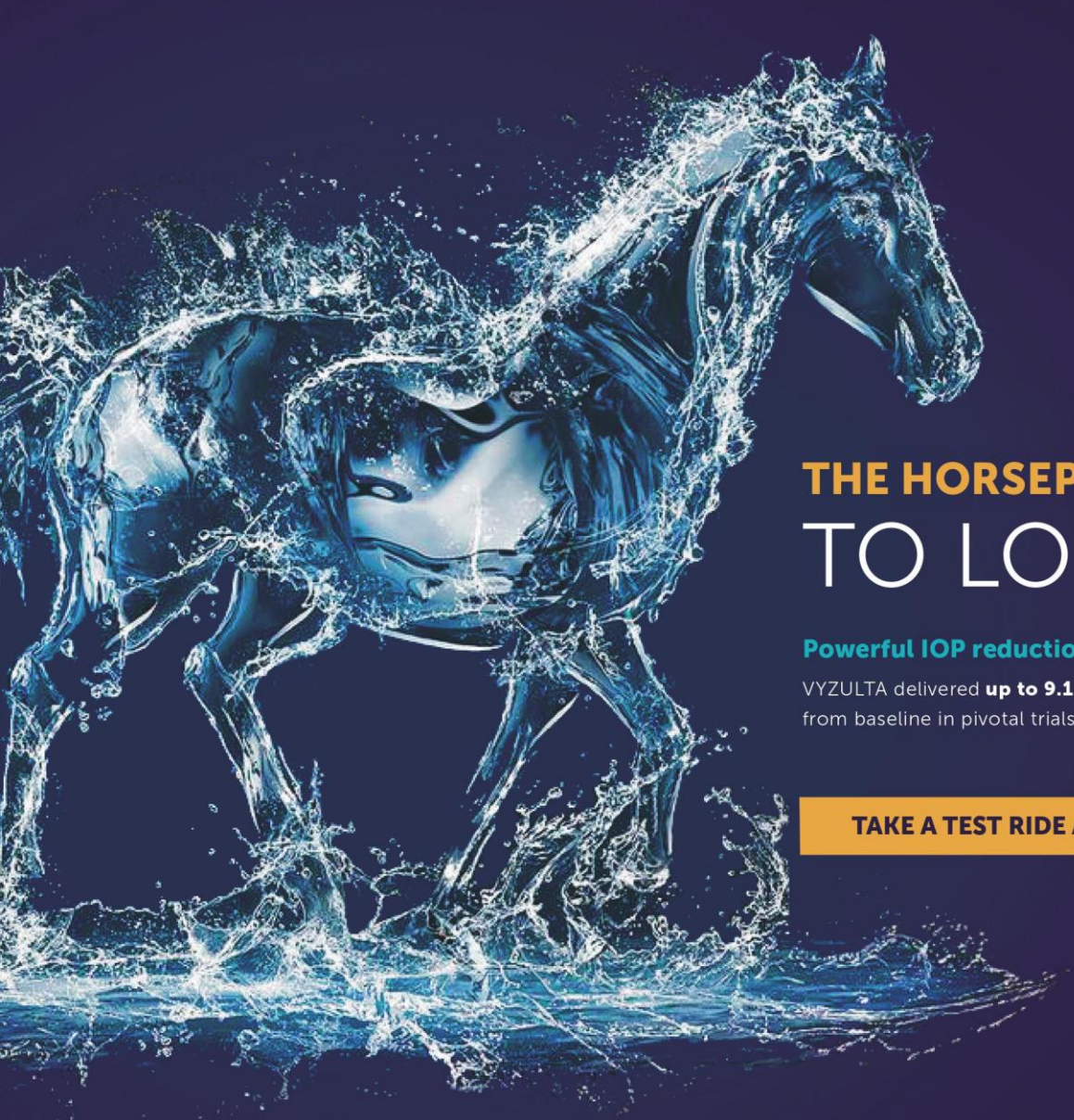

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*Pivotal study designs: Two Phase 3, randomized, multicenter, parallel-group studies, APOLLO and LUNAR, evaluating noninferiority of once-daily VYZULTA vs twice-daily timolol maleate 0.5% in patients with open-angle glaucoma or ocular hypertension. Primary endpoint was IOP measured at 9 assessment time points in study eye. APOLLO (VYZULTA, n=284; timolol, n=133) and LUNAR (VYZULTA, n=278; timolol, n=136).[2,3]

INDICATION

VYZULTA® (latanoprostene bunod ophthalmic solution), 0.024% is indicated for the reduction of intraocular pressure (IOP) in patients with open-angle glaucoma or ocular hypertension.

IMPORTANT SAFETY INFORMATION

- Increased pigmentation of the iris and periorbital tissue (eyelid) can occur. Iris pigmentation is likely to be permanent
- Gradual changes to eyelashes, including increased length, increased thickness, and number of eyelashes, may occur. These changes are usually reversible upon treatment discontinuation
- Use with caution in patients with a history of intraocular inflammation (iritis/uveitis). VYZULTA should generally not be used in patients with active intraocular inflammation
- Macular edema, including cystoid macular edema, has been reported during treatment with prostaglandin analogs. Use with caution in aphakic patients, in pseudophakic patients with a torn posterior lens capsule, or in patients with known risk factors for macular edema
- There have been reports of bacterial keratitis associated with the use of multiple-dose containers of topical ophthalmic products that were inadvertently contaminated by patients
- Contact lenses should be removed prior to the administration of VYZULTA and may be reinserted 15 minutes after administration
- Most common ocular adverse reactions with incidence ≥2% are conjunctival hyperemia (6%), eye irritation (4%), eye pain (3%), and instillation site pain (2%)

For more information, please see Brief Summary of full Prescribing Information on adjacent page.

References: 1. VYZULTA Prescribing Information. Bausch & Lomb Incorporated. **2.** Weinreb RN, Scassellati Sforzolini B, Vittitow J, Liebmann J. Latanoprostene bunod 0.024% versus timolol maleate 0.5% in subjects with open-angle glaucoma or ocular hypertension: the APOLLO study. *Ophthalmology.* 2016;123(5):965-973. **3.** Medeiros FA, Martin KR, Peace J, Scassellati Sforzolini B, Vittitow JL, Weinreb RN. Comparison of latanoprostene bunod 0.024% and timolol maleate 0.5% in open-angle glaucoma or ocular hypertension: the LUNAR study. *Am J Ophthalmol.* 2016;168:250-259.

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BRIEF SUMMARY OF PRESCRIBING INFORMATION

This Brief Summary does not include all the information needed to use VYZULTA safely and effectively. See full Prescribing Information for VYZULTA.

VYZULTA® (latanoprostene bunod ophthalmic solution), 0.024%, for topical ophthalmic use.

Initial U.S. Approval: 2017

1 INDICATIONS AND USAGE

VYZULTA® (latanoprostene bunod ophthalmic solution) 0.024% is indicated for the reduction of intraocular pressure (IOP) in patients with open-angle glaucoma or ocular hypertension.

4 CONTRAINDICATIONS

None

5 WARNINGS AND PRECAUTIONS

5.1 Pigmentation

VYZULTA® (latanoprostene bunod ophthalmic solution), 0.024% may cause changes to pigmented tissues. The most frequently reported changes with prostaglandin analogs have been increased pigmentation of the iris and periorbital tissue (eyelid).

Pigmentation is expected to increase as long as latanoprostene bunod ophthalmic solution is administered. The pigmentation change is due to increased melanin content in the melanocytes rather than to an increase in the number of melanocytes. After discontinuation of VYZULTA, pigmentation of the iris is likely to be permanent, while pigmentation of the periorbital tissue and eyelash changes are likely to be reversible in most patients. Patients who receive prostaglandin analogs, including VYZULTA, should be informed of the possibility of increased pigmentation, including permanent changes. The long-term effects of increased pigmentation are not known.

Iris color change may not be noticeable for several months to years. Typically, the brown pigmentation around the pupil spreads concentrically towards the periphery of the iris and the entire iris or parts of the iris become more brownish. Neither nevi nor freckles of the iris appear to be affected by treatment. While treatment with VYZULTA® (latanoprostene bunod ophthalmic solution), 0.024% can be continued in patients who develop noticeably increased iris pigmentation, these patients should be examined regularly *[see Patient Counseling Information (17) in full Prescribing Information]*.

5.2 Eyelash Changes

VYZULTA may gradually change eyelashes and vellus hair in the treated eye. These changes include increased length, thickness, and the number of lashes or hairs. Eyelash changes are usually reversible upon discontinuation of treatment.

5.3 Intraocular Inflammation

VYZULTA should be used with caution in patients with a history of intraocular inflammation (iritis/uveitis) and should generally not be used in patients with active intraocular inflammation as it may exacerbate this condition.

5.4 Macular Edema

Macular edema, including cystoid macular edema, has been reported during treatment with prostaglandin analogs. VYZULTA should be used with caution in aphakic patients, in pseudophakic patients with a torn posterior lens capsule, or in patients with known risk factors for macular edema.

5.5 Bacterial Keratitis

There have been reports of bacterial keratitis associated with the use of multiple-dose containers of topical ophthalmic products. These containers had been inadvertently contaminated by patients who, in most cases, had a concurrent corneal disease or a disruption of the ocular epithelial surface.

5.6 Use with Contact Lens

Contact lenses should be removed prior to the administration of VYZULTA because this product contains benzalkonium chloride. Lenses may be reinserted 15 minutes after administration.

6 ADVERSE REACTIONS

The following adverse reactions are described in the Warnings and Precautions section: pigmentation (5.1), eyelash changes (5.2), intraocular inflammation (5.3), macular edema (5.4), bacterial keratitis (5.5), use with contact lens (5.6).

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

VYZULTA was evaluated in 811 patients in 2 controlled clinical trials of up to 12 months duration. The most common ocular adverse reactions observed in patients treated with latanoprostene bunod were: conjunctival hyperemia (6%), eye irritation (4%), eye pain (3%), and instillation site pain (2%). Approximately 0.6% of patients discontinued therapy due to ocular adverse reactions including ocular hyperemia, conjunctival irritation, eye irritation, eye pain, conjunctival edema, vision blurred, punctate keratitis and foreign body sensation.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are no available human data for the use of VYZULTA during pregnancy to inform any drug associated risks.

Latanoprostene bunod has caused miscarriages, abortion, and fetal harm in rabbits. Latanoprostene bunod was shown to be abortifacient and teratogenic when administered intravenously (IV) to pregnant rabbits at exposures ≥ 0.28 times the clinical dose. Doses ≥ 20 µg/kg/day (23 times the clinical dose) produced 100% embryofetal lethality. Structural abnormalities observed in rabbit fetuses included anomalies of the great vessels and aortic arch vessels, domed head, sternebral and vertebral skeletal anomalies, limb hyperextension and malrotation, abdominal distension and edema. Latanoprostene bunod was not teratogenic in the rat when administered IV at 150 mcg/kg/day (87 times the clinical dose) *[see Data]*.

The background risk of major birth defects and miscarriage for the indicated population is unknown. However, the background risk in the U.S. general population of major birth defects is 2 to 4%, and of miscarriage is 15 to 20%, of clinically recognized pregnancies.

Data

Animal Data

Embryofetal studies were conducted in pregnant rabbits administered latanoprostene bunod daily by intravenous injection on gestation days 7 through 19, to target the period of organogenesis. The doses administered ranged from 0.24 to 80 mcg/kg/day. Abortion occurred at doses ≥ 0.24 mcg/kg/day latanoprostene bunod (0.28 times the clinical dose, on a body surface area basis, assuming 100% absorption). Embryofetal lethality (resorption) was increased in latanoprostene bunod treatment groups, as evidenced by increases in early resorptions at doses ≥ 0.24 mcg/kg/day and late resorptions at doses ≥ 6 mcg/kg/day (approximately 7 times the clinical dose). No fetuses survived in any rabbit pregnancy at doses of 20 mcg/kg/day (23 times the clinical dose) or greater. Latanoprostene bunod produced structural abnormalities at doses ≥ 0.24 mcg/kg/day (0.28 times the clinical dose). Malformations included anomalies of sternum, coarctation of the aorta with pulmonary trunk dilation, retroesophageal subclavian artery with absent brachiocephalic artery, domed head, forepaw hyperextension and hindlimb malrotation, abdominal distention/edema, and missing/fused caudal vertebrae.

An embryofetal study was conducted in pregnant rats administered latanoprostene bunod daily by intravenous injection on gestation days 7 through 17, to target the period of organogenesis. The doses administered ranged from 150 to 1500 mcg/kg/day. Maternal toxicity was produced at 1500 mcg/kg/day (870 times the clinical dose, on a body surface area basis, assuming 100% absorption), as evidenced by reduced maternal weight gain. Embryofetal lethality (resorption and fetal death) and structural anomalies were produced at doses ≥ 300 mcg/kg/day (174 times the clinical dose). Malformations included anomalies of the sternum, domed head, forepaw hyperextension and hindlimb malrotation, vertebral anomalies and delayed ossification of distal limb bones. A no observed adverse effect level (NOAEL) was established at 150 mcg/kg/day (87 times the clinical dose) in this study.

8.2 Lactation

Risk Summary

There are no data on the presence of VYZULTA in human milk, the effects on the breastfed infant, or the effects on milk production. The developmental and health benefits of breastfeeding should be considered, along with the mother's clinical need for VYZULTA, and any potential adverse effects on the breastfed infant from VYZULTA.

8.4 Pediatric Use

Use in pediatric patients aged 16 years and younger is not recommended because of potential safety concerns related to increased pigmentation following long-term chronic use.

8.5 Geriatric Use

No overall clinical differences in safety or effectiveness have been observed between elderly and other adult patients.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Latanoprostene bunod was not mutagenic in bacteria and did not induce micronuclei formation in the *in vivo* rat bone marrow micronucleus assay. Chromosomal aberrations were observed *in vitro* with human lymphocytes in the absence of metabolic activation.

Latanoprostene bunod has not been tested for carcinogenic activity in long-term animal studies. Latanoprost acid is a main metabolite of latanoprostene bunod. Exposure of rats and mice to latanoprost acid, resulting from oral dosing with latanoprost in lifetime rodent bioassays, was not carcinogenic.

Fertility studies have not been conducted with latanoprostene bunod. The potential to impact fertility can be partially characterized by exposure to latanoprost acid, a common metabolite of both latanoprostene bunod and latanoprost. Latanoprost acid has not been found to have any effect on male or female fertility in animal studies.

13.2 Animal Toxicology and/or Pharmacology

A 9-month toxicology study administered topical ocular doses of latanoprostene bunod to one eye of cynomolgus monkeys: control (vehicle only), one drop of 0.024% bid, one drop of 0.04% bid and two drops of 0.04% per dose, bid. The systemic exposures are equivalent to 4.2-fold, 7.9-fold, and 13.5-fold the clinical dose, respectively, on a body surface area basis (assuming 100% absorption). Microscopic evaluation of the lungs after 9 months observed pleural/subpleural chronic fibrosis/inflammation in the 0.04% dose male groups, with increasing incidence and severity compared to controls. Lung toxicity was not observed at the 0.024% dose.

U.S. Patent Numbers: 7,273,946; 7,629,345; 7,910,767; 8,058,467.

Distributed by:

Bausch + Lomb, a division of

Bausch Health US, LLC

Bridgewater, NJ 08807 USA

Based on 9612403 (Folded), 9612303 (Flat) 5/2019

VYZ.0109.USA.20 Issued: 5/2020


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