

the Ophthalmologist®

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the Ophthalmologist

POWER

List

Our annual ranking of global ophthalmology's most influential individuals

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Power Personified

Congratulations to 15 exceptional Bascom Palmer Eye Institute physicians for being named to the 2024 Power List



Eduardo C. Alfonso, M.D.



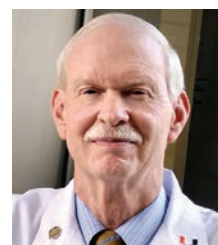
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Janet L. Davis, M.D., M.A.



Kendall E. Donaldson, M.D., M.S.



Harry W. Flynn Jr., M.D.



Anat Galor, M.D., M.S.P. H.



Steven Gedde, M.D.



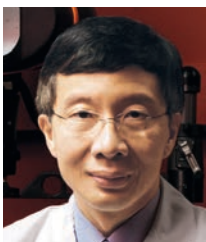
Ranya Habash, M.D.



Carol L. Karp, M.D.



Jaclyn Kovach, M.D.



Byron Lam, M.D.



Felipe Medeiros, M.D.



Richard Parrish, M.D.



Philip J. Rosenfeld, M.D., Ph.D.



Sonia H. Yoo, M.D.



See other side →

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College London

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Power Personified

Bascom Palmer celebrates its outstanding physicians for their expertise, integrity, and leadership in the field of ophthalmology.

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Kathleen and Stanley J. Glaser Chair
in Ophthalmology
*Power Lists 2014, 2016, 2018, 2022,
2023, 2024*

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Voluntary Professor of Ophthalmology
*Power Lists 2017, 2021, 2022,
2023, 2024*

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Professor of Ophthalmology
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Power List 2024

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Dr. Mark J. Daily Chair in
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Power List 2024

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Rodgers Research Chair in
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Power List 2024

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Professor of Ophthalmology
Edward W.D. Norton Chair in
Ophthalmology
Power Lists 2018, 2024

Philip J. Rosenfeld, M.D.

Professor of Ophthalmology
*Power Lists 2014, 2016, 2018, 2019,
2020, 2022, 2023, 2024*

Sonia H. Yoo, M.D.

Professor of Ophthalmology
Greentree Pruett Hickman Chair
in Ophthalmology
Power Lists 2018, 2021, 2023, 2024



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XDEMZY gives you **might over mites** to eradicate *Demodex* blepharitis.^{1,2}

Lotilaner, the active ingredient in XDEMZY^{1,3,4}:



Is a lipophilic agent in an aqueous drop that...



Acts specifically via mite GABA-gated
chloride channels to...



Target, paralyze, and kill *Demodex* mites

GABA=gamma-aminobutyric acid.

INDICATIONS AND USAGE

XDEMZY (lotilaner ophthalmic solution) 0.25% is indicated for the treatment of *Demodex* blepharitis.

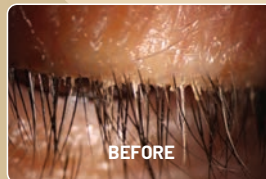
IMPORTANT SAFETY INFORMATION:

WARNINGS AND PRECAUTIONS

Risk of Contamination: Do not allow the tip of the dispensing container to contact the eye, surrounding structures, fingers, or any other surface in order to minimize contamination of the solution. Serious damage to the eye and subsequent loss of vision may result from using contaminated solutions.

Use with Contact Lenses: XDEMZY contains potassium sorbate, which may discolor soft contact lenses. Contact lenses should be removed prior to instillation of XDEMZY and may be reinserted 15 minutes following its administration.

Real results



44% and 55% of patients taking XDEMZY in SATURN-1 (N=209) and SATURN-2 (N=193), respectively, achieved a significant improvement in their eyelids (reduction of collarettes to no more than 2 collarettes per upper lid) at Day 43 vs 7% (N=204) and 12% (N=200) of patients taking vehicle ($P<0.01$ in each trial).^{1*}

All images are of actual patients who participated in clinical trials for Tarsus Pharmaceuticals.

ADVERSE REACTIONS: The most common adverse reaction with XDEMZY was instillation site stinging and burning which was reported in 10% of patients. Other ocular adverse reactions reported in less than 2% of patients were chalazion/hordeolum and punctate keratitis.

Please see next page for a Brief Summary of the full Prescribing Information.

References: 1. XDEMZY [prescribing information]. Tarsus Pharmaceuticals, Inc; 2023. 2. Gao YY et al. *Invest Ophthalmol Vis Sci.* 2005;46(9):3089-3094. 3. Yeu E et al. *Cornea.* 2022;42:435-443. 4. Toutain CE et al. *Parasit Vectors.* 2017;10(1):522.

*The safety and efficacy of XDEMZY for the treatment of DB were evaluated in a total of 833 patients (415 of whom received XDEMZY) in two 6-week, randomized, multicenter, double-masked, vehicle-controlled studies (SATURN-1 and SATURN-2). Patients were randomized to either XDEMZY or vehicle at a 1:1 ratio, dosed twice daily in each eye for 6 weeks. All patients enrolled were diagnosed with DB. The primary efficacy endpoint was defined as the proportion of patients with collarette reduction to no more than 2 collarettes per upper eyelid at Day 43.

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XDEMVY® (lotilaner ophthalmic solution) 0.25%, for topical ophthalmic use

BRIEF SUMMARY OF PRESCRIBING INFORMATION
Please see the XDEMVY® package insert for full Prescribing Information.

INDICATIONS AND USAGE
XDEMVY is indicated for the treatment of Demodex blepharitis.

CONTRAINDICATIONS
None.

WARNINGS AND PRECAUTIONS
Risk of Contamination Do not allow the tip of the dispensing container to contact the eye, surrounding structures, fingers, or any other surface in order to minimize contamination of the solution. Serious damage to the eye and subsequent loss of vision may result from using contaminated solutions.

Use with Contact Lenses Contact lenses should be removed prior to instillation of XDEMVY and may be reinserted 15 minutes following its administration.

ADVERSE REACTIONS
Because clinical studies 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.

XDEMVY was evaluated in 833 patients with Demodex blepharitis in two randomized, double-masked, vehicle-controlled studies (Saturn-1 and Saturn-2) with 42 days of treatment. The most common ocular adverse reaction observed in controlled clinical studies with XDEMVY was instillation site stinging and burning which was reported in 10% of patients. Other ocular adverse reactions reported in less than 2% of patients were chalazion/hordeolum and punctate keratitis.

USE IN SPECIFIC POPULATIONS
Pregnancy: Risk Summary There are no available data on XDEMVY use in pregnant women to inform any drug associated risk; however, systemic exposure to lotilaner from ocular administration is low. In animal reproduction studies, lotilaner did not produce malformations at clinically relevant doses.

Data Animal Data In an oral embryofetal developmental study in pregnant rats dosed during organogenesis from gestation days 9-19, increased post-implantation loss, reduced fetal pup weight, and incomplete skeletal ossification were observed at 50 mg/kg/day (approximately 1390 times the recommended human ophthalmic dose (RHOD) on a body surface area basis) in the presence of maternal toxicity (i.e., decreased body weight and food consumption). A rare malformation of situs inversus of the thoracic and abdominal viscera occurred in 1 fetus from a pregnant rat receiving 50 mg/kg/day; whether this finding was treatment-related could not be excluded. No maternal or embryofetal toxicity was observed at 18 mg/kg/day (approximately 501 times the RHOD on a body surface area basis). In an oral embryofetal development study in pregnant rabbits dosed during organogenesis from gestation days 7-19, no embryofetal toxicity or teratogenic findings were observed at 20 mg/kg/day (approximately 580-times the RHOD on an AUC basis), even in the presence of maternal toxicity (i.e., decreased food consumption and body weight).

In an oral two-generation reproductive toxicity study, F0 male and female rats were administered lotilaner at doses up to 40 mg/kg/day for 10 weeks before pairing and during the 2-week pairing period (3 weeks for males). Dosing for F0 females continued through lactation day 22. F1 male and female rats were administered lotilaner at 1 and 5 mg/kg/day post-weaning from day 23 for 10 weeks before pairing and during the 2-week pairing period (3 weeks for males). Dosing for F1 parenteral females continued through lactation day 22. There were no clear adverse effects on the F1 generation, and a slightly lower mean body weight during lactation was noted for F2 pups at 5 mg/kg/day. The no observed adverse effect level (NOAEL) was determined to be 5 mg/kg/day (approximately 139 times the RHOD on a body surface area basis).

Lactation: Risk Summary There are no data on the presence of XDEMVY in human milk, the effects on the breastfed infant, or the effects on milk production. However, systemic exposure to lotilaner following 6 weeks of topical ocular administration is low and is >99% plasma protein bound, thus it is not known whether measurable levels of lotilaner would be present in maternal milk following topical ocular administration. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for XDEMVY and any potential adverse effects on the breast-fed child from XDEMVY.

Pediatric Use: Safety and effectiveness in pediatric patients below the age of 18 years have not been established.

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

NONCLINICAL TOXICOLOGY
Carcinogenesis, Mutagenesis, Impairment of Fertility
Carcinogenesis Long-term studies in animals have not been performed to evaluate the carcinogenic potential of lotilaner.

Mutagenesis Lotilaner was not genotoxic in the following assays: Ames assay for bacterial gene mutation, *in vitro* chromosomal aberration assay in cultured human peripheral blood lymphocytes, and *in vivo* rat micronucleus test.

Impairment of fertility In a two-generation study of reproductive performance in rats, F0 male and female rats were administered lotilaner at oral doses of 40 mg/kg/day for 80 days reduced to 20 mg/kg/day for 47-50 supplementary days. Reduced pregnancy rates and decreased implantation rates were observed in F0 females at doses 20 mg/kg/day (approximately 556 times the RHOD on a body surface area basis), which were also associated with maternal toxicity (i.e., decreased body weight and food consumption). No effects on fertility were observed in F0 females at the dose of 5 mg/kg/day (approximately 139 times the MRHOD on a body surface area basis). No effects on fertility were observed in F1 males and females at the oral dose of 5 mg/kg/day (approximately 139 times the RHOD on a body surface area basis).

PATIENT COUNSELING INFORMATION

Handling the Container Instruct patients to avoid allowing the tip of the dispensing container to contact the eye, surrounding structures, fingers, or any other surface in order to minimize contamination of the solution. Serious damage to the eye and subsequent loss of vision may result from using contaminated solutions.

When to Seek Physician Advice
Advise patients that if they develop an intercurrent ocular condition (e.g., trauma or infection), have ocular surgery, or develop any ocular reactions, particularly conjunctivitis and eyelid reactions, they should immediately seek their physician's advice concerning the continued use of XDEMVY.

Use with Contact Lenses Advise patients that XDEMVY contains potassium sorbate, which may discolor soft contact lenses. Contact lenses should be removed prior to instillation of XDEMVY and may be reinserted 15 minutes following its administration.

Use with Other Ophthalmic Drugs
Advise patients that if more than one topical ophthalmic drug is being used, the drugs should be administered at least 5 minutes between applications.

Missed Dose Advise patients that if one dose is missed, treatment should continue with the next dose.

RX only

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Progressing the Power List

Respecting the impact and influence of our yearly ranking of the field's top players

Editorial



It's time for The Ophthalmologist Power List Top 100, when we showcase the most influential and inspirational individuals in global ophthalmology. The graduation of some of our previous mainstays to our Hall of Fame (top.txp.to/HofFame/2023) has opened up 2024's ranks for a few changes at the top of the list – and for the inclusion of names that have not appeared before. If you can't wait a moment longer to find out who is on it, who is not, who is up, and who is down – turn to page 11 without delay!

As I write, this year's ASCRS meeting in Boston is still a very fresh and lively memory; I found the event particularly rewarding as it gave me my first opportunity to have face-to-face conversations with a host of Power Listers – past and present – all in one place.

One big realization from these encounters (beside the grace and humility with which these individuals acknowledged their inclusion) was just how impactful and respected The Power List is – not just for those who secure a place, but across the entire community. I say this with pride, but certainly without complacency. We know that making it onto the Power List – and, unfortunately, not making it – can be of great consequence to an ophthalmologist's reputation, standing, and, of course, their self-image.

The Ophthalmologist therefore has a duty to ensure the robustness of the Power List nomination and judging process. With that, I extend an invitation to everyone in the community; we want your ideas on how to maneuver this celebrated feature further into an age of transparency and accountability. I welcome your suggestions and recommendations and any general comments you may have about how the list could (and should) evolve.

To evoke an old proverb more recently popularized by, of all people, Spider-Man's uncle – here at The Ophthalmologist we know and appreciate that with this great Power List comes great responsibility.

Julian Upton
Group Editor

IN CATARACT AND REFRACTIVE SURGERY

20/20 Unhappy Patients Can Be Puzzling

Hyperosmolarity May Be the Missing Piece



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@trukera.com
to schedule a
demo of the
ScoutPro
Osmolarity
System

Did you know that hyperosmolarity...



...creates **light scatter** equivalent to a grade 2-3 cataract?¹



...may result in **>1.0D refractive miss** in 1 out of 10 patients?²



...results in **7x the number of dissatisfied** patients following cataract surgery?²



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Osmolarity System

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1. Nochez Y, et al. *Invest Ophthalmol Vis Sci.* 2011;52(14):3754.
2. Kursite A and Laganovska G. *J Ophthalmol (Ukraine).* 2023;2:11-5.
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03 Editorial

Progressing the Power List by Julian Upton

Feature

11 The Power List 2024 Our annual celebration of 100 individuals whose global influence is shaping and advancing the field of ophthalmology

Practice Fundamentals

47 Glaucoma Trabeculotomy cost efficiency, improving the automated diagnosis of glaucomatous optic neuropathy, preventing POAG, and Pat Caulfield offers a patient perspective on glaucoma

Sitting Down With...

50 Francesca Cordeiro, Chair and Professor of Ophthalmology at Imperial College London, and Director of the Clinical Trials Unit at Western Eye Hospital, London

Feel free to contact any one of us: first.lastname@texerepublishing.com

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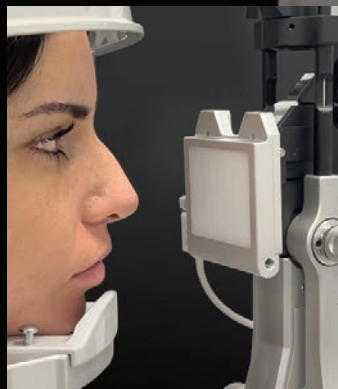




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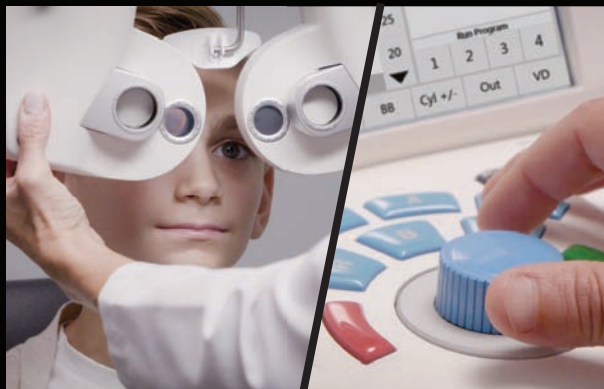
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Ophthalmologist
P O W E R
L i s t

Welcome to the most anticipated celebration of the many inspirational and influential clinicians, scientist, and leaders in ophthalmology



It's that time of year again, when we showcase the great and the good of ophthalmology. The graduation of some of our previous mainstays to our new Hall of Fame ([top.txp.to/HofFame/2023](#)) has opened up 2024's ranking for quite a few changes to the Top 20 – and, seemingly, for the inclusion of several industry leaders who have not appeared on any of our Power Lists before.

Aside from this reshuffle, an overriding theme of this year's list is the encroaching

effect of artificial intelligence (AI) and machine learning (ML) on ophthalmology. Around half of our Top 100 ophthalmologists have something to say about AI and ML. Reassuringly, these comments are very positive – with just a smattering of skepticism – covering everything from the transformative leap that the integration of AI and ML will bring to diagnostic processes to the development of robotic surgery.

As usual, the task of selecting and

ranking the Top 100 ophthalmologists was shouldered by our panel of judges – all internationally renowned experts in the field themselves. And once again, the observations provided by our 100 chosen influencers throw a light on the cutting-edge issues and trends that are shaping ophthalmology right now – as well as letting us in on some lesser-known aspects of their backgrounds and interests. So, read on... And enjoy!



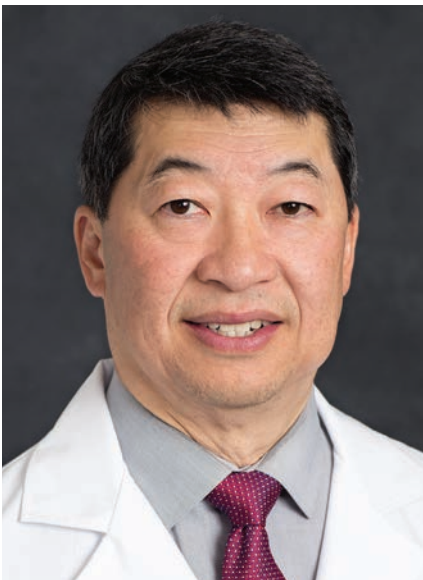
1

Iqbal "Ike" K. Ahmed

John R. and Hazel M. Robertson
Presidential Endowed Chair and
Professor, Department of Ophthalmology
and Visual Sciences, University of Utah,
USA; Research Director, Kensington Eye
Institute, University of Toronto, Canada;
Chief Innovation Officer, Prism Eye
Institute, Oakville, ON, Canada

What industry trends are catching your attention? The race to incorporate AI and digital technology into healthcare solutions. This will dramatically change access, workflow, and efficiency in our workplace, but also require further investment and prioritization in current environments.

Make a bold prediction for the future of ophthalmology. In glaucoma, we will move into an intervention approach where procedural elements form the basis of therapy, and traditional eye drops become bridges to more definitive management. Lasers, drug/molecular delivery, and surgery to not only lower IOP, but protect cells and eventually regenerate tissue will become mainstays in glaucoma treatment.



2

David F. Chang

Clinical Professor, University of
California, San Francisco (UCSF); Private
practice, Los Altos, California, USA

What is a little-known fact about you or your family? Ten years ago, my undergraduate son instantly attained more fame than I ever will through his guest appearance on the Jimmy Kimmel show as the internet viral Stanford Band Cowbell player during the 2014 March Madness basketball tournament. He just got married last March – 10 years later – which is a testament to his wife’s Stanford roots and her very tolerant personality.

What global trends in eye health should ophthalmologists be aware of? We finally have an IOL technology – the light adjustable lens (LAL) – that is beautifully suited for refractive lens exchange (RLE) in presbyopic patients. The new LAL “plus” extends the depth of focus and, as with contact lenses, we can assure emmetropia in one eye and then adjust and individualize the degree of mini- or micro-monovision without compromising visual quality. With more experience, the popularity and demand for RLE will significantly increase. This growth of RLE with adjustable and accommodating IOLs will hasten and exacerbate the looming manpower shortage of cataract surgeons in even high-income countries.



3
Felipe A. Medeiros

Professor of Ophthalmology, Vice Chair of Research, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, USA

What industry trends are catching your attention? In the area of glaucoma, there's been a resurging interest in neuroprotective treatments with many big players and start-ups showing promising early results. This is a field that previously saw a decline due

to challenges in designing effective clinical trials. Recent advancements have revitalized this area of research by showing that these types of clinical trials are feasible, fostering optimism about the potential introduction of these treatments into clinical practice shortly. This renewed enthusiasm marks a promising horizon for glaucoma management, hinting at significant breakthroughs that could transform patient care.

If you weren't an ophthalmologist, what would you be doing instead? Playing tennis.

4
Joel S. Schuman

Kenneth L. Roper Endowed Chair, Vice Chair for Research Innovation, Vickie and Jack Farber Vision Research Center Co-Director (Glaucoma Service), Wills Eye Hospital; Professor, Department of Ophthalmology, Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA, USA

What industry trends are catching your attention? MIGS is very hot in the glaucoma space, and glaucoma is increasingly seen as a surgical disease even in areas with excellent access to care and medication. Evidence shows the benefit of selective laser trabeculoplasty (SLT) as primary therapy, and new data suggest the importance of early surgery, particularly in advanced disease.



5
Keith R. Martin

Ringland Anderson Professor and Head of Ophthalmology, University of Melbourne, Australia; Managing Director, Centre for Eye Research Australia; Honorary Senior Research Fellow, University of Cambridge, UK

If you weren't an ophthalmologist, what would you be doing instead? I'm a keen pianist but was sadly never good enough

for this to be a viable career option. Before settling on medicine, I thought about combining my love of physics and music to become an acoustic engineer with the dream of designing concert halls. This would have been another terrible career choice as there must be about three people in the world that make a living that way.

What is a little-known fact about you? I have a Black Belt in Shotokan Karate.

6

Dennis S. C. Lam

Director, International Eye Research Institute of The Chinese University of Hong Kong (Shenzhen); Editor-in-Chief, Asia-Pacific Journal of Ophthalmology; Secretary-General, Academy of Asia-Pacific Professors of Ophthalmology, Hong Kong

What is a little-known fact about you? Everyone has a story behind them, and a road ahead which will lead to their destiny. I believe there is an almighty God up above watching and guiding each of us. If you keep to the music that stirs in your heart, your dreams will come true one day.



7

Julia A. Haller

Ophthalmologist-in-Chief and William Tasman, MD Endowed Chair, Wills Eye Hospital; Professor and Chair of Ophthalmology, Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, USA

What industry trends are catching your attention? The use of big data set analysis and artificial intelligence to inform drug development in myriad ways from

molecular target selection to clinical trial design.

What is a little-known fact about you? Cathy Ryan, the retina surgeon wife of best-selling author Tom Clancy's cerebral action hero Jack Ryan, is based on me.

If you weren't an ophthalmologist, what would you be doing instead? In medicine, probably pediatric surgery or hand surgery. If not medicine, maybe I'd have been an art historian.



8

Charles N. J. McGhee

Maurice Paykel Professor and Chair of Ophthalmology, Director of the New Zealand National Eye Centre, University of Auckland, New Zealand

What industry trends are catching your attention? Extended depth-of-focus (EDOF) intraocular lenses have made major advances in improving distance and intermediate to near vision, without the aberrations

associated with traditional multifocal lenses, making them more suitable for the cataract patient who doesn't mind occasional near correction with minimal night-time symptoms.

What is a little-known fact about you? If it hadn't been for the excellent and inspiring mentorship of two ocular pathologists, William Lee (Scotland) and Dan Albert (Boston), I might have left medicine as an undergraduate to pursue a career in music rather than as a surgeon and vision scientist.

9

Jost B. Jonas

Professor and Chairman, Department of Ophthalmology, Medical Faculty Mannheim, Heidelberg University, Germany

How do you think AI and machine learning will impact ophthalmology?
It will be of tremendous use in daily routine ophthalmology.

In the words of his nominator: “Jost B. Jonas has been teaching medical students since 1985 and has presented more than 100 teaching courses worldwide, as well as organizing more than 150 CME-based meetings for local ophthalmologists between 1990 and 2020.”



10

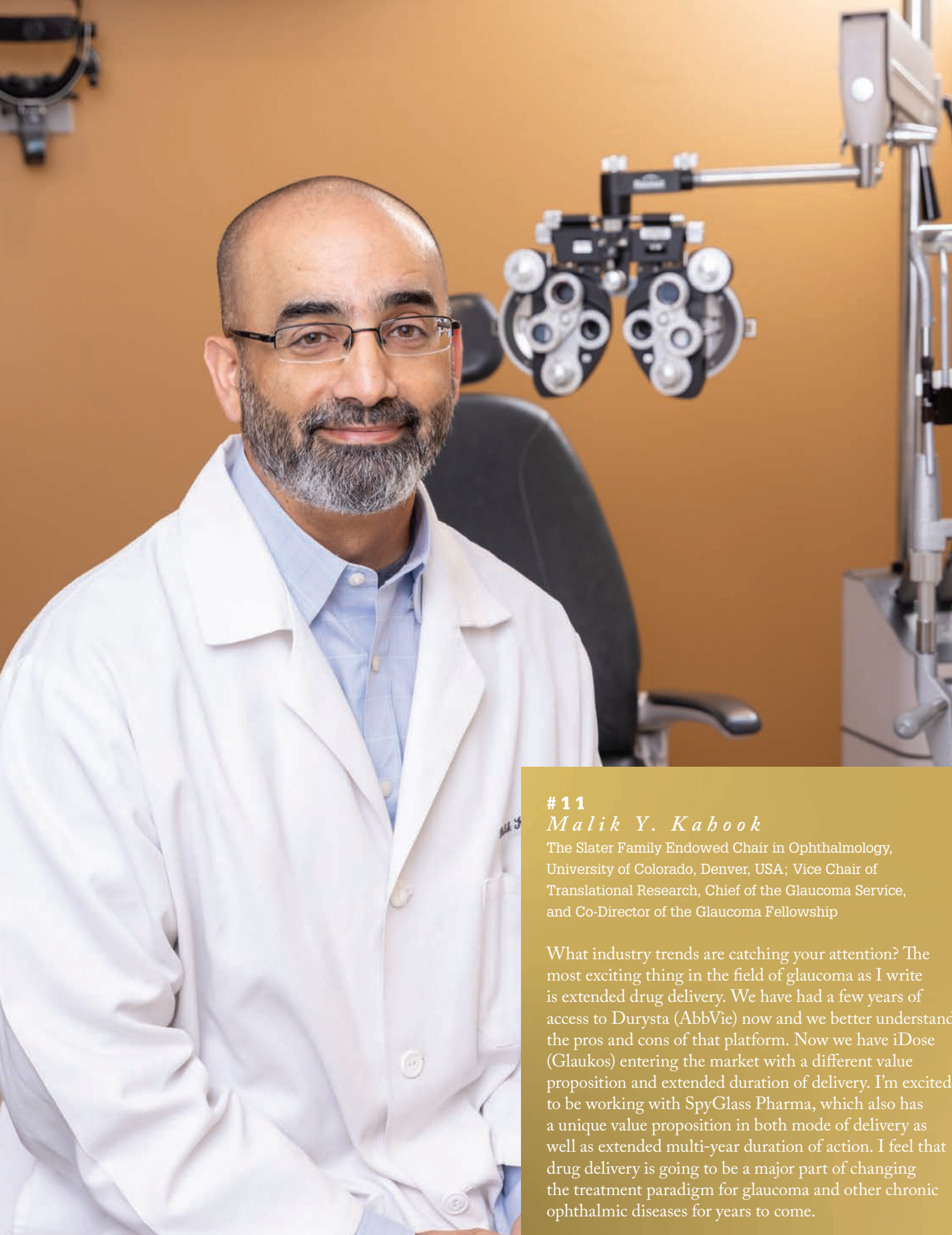
Keith Barton

Consultant Ophthalmologist, Moorfields Eye Hospital; Professor of Ophthalmology, UCL; Co-Chair, Ophthalmology Futures Forums, London, UK

What industry trends are catching your attention? The trend toward AI and home diagnostics – home OCT, and so on. It will be interesting to see if this can develop into an economically viable model in comparison with technician-based hubs for glaucoma and retinal diagnostics.

Make a bold prediction for the future of ophthalmology. I think that we are at the beginning of an era where remotely collected diagnostics will increasingly become the norm, drastically reducing the number of face-to-face consultations. Simultaneously, I expect that robotics will slowly creep into high volume repetitive surgical interventions, such as cataract surgery and intravitreal injections.





11

Malik Y. Kabook

The Slater Family Endowed Chair in Ophthalmology, University of Colorado, Denver, USA; Vice Chair of Translational Research, Chief of the Glaucoma Service, and Co-Director of the Glaucoma Fellowship

What industry trends are catching your attention? The most exciting thing in the field of glaucoma as I write is extended drug delivery. We have had a few years of access to Durysta (AbbVie) now and we better understand the pros and cons of that platform. Now we have iDose (Glaukos) entering the market with a different value proposition and extended duration of delivery. I'm excited to be working with SpyGlass Pharma, which also has a unique value proposition in both mode of delivery as well as extended multi-year duration of action. I feel that drug delivery is going to be a major part of changing the treatment paradigm for glaucoma and other chronic ophthalmic diseases for years to come.

12

Martine J. Jager

Professor Emeritus, Leiden University, Leiden, The Netherlands; Guest Professor, University of Cologne, Germany

What industry trends are catching your attention? In ocular oncology, one needs to develop new approaches for preventing outgrowth of threatening choroidal nevi to stop them from becoming a melanoma. With regard to metastases of eye melanomas, the current therapies are not curative, but they may prolong life. Combining approaches may be the way to go, or stimulating immune responses first and then adding immune checkpoint inhibitors.



14

Damien Gatinel

Head of Anterior Segment and Refractive Surgery Department, Rothschild Foundation Hospital, Paris, France; Associate Professor at Abulcasis International University of Health Sciences, Rabat, Morocco

What is a little-known fact about you? Outside the clinic, I'm an avid photographer. The intricacies of capturing the world's surroundings through a lens deepen my appreciation for the complexities and beauty of vision, reminding me daily of the wonder that is the human eye.



13

Tien Y. Wong

Chair Professor & Senior Vice Chancellor, Tsinghua Medicine, China; Vice Provost, Tsinghua University, China; Senior Advisor, Singapore National Eye Center, Singapore

What industry trends are catching your attention? Oculomics – the emerging field where the eye is a biomarker of human health and systemic disease.

15

Michael F. Chiang

Director, National Eye Institute, National Institutes of Health, Bethesda, MD, USA

What is a little-known fact about you? As a young medical student, I wanted to become a neurosurgeon because I'd become interested in artificial neural networks. Because of that, I spent several years working in the Division of Neurosurgery Research at Massachusetts General Hospital in a lab that studied neural information processing ... in the rabbit retina. This is how I learned about the visual system and decided to become an ophthalmologist.





16
H. Burkhard Dick

Chair of Ophthalmology, Ruhr University Bochum (RUB); Director, University Eye Clinic Bochum; Secretary of the European Society of Cataract and Refractive Surgeons (ESCRS); General Secretary of the German Society of Cataract and Refractive Surgery, Germany

Make a bold prediction for the future of ophthalmology. We will continue to see breathtaking developments and true gamechangers in diagnostics, monitoring and therapy – from new surgical techniques (the rise of MIGS) is far from over to gene therapy for rare and thus far “untreatable” diseases. But the challenges are also enormous and mounting. With a growing world population and a host of global problems from climate change to wars, the resources available for eye care will be far from inexhaustible – quite the contrary.



17
Soosan Jacob

Director and Chief, Dr. Agarwal’s Refractive and Cornea Foundation; Senior Consultant, Cataract and Glaucoma Services, Dr. Agarwal’s Group of Eye Hospitals, Chennai, TN, India

Make a bold prediction for the future of ophthalmology. Completely online evaluation, AI-assisted diagnosis and

medical treatment, increasing robotic assistance in surgery, completely dropless recovery, a spectacle free world at all ages, gene therapy curing many hitherto untreatable conditions. These will happen – the only question is when. Some will take years, some a few decades, and some maybe even more. But all will eventually happen (unless humankind is mindless enough to self-destruct before that).



18
Gus Gazzard

Director of Surgery, Moorfields Eye Hospital NHS Trust; Professor of Ophthalmology (Glaucoma Studies), UCL, London; Visiting Professor, New York University (Langone Health); Immediate Past President of UK & Ireland Glaucoma Society

How do you think AI and machine learning will impact ophthalmology? We’ll have faster, more accurate, more certain diagnoses with less room for

“in my opinion,” but an ever greater need for simple communication and compassionate discussion about risk and prognosis with anxious patients.

What global trends in eye health should ophthalmologists be aware of? Global inequalities of access to care should make us all pause for thought.

Make a bold prediction for the future of ophthalmology. Neuroprotective cell-therapies will be routine within a decade.



19

I. Paul Singh

President, The Eye Centers of Racine and Kenosha, Wisconsin, USA

What industry trends are catching your attention? A big trend for me is interventional glaucoma. This is really a mindset or a philosophy. It is about being proactive and not having to choose between a high quality of life and addressing IOP aggressively. It allows us to intervene earlier, getting people off medications and thus improving compliance and taking more control of their disease. We now have a number of new technologies to allow us to diagnose earlier and treat safely without having to sentence our patients to a lifelong course of topical glaucoma medication that can cost money, cause ocular surface

disease, and affect daily functioning. This is also a mindset that traverses other subspecialties, such as cataract and retina.

What is a little-known fact about you? My father, along with his full-time job as an ophthalmologist, was also an Elvis impersonator. I would actually hear Elvis on the radio and think it was my dad singing! His influence on me was paramount in helping me become a better provider, but also how to incorporate multiple passions in your daily life. Today I am the keyboardist and one of the vocalists for a world beat band called Funkadesi. We mix Indian, funk, and reggae. Our motto is “One family, many children.” The idea there is that there is more that connects us than separates us. Just like a family, we all have differences, but we are still part of one big family!

20

Ningli Wang

Professor of Ophthalmology, Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University, Beijing, China

How do you think AI and machine learning will impact ophthalmology? The future development of AI, telemedicine, and digital medicine will eventually form intelligent ophthalmology. Currently, several countries and regions are leading the charge in establishing comprehensive digital and intelligent hospitals. And though it is in its early stages, this effort is expected to gain momentum as technology continues to evolve and mature.

Moreover, optical coherence tomography (OCT) has revolutionized ophthalmic diagnostics by enabling detailed examination of ocular tissue structures. Looking ahead, we anticipate achieving cellular-level resolution through OCT technology. The upcoming “OCT+X” technologies, such as OCT combined with adaptive optics, Doppler imaging, and terahertz imaging, will push ophthalmic imaging to unprecedented levels of precision.



Achim Langenbacher

Director, Professor and Head, Institute for Experimental Ophthalmology, Saarland University, Saarbrücken, Germany

How do you think AI and machine learning will impact ophthalmology? It will have a great impact on retina and cornea screening procedures, e.g., keratoconus detection, and also on IOL power calculations.

What industry trends are catching your attention right now? Femtosecond lasers, so many applications! But many new fields of application have still not been investigated...



Adnan Tufail

Consultant Ophthalmologist, Moorfields Eye Hospital, Institute of Ophthalmology, UCL, London, UK

In the words of his nominator: “Adnan Tufail stands as a global authority in research, with a particular focus on age-related macular degeneration (AMD) and choroidal neovascularization [...] He has emerged as a trailblazer in the realm of AI and deep learning, collaborating with Google DeepMind to employ AI for triaging common retina disorders [...] Adnan is actively engaged in validating AI for ongoing NHS deployment, expanding the methodology beyond ophthalmology to encompass diverse screening areas such as mammography.”

Alain Saad

Vice Head, Anterior Segment and Refractive Surgery Department, Rothschild Foundation Hospital, Paris, France

What is a little-known fact about you? I used to be a beekeeper during my young university years, harvesting up to 400 kgs of honey. The order and precision of bees’ work are impressive.

Make a bold prediction for the future of ophthalmology. Refractive surgery will become the most performed surgery with the increase in the prevalence of myopia and the improvement of treatment modalities.



Allen C. Ho

Attending Surgeon and Director of Retina Research Wills Eye Hospital Philadelphia; Professor of Ophthalmology Thomas Jefferson University, Philadelphia, USA

What is a little-known fact about you? When I thought my teenage kids had life too easy, I had them climb Mount Kilimanjaro – 19,341 feet – with me.

Make a bold prediction for the future of ophthalmology. Native intelligence, persistence to task, and resilience in the face of failure will be as or more important than AI in finding better treatments for vision threatening diseases.





Ameenat Lola Solebo

Pediatric Ophthalmologist and Clinician Scientist, UCL GOS Institute of Child Health and Great Ormond Street Hospital, London, UK

In what ways do you think artificial intelligence and machine learning will impact ophthalmology? My interest is in rare disorders – collectively common, and with a disproportional impact in childhood (the most common reason for a child to be blind in the UK is because that child has a rare disease). Rare disease will get left behind in the AI revolution because we have a lot of work to do on our data estates – but hopefully, in recognition of this and the potential gains of ML approaches in our field, we will see more collaboration and smarter approaches to the creation and storage of information, from clinical variables to imaging to patient reported outcomes.

Anthony Khawaja

Associate Professor and Honorary Consultant Ophthalmic Surgeon, UCL Institute of Ophthalmology and Moorfields Eye Hospital, London, UK

In the words of his nominator: “Anthony Khawaja is a world-leading investigator of the complex causes of glaucoma, with a focus



Anat Galor

Staff Physician, Miami Veterans Affairs Medical Center; Professor, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Florida, USA

What industry trends are catching your attention right now? Applying personalized medicine to ophthalmology, especially ocular surfaces diseases, such as dry eye.

If you weren't an ophthalmologist, what would you be doing instead? I would probably be a statistician, since one of my favorite activities in research is finding a story in a database of numbers and translating my findings into better diagnostic and therapeutic algorithms for my patients.

What do you like to do outside ophthalmology? When not at work, I love to travel and hike with my family.

on genetic and environmental factors. In the last 10 years, his most significant work saw him [as] lead author in the largest genome-wide association study of intraocular pressure to date. He also identified biological pathways which pointed to pathology in parts of the eye not previously thought to be relevant to glaucoma, opening up the possibility of new treatments, which are already in development.”



Andrzej Grzybowski

Professor of Ophthalmology and Head of Institute for Research in Ophthalmology, Foundation for Ophthalmology Development, Poznan, Poland

What industry trends are catching your attention right now? The new technologies to control myopia progression in children; application of AI-based devices in ophthalmology; and pharmacological treatment of presbyopia.

What is a little-known fact about you? Before I started training in ophthalmology, I was quite proficient in experimental research in pathophysiology, and I did my PhD in cell culturing.

If you weren't an ophthalmologist, what would you be doing instead? I love reading; when I was in secondary school I read a lot of Russian and American literature. Perhaps, in another life, I would be a literature critic or writer.



Arthur Cummings

Medical Director, Wellington Eye Clinic; Consultant Ophthalmic Surgeon, Beacon Hospital; Non-Executive Director, Alcon; Associate Clinical Professor, University College Dublin, Ireland

What industry trends are catching your attention? It appears that multiple companies are diversifying to include diagnostic devices, IOLs, phaco and vitrectomy machines, consumables, vision care, pharma, and so on. Companies are realizing that they need more than one product to survive and thrive.

Reversible procedures are going to flourish. Procedures such as ICL for refractive error are going to continue growing in popularity. One of the reasons is that of reversibility. Many patients fear the permanence of laser vision correction and lens replacement surgery. With the option of reversibility (e.g. removing the ICL), things return to the preoperative state. I have seen this personally: someone is contemplating surgery but not quite sure about how to proceed, and as soon as a reversible procedure is mentioned, they commit.



Ben LaHood

Ophthalmologist, Adelaide Eye and Laser Centre, Adelaide, Australia; The Queen Elizabeth Hospital, Adelaide, Australia; Senior Clinical Lecturer, University of Adelaide

What is a little-known fact about you? I am in the final stages of releasing a cosmetic product specifically for eyelid

skin to help protect eyelids from the elements, as well as providing anti-aging properties. This stems from working in the sunny environments of New Zealand and Australia, where removing eyelid skin lesions and reconstructing eyelids is far too common. This has been a project many years in the making, so it is very exciting to see it become a reality this year.

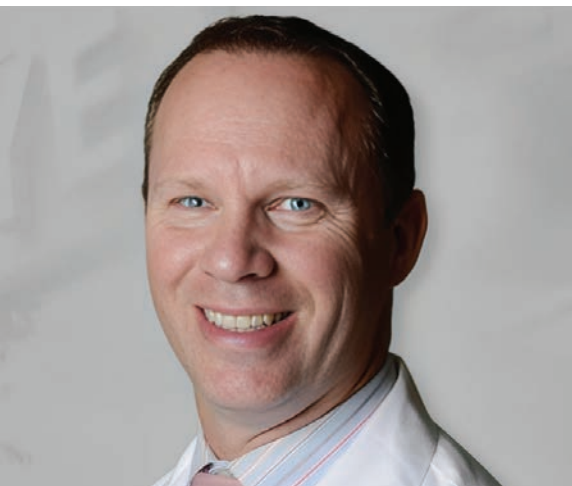
Bonnie An Henderson

President and CEO, Head of Global Innovation & Technology, HelpMeSee; Clinical Professor of Ophthalmology, Tufts University School of Medicine, Boston, MA, USA

If you weren't an ophthalmologist, what would you be doing instead? If I were not an ophthalmologist or in medicine, I think I would still be involved in some type of humanitarian work. It is hard to think of a more important vocation than something that relieves suffering. Currently, I work with a non-profit organization, HelpMeSee, that was founded by Jim Ueltschi. We strive to eradicate blindness by educating surgeons to become competent in cataract surgery. It is a small part of a much larger solution to relieve the suffering of the millions of people who are blind. Although our work may only



address one problem in a sea of problems that face our world, I strongly believe if everyone did their part to work towards relieving suffering of any kind, the world would be a better place.

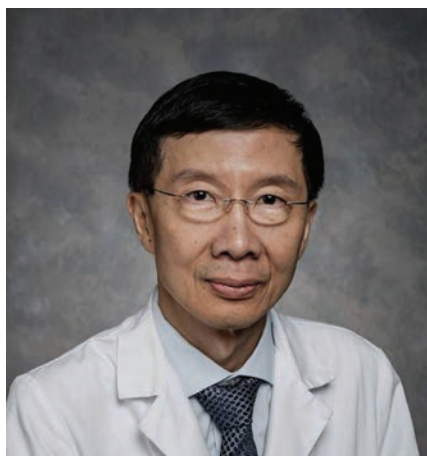


Brandon D. Ayres

Co-Director, Cornea Fellowship Program,
Wills Eye Hospital, Philadelphia, USA

In the words of his nominator: “Brandon Ayres is known for his knowledge-sharing ability, his patient-centric approach, and his cutting-edge work in

the field. At Wills Eye Hospital, he is an active participant in resident and fellow education and in clinical research. He was Wills Eye’s youngest recipient of the Golden Apple Award, and he was the first person at the hospital to perform Descemet’s membrane endothelial keratoplasty (DMEK).”



Byron L. Lam

Mark J. Daily Professor of Ophthalmology,
Bascom Palmer Eye Institute, University
of Miami Miller School of Medicine,
Florida, USA

Make a bold prediction for the future of ophthalmology. I have been fortunate to have been a clinical scientist in inherited retinal disease (IRD) and neuro-ophthalmology. The power of genetic testing has blossomed, and I believe that modifying genetic factors in IRD will be discovered; moreover, novel subjective imaging and functional modalities will serve as better outcome measures in IRD clinical trials. Combination treatments with more than one modality, such as gene therapy, in the treatment of IRD will be common. Prophylactic gene therapy of unaffected carriers of Leber hereditary optic neuropathy to decrease disease penetrance will be the norm to achieve better outcomes.



Carl D. Regillo

Director, Retina Service, Wills Eye Hospital;
Professor of Ophthalmology, Thomas
Jefferson University, Philadelphia, PA, USA

What industry trends are catching your attention? Emerging sustained delivery treatments for neovascular AMD, diabetic retinopathy, and other retinal conditions.

What is a little-known fact about you? I was an Air Force officer in the medical corps before going into private practice.



Carol Karp

Professor of Ophthalmology, Dr. Richard K. Forster Chair in Ophthalmology, Dr. Ronald and Alicia Lepke Professorship in Corneal Diseases, Bascom Palmer Eye Institute, University of Miami School of Medicine, Florida, USA

In her nominator’s words: “Carol L. Karp is most deserving of recognition for her innovative work on the diagnosis and treatment of ocular surface tumors. She has made a huge impact on our field, and excelled in the areas of innovation, research, and teaching/mentorship. With more than 200 peer-reviewed publications and chapters, Carol Karp’s research has contributed great innovation to ophthalmology and her work has helped to change the standard of care of these lesions. She is the definition of a physician-scientist.

“[Additionally], she is dedicated to disseminating her knowledge and has spent a significant portion of her academic career teaching medical students, residents, clinical and research fellows, junior colleagues, and peers. She is a devoted mentor with a magnetic personality, who truly enjoys the success of her mentees.”

Chelvin Sng

Adjunct Associate Professor, National University of Singapore; Medical Director, Chelvin Sng Eye Centre, Mt Elizabeth Novena Hospital; Convenor, Asia Pacific Glaucoma Society MIGS Interest Group, Singapore

Make a bold prediction for the future of ophthalmology. Within the next 20 years, I predict (and hope) that patients who have undergone cataract surgery – or those who have glaucoma – would not require daily eye drops, but can be treated with sustained release medications. This will really improve their quality of life.

If you weren't an ophthalmologist, what would you be doing instead?

I would be a sleep-deprived obstetrician and gynecologist, just like my parents! I am so glad that I chose ophthalmology instead.



Chbi Pui Calvin Pang

S.H. Ho Research Professor of Visual Sciences, Department of Ophthalmology & Visual Sciences, Faculty of Medicine, The Chinese University of Hong Kong

Pang is a co-investigator of two patents in application and is currently involved in research into treatments for childhood myopia, glaucoma, and ocular autoinflammatory diseases. He supervises over 30 post-doctoral research fellows and over 40 PhD and Master students at The Chinese University of Hong Kong, and is involved in eye care outreach programs within Hong Kong and in the neighboring regions of Guangdong, Tibet, Xinjiang, and Inner Mongolia.

Christina Y. Weng

Professor of Ophthalmology, Fellowship Program Director, Vitreoretinal Diseases & Surgery, Baylor College of Medicine, Cullen Eye Institute, Texas, USA

If you weren't an ophthalmologist, what would you be doing instead? I'm not sure I have the talent to make it, but my dream is to work in the fashion industry. Though I am totally a left-brained person, there's something about crafting a beautiful look that brings me joy. I love that fashion is more than just clothes or shoes, but is really about style which can span an infinite spectrum depending on the person and how they want to express themselves. Maybe one of these days, I'll find a way to creatively weave this into my real career – a line of scrubs or something. You can bet that they would be the most colorful and frilly scrubs anyone has ever seen!



Christopher J. Rapuano

Chief, Cornea Service, Wills Eye Hospital; Professor of Ophthalmology, Sydney Kimmel Medical College at Thomas Jefferson University, Philadelphia, USA

What industry trends are catching your attention right now? The major trend I'm following is how AI will affect medicine in general. I think it has great potential, but it is not without risk.

In what ways do you think artificial intelligence and machine learning will impact ophthalmology? I am hopeful AI will decrease some/many of the tedious tasks physicians need to do every day, such as writing progress notes in the chart. I am also hopeful that it will aid in the diagnosis and treatment of patients in the office, in real time. Having said that, I am fearful that doctors may come to rely on AI too much and consequently misdiagnose and mistreat patients.



Christopher Kai Shun Leung

Chairperson and Clinical Professor, Department of Ophthalmology, The University of Hong Kong; Director, HKU Eye Centre, Chief of Service, Department of Ophthalmology, Queen Mary Hospital, Hong Kong

Make a bold prediction for the future of ophthalmology. Advancements in digital home-monitoring systems and wearable devices are poised to play a pivotal role in the field of ophthalmology, significantly enhancing diagnostic capabilities and personalized treatments. Gene therapy and cell therapy will be available for optic nerve regeneration.

David Anthony Mackey

Professor of Ophthalmology, University of Western Australia and Lions Eye Institute, Western Australia, Australia

What is a little-known fact about you? I am a genetic chimera, having had a bone marrow transplant for leukemia.

What major industry trends are catching your attention? Commercialization of genomics.

If you weren't an ophthalmologist, what would you be doing instead? I would be a National Park ranger in Tasmania.



Clement C. Y. Tham

Chairman and S.H. Ho Professor of Ophthalmology & Visual Sciences, The Chinese University of Hong Kong (CUHK), Hong Kong

In the words of his nominator: "Clement C.Y. Tham is a world-renowned clinician scientist and key opinion leader in glaucoma [...] He has made major contributions toward advancements in ophthalmic practice globally, particularly in the Asia Pacific region, by championing ophthalmic training, education, and research in key professional leadership positions."



Daniel Ting

Chief Digital and Data Officer, Singapore National Eye Center; Associate Professor, Duke-NUS Medical School; Clinical Adjunct Associate Professor, Innovation Mentor, Byers Eye Institute, Stanford University, USA; Head, AI and Digital Health, Singapore Eye Research Institute, Singapore

What major industry trends are catching your attention? Generative AI, quantum computing, smart wearables with AI, blockchain, AR/VR technology.

How do you think AI and machine learning will impact ophthalmology? It will make us more efficient, reduce medical errors, and democratize care to a wider population beyond the conventional physical practice.





David Lockington

Consultant Ophthalmologist with subspecialty interest in cataract and cornea, Tennent Institute of Ophthalmology, NHS Greater Glasgow & Clyde, Scotland, UK

What industry trends are catching your attention? In the internet era, physically browsing journals is rare, replaced by direct article searches. The traditional journal model may become unsustainable if it remains costly to access, with minimal or poorly understood reviewer benefits and often negative authorship experiences. Social media and magazines may be the future for medical communication for busy clinicians with a story to share, with peer-review occurring via engagement after publication.

Deepinder Kaur Dhaliwal

Professor of Ophthalmology, University of Pittsburgh School of Medicine; Vice Chair, Department of Ophthalmology, Communications and Wellness, Chief of Refractive Surgery, UPMC Vision Institute; Director and Founder, Center for Integrative Ophthalmology; Clinical Co-Director, Corneal Stem Cell Task Force, Pittsburgh, PA, USA

What is a little-known fact about you? Most people don't know that I became a licensed acupuncturist after practicing ophthalmology for 10 years.

Make a bold prediction for the future of ophthalmology.

I feel that we will be able to alter the course of certain ocular pathologies, such as keratoconus and glaucoma, with a low-cost and readily accessible intervention.



Douglas J. Rhee

Professor and Chair, Department of Ophthalmology and Visual Sciences, University Hospitals Eye Institute, Case Western Reserve University School of Medicine, Cleveland, Ohio, USA

Make a bold prediction for the future of ophthalmology? I am so excited by the advancements in foundational knowledge, diagnostic, therapeutic, and decision support technologies. I predict that these will enable us to continue ophthalmology's leadership in the future of medical care delivery. As we know, a few decades ago, the vast majority of ophthalmic surgeries involved an in-patient hospital stay. Technology advancements, combined with brave and pioneering clinicians, moved nearly all of our procedures into the outpatient setting.



Eduardo C. Alfonso

Chair and Director, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Florida, USA

What is a little-known fact about you? While completing my undergraduate degree at Yale, I was a crew team member at my residential college and learned that rowing is the ultimate team sport. Teamwork is the most important quality needed for success. If one person fails, everyone fails. Collaboration, cooperation, and

teamwork are all hallmarks of Bascom Palmer's winning team.

How do you think AI and machine learning will impact ophthalmology? Large datasets will become increasingly important as artificial intelligence and data science become integral to health care. This information will substantially aid disease predictions and contribute tremendously to clinical research and patient care.

What industry trends are catching your attention right now? Artificial intelligence.



M. Francesca Cordeiro

Chair and Professor of Ophthalmology at Imperial College London; Director of the Clinical Trials Unit at Western Eye Hospital, London, UK

How do you think AI and machine learning will impact ophthalmology? It will help in enabling more patients

to be assessed remotely and by non-ophthalmologists; however, I believe it will be a support tool only, and therefore an ophthalmologist in the loop will always be necessary.

What global trends in eye health should ophthalmologists be aware of? Personalized medicine, prevention of disease before it leads to irreversible vision loss.

Francesco Carones

Chairman and Founder, Advalia Vision, Milan, Italy

What industry trends are catching your attention? I see big companies paying more and more attention to two fundamental elements: eco-sustainability and patient education. Eco-sustainability has become a global responsibility, and therefore each of us must take responsibility for it. At the level of large industries, this responsibility is even greater. I see positively the trend of industry in researching recyclable materials and encouraging environmentally sustainable recycling routes.

For patient education, the issue has become global thanks to the advent of the digital world. Nowadays it is easy for



the patient to find information online, but it is often controversial or distorted. Large companies are increasingly investing in patient education, either directly or through ophthalmologists. I believe that it is extremely positive to reach patients with correct information that can help them make appropriate choices for solutions to their problems.

Gholam A. Peyman

Professor and Director of Research, Department of Ophthalmology, University of Arizona College Medicine Phoenix Campus, Arizona, USA; Emeritus professor of Ophthalmology Tulane University New Orleans, Louisiana, USA

What global trends in eye health should ophthalmologists be aware of? People should be more concerned about their government and those who run it. Their impact on life will define how we live on earth.

What is a little-known fact about you? I am as interested in golf as inventing instruments, optical and non-optical, surgical and non-surgical procedures, vaccines and medications, and so on.

Gerd U. Auffarth

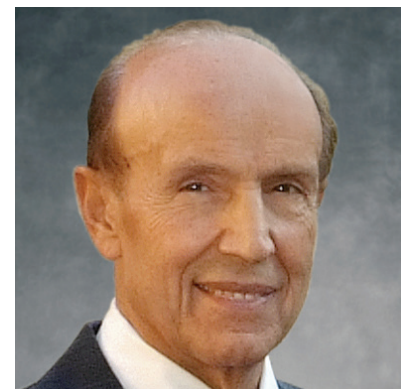
Professor and Chairman, Department of Ophthalmology, Ruprecht-Karls University of Heidelberg; Director of the IVCRC and The David J. Apple International Laboratory of Ocular Pathology at The University-Eye Clinic of Heidelberg, Germany

In the words of his nominator: "For decades, Gerd has been a leader in innovation. Besides testing and fine tuning the latest developments coming from the industry, he also provides his own and has patents in the field of intraocular lens technology and materials, as well as posterior segment technology. In his practice, he never shines away from implementing state-of-the-art approaches. He was the first



to perform femtosecond-laser surgery in Germany, on top of numerous worldwide or nationwide first implantations of novel IOLs."

What industry trends are catching your attention? Gene therapy, artificial intelligence, robotics, and tele-medicine.





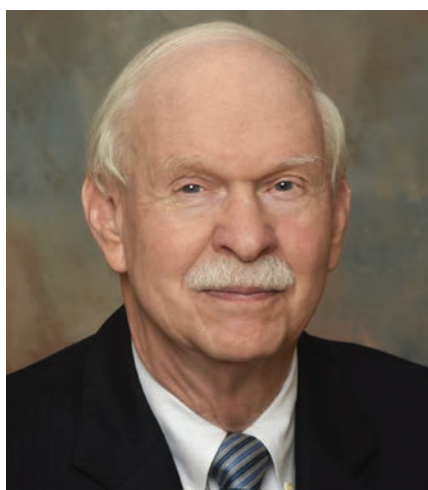
Gregory S. Hageman
John A. Moran Presidential Professor,
Executive Director, Sharon Eccles Steele
Center for Translational Medicine,
Department of Ophthalmology & Visual
Sciences, John A. Moran Eye Center,
University of Utah, USA

Make a bold prediction for the future of ophthalmology. We will develop

effective therapies and greatly reduce vision worldwide loss caused by devastating diseases.

What would you be doing instead If you weren't an ophthalmologist? A farmer or astronaut.

What is a little-known fact about you? I started my career as a marine biologist.



Harry W. Flynn, Jr
J. Donald M. Gass Distinguished Chair in Ophthalmology, Bascom Palmer Eye Institute, University of Miami, Florida, USA

How do you think AI and machine learning will impact ophthalmology? I think that AI will have a great impact in screening fundus photographs in patients with diabetic retinopathy and macular degeneration. Using AI, ophthalmologists could more efficiently use their time and knowledge to provide better care for patients. Likewise, large clinical studies on natural history and benefits of treatment can be performed with AI. Machine learning will continue to improve and allow residents and fellows in training to improve their knowledge base, which will secondarily impact the quality of care of patients in the field of ophthalmology.



Helen Danesh-Meyer
Sir William and Lady Stevenson Professor of Ophthalmology, Department of Ophthalmology, University of Auckland, New Zealand

Make a bold prediction for the future of ophthalmology. Ophthalmology is at the cusp of a transformative evolution. The intersection of innovations, such as affordable user-friendly home technologies, computer-based visual field tests, and non-invasive retina/optic nerve function monitors, will empower individuals to actively manage their ocular health. These technologies, coupled with artificial intelligence-driven algorithms, will enable early detection and continuous monitoring of conditions like glaucoma [and] diabetic retinopathy.



Hilda Capo
Professor of Clinical Ophthalmology, John T. Flynn Chair in Ophthalmology, Bascom Palmer Eye Institute, The University of Miami Miller School of Medicine, Florida, USA

In her nominator's words: "Hilda Capo is world-renowned for her expertise in strabismus in children and adults, and adjustable sutures, embodying the consummate strabismus surgeon. As a pioneer in identifying the anesthetic agent's role in the onset of double vision after cataract surgery, her landmark articles on vertical strabismus after cataract extraction, publications on strabismus surgery outcomes of adult-onset esotropia, surgery after glaucoma implants and retinal detachment repair, strabismus secondary to thyroid eye disease and OCT measurements of muscle insertions have had a tremendous impact on the field of strabismus."



Jaclyn L. Kovach

Professor of Clinical Ophthalmology, Fellowship Director, Bascom Palmer Eye Institute at Naples, Florida, USA

What industry trends are catching your attention? The new treatments for wet and dry AMD.

What is a little-known fact about you? I love Agatha Christie mystery novels.

If you weren't an ophthalmologist, what would you be doing instead? I would be an astronaut (if I met the height requirement).

James Bainbridge

Chair of Retinal Studies at UCL and Consultant Ophthalmologist, Moorfields Eye Hospital, London, UK

What major industry trends are catching your attention? Ocular regeneration.

If you weren't an ophthalmologist, what would you be doing instead? Exploring.



Janet L. Davis

Professor of Ophthalmology, Leach Chair in Ophthalmology, Bascom Palmer Eye Institute, The University of Miami Miller School of Medicine, Florida, USA

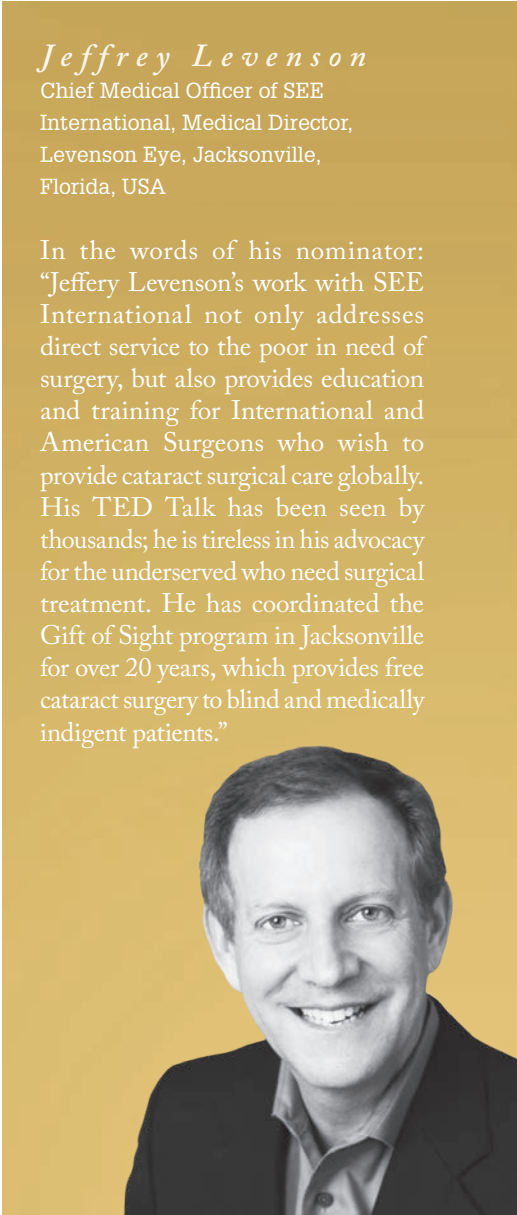
In her nominator's words: "Janet L. Davis is an internationally recognized expert in uveitis, as well as a medical retina and vitreoretinal specialist. Her expertise includes infectious and inflammatory diseases of the eye with an emphasis on diagnostic procedures and clinical management of uveitis, including the surgical management of uveitic complications. For the last seven years, she has also led the Bascom Palmer surgical team, which has performed more than 100 subretinal gene therapy procedures for inherited retinal diseases such as retinitis pigmentosa and choroideremia."



Jeffrey Levenson

Chief Medical Officer of SEE International, Medical Director, Levenson Eye, Jacksonville, Florida, USA

In the words of his nominator: "Jeffrey Levenson's work with SEE International not only addresses direct service to the poor in need of surgery, but also provides education and training for International and American Surgeons who wish to provide cataract surgical care globally. His TED Talk has been seen by thousands; he is tireless in his advocacy for the underserved who need surgical treatment. He has coordinated the Gift of Sight program in Jacksonville for over 20 years, which provides free cataract surgery to blind and medically indigent patients."





Jod S. Mehta

Distinguished Professor in Clinical Innovation in Ophthalmology and Deputy Chief Executive Officer (Research), Singapore National Eye Centre, Singapore

How do you think AI and machine learning will impact ophthalmology? AI will become mainstream physician-assisted technology in clinical screening, education, and research.

Make a bold prediction for the future of ophthalmology. Ophthalmology is the fastest moving high-tech booming medical specialty; it will continue to grow and advance.

What industry trends are catching your attention right now? Integration of products to improve workflow.

Kaweb Mansouri

Consultant Ophthalmologist, Swiss Visio, Lausanne, Switzerland; Adjoint Professor, Department of Ophthalmology, University of Colorado, Denver, USA; Executive Vice President, World Glaucoma Association

What global trends in eye health should ophthalmologists be aware of? Working



John Hovanesian

Harvard Eye Associates, Laguna Hills, California, USA

Make a bold prediction for the future of ophthalmology. Ophthalmology is perfectly positioned to lead other specialties in a move to more sustainable healthcare.

What global trends in eye health should ophthalmologists be aware of? Digital solutions available now can improve our care, ease our workload, and give us much career satisfaction. Learn about them.

How do you think AI and machine learning will impact ophthalmology? AI will change everything in medicine, but only humans can keep medicine humane.

If you weren't an ophthalmologist, what would you be doing instead? Flying airplanes – a passion I discovered during the pandemic.

conditions for the average ophthalmologist may deteriorate in developed countries as populations age and more will need to be done with reduced health care budgets. And the burden of glaucoma-related visual impairment in Africa will increase dramatically as currently young demographics will also age within a generation – with no increase in health care personnel in sight.



John Marshall

Frost Professor of Ophthalmology and Director responsible for Enterprise and Innovation, Institute of Ophthalmology, University College, London, in association with Moorfields Eye Hospital, London, UK

In the words of his nominator: "John Marshall is best known for inventing and patenting the revolutionary excimer laser for the correction of refractive disorders, with in excess of 70 million procedures now having been undertaken worldwide. For this innovation he has been recognized by colleagues throughout the world, and by honors and awards from professional institutions."





Kendall E. Donaldson

Professor of Clinical Ophthalmology and Medical Director, Bascom Palmer Eye Institute at Plantation, Florida, USA

What industry trends are catching your attention? I'm very interested in the development of IOL technology – particularly in the field of post-

operative adjustment of IOLs and in future accommodative technologies. I've personally enjoyed providing the light adjustable lens to our cataract surgery patients and, over the next decade, I look forward to progressively increasing the range of vision with cataract surgery while maintaining high-quality vision to parallel monofocal standards.

Kyoko Ohno-Matsui

Professor and Chair of the Department of Ophthalmology and Visual Science, Tokyo Medical and Dental University, Japan

Make a bold prediction for the future of ophthalmology. Most surgeries will be performed by robots. Most diagnoses will be done with AI. So fewer ophthalmologists will be needed?

How do you think AI and machine learning will impact ophthalmology? AI will take over most diagnoses, especially imaging and examinations. AI will predict the patients' future vision. AI will also predict who will get what kinds of eye diseases in the future.



Lisa M. Nijm

CEO, Warrenville EyeCare and LASIK; Assistant Clinical Professor of Ophthalmology, University of Illinois Eye and Ear Infirmary, Illinois, USA; Founder, RealWorldOphthalmology.com

What global trends in eye health should ophthalmologists be aware of? Ophthalmologists should remain vigilant about the increasing prevalence of myopia, particularly among younger populations. Additionally, the aging population and the rise in age-related eye diseases... necessitate a proactive approach towards preventive care and early intervention. Moreover, addressing disparities in access to eye care services, especially in low- and middle-income countries, remains a critical global health priority. Collaborative efforts aimed at promoting awareness, education, and sustainable solutions are imperative to tackle these challenges effectively.

Liliana Werner

Professor of Ophthalmology and Visual Sciences, Ralph and Mary Tuck Presidential Endowed Chair, Co-Director at Intermountain Ocular Research Center, John A. Moran Eye Center, University of Utah, USA

Make a bold prediction for the future of ophthalmology. I hope that accommodating IOLs will become available, which will also be amenable to non-invasive, postoperative power adjustment without time constraints.

What global trends in eye health should ophthalmologists be aware of? Advancing sustainability is currently a major goal in ophthalmology and other specialties.



How do you think AI and machine learning will impact ophthalmology? The potential for an impact in different areas in ophthalmology is tremendous; we are already witnessing it in areas such as IOL power calculation.



Louisa Wickham

National Clinical Director for Eye Care, NHS England; Chief Medical Officer, Moorfields Eye Hospital NHS Foundation Trust, London, UK

Make a bold prediction for the future of ophthalmology? The increased awareness of the link between retinal findings and systemic disease will one day mean that eye investigations, such as OCT, will not just be used for the diagnosis and management of eye disease, but for systemic disease monitoring and prevention. I foresee diagnostic hubs on high streets that would offer systemic and ophthalmic read outs combined

with health education and access to prevention or pre-symptomatic treatment.



Marcus Ang

Head, Cornea and External Eye Diseases Service, Singapore National Eye Center; Senior Consultant Ophthalmologist, Refractive Service, SNEC; Associate Professor, Ophthalmology and Visual Sciences, DUKE NUS Singapore; Advisor, SNEC Myopia Center, Singapore

Why did you decide to pursue ophthalmology/your subspecialty? Ophthalmology allows me to pursue my love for microsurgery and the practice of clinical medicine – while restoring vision, which is an important function.



Lyndon da Cruz

Consultant Ophthalmic Surgeon and Head of Vitreoretinal Surgery at Moorfields Eye Hospital; Professor of Retinal Stem Cell and Transplantation Surgery, UCL Institute of Ophthalmology

In his nominator's words: "Over the past 10 years, Lyndon has been published roughly 200 times, cited over 8,000 times, and contributed to an array of groundbreaking research – like the first-in-man trial for stem-cell macular degeneration treatment, or using a new patented tool for sheet-RPE transplantation in first-in-man trial for the NHS."

Mariya Moosajee

Professor of Molecular Ophthalmology, UCL, Institute of Ophthalmology; Group Leader of Ocular Genomics and Therapeutics at the Francis Crick Institute; Consultant Ophthalmologist and Head of the Genetics Department, Moorfields Eye Hospital NHS Foundation Trust, London, UK

Make a bold prediction for the future of ophthalmology: AI is changing medicine. In ophthalmology it will provide early diagnosis, guide improved management and outcomes – and it may even power robotic surgery for patients. My hope is that we see these technologies provide more equity of care worldwide with improved access to healthcare.



Marie-José Tassignon

Head of Department, University Hospital of Antwerp and University of Antwerp; University Hospital of Brussels-VUB, Belgium

What industry trends are catching your attention? I'm interested in making surgical procedures more precise, especially when it comes to cataract surgery. Even though we are quite proficient at it already, there is still room for improvement. For example, we need better intraocular lenses (IOLs) and more accurate ways to line them up with the visual axis. The next big challenge will be ensuring that cataract surgery is performed at a consistently good level across the world, right from the start of training.





Michael Belkin

Professor Emeritus of Ophthalmology, Goldschleger Eye Research Institute, Tel Aviv University, Sheba Medical Center, Israel

What is a little-known fact about you? I was head of medical research into treatment of non-conventional warfare

casualties. One of the main emphases was on botulinum toxin – the deadliest potential agent – and, to my regret, did not lead to the invention of Botox.

What industry trends are catching your attention? The induction of neural regeneration genetic/stem cell therapies.



Nick Mamalis

Professor of Ophthalmology, Calvin and JeNeal Hatch Presidential Endowed Chair Co-Director, Intermountain Ocular Research Center; Director, Ocular Pathology, John Moran Eye Center, University of Utah, USA

Make a bold prediction for the future of ophthalmology. In our lifetime, ophthalmic surgeons will have truly accommodating IOLs available for placement into patients eyes following cataract surgery, allowing for clear and unencumbered distance, intermediate and near vision post op.

What industry trends are catching your attention? The rapid expansion of IOLs that may possibly provide accommodation, as well as in vivo adjustment, of the IOL power following cataract surgery.



Paison Ruamviboonsuk

Clinical Professor of Ophthalmology, College of Medicine, Rangsit University, Bangkok, Thailand; Scientific Secretary, Asia-Pacific Vitreo-Retina Society.

Make a bold prediction for the future of ophthalmology. Retinal photographs will be more useful than ever in healthcare – they may even replace blood tests as a noninvasive procedure to check general health predicted by AI. The cameras may too become the most important device in clinics of general practitioners as well.

Paul J. Foster

Professor of Ophthalmic Epidemiology and Glaucoma Studies, Theme Leader – Population and Data Sciences, UCL Institute of Ophthalmology; Honorary Consultant Ophthalmologist, Glaucoma Service, Theme Co-Leader, NIHR BRC – Translational Data Science, Moorfields Eye Hospital, London, UK

What industry trends are catching your attention? The UK's capacity challenges are driving a transformation in care pathways for patients with chronic eye disease, with the use of large “diagnostic hubs” providing extra capacity for managing the large number of relatively stable, lower risk cases.

What is a little-known fact about you? I previously played basketball for England.

If you weren't an ophthalmologist, what would you be doing instead? A marine biologist.





Paulo Eduardo Stanga

Director, The Retina Clinic London; Honorary Professor, UCL Institute of Ophthalmology, London, UK

What is a little-known fact about you? I am a big fan of the countryside, horses, and gardening. I am happiest on horseback or in wellies, with my polo ponies, or my old roses, camellias and magnolias.

What global trends in eye health should ophthalmologists be aware of? The rise of independent clinics. Self-paying care. Research and clinical trials performed and offered at independent clinics. Office-based surgery. Personalized medicine, genetic testing and gene therapy. Applied AI and machine learning. And the demise of the large multi-specialty hospital, which can sometimes appear impersonal.

Randall J. Olson

Professor and Chair, Department of Ophthalmology and Visual Sciences, University of Utah, The Cumming Presidential Endowed Chair, CEO, John A. Moran Eye Center, Director, University of Utah Vision Institute, USA

Make a bold prediction for the future of ophthalmology. We will have very



Pearse Keane

Professor of Artificial Medical Intelligence, University College London; Consultant Ophthalmologist, Moorfields Eye Hospital NHS Foundation Trust.

What industry trends are catching your attention? I'm excited about the potential of "vision-language" foundation models. These models will be trained on huge amounts of text and ophthalmic images, improving performance in classical medical imaging tasks, along with a range of new novel possibilities – such as semantic search and visual question answering.

How do you think AI and machine learning will impact ophthalmology? AI will provide world leading expertise outside of specialized centers, into the communities and homes of our patients.

successful treatments (mostly gene therapies) for many difficult ocular conditions, such as inherited ocular diseases, macular degeneration, and those we are missing with present care for glaucoma to give just a few examples. Our surgical refractive precision will be routine and adjustable over time. We are entering a golden age for our field of new treatments, which are already in development."

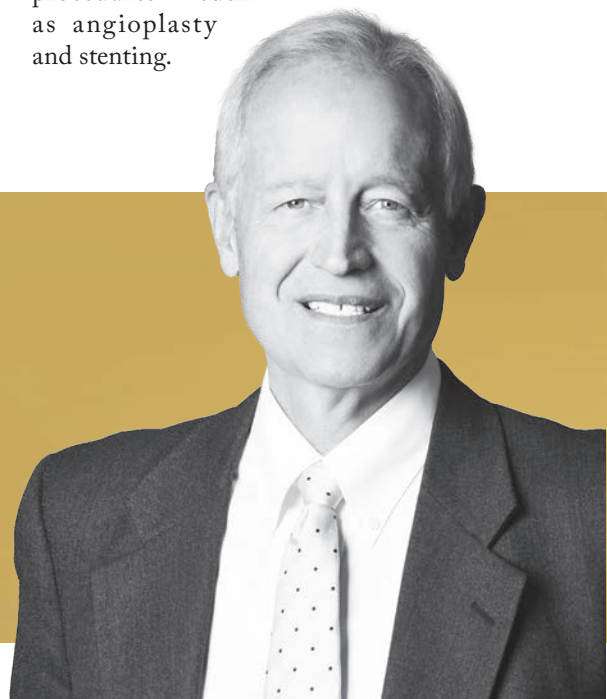


Philip J. Rosenfeld

Professor of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Florida, USA

What industry trends are catching your attention? I am particularly excited by the interest and resources devoted to developing new therapies in dry AMD.

Make a bold prediction for the future of ophthalmology. Ophthalmologists will come to appreciate the importance of ocular perfusion in a wide range of late-onset degenerative diseases, transitioning to embrace interventional ophthalmology much like how cardiologists evolved to interventional cardiology using catheter-based procedures – such as angioplasty and stenting.





Ranya Habash

Cataract & Refractive Surgery, Bascom Palmer Eye Institute, Florida, USA; Faculty, Masters of Clinical Informatics, Stanford University, California, USA; FDA Digital Health Network of Experts

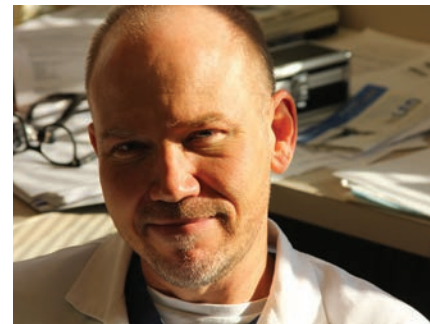
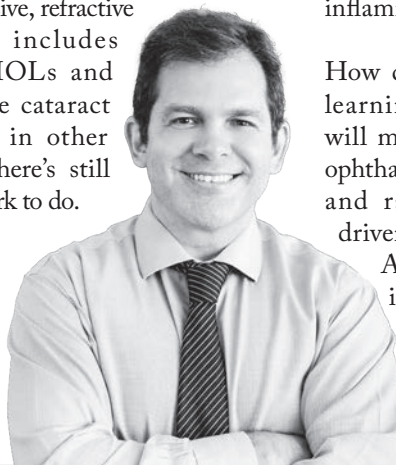
What industry trends are catching your attention? The integration of digital health solutions into our everyday lives will herald in a new era of tailored health and wellness. Technologies like generative artificial intelligence (AI), spatial computing with augmented and virtual reality (VR), advanced virtual care, and wearable IoT devices are becoming closely aligned to our daily routines. Ultimately, this enables real-time health tracking, personalized feedback, and immersive health and wellness experiences once limited to the domain of science fiction.

Renato Ambrósio Jr

Professor of Ophthalmology, Federal University of the State of Rio de Janeiro; Director of Refractive Surgery, Rio Vision Hospital & Instituto de Olhos Renato Ambrósio; CEO of BrAIN (Brazilian Artificial Intelligence Network in Medicine), Brazil

What industry trends are catching your attention? New approaches to treating ocular surface disorders and optimizing wound healing are particularly important. For example, the evolution of lasers, including excimer and femtosecond lasers, is of keen interest to me. However, while the progress in laser vision correction procedures (PRK, LASIK, and SMILE)

is impressive, refractive surgery includes phakic IOLs and refractive cataract surgery; in other words, there's still much work to do.



Richard C. Allen

Professor at the Department of Ophthalmology, Dell Medical School, University of Texas, Austin, USA

What industry trends are catching your attention right now? Molecularly targeted agents in the treatment of orbital inflammatory and oncological disease.

How do you think AI and machine learning will impact the field? AI will mostly affect diagnostic fields in ophthalmology – particularly pathology and radiology. However, patient-driven diagnosis through the use of AI algorithms, in which patients input historical information and photographs, will result in preliminary diagnoses that patients can bring to an ophthalmologist's office.



Richard K. Parrish II

Edward W. D. Norton, MD Chair in Ophthalmology, Academic Chief of Glaucoma, Bascom Palmer Eye Institute; Anne Bates Leach Eye Center, Professor, University of Miami Miller School of Medicine; Editor-in-Chief, American Journal of Ophthalmology, Florida, USA

What is a little-known fact about you? My paternal grandfather went blind after receiving glaucoma surgery by Harry Gradle in 1920.

If you weren't an ophthalmologist, what would you be doing instead? Leading progressive policies as a US Senator, and spearheading efforts to guarantee reproductive rights, gender equity, and voter rights for everyone.

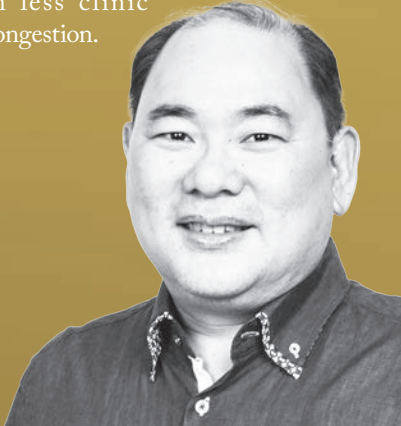
What global trends in eye health should ophthalmologists be aware of? Funding for eye health research competes with other health care issues, such as cancer and cardiovascular disease... Pressure should be put on decision makers to increase funding for eye research.

Robert Edward Ang

Department Head, Cornea and Refractive Surgery, and Director for Research, Asian Eye Institute, Makati City, Philippines

Make a bold prediction for the future of ophthalmology. I foresee a breakthrough with genetics where we will have some diseases that can be detected before they manifest. And, we may – one day – be able to prevent disease in susceptible individuals.

What global trends in eye health should ophthalmologists be aware of? I think home monitoring will become increasingly common. This will allow patients to send their data to physicians, resulting in less clinic congestion.



Robert MacLaren

Professor of Ophthalmology, University of Oxford, UK

What industry trends are catching your attention? There is no doubt in my mind that retinal gene therapy will begin to take over from the majority of injection treatments by the end of the decade. Why? Because our comprehension of the molecular mechanisms that lead to all types of AMD and diabetic retinopathy has improved significantly.



Roberto Zaldivar

Founder, Instituto Zaldivar, Mendoza, Argentina

In what ways do you think artificial intelligence and machine learning will impact the field? [I believe these technologies] will have the most important impact 10 years from now.

If you weren't an ophthalmologist, what would you be doing instead? I would be an architect, without a doubt.

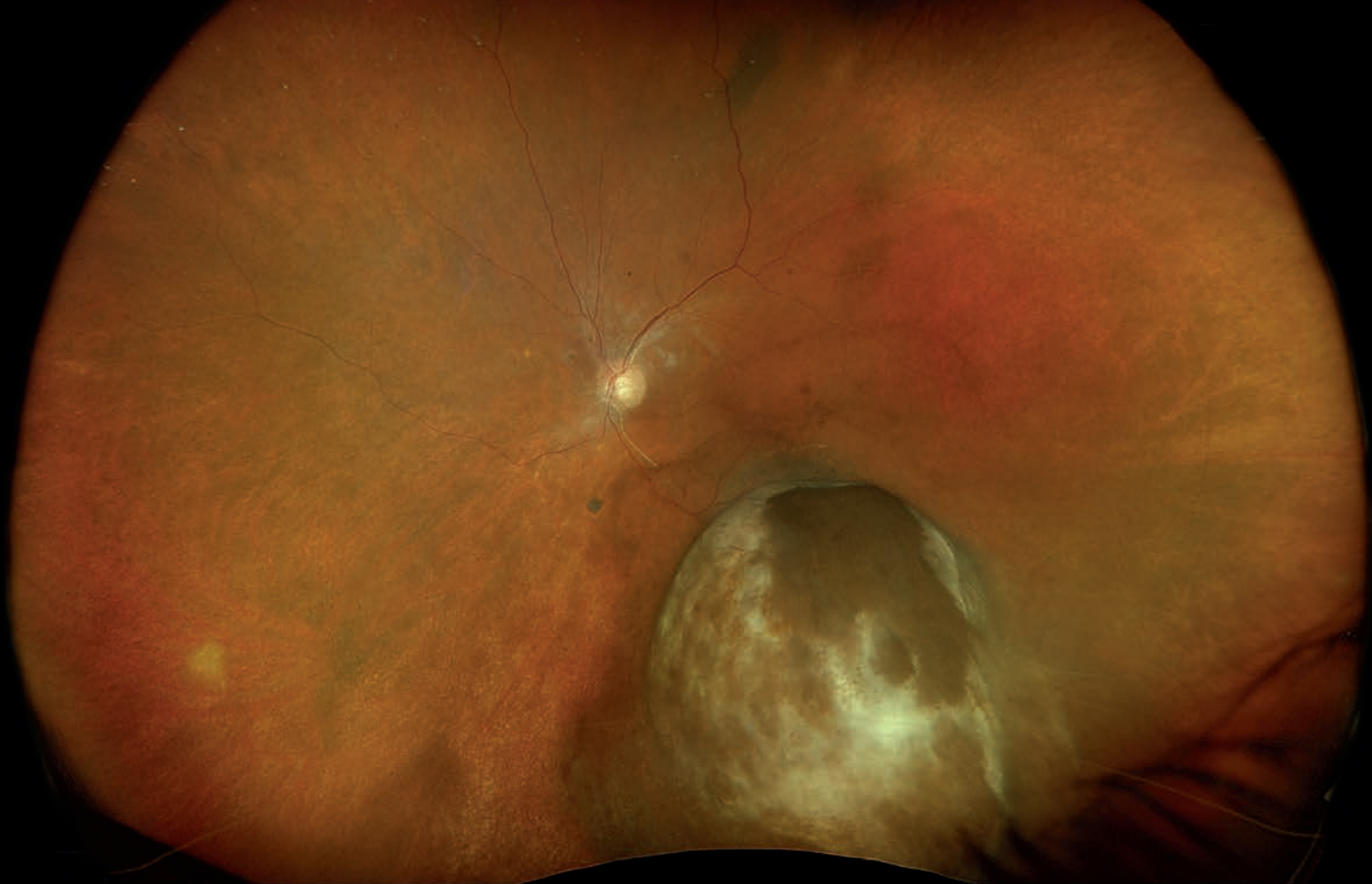
What is an interesting or little-known fact about you? I am a fan of all kinds of sports, and I practice as much as I can.



Robyn Guymer

Deputy Director, Centre for Eye Research Australia; Professor of Surgery (Ophthalmology), University of Melbourne; Senior Consultant Royal Victorian Eye and Ear Hospital, Melbourne, Australia

What global trends in eye health should ophthalmologists be aware of? The growing elderly population and increase in age-related eye diseases, such as AMD and glaucoma, as well as the ongoing diabetic tsunami, will overwhelm our ability to provide optimal eye care unless we reinvent our approach to patient treatment in the future.



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1. Successful interventions to improve efficiency and reduce patient visit duration in a retina practice; Retina, 2021. 2. Widefield Patient Care; EAOO, 2016. 3. The Impact of Ultra widefield Retinal Imaging on Practice Efficiency; US Ophthalmic Review, 2017.



Robit Shetty

Chairman, Narayana Nethralaya, Bengaluru, India

Make a bold prediction for the future of ophthalmology. Everything will become a “bespoke” treatment.

What trends in eye health should ophthalmologists be aware of? There are a few, including regenerative and repair

medicine, artificial intelligence, smarter diagnostics, and robotics in surgery.

What industry trends are catching your attention? The role of biomarkers and regenerative medicine, in addition to harnessing wound healing biology.

If you weren’t an ophthalmologist, what would you be doing instead? Archeologist.

Rosa Braga-Mele

Professor of Ophthalmology, University of Toronto, Canada

What industry trends are catching your attention? The latest technology in both diagnostics and IntraOp technology for cataract and glaucoma surgery is something to be excited about. Also, trends towards sustainable practice within our profession represent another important area of improvement for our industry.



Sanduk Ruit

Executive Director, Tilganga Institute of Ophthalmology, Nepal

Make a bold prediction for the future of ophthalmology. The future treatment of cataracts will depend on robotic surgery alongside medical treatment.



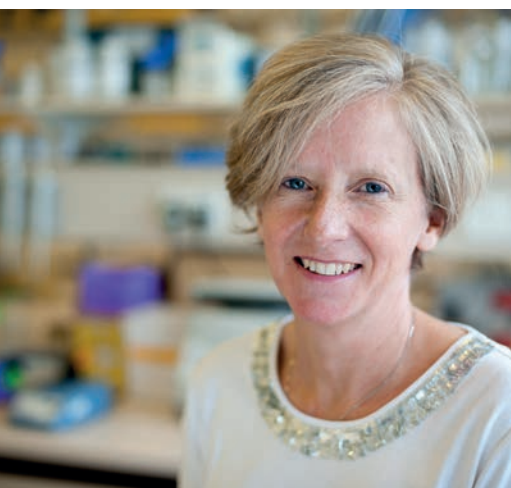
Sathish Srinivasan

Consultant Corneal Surgeon, University Hospital Ayr; Professor of Health and Life Sciences, University of West of Scotland; Founder and Medical Director, Ayrshire Eye Clinic, Ayr, Scotland, UK

What is a little-known fact about you? I performed my first cataract surgery at the age of 16.

If you weren’t an ophthalmologist, what would you be doing instead? I love running, so perhaps a long-distance runner.

How do you think AI and machine learning will impact the field? I believe AI will play a major role in globalizing healthcare. I’m particularly excited about how it will improve prediction tools for early disease detection.



Sarah Coupland

George Holt Chair of Pathology, Consultant Ophthalmic Pathologist, University of Liverpool/Liverpool Clinical Labs, UK

How do you think AI and machine learning will impact the field?. AI and machine learning will enable the faster and earlier diagnoses of eye diseases by ophthalmologists and those involved in vision science. These tools will not only be located in tertiary hospitals, but will also become available as “point of care” diagnostics. I hope this will improve vision health inequalities across the globe.

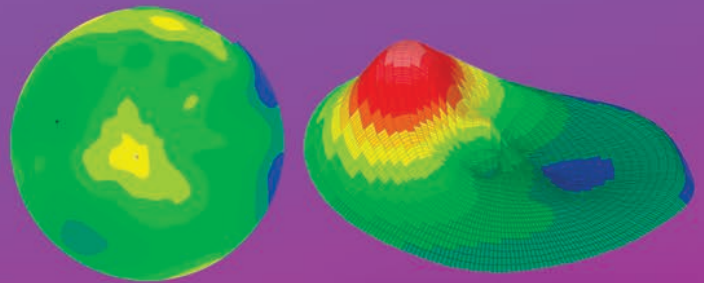




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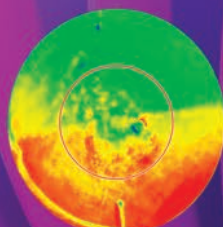
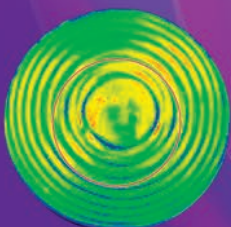
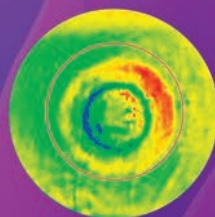
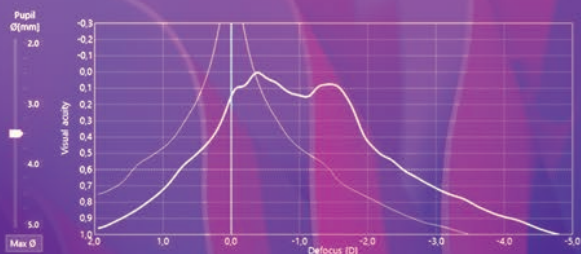
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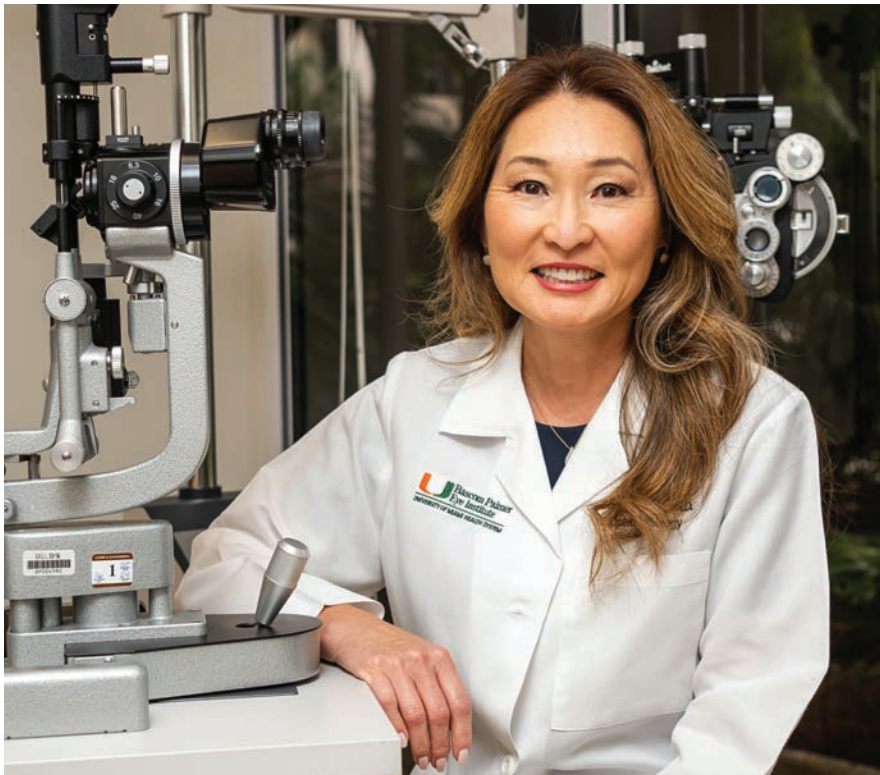
Sobha Sivaprasad

Consultant Ophthalmologist (Medical Retina and Research), Moorfields Eye Hospital; Professor in Retinal Clinical Research, UCL, London

What major industry trends are catching your attention? Tyrosine kinase inhibitors as long acting agents.

Make a bold prediction for the future of ophthalmology. Six-monthly treatments for AMD and macular edema caused by retinal vascular diseases.

What global trends in eye health should ophthalmologists be aware of? The rising use of language models globally to replace a lot of our clinical practice.



Sonia H. Yoo

Professor, Greentree Hickman Chair in Ophthalmology; Associate Medical Director, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Florida, USA

What trends in eye health should ophthalmologists be aware of? The pandemic highlighted large disparities in access to healthcare – and this gap needs to be addressed. In my view, technology will be the key to overcoming these boundaries.

In what ways do you think artificial intelligence and machine learning will impact the field? We will, one day, be able to decipher which patients should get which kinds of lens implants. We will also be able to identify which keratoconus patients to crosslink prior to them advancing, along with identifying which patients will have corneal transplant rejections and treat them accordingly.

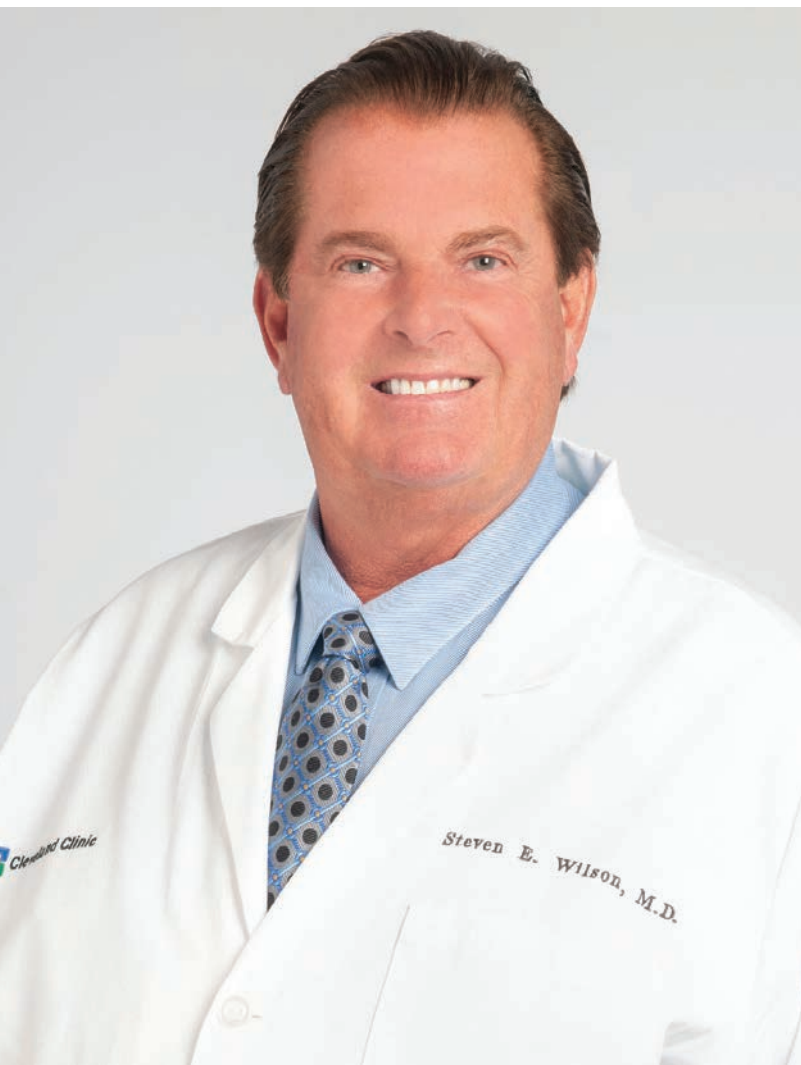
Stephanie Watson

Head of the Corneal Research Group, Save Sight Institute, Faculty of Medicine and Health, The University of Sydney; Head of the Corneal Unit, Sydney Eye Hospital; Chair of Australian Vision Research, Vice Chair of the NSW Royal Australian and New Zealand College of Ophthalmologists, Australia

Make a bold prediction for the future of ophthalmology. In the future, I hope to see research become a part of the everyday practice in ophthalmology –

this would include the routine collection and analysis of patient reported outcomes. Of course, data will be essential. Data would enable not just the efficacy and safety of treatments to be understood, but for inequity in treatment access to be addressed, which could, in turn, increase the uptake of evidence-based care. With this, ophthalmologists would soon become leaders in healthcare as they would see real-time outcomes of treatments, have a deeper understanding of the patient perspective, and take on the task of ensuring equitable delivery of eye care.





Steven E. Wilson

Professor of Ophthalmology, Director of Corneal Research, The Cole Eye Institute, The Cleveland Clinic, Cleveland, Ohio, USA

What is a little-known fact about you? I've published four novels, including the Stone Waverly Trilogy action adventure series that has won several awards.

If you weren't an ophthalmologist, what would you be doing instead? Playing third base for the Los Angeles Dodgers – or lead singer for The Doors rock revival band.

How do you think AI and machine learning will impact the field? I'm generally less optimistic about the impact artificial intelligence will have on our field. It will be good for things like IOL calculations, but original creative thought will remain a characteristic of humans.

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Steven J. Gedde

Professor of Ophthalmology and John G. Clarkson Chair, Executive Vice Chair and Vice Chair of Education, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Florida, USA

If you weren't an ophthalmologist, what would you be doing instead? I would be a high school teacher. I had several great teachers who influenced my career pathway, especially during high school. I could envision myself serving in a similar mentoring role for high school students.

In what ways do you think artificial intelligence and machine learning will impact the field? I predict that artificial intelligence and machine learning will play an increasing role in the care of glaucoma patients. Glaucoma is particularly suited to the application of artificial intelligence because data from multiple sources must be integrated to diagnose the disease and determine an appropriate course of treatment. I anticipate that artificial intelligence will allow more accurate diagnosis of glaucoma and detection of progression, as well as predict the future course of the disease if no modifications in management are made.



Tetsuro Oshika

President of the Japanese Ophthalmological Society; President-Elect of Asia Pacific Academy of Ophthalmology; Professor and Chairman at the Department of Ophthalmology, Faculty of Medicine, University of Tsukuba, Japan

What industry trends are catching your attention right now? For me, there are two major industry trends now: gene therapy and artificial intelligence.

Make a bold prediction for the future of ophthalmology. We will be able to manipulate cells throughout the eye to treat diseases and enhance vision, mirroring the way obstetrician-gynecologists currently manipulate genital cells in reproductive medicine.

What global trends in eye health should ophthalmologists be aware of? The healthcare budget is growing rapidly across many countries. However, a persistent, albeit superficial, belief exists that ophthalmologists are earning significant profits by treating non-life-threatening conditions with simple procedures. It is essential to emphasize the importance of quality of vision in healthy life, and we must counter the escalating pressure to lower reimbursement rates for eye care services.

Zaina Al-Mohtaseb

Cataract, refractive, and cornea specialist, Whitsett Vision Group; Cornea Surgeon, Director of Research, Clinical Associate Professor, Baylor College of Medicine, Houston, USA

What is a little-known fact about you? I am a Palestinian-American, Muslim immigrant woman. My parents immigrated to the United States when I was nine years old. I witnessed my parents restart their careers, struggle and make many sacrifices to ensure I had a good education. Those experiences are the driving force of why I strive to do the best I can in my work, and to treat everyone with compassion.

If you weren't an ophthalmologist, what would you be doing instead? At this point, I can't imagine doing anything



else, because I truly love the field and impact we have on patients, as well as all the technological advances. If I had to choose, I would probably be a teacher.

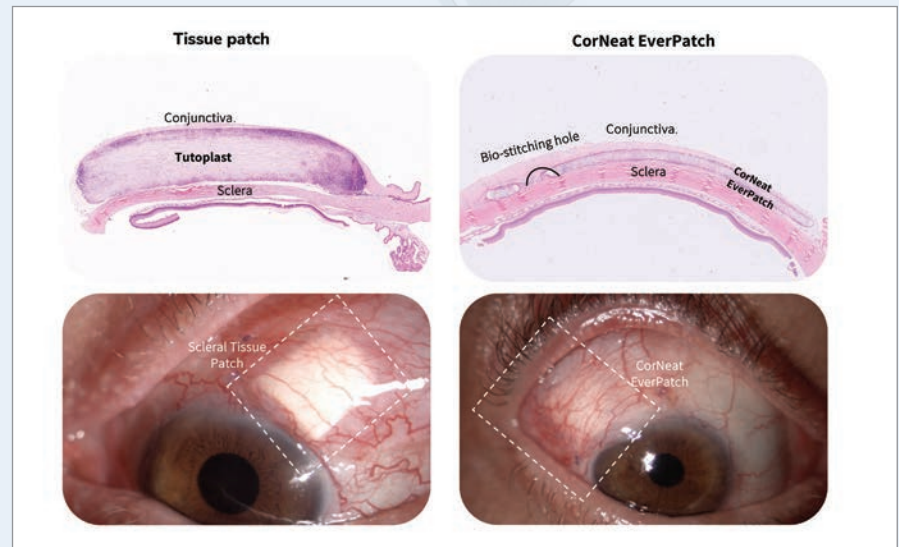
The CorNeat EverPatch: Superior Alternative to Tissue Grafts

First non-degradable bio-integrating device targeting glaucoma tube exposure complications that is tailored for surgeons

The use of an autologous sclera patch graft in human ocular surgery (by Swedish ophthalmologist Sven Larsson) goes back to the mid-1940s; at the same time, R. Townley Paton founded the first eye bank in New York. Preserved human sclera from eye bank donor eyes would come to replace the use of autologous sclera, but back then transplant surgeries had to take place no more than 48 hours after the death of the donor.

Advancements in techniques to preserve ocular tissues over the following decades meant that sclera grafts could be stored for much longer, and scleral reinforcement has become the gold standard as a safety measure in glaucoma drainage device (GDD) surgeries. The use of human tissue in these surgeries, however, has been beset by disadvantages; for example, it is degraded by the body's inflammatory cells, and there is a limited amount of graft material available. But thanks to the CorNeat EverPatch, these challenges are now surmountable.

As the first alternative to tissue that is synthetic, non-degradable, and sterile, the CorNeat EverPatch remains in the tissue following GDD surgery, and conceals the glaucoma tube shunt for the patient's life. "The non-degradability of this medical device will have a dramatic impact on the rate of late complications," says Dr. Gilad



Litvin, CorNeat Vision's Co-Founder and Chief Medical Officer. "And as it is not harvested from cadaveric origin, it is safer, reducing the risk of infection, specifically disease transmission."

The design and the features of the CorNeat EverPatch were optimized to address the surgeon's needs, simplifying the procedure. Where current tissue patches have a thickness of 400-500 μm to allow for protection until native scar tissue forms to conceal the tube, the non-degradable EverPatch is much thinner—just 100 μm —which reduces tension on the surgical wound and makes closing it easier for the surgeon. This "durability, flexibility, and resistance to cheese wiring allows easy and accurate manipulation and suturing," explains Almog Aley-Raz, CorNeat Vision's CEO and VP R&D.

The EverPatch is based on the EverMatrix™, the company's disruptive platform material technology. The EverMatrix™ is biocompatible, non-degradable biomimetic material that imitates the micro-structure of the human Extracellular Matrix (ECM)—the collagen mesh providing the structural and biochemical support to surrounding cells. It can be seen as a natural habitat for human fibroblasts, which play a critical

role in wound healing and constitute the most common connective tissue cells. In-vivo studies have shown the abundant presence of fibroblasts and collagen fibrils within the EverMatrix™ several weeks following its implantation with no adverse immune system response. In addition to the CorNeat EverPatch, the company develops two additional disruptive implants based on its platform technology, the CorNeat KPro—an artificial cornea intended to restore sight in corneally blind individuals—and the CorNeat eShunt—the first shunt that drains in the intraconal space, prolonging efficacy.

Supported by this innovative technology, the CorNeat EverPatch looks set to revolutionize ophthalmic surgery, allowing for scleral implantation in regions where access to donor tissue is scarce, offering ease of handling and manipulation, and eliminating the risk of tube exposure and disease transmission. Since it was soft launched in the US in December 2023, the CorNeat EverPatch has been implanted in dozens of leading ophthalmic centers, gaining excellent feedback from physicians.

The CorNeat EverPatch is available for evaluation and sales in the US and other countries relying on FDA regulation

ISTENT INFINITE®: THE MICRO-INVASIVE ALTERNATIVE FOR INTERVENTIONAL GLAUCOMA

How the iStent infinite meets the large unmet need for standalone MIGS implant surgery

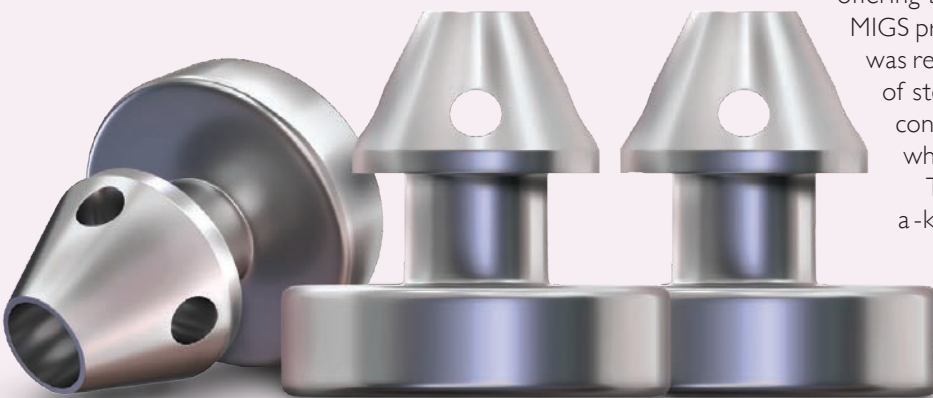
The iStent infinite® Trabecular Micro-Bypass System Model iS3 is an implantable device intended to reduce intraocular pressure (IOP) of the eye. It is the first-of-its-kind standalone implantable alternative, meaning that it can be used in a standalone setting or in combination with cataract surgery. Not restricted to stage of disease, iStent infinite can deliver powerful efficacy on tough-to-treat patients who would otherwise likely need more invasive treatment, which carries significant post-op risk and complication management (1).

Today, patients in need of standalone glaucoma surgery have limited micro-invasive options to treat their condition. iStent infinite addresses that gap in the treatment algorithm. In a prospective, multi-center, 12-month pivotal trial, patients with open-angle glaucoma who had failed prior medical and surgical intervention – and who had a significantly higher preoperative treatment burden with more severe glaucoma compared to other trabecular bypass MIGS pivotal trials – underwent standalone iStent infinite implantation (2,4,6). Of these patients, 73.4 percent showed a ≥ 20 percent reduction in IOP, while

47.3 percent showed a ≥ 30 percent reduction in IOP (3). The device demonstrated sustained efficacy throughout the course of the study, as well as exceptional intraoperative and postoperative safety among patients with two or more prior failed filtering surgeries (2,5). The study further showed that only 4.9 percent of eyes (n=3) required secondary surgical intervention following iStent infinite implantation through 12 months, despite multiple failed prior surgical interventions.

With three anatomically designed stents preloaded into an injector system, the device's powerful technology delivers foundational, 24/7, long-term control of IOP in patients with glaucoma who have failed prior medical and surgical intervention. iStent infinite is designed to maximize outflow while minimizing disruption to natural anatomy by occupying only 3% of the trabecular meshwork, thereby leaving 97% untouched. Coupled with its patented multidirectional stent design, this helps bypass resistance and restore physiologic outflow by creating arcs of flow spanning up to 8 clock hours (240°) while minimizing tissue disruption – thus offering broad coverage compared with other MIGS procedures. The device's injector system was redesigned to allow an unlimited number of stent delivery attempts, giving surgeons confidence and peace of mind, no matter where they are in their learning curve.

The iStent infinite is the first-of-a-kind, standalone implantable alternative to medications and more invasive procedures, giving surgeons the





versatility to treat a variety of patients, while helping to address rampant rates of patient non-compliance and disease progression. In short, iStent infinite is more than just its features and benefits,* it is the beginning of the interventional glaucoma revolution!

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* **INDICATION FOR USE.** The iStent infinite[®] Trabecular Micro-Bypass System Model iS3 is an implantable device intended to reduce the intraocular pressure (IOP) of the eye. It is indicated for use in adult patients with primary open-angle glaucoma in whom previous medical and surgical treatment has failed. **CONTRAINDICATIONS.** The iStent infinite is contraindicated in eyes with angle-closure glaucoma where the angle has not been surgically opened, acute traumatic, malignant, active uveitic, or active neovascular glaucoma, discernible congenital anomalies of the anterior chamber (AC) angle, retrobulbar tumor, thyroid eye disease, or Sturge-Weber Syndrome or any other type of condition that may cause elevated episcleral venous pressure. **WARNINGS.**

Gonioscopy should be performed prior to surgery to exclude congenital anomalies of the angle, PAS, rubeosis, or conditions that would prohibit adequate visualization that could lead to improper placement of the stent and pose a hazard. **MRI INFORMATION.** The iStent infinite is MR-Conditional, i.e., the device is safe for use in a specified MR environment under specified conditions; please see Directions for Use (DFU) label for details. **PRECAUTIONS.** The surgeon should monitor the patient postoperatively for proper maintenance of IOP. Three out of 61 participants (4.9%) in the pivotal clinical trial were phakic. Therefore, there is insufficient evidence to determine whether the clinical performance of the device may be different in those who are phakic versus in those who are pseudophakic. **ADVERSE EVENTS.** The most common postoperative adverse events reported in the iStent infinite pivotal trial included IOP increase ≥ 10 mmHg vs. baseline IOP (8.2%), loss of BSCVA ≥ 2 lines (11.5%), ocular surface disease (11.5%), perioperative inflammation (6.6%) and visual field loss ≥ 2.5 dB (6.6%). **CAUTION:** Federal law restricts this device to sale by, or on the order of, a physician. Please see DFU for a complete list of contraindications, warnings, precautions, and adverse events.

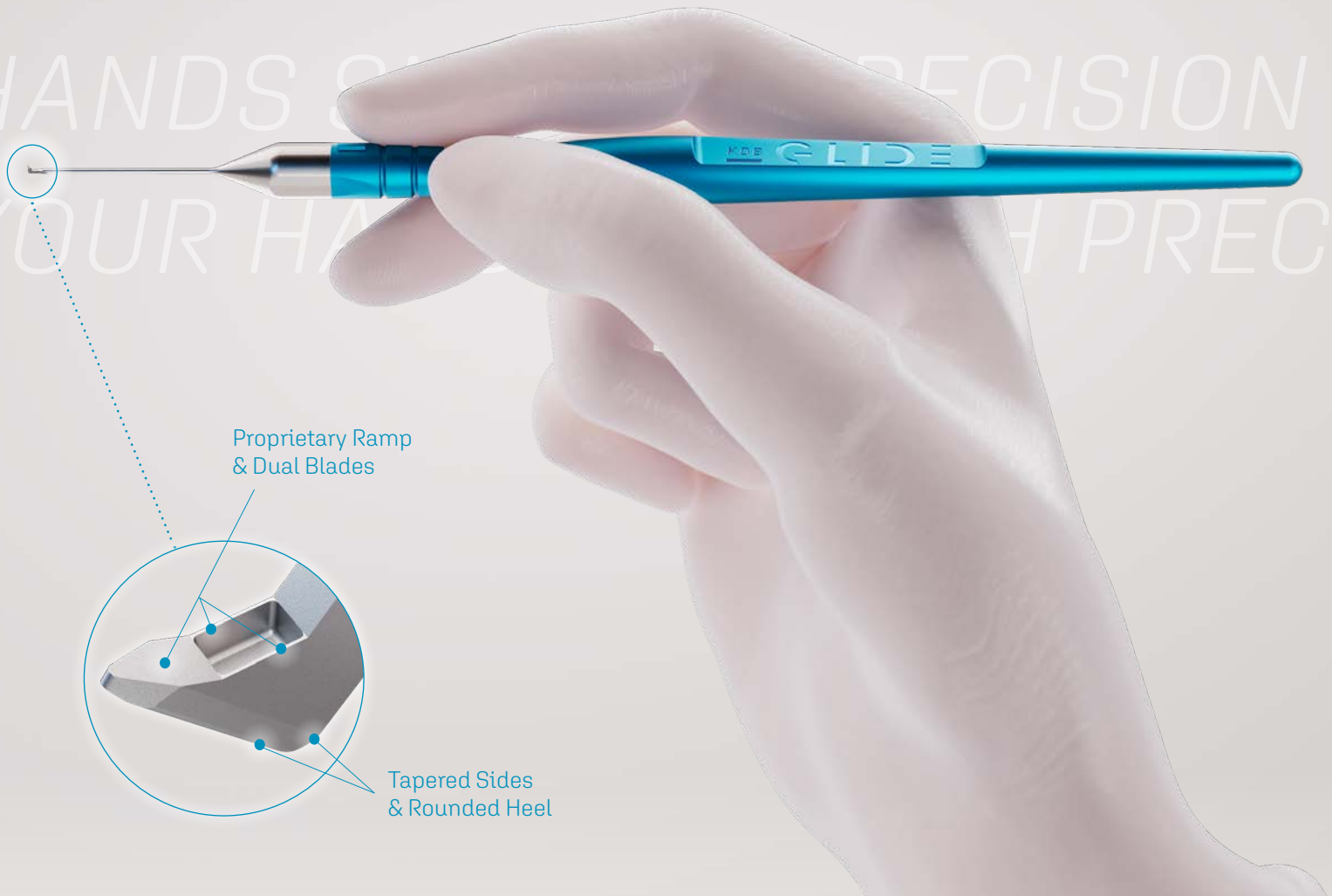
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References:
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LEVEL 1 RCT DATA, 100+ PUBLISHED STUDIES SINCE 2013



Practice Fundamental Glaucoma

Trabeculotomy cost efficiency. A recent British Journal of Ophthalmology study used an economic evaluation decision model to compare surgery versus medication options for the treatment of advanced primary open-angle glaucoma (POAG). The findings illustrate that trabeculectomy has a higher probability of being cost-effective during a glaucoma patient's lifetime. PMID: 38336459.

Glaucoma genes. Researchers from Massachusetts Eye and Ear have identified a number of genes and cell types that could be involved in the formation of primary open-angle glaucoma (POAG). The study took data from a multi-ethnic genome-wide association study (GWAS) meta-analysis of POAG, and from another large GWAS meta-analysis of intraocular pressure (IOP) surgeries. The results offer further insights into gene expression and post-transcriptional gene regulation and could inform glaucoma drug design. PMID: 38195602.

Glaucoma gut health. Several types of butyrate-producing taxa have been found to be less abundant in glaucoma patients when compared with healthy controls. The researchers of the IOVS study, which analyzed 225 glaucoma patients and 1247 age- and sex-matched healthy participants, state that their

findings suggest microbial dysbiosis could play a part in the development of glaucoma. PMID: 38315494.

Preventing POAG? A new collaborative study from researchers in China, the US, and the UK explored GWAS data to investigate the genetic causal relationships between primary open-angle glaucoma (POAG) and diet-derived circulating antioxidants. Examining 18 previous research papers, the researchers used two-sample Mendelian randomization (MR) to determine that these types of antioxidant supplementation – as reported in previous literature – actually had no preventive effect on POAG. PMID: 38411971.

Bridging the Camera Domain Gap in Glaucoma Diagnosis. A study to improve the automated diagnosis of glaucomatous optic neuropathy (GON) with a generative adversarial network (GAN) model that translates Optain images to Topcon images trained the GAN model on 725 paired images and externally validated it using an additional 843 paired images collected from the Aravind Eye Hospital in India. Researchers conclude that image-to-image translation across cameras can be achieved by using GAN to solve the problem of disc overexposure in Optain cameras. PMID: 38133514.

IN OTHER NEWS

The science of sleep. Using a two-sample bi-directional randomization study, researchers found that poor sleep duration could be associated with a higher risk of primary open-angle glaucoma (POAG). PMID: 38374869.

Teutonic awareness. In a cross-sectional study of 1,008 German participants, a BMC Public Health paper found survey respondents were relatively ill-informed about the risk factors and preventative measures linked to certain eye diseases, particularly age-related macular degeneration, diabetic eye disease, cataracts, and glaucoma. PMID: 38331775.

Lack of gonioscopy. A retrospective, case-control study has found that as little as 30 percent of patients having an initial glaucoma evaluation in the US receive gonioscopy as part of their examination – a test that should form part of the clinical standard for evaluation. PMID: 38423202.



Patient Perspectives: Living with the Unknown

Though I suffer long-term vision loss caused by glaucoma, I still live life to the fullest – all thanks to the excellent care I've received

By Pat Caulfield

Fourteen years ago, I was diagnosed with glaucoma. What impacted me the most is how the condition affects my independence. Tasks like driving have become difficult, and the loss of depth perception creates numerous challenges – going up and down stairs, maneuvering curbs and escalators can be very scary. I've had to relearn how to navigate these everyday things that other people take for granted.

In terms of treatments, it has been a very long road for me. I had my first surgery nine years ago. Before that, I was using eye drops for many years. I tried many drops with all types of reactions. On a routine visit to the Wilmer Eye Institute in Baltimore, my doctor and I were shocked that my IOP had shot up from around 10 mmHg and 15 mmHg – normal for me – to 42 mmHg. I started rapidly losing vision in my left eye, and so my doctor immediately got me into surgery and performed a Baerveldt shunt. It took quite a long time to recover from such an invasive operation, but it helped my pressures become stable for another five years.

At that point, I was still on eyedrops in both eyes, along with the Baerveldt shunt, but my pressures went up again. I had my first trab in my right eye. About six months later, my doctor told me the pressures were sneaking up in the left eye, and another trabeculectomy was performed. Five

years after these surgeries and I'm on no medication whatsoever; the trabs and the Baerveldt shunt are working beautifully to take the aqueous fluids away from the eye and provide proper drainage. I was at Wilmer Eye Institute again just recently and was told that I was once again stable – no vision loss at all in the past five years.

I've had a very positive experience with eye care professionals. When I first learned I had glaucoma, it was absolutely terrifying. I immediately thought I was going to lose my vision, but 14 years later I'm still functioning, doing things that I love, and living a very full life. Patients need to stay positive more than anything. Finding good care is absolutely key of course; I was very fortunate that I live about an hour away from the Wilmer Eye Institute, one of the best eye hospitals in the world. I've had wonderful doctors and treatment there.

There are some great resources for glaucoma – I would like to see eye care professionals be proactive in directing their patients to them; The Glaucoma Research Foundation website is a wonderful place for anyone looking for information – and there are also some great books (The Glaucoma Guidebook by Constance Okeke is one book that everyone with glaucoma should have on their shelf!). I've also learned that, as patients, we need to become our own

advocates – getting out there and finding information for ourselves. That said, I wish I knew somebody that had gone through this before; to have helped guide me along this path. Having somebody with you – in meetings with your physician – is a good thing to consider. In that initial consultation you miss lots of information. Having someone who knows the questions to ask – “Why am I getting this test done today?” “What does the visual field do for me?” – can be extremely useful in understanding and managing this lifelong disease. In this regard, empathy and intuition from eye care professionals can also help a great deal.

Fourteen years ago – and still today – I would love to find a cure for glaucoma. There are scientists and researchers doing some incredible work right now – not only on finding a cure, but also looking into restoration of the optic nerve. I do feel that this will be possible in the future. And there are so many new technologies, such as MIGS minimally invasive glaucoma surgery which are just incredible. I wish they were available 14 years ago! And that's why it's important to be your own advocate and find out about new treatments, because glaucoma research is a constantly evolving field, with many surprising and innovative developments happening every single day.



Advancing Your Practice with Innovation

Why you should brush up on MSICS with simulation-based cataract surgery training

By Bonnie An Henderson, MD

Global ophthalmology, an area of global health that is dedicated to improving vision, reducing blindness, building sustainable eye care delivery systems, and achieving equity in vision health worldwide (1), requires certain skills that can be outside the scope of traditional residency programs with bountiful resources. The examination, diagnosis, and management of eye-related conditions in the developing world, where resources such as diagnostic imaging and treatment options are limited, is more complex than the routine practices taught in residency. Additionally, Manual Small Incision Cataract Surgery (MSICS) is a skillset that, if untrained, is complicated to perform, especially in an unfamiliar and understocked OR.

There are several innovative approaches to training and honing surgical skills for MSICS. One way for early- and mid-career ophthalmologists and even experienced ophthalmologists who are considering global humanitarian work to learn or brush up on their MSICS skillset is with simulation-based training. For early-career ophthalmologists, this training model provides a low-stress environment to practice techniques, develop proficiency, and gain confidence before performing procedures on patients. For mid-career ophthalmologists, simulation-based training can help expand their skillset or refresh their knowledge, offering a unique opportunity for professional growth. Lastly, for experienced ophthalmologists,

a refresher course on MSICS can help them focus on how to address the needs of patients in underserved communities, where phacoemulsification is not the standard of care.

Regardless of an ophthalmologists' current skillset, simulation-based training can accelerate the learning curve to ensure preparedness for the complex clinical scenarios that are often encountered in low-resource settings.

Training with HelpMeSee

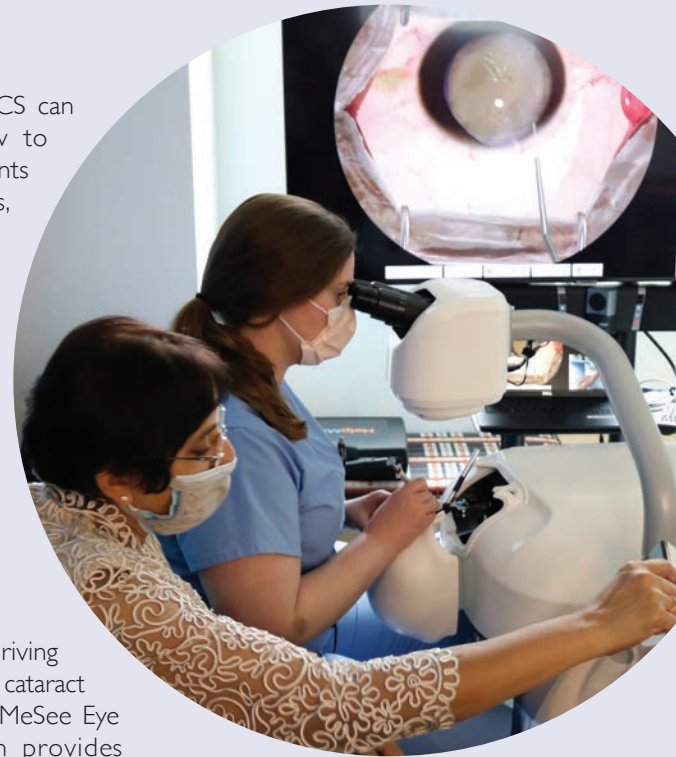
One notable technology driving innovation in simulation-based cataract surgery training is the HelpMeSee Eye Surgery Simulator, which provides comprehensive training modules across all aspects of MSICS, from mastering incision techniques to navigating intraocular maneuvers. The simulator offers a visually realistic and immersive training experience that replicates the intricacies of the ocular surgical field with remarkable fidelity. During training, seasoned instructors work alongside the user to provide feedback and ensure skills development. In this way, the training program can be tailored to the needs of diverse learners, from novice to seasoned ophthalmologists.

The use of standardized methodology on the HelpMeSee Eye Surgery Simulator has been shown to minimize the learning curve, decrease intraoperative complications and surgical errors by about 50% in certain steps, and improve patient safety (2,3). This demonstrates the efficacy of simulation-based training in preparing cataract specialists for real-life scenarios.

HelpMeSee has provided simulation-based training for more than 2,500 aspiring cataract specialists.

Conclusion

Simulation-based training levels the playing



field in surgical education by delivering standardized and reproducible surgical instruction, regardless of the location. Ophthalmologists at every stage of their careers can feel empowered by their training to deliver high-quality care in any setting. Whether preparing for their first MSICS case or embarking on a global ophthalmology outreach trip, simulation-based training empowers ophthalmologists to improve their surgical skills in MSICS, ultimately improving patient outcomes and quality of life around the world. Learn more at helpmeseesee.org.

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A professional portrait of Francesca Cordeiro, a woman with shoulder-length brown hair, wearing glasses, a pearl necklace, a light pink scarf, and a dark blazer. She is smiling and standing in front of a large window with a view of greenery.

A Window Bright

Sitting Down With... Francesca Cordeiro,
Chair and Professor of Ophthalmology at
Imperial College London, and Director
of the Clinical Trials Unit at Western Eye
Hospital, London

What excites you most about your work? I've always worked under the idea that the eye is a window into the brain; after all, embryologically, the eye comes from the same cells as the brain. And so, the things that you see in the brain you also see in the eye. For many years, I've been keen on exploring this similarity. As ophthalmologists, we can really offer insights into neurology. Changes in the eye almost predict changes in the brain – we've shown this from the work we've done in Alzheimer's disease models, in Parkinson's disease, and even in multiple sclerosis. The eye gives you a non-invasive window to view a world that is difficult to see directly in the brain; MRI, PET scans, and CT head scans – they are all very expensive diagnostic methods.

Could you share a little about current research into the parallels between brain and eye disease?

There are two main levels to this topic. One, as I mentioned, is screening. A very easy test, compared with brain scanning, is doing an eye scan, and picking up an abnormality that allows some type of pathway to treating whatever disease the patient has. The other level, which I think is even more exciting, is monitoring treatment. If you could use the eye as a way of testing whether or not your Alzheimer's treatment is working – I'm talking about the disease in its early stages – then I think the chances of modifying any neurodegenerative process is much greater than when the disease is fully established.

Which piece of advice has stayed with you throughout your career?

The credo I live by to this day – and what I pass on to the people I mentor – is “the more you know, the more you realize how much you don't know.” When we're young, we have slightly closed minds, we might think we know it all. But actually, it's what you don't know that really makes you appreciate new ideas and new findings, and their potential

impact. This is definitely important for a clinician scientist – not closing but opening your mind, and realizing that no one really knows everything.

What's your view on the near future of eye care?

As the aging population is rising, it's important to remember that ophthalmologists, especially in the UK, won't be able to tackle absolutely everything. Primary care and allied health professionals in ophthalmology will become more important. I really think optometrists will be key to delivering ophthalmology primary care in the future. We need to embrace that, and use it to the best of our abilities. It's working together with this group of people that will best serve the eye health of the nation.

What big changes have you witnessed in glaucoma and retinal degeneration over the years?

When I started off in glaucoma, people were still using timolol twice a day, as well as a drug called pilocarpine, which used to make your pupil pinpoint. There was a revolution when prostaglandins, which were once-a-day treatment, arrived. Subsequently, there have been different surgical interventions that have made a huge difference. And then more recently there has been the arrival of laser treatment.

For me, though, there is evidence that neuroprotection would be a really good treatment in glaucoma – by neuroprotection, I mean treatments that stop the process of neurons dying – and that is what I'm still looking forward to.

In terms of age-related macular degeneration (AMD), when I was a trainee there was no treatment for wet AMD or even geographic atrophy (GA). When those patients came in, they may have had laser treatment, but often they continued to go blind. The emergence of anti-VEGF injections has made a huge difference for those patients and also those

suffering from diabetic eye disease. More recently in GA, the idea that you can use drugs for preventing the worsening of the disease – well, that's a great advance.

“The credo I live by to this day – and what I pass on to the people I mentor – is ‘the more you know, the more you realize how much you don't know.’”

What future breakthroughs would you like to see?

Developments in neuroprotection would apply to all of the diseases I've mentioned. The same treatments would work in Alzheimer's, Parkinson's, and other neurodegenerative diseases – not just in those related to the retina. Ultimately, I want to be in a position where disease processes can be identified so early that the patient doesn't have functional loss – whether that is losing vision, losing memory, or getting a tremor. When those things have happened, you've already lost a large number of the neurons; if you could intervene well before those cells die, you stop that functional loss occurring in the first place. That would really be a transformative development.


I would add that ophthalmology is as exciting as it's ever been. The future is bright!

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iDose TR



 Actual size
1.8mm x 0.5mm



Real image of
glaucoma eye drop

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for the reduction of IOP in patients with OAG and OHT¹

**Introducing iDose TR – the revolutionary way to deliver 24/7,
long duration prostaglandin analog therapy intracamerally
with proven safety and patient tolerability.^{1,2}**

1. Data on file, Glaukos Corporation.

2. iDose TR (travoprost intracameral implant) 75 mcg Prescribing Information. Glaukos Corporation. 2023.

INDICATIONS AND USAGE

iDose TR (travoprost intracameral implant) is indicated for the reduction of intraocular pressure (IOP) in patients with open angle glaucoma (OAG) or ocular hypertension (OHT).

IMPORTANT SAFETY INFORMATION

DOSAGE AND ADMINISTRATION

For ophthalmic intracameral administration. The intracameral administration should be carried out under standard aseptic conditions.

CONTRAINDICATIONS

iDose TR is contraindicated in patients with active or suspected ocular or periocular infections, patients with corneal endothelial cell dystrophy (e.g., Fuch's Dystrophy, corneal guttatae), patients with prior corneal transplantation, or endothelial cell transplants (e.g., Descemet's Stripping Automated Endothelial Keratoplasty [DSAEK]), patients with hypersensitivity to travoprost or to any other components of the product.

WARNINGS AND PRECAUTIONS

iDose TR should be used with caution in patients with narrow angles or other angle abnormalities. Monitor patients routinely to confirm the location of the iDose TR at the site of administration. Increased pigmentation of the iris can occur. Iris pigmentation is likely to be permanent.

ADVERSE REACTIONS

In controlled studies, the most common ocular adverse reactions reported in 2% to 6% of patients were increases in intraocular pressure, iritis, dry eye, visual field defects, eye pain, ocular hyperaemia, and reduced visual acuity.

Please see full Prescribing Information.

You are encouraged to report all side effects to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

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