

the Ophthalmologist™

Editorial

In times of crisis, strong leaders are needed

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Second Sight founder, Lucy Mathen

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suspension) 9%

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*DEXYCU was studied in a randomized, double-masked, placebo-controlled trial. Patients received either DEXYCU or a vehicle administered by a physician at the end of the surgical procedure. The primary endpoint was the proportion of patients with anterior chamber cell clearing (cell score=0) on postoperative day 8.

INDICATION AND USAGE

DEXYCU[®] (dexamethasone intraocular suspension) 9% is indicated for the treatment of postoperative inflammation.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

None.

WARNINGS AND PRECAUTIONS

Increase in Intraocular Pressure

- Prolonged use of corticosteroids, including DEXYCU, may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision
- Steroids should be used with caution in the presence of glaucoma

Delayed Healing

- The use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation
- In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of corticosteroids

Exacerbation of Infection

- The use of DEXYCU, as with other ophthalmic corticosteroids, is not recommended in the presence of most active viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal disease of ocular structures

- Use of a corticosteroid in the treatment of patients with a history of herpes simplex requires caution and may prolong the course and may exacerbate the severity of many viral infections
- Fungal infections of the cornea are particularly prone to coincidentally develop with long-term local steroid application and must be considered in any persistent corneal ulceration where a steroid has been used or is in use. Fungal culture should be taken when appropriate
- Prolonged use of corticosteroids may suppress the host response and thus increase the hazard of secondary ocular infections. In acute purulent conditions, steroids may mask infection or enhance existing infection

Cataract Progression

- The use of corticosteroids in phakic individuals may promote the development of posterior subcapsular cataracts

ADVERSE REACTIONS

- The most commonly reported adverse reactions occurred in 5-15% of subjects and included increases in intraocular pressure, corneal edema and iritis

Please see brief summary of full Prescribing Information on adjacent page.

References: 1. DEXYCU[®] (dexamethasone intraocular suspension) 9% full U.S. Prescribing Information. EyePoint Pharmaceuticals, Inc. December 2018. 2. Donnenfeld E, Holland E. Dexamethasone intracameral drug-delivery suspension for inflammation associated with cataract surgery: a randomized, placebo-controlled, phase III trial. *Ophthalmology*. 2018;125(6):799-806. 3. Data on file. EyePoint Pharmaceuticals, Inc.



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10/2019
US-DEX-1900208

DEXYCU (dexamethasone intraocular suspension) 9%, for intraocular administration
Initial U.S. Approval: 1958

BRIEF SUMMARY: Please see package insert for full prescribing information.

1 INDICATIONS AND USAGE

DEXYCU (dexamethasone intraocular suspension) 9% is indicated for the treatment of postoperative inflammation.

4 CONTRAINDICATIONS

None.

5 WARNINGS AND PRECAUTIONS

5.1 Increase in Intraocular Pressure

Prolonged use of corticosteroids including DEXYCU may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision. Steroids should be used with caution in the presence of glaucoma.

5.2 Delayed Healing

The use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation. In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of corticosteroids.

5.3 Exacerbation of Infection

The use of DEXYCU, as with other ophthalmic corticosteroids, is not recommended in the presence of most active viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal disease of ocular structures.

Employment of a corticosteroid medication in the treatment of patients with a history of herpes simplex requires caution. Use of ocular steroids may prolong the course and may exacerbate the severity of many viral infections of the eye (including herpes simplex). Fungal infections of the cornea are particularly prone to develop coincidentally with long-term local steroid application. Fungus invasion must be considered in any persistent corneal ulceration where a steroid has been used or is in use. Fungal culture should be taken when appropriate.

Prolonged use of corticosteroids may suppress the host response and thus increase the hazard of secondary ocular infections. In acute purulent conditions, steroids may mask infection or enhance existing infection.

5.4 Cataract Progression

The use of corticosteroids in phakic individuals may promote the development of posterior subcapsular cataracts.

6 ADVERSE REACTIONS

The following adverse reactions are described elsewhere in the labeling:

- Increase in Intraocular Pressure [see Warnings and Precautions (5.1)]
- Delayed Healing [see Warnings and Precautions (5.2)]
- Infection Exacerbation [see Warnings and Precautions (5.3)]
- Cataract Progression [see Warnings and Precautions (5.4)]

6.1 Clinical Trials Experience

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

The following adverse events rates are derived from three clinical trials in which 339 patients received the 517 microgram dose of DEXYCU. The most commonly reported adverse reactions occurred in 5-15% of subjects and included increases in intraocular pressure, corneal edema and iritis. Other ocular adverse reactions occurring in 1-5% of subjects included, corneal endothelial cell loss, blepharitis, eye pain, cystoid macular edema, dry eye, ocular inflammation, posterior capsule opacification, blurred vision, reduced visual acuity, vitreous floaters, foreign body sensation, photophobia, and vitreous detachment.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are no adequate and well-controlled studies of DEXYCU (dexamethasone intraocular suspension) in pregnant women. Topical ocular administration of dexamethasone in mice and rabbits during the period of organogenesis produced cleft palate and embryofetal death in mice and malformations of abdominal wall/intestines and kidneys in rabbits at doses 7 and 5 times higher than the injected recommended human ophthalmic dose (RHOD) of DEXYCU (517 micrograms dexamethasone), respectively [see Data in the full prescribing information].

In the US general population the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively.

8.2 Lactation

Risk Summary

Systemically administered corticosteroids are present in human milk and can suppress growth, interfere with endogenous corticosteroid production, or cause other unwanted effects. There is no information regarding the presence of injected DEXYCU in human milk, the effects on breastfed infants, or the effects on milk production to inform risk of DEXYCU to an infant during lactation. The developmental and health benefits of breastfeeding should be considered, along with the mother's clinical need for DEXYCU and any potential adverse effects on the breastfed child from DEXYCU.

8.4 Pediatric Use

Safety and effectiveness of DEXYCU in pediatric patients have not been established.

8.5 Geriatric Use

No overall differences in safety or effectiveness have been observed between older and younger patients.

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It's safe to say that just a couple of months ago, few of us expected to be where we are today. Most governments and leading health organizations are ordering or advising social distancing and self-isolation, and the medical community is bracing itself for a healthcare crisis – or already in the midst of one.

Many ophthalmologists are rightly worried about both the near and more distant future. The risk of being exposed to SARS-CoV-2. The potential need to step up as front-line medical professionals. The cancellation of elective procedures and the financial implications that come with it...

You may ask: is now the right time to release our annual Power List – a celebration of the most influential figures in ophthalmology? After receiving a record number of over 2,000 nominations for more than 440 individuals, and drafting 15 ophthalmic experts from around the globe to act as the judging panel, the process of preparing the list is not easy – but it is exciting. And yet, in light of unfolding COVID-19 coverage, the excitement is jostling for position with understandable anxiety...

However, I believe that it is in times of crisis that strong leaders are most needed. Let me share a few nomination quotes: “A prominent leader in global ophthalmology, she is also helping local underprivileged communities”; “A global influencer and thought leader in his field”; “He impacts the worldwide pediatric ophthalmology community daily”; “Outstanding leadership and management of issues related to prevention of vision loss and blindness, appropriately representing ophthalmology in governmental discussions.”

The ability to influence others to work towards a common goal, no matter how difficult the undertaking might be; unlocking people's potential and utilizing collective knowledge and experience; quickly adapting to changing conditions and environments and making use of innovative solutions – all of these leadership qualities will be invaluable in the months ahead. And I can confidently say that the ophthalmologists on our Power List have them in abundance.

When reading the responses from our Power List winners, please bear in mind that the vast majority were collected well before anyone had any idea about the scale and impact of the coronavirus outbreak. I hope that the sometimes lighthearted comments will still make you smile, despite the incredibly difficult times we now find ourselves in.

Aleksandra Jones
Editor



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08

- 05 **Editorial**
When Leadership Really Counts, by Aleksandra Jones

Upfront

- 08 The latest news, views and research – from the latest round-up of eye care-related COVID-19 stories, to a genetic test for glaucoma

On The Cover



What's your number?
The Ophthalmologist presents the 2020 Power List!



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In My View

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Harry Quigley explains why an objective definition of glaucoma is likely to improve clinical research, diagnosis, and care for patients with this sight-threatening condition

Feature

- 16 **The Ophthalmologist Power List**
The Power List in the "Year of the Eye," 2020, celebrates 100 of the most influential and worthy clinicians, researchers and industry leaders in ophthalmology today, as voted by our readers worldwide

Sitting Down With

- 48 **Lucy Mathen**, BBC journalist-turned-ophthalmologist and founder of the charity Second Sight

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Distribution: The Ophthalmologist North America (ISSN 2398-9270), is published monthly by Texere Publishing Inc, 175 Varick St, New York, NY 10014. Single copy sales \$15 (plus postage, cost available on request info@theophthalmologist.com). Non-qualified annual subscription cost is available on request.

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- Decreases breakthrough iritis⁴
- Reduces pain photophobia⁴

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IMPORTANT SAFETY INFORMATION

OMIDRIA must be added to irrigating solution prior to intraocular use.

OMIDRIA is contraindicated in patients with a known hypersensitivity to any of its ingredients.

Systemic exposure of phenylephrine may cause elevations in blood pressure.

Use OMIDRIA with caution in individuals who have previously exhibited sensitivities to acetylsalicylic acid, phenylacetic acid derivatives, and other nonsteroidal anti-inflammatory drugs (NSAIDs), or have a past medical history of asthma.

The most commonly reported adverse reactions at ≥2% are eye irritation, posterior capsule opacification, increased intraocular pressure, and anterior chamber inflammation.

Please see the Full Prescribing Information for OMIDRIA at www.omidria.com/prescribinginformation.

You are encouraged to report Suspected Adverse Reactions to the FDA.

Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

References: 1. HCPCS quarterly update. CMS.gov. Available at: <https://www.cms.gov/medicare/coding/hcpcsreleasecodesets/hcpcs-quarterly-update.html>. Accessed August 9, 2019. 2. Omeros survey data on file. 3. Silverstein SM, Rana V, Stephens R, et al. Effect of phenylephrine 1.0%-ketorolac 0.3% injection on tamulosin-associated intraoperative floppy-iris syndrome. *J Cataract Refract Surg*. 2018;44(9):1103-1108. 4. Visco D, et al. Study to evaluate patient outcomes following cataract surgery when using OMIDRIA with postoperative topical NSAID administration versus a standard regimen of postoperative topical NSAIDs and steroids. Presented at: 28th Annual Meeting of the American College of Eye Surgeons (ACES), the American Board of Eye Surgery (ABES), and the Society for Excellence in Eyecare (SEE), Caribbean Eye Meeting; February 1-5, 2019; Cancun, Mexico. 5. Walter K, Kauffman L, Hess J. Rate of pseudophakic cystoid macular edema using intraoperative and topical NSAIDs alone without steroids. Manuscript submitted for publication. 2019. 6. Rosenberg ED, Nattis AS, Alevis D, et al. Visual outcomes, efficacy, and surgical complications associated with intracameral phenylephrine 1.0%/ketorolac 0.3% administered during cataract surgery. *J Cataract Refract Surg*. 2018;44:1032-1041. 7. Al-Hashimi S, Donaldson K, Davidson R, et al. Medical and surgical management of the small pupil during cataract surgery. *J Cataract Refract Surg*. 2018;44:1032-1041. 8. Bucci FA Jr, Michalek B, Fluet AT. Comparison of the frequency of use of a pupil expansion device with and without an intracameral phenylephrine and ketorolac injection 1%/0.3% at the time of routine cataract surgery. *Clin Ophthalmol*. 2017;11:1039-1043. 9. Visco D. Effect of phenylephrine/ketorolac on iris fixation ring use and surgical times in patients at risk of intraoperative miosis. *Clin Ophthalmol*. 2018;12:301-305. 10. Matossian C, Teves N. Clinical outcomes of phenylephrine/ketorolac intraocular solution versus epinephrine in cataract surgery in a real-world setting. Manuscript submitted for publication. 2018. 11. Walter K, Delwadia N, Cohen J. Continuous intracameral phenylephrine-ketorolac irrigation for miosis prevention in femtosecond laser-assisted cataract surgery: reduction in surgical time and iris manipulation. *J Cataract Refract Surg*. 2019;45(4):465-469. doi: 10.1016/j.jcrs.2018.11.004. 12. Donnenfeld E, Shojai R. Effect of intracameral phenylephrine and ketorolac 1.0%/0.3% on intraoperative pain and opioid use during cataract surgery. Manuscript submitted for publication. 2019. 13. Gayton JL. Effect of early phenylephrine and ketorolac injection 1% / 0.3% (Omidria®) usage on pupil diameter in traditional and femtosecond laser assisted cataract surgery. E-poster presented at: 15th International Congress on Vision Science and Eye; August 10-11 2017; London, UK. 14. OMIDRIA [package insert]. Seattle, WA: Omeros Corporation; 2017.

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An Eye for Autism?

A new eye scan device aims at earlier autism diagnosis

Autism diagnosis currently relies on an arsenal of behavioral and developmental tests – which can ultimately take years. After Paul Constable's son, Miles, was diagnosed with autism, he started searching for a biomarker that could improve early detection and intervention methods for the disorder.

As an optometrist and senior lecturer at the Caring Futures Institute, Flinders University, he became fascinated with visual processing in autism. Given the neurodevelopmental parallels between the retina and the cortex, he reasoned there may be a marker for autism related to the sensory perception of light.

He decided to look at what had been done previously with electroretinograms (ERGs) and found just one study on the topic.

"ERG waveform differences had previously been detected in other disorders affecting the brain, but not neurodevelopmental disorders. I realized that retina examinations could also help spot ERG waveform differences in autistic children," says Constable.

His pioneering scan detects a pattern

of subtle electrical signals in the retina that appear to be different in children on the autism spectrum. Importantly, the RETeval device used to perform the test causes minimal discomfort to patients.

So far, the device has been tested on about 180 people with and without autism between the ages of 5 and 21 in collaboration with Yale University, University College London, and Great Ormond Street Hospital (1). "Although the underlying pathophysiology of autism is complex, at a high level we found that the b-wave of the ERG was reduced in autistic individuals," says Constable. "Our test is therefore able to identify any differences in the development of the retina, indicating an underlying neurodevelopmental disorder," he adds.

The challenge now is to conduct the test in younger children to see how well the ERG signals correlate with standard diagnostic tests for autism.

"I really just wanted to prevent people from going through the same traumatic



experience I did," Constable says. "I see this as an opportunity to start important interventions, such as speech therapy, earlier – and to increase understanding of children on the autism spectrum."

Reference

1. PA Constable et al., *J Autism Dev Disord* (2020). Available at: <https://bit.ly/33n4PJU>.



Upfront

*Research
Innovation
Trends*

INFOGRAPHIC

The 2020 Power List in Numbers

We break down this year's nominees by location, gender, and subspecialty



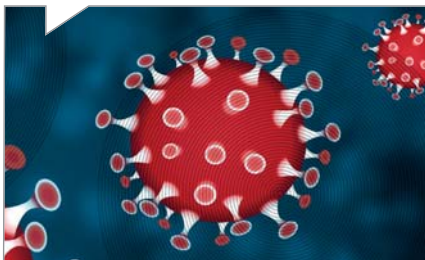
83%
17%



COVID-19: PROTECT, RESEARCH, TREAT

A round-up of novel coronavirus-related stories

- The AAO has published guidelines for ophthalmologists amidst the COVID-19 pandemic, which include methods of identifying patients who have potentially been exposed to SARS-CoV-2 and recommended protocols when seeing patients (1).



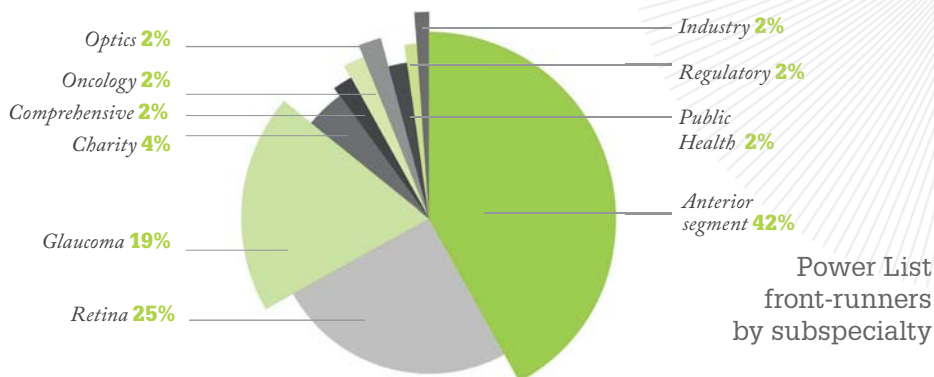
- A study of 30 patients diagnosed with novel coronavirus pneumonia (NCD), conducted by Zhejiang University in China, was designed to check whether tears and conjunctival secretions carried the SARS-CoV-2 virus. It showed that only the tears of one patient with conjunctivitis tested positive for the virus, 58 other patients' samples were negative (2).
- A review of papers presenting cases of ocular infection with

known coronaviruses (CoVs) has shown that CoVs can produce various ocular symptoms, both in the anterior segment – such as conjunctivitis or anterior uveitis – and at the back of the eye – retinitis and optic neuritis (3).

- To help clinicians deal with the COVID-19 pandemic, Modernizing Medicine has announced that its telemedicine platform – modmed Telehealth – will be available free of charge to all users of the company's HER system, EMA (4).
- The American Journal of Ophthalmology has published an In Memoriam article for Li Wenliang, the Chinese ophthalmologist who died on February 7, 2020, after reportedly contracting COVID-19 from an asymptomatic glaucoma patient he treated. The piece emphasizes the validity of Wenliang's early clinical reports of a novel virus (5).

References

1. AAO (2020). Available at: <https://bit.ly/2Ui0eEK>.
2. J Xia et al., J Med Virol (2020). PMID: 32100876.
3. I Seah, R Agrawal, Ocul Immunol Inflamm, 16, 1 (2020). PMID: 32175797.
4. Modernizing Medicine (2020). Available at: <https://bit.ly/33psgSV>.
5. RK Parrish 2nd et al., Am J Ophthalmol (2020). PMID: 32169251.



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Perrigo

Scoring Glaucoma Risk

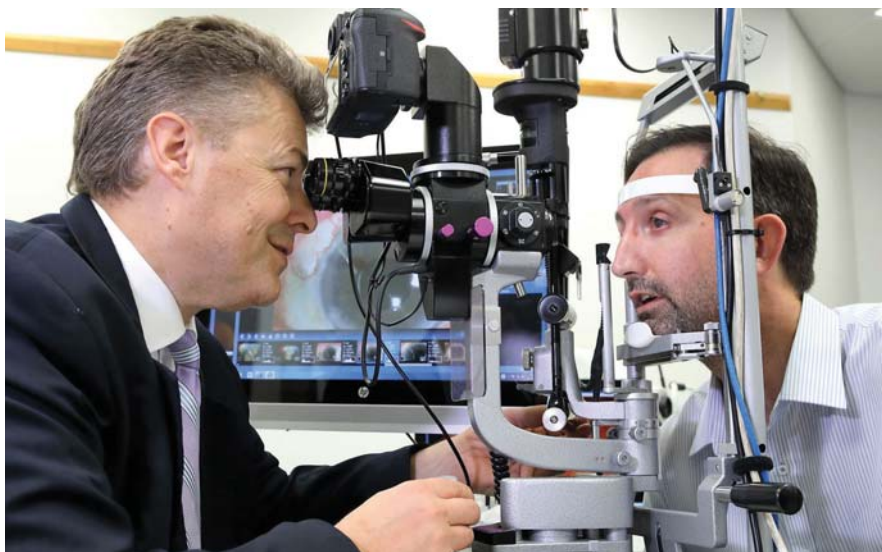
Researchers develop a genetic test to detect those most likely to develop sight-threatening glaucoma

Researchers have identified 107 genes that increase a person's likelihood of developing glaucoma – information that now forms the basis of a test that uses a single blood or saliva sample to produce a risk “score.”

Unlike current glaucoma diagnostics, the test can be performed before any damage occurs, opening the path to more proactive screening that could initially pinpoint the most at-risk family members of a known glaucoma patient, for example. “Early detection is paramount; existing treatments can't restore vision that has been lost, and late detection of glaucoma is a major risk factor for blindness,” said clinical lead researcher and Chair and Academic Head of Ophthalmology at Flinders University, Professor Jamie Craig (1). “With these results, we can now quite accurately assess an individual's genetic



Jamie Craig, clinical lead researcher and Chair and Academic Head of Ophthalmology at Flinders University.



Jamie Craig screens Sebastian Cielens, a school teacher from Adelaide, Australia, with a family history of glaucoma. Images courtesy of Flinders University.

risk ‘score’ for developing glaucoma, similar to other tests in development for cardiovascular disease, breast cancer, and bowel cancer.”

Reference

1. Flinders University, “New glaucoma test to help prevent blindness” (2020). Available at: <https://bit.ly/39CUzj8>.

Cranial Control

If brain pressure modulates eye pressure, what could it mean for novel glaucoma therapies?

It has long been suggested that intracranial pressure (ICP) could play a role in glaucoma development because of its influence on optic nerve head biomechanics. Now, researchers at the University of South

Florida (USF) have, for the first time, shown a physiological connection between the brain and the eye via a novel feedback mechanism that modulates eye pressure – at least in rodents.

By altering aqueous humor dynamics in rats, Chris Passaglia, a professor in the USF Department of Medical Engineering, and his team found that the eye's fluid drainage properties adapted to ensure a healthy pressure difference across the optic nerve. The discovery of the system, according to Passaglia,

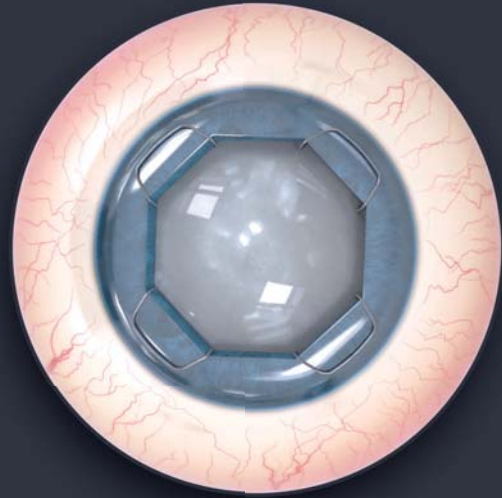
“offers a new target for glaucoma treatment, wherein the modulatory mechanisms of the system might be exploited to help lower eye pressure and impede disease progression,” (1). The team now hopes to pinpoint the location of the brain cells sending signals to the eye to determine which nerve fibers are being mediated by the brain.

Reference

1. University of South Florida Newsroom (2020). Available at: <https://bit.ly/39f0sLH>.



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It's Nothing Personal

An objective definition of glaucoma is vital, if we are to overcome the current limitations of clinician judgement

*By Harry Quigley, A. Edward Maumenee
Professor of Ophthalmology, Glaucoma
Center of Excellence, Wilmer Eye Institute,
Johns Hopkins University, Baltimore, USA.*

Our definition of glaucoma is inadequate. At a 1991 World Health Organization meeting of Collaborating Vision Centers, glaucoma was not cited on official publications as a cause of blindness, since, as one expert stated, “Glaucoma cannot be defined or treated, so it isn’t on the list.” Without a useful objective definition to lean on, specialists are instead left to diagnose glaucoma by judging characteristic optic disc and visual field changes for themselves. With about half of those with glaucoma left undiagnosed, we need better ways to both identify patients and keep them in care.

One issue is the shortage of studies comparing how well specialists agree on what constitutes glaucoma. Just as the US Supreme Court Justice, Potter Stewart, famously said about obscenity, many glaucoma experts feel that they “know it when they see it” (1). This amorphous approach makes it difficult to compare results across large numbers of clinical studies. And this challenge sparked the study that my team from the Glaucoma Center of Excellence at the Wilmer Institute in Baltimore, the Singapore National Eye Center, and the Department of Ophthalmology and Visual Sciences at Dalhousie University in Canada are currently conducting. We expect to publish the work in the second quarter of 2020.

Despite more than 30 years of quantitative functional tests – in the form

of objective visual field testing – it is only in recent years, thanks to the onset, development and improvement in optical coherence tomography (OCT), that we have been able to perform quantitative structural tests such as measuring the thickness of the nerve fiber layer. As a result of such developments, my team and I began to wonder; surely, we could find some features of OCT and visual field tests that clinicians agree represent definite glaucoma?

As it turns out, finding agreement is difficult. For some doctors, glaucoma is an acute attack of intraocular pressure of 70 mmHg with angle closure. For others, you have glaucoma if you have exfoliation syndrome, or if your pressure is sufficient to cause blurred vision. We decided to use objective damage to the optic nerve as the criterion, defining glaucoma as glaucomatous optic neuropathy (GON).

We interviewed more than 260 glaucoma specialists and asked them to define GON by the features they would expect to see. This led to a set of structural and functional features they agreed would be a reasonable way to reach an objective definition of glaucoma. Currently, this definition is being further validated by asking doctors around the world to send us data on eyes they consider to be “definite” GON, “possible or probable” GON, or those that simply don’t have it. We will then run analyses to

show that you can identify glaucoma from very standard features of the OCT and field tests, allowing standardized comparisons across research studies.

An objective definition is crucial to clinical research; it ensures we are all talking about the same type of effect of this disorder on the optic nerve. Furthermore, by studying exactly what we think is and is not glaucoma, we may well see features that are currently being overlooked, purely because such large international databases aren’t being put together. It is equally important to note that this definition will not be imposed on people and that it has nothing to do with enabling national governments to derive treatment reimbursement decisions. It is simply about improving clinical research in glaucoma.

In the future, I’d like to see more glaucoma specialists realizing that, whereas in the past, a doctor may have simply looked at a patient and said: “That’s glaucoma,” we are now in an era that enables us to do much better. We must ensure that we are all defining this leading cause of blindness in a way that moves beyond the individual subjective opinion.

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In My View

Experts from across the world share a single strongly held opinion or key idea.



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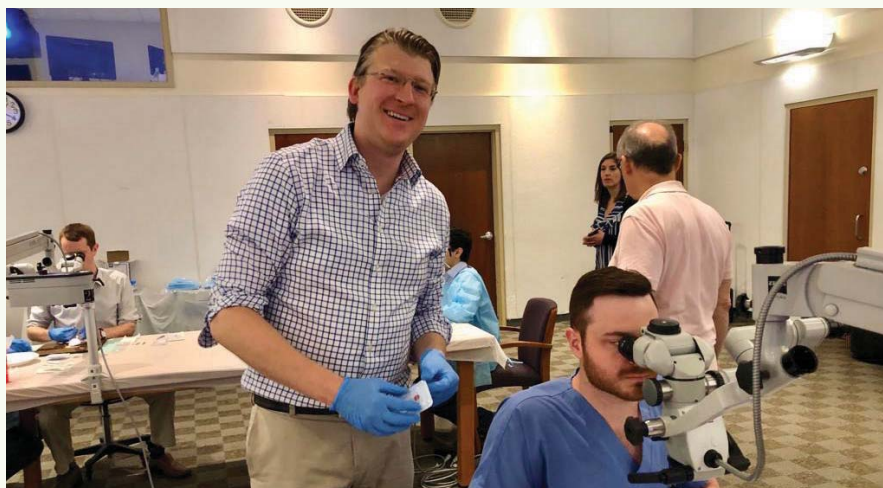
Treating Today's Trainees Like Tomorrow's Professors

How important is appropriate training for retinal surgeons? And how can their knowledge and skills be continually updated and improved?

Michael A. Klufas is a vitreoretinal surgeon based at a retina practice (Mid Atlantic Retina with locations in Pennsylvania, New Jersey and Delaware), which is also the Wills Eye Hospital Retina Service. Klufas treats patients of all ages, from newborns with retinopathy of prematurity (ROP) in the NICU to elderly patients with AMD.

The practice is unique thanks to its relationship with Wills Eye Hospital in Philadelphia, PA, where Mid Atlantic Retina surgeons are the main preceptors for a sought-after vitreoretinal surgical training fellowship. Klufas says, "All of our practice members take pride in teaching fellows in the operating room. We boast a wide range of surgeons: from those straight out of fellowship, to very experienced surgeons who have practiced for over 25 years. And this gives our fellows a broad exposure to both well-established and brand-new surgical techniques."

As Klufas explains, retina surgery is extremely complex, which is why trainees pursue a dedicated fellowship. After completing the fellowship, the learning process is far from over; indeed, it is vital to continually refresh and update knowledge within what is a highly innovative field. Klufas describes what this process looks like at Wills Eye: "There are many educational conferences at Wills Eye Hospital, including a monthly retina surgery conference, which is well attended



by our faculty and trainees. We broadcast this conference online in cooperation with ASRS, which allows doctors from around the world to tune in. Furthermore, many of our physicians participate in domestic and international symposia. Many of the Wills Eye Retina Service members, including myself, will be participating in an ASRS instructional course on retina surgery in Seattle in July 2020."

As part of the educational program in retinal surgery, Klufas led an FCI University event titled Vitreoretinal Surgery and Scleral Buckling in June 2019. Why did he decide to get involved in this undertaking? "I was fortunate to be introduced to Thierry Fetick, CEO of FCI Ophthalmics, who told me about some of the educational courses the company had sponsored in Europe for vitreoretinal and oculoplastic

surgeons. I was very excited to hear about this approach, and soon we hosted a conference call with Fetick and the surgeons who ran the course in Europe. I was happy to take on the challenge of starting a new hands-on course like this in the USA, and we were able to organize the inaugural course at Wills Eye Hospital last summer."

Klufas says the choice of topic for the course was important. "Considering the retina surgery course was for ophthalmology residents and accepted vitreoretinal fellows, our plan was to focus on scleral buckling: the principal techniques, methodology, and a wet lab, with a goal of reinforcing the placement of scleral sutures during the scleral buckling procedure. It can be overwhelming for trainees to focus on too many topics, and



maintaining a focus on scleral buckling helped to keep the course focused.”

So, how does Klufas remember his own scleral buckling training? “I was trained by masters of scleral buckling at the Jules Stein Eye Institute: Allan “Buzz” Kreiger; Steven D. Schwartz, and Jean-Pierre “JP” Hubschman,” he says. “All three physicians had a unique way of buckling, thanks to their training: Buzz trained with Taylor Smith who was the main competitor to Charles Schepens – often cited as perfecting the scleral buckling process; Steve trained at Moorfields in London, UK; and JP previously practiced in Europe – and so he showed me some nice ‘European-style’ buckling techniques.” And Klufas is well aware of the impact of exposure to such unique knowledge and training. “I feel very fortunate to have the blood of these three surgeons in my veins, and it’s extremely valuable to have the opportunity to pass these important buckling techniques to fellows at Wills Eye Hospital and to other trainees in the USA – thanks to FCI University’s Vitreoretinal Surgery and Scleral Buckling course.”

Scleral buckling remains an important procedure to learn for vitreoretinal fellows and trainees, and Klufas believes attendees

got a lot out of the primer on scleral buckling in preparation for their future fellowship training – especially with strict limits on number of attendees. “The ratio of four students to one faculty member meant that the wet lab experience wasn’t diluted; we were able to give our full attention to each participant,” he says.

The course was attended by 12 trainees from Wills Eye Hospital, Scheie Eye Institute, and Yale Eye Center. Klufas was thankful for FCI Ophthalmics’ role in organizing the event, and says that Chief Resident Michael Abendroth helped with many of the logistical challenges, such as bringing in porcine eyes for the wet lab, and getting microscopes delivered. He continues, “I also have to thank our visiting faculty Jean-Paul Berrod and Véronique Pagot-Mathis, who ran the course in France, and came to help with the US counterpart. I would love to host this type of course annually or every two years, depending on demand.”

Interestingly, Wills Eye Hospital has just opened a state-of-the-art ophthalmic surgery wet lab, which would make organizing and holding another edition of the course even easier. Considering the nationwide – and worldwide – trend

towards vitrectomy, the unique focus on scleral buckling is invaluable, argues Klufas.

Is an industry partner, such as FCI Ophthalmics, an important piece of the puzzle when organizing educational courses and events? Klufas certainly thinks so. “FCI makes a full range of vitreoretinal surgery products like directional laser probes, backflush and instruments, including scleral buckling components. Sponsorship from the company for this type of course was ideal; FCI was able to provide many of the supplies we use for these procedures. Additionally, the trainees of today will be the attending surgeons and retina professors of tomorrow, and it is a great advantage for them to be using real tools, available today. Finally, FCI Ophthalmics’ parent company ZEISS has a multitude of retinal imaging products, microscopes, and even a dedicated vitrectomy system in Europe – VISALIS. And that means a relationship with FCI can lead to other collaborations in retinal imaging, surgery, or even surgical device development – all interesting aspects of a vitreoretinal surgeon’s practice.”





THE
POWER
LIST 2020
the
Ophthalmologist

THE POWER LIST

The vast majority of the Power Listers' comments were sent in before the scale and impact of the pandemic was known. We have decided to publish them, in the hope that they bring our readers some much-needed joy during a very difficult time. Full responses can be found on our website: theophthalmologist.com/power-list

The Power List is back once again to celebrate the achievements of the most influential figures in ophthalmology – nominated by our readers and whittled down by our judges to the final 100. From ocular oncology to tackling neglected diseases, our 2020 Power Listers are making their mark on ophthalmology – and beyond. The top 10 are ranked, while the rest of the list appears alphabetically.

1. CAROL L. SHIELDS

DIRECTOR, OCULAR ONCOLOGY SERVICE, WILLS EYE HOSPITAL AND THOMAS JEFFERSON UNIVERSITY, PHILADELPHIA, PA, USA

The most serendipitous moment of your career? Three years ago, I met a young baby with retinoblastoma whom I treated with systemic chemotherapy. This child came from my hometown in western Pennsylvania, lived on the same street where I was born, and resided in my own old home! How rare is that? When we met, I hugged both parents and told them that I would forever be a spirit guiding their young daughter.



3. BORIS MALYUGIN

PROFESSOR OF OPHTHALMOLOGY, S. FYODOROV EYE MICROSURGERY COMPLEX, MOSCOW, RUSSIA

Your three wishes? I have a feeling that the world nowadays is becoming less safe, less friendly, with a lot of political and military conflicts, not to mention the pandemic we are all facing today. So, my first wish is not surprising, and it is for everyone to stay healthy. Take good care of yourself and your loved ones.

My second wish is very personal – I wish for my kids to live in peace with themselves, in a calm, healthy and safe environment that will allow them to freely use their potential talents.

And the third wish is for myself. I want to be

able to continue doing what I do best – taking good care of my patients – for as long as I can. This wish is actually very selfish, as I enjoy doing that very much!



4. DOUGLAS D. KOCH

PROFESSOR AND ALLEN, MOSBACHER, AND LAW CHAIR IN OPHTHALMOLOGY, CULLEN EYE INSTITUTE, BAYLOR COLLEGE OF MEDICINE, HOUSTON, TX, USA

The most serendipitous moment of your career?

In 1988, an RK patient came to me to manage her -8D refractive error two months after undergoing cataract surgery, and then an IOL exchange one week later for 6D of hyperopia; this initiated my career-long interest in IOL calculations in post-refractive eyes.



2. IOBAL IKE K AHMED

PRISM EYE INSITUTE, TRILLIUM HEALTH PARTNERS, UNIVERSITY OF TORONTO, CANADA

The most serendipitous moment of your career?

Getting into my fellowship even after I dropped out of the fellowship match for a great job offer. In the end, I was able to have both!

The most unexpected turn your career took? Becoming a so-called “thought leader” in my field. I am so anti-establishment, it’s funny!



5. SIR PENG TEE KHAW

DIRECTOR, NIHR BIOMEDICAL RESEARCH CENTRE MOORFIELDS EYE HOSPITAL AND UCL INSTITUTE OF OPHTHALMOLOGY, RESEARCH AND DEVELOPMENT MOORFIELDS EYE HOSPITAL, EYES AND VISION PROGRAMME CHAIR, UCL PARTNERS ACADEMIC HEALTH SCIENCE CENTRE, LONDON, UK

The most serendipitous moment of your career?

Early in my research career, I needed to support a key researcher who would otherwise have left the field. I had exhausted all avenues, when I received a call from a person who had seen me treat a child on TV several years earlier, and wished to give a small donation to my research. Having thanked her, I asked what she was thinking of donating. She responded with the exact large sum I needed to continue the researcher’s career! The researcher has since gone on to produce work critical to the surgical procedure we designed.

6. GRAHAM BARRETT

OPHTHALMIC SURGEON AND PROFESSOR AT THE LIONS EYE INSTITUTE, PERTH, AUSTRALIA

Piece of advice for your younger self?
Go fly fishing more often.

The most serendipitous moment of your career?

Meeting my wife unexpectedly through friends.

The most unexpected turn your career took?
It came to me in a dream that I needed to do ophthalmology instead of plastic or general surgery, which was the initial direction I was heading.



7. DONALD TAN

ARTHUR LIM PROFESSOR AT THE SNEC AND DUKE-NUS MEDICAL SCHOOL; PARTNER AND SENIOR CONSULTANT OPHTHALMIC SURGEON AT EYE & RETINA SURGEONS (ERS), CAMDEN MEDICAL CENTRE, SINGAPORE

Donald Tan won the 2018 edition of our Power List. This year, one of his nominators commented:

“One of the biggest names in selective lamellar keratoplasty (DALK, DSAEK, DMEK). Innovator and inventor of surgical instruments and devices, he is a huge figure in Asian and global ophthalmology. He founded the Asia Cornea Society and the Association of Eye Banks of Asia.”

8. EUGENE DE JUAN JR.

JEAN KELLY STOCK DISTINGUISHED PROFESSOR, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO; FOUNDER AND MANAGING PARTNER, FORSIGHT LABS, USA

The most important moment of your career?
Professionally... the day I received my letter of acceptance to medical school, and the day I was able to honor the memory of my ophthalmologist father by establishing an endowed chair in his name at Johns Hopkins.



9. MALIK Y. KAHOOK

THE SLATER FAMILY ENDOWED CHAIR IN OPHTHALMOLOGY, PROFESSOR AND CHIEF, GLAUCOMA SERVICE AT THE SUE ANSCHUTZ-RODGERS EYE CENTER, THE UNIVERSITY OF COLORADO'S DEPARTMENT OF OPHTHALMOLOGY, AURORA, USA

Piece of advice for your younger self?

If I could have a phone call with my younger self, perhaps from 15 years ago, I would tell young Dr. Kahook to start mission work in underserved areas at a much earlier time in his career. I find this part of what I do to be the most fulfilling, and creating bridges between the University of Colorado and international centers is full of benefits for both sides. I would also tell myself to buy Amazon stock.



10. DAVID (TED) GARWAY-HEATH

IGA PROFESSOR OF OPHTHALMOLOGY; UCL INSTITUTE OF OPHTHALMOLOGY AND MOORFIELDS EYE HOSPITAL, LONDON, UK

The most serendipitous moment of your career?

A fellow trainee, who had just completed a research post with Roger Hitchings, stopped me in a corridor and asked, “Would you like a research post with Roger Hitchings?” My response was something along the lines of, “Is the Pope Catholic?”



ABHAY R. VASAVADA

DIRECTOR, ILADEVI CATARACT
& IOL RESEARCH CENTRE,
RAGHUDEEP EYE HOSPITAL,
AHMEDABAD, INDIA

The most unexpected turn your career took?
When I arrived back to my home country, India, after attaining my FRCS and higher education in England, I had decided to go into teaching, and not private practice. However, as circumstances would have it, I could not secure a teaching job anywhere, and I had to start my private practice. By chance, this enabled me to combine private practice with teaching and research, and not only have personal satisfaction, but also, hopefully, provide an example to others around me that it is possible to have both practice and professorship.



ADNAN TUFAIL

CONSULTANT OPHTHALMOLOGIST,
MOORFIELDS EYE HOSPITAL;
INSTITUTE OF OPHTHALMOLOGY,
UCL, LONDON, UK

The most serendipitous moment of your career?
There have been too many such moments to list them here and I feel very lucky! They include meeting my future wife at Moorfields, as she is also a retina specialist; taking a research fellowship at UCLA in the late 1990s, studying HIV/CMV, the virus plagues of the time.

Feature 19

ALAN BIRD

EMERITUS PROFESSOR AND
CONSULTANT AT INSTITUTE OF
OPHTHALMOLOGY, UNIVERSITY
COLLEGE LONDON, UK

The most serendipitous moment of your career?

Applying for a Fellowship at The Bascom Palmer Hospital at a time when it was not very well known.

The most unexpected turn your career took?
An invitation to work in Africa on river blindness.

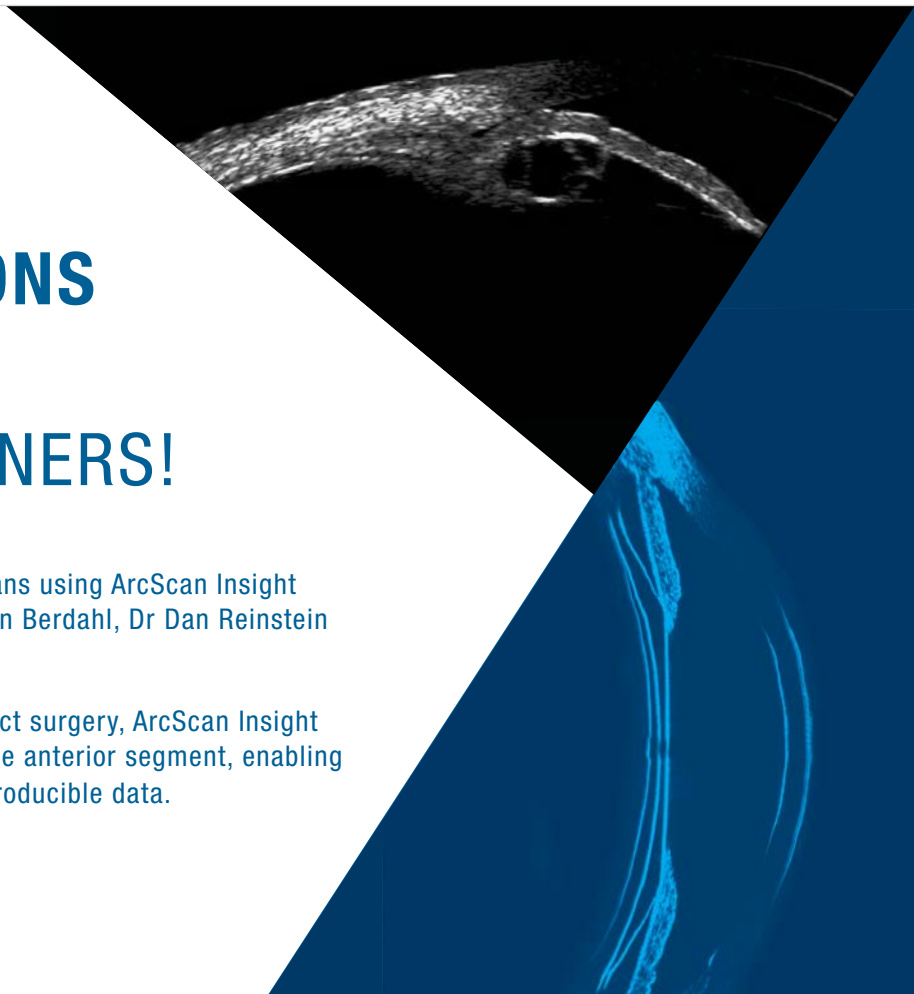


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ALAN S. GRANDALL

JOHN A. MORAN PRESIDENTIAL
PROFESSOR, SENIOR VICE CHAIR,
DIRECTOR OF GLAUCOMA AND
CATARACT, SENIOR MEDICAL
DIRECTOR, MORAN GLOBAL
OUTREACH DIVISION, UNIVERSITY
OF UTAH, USA

The funniest moment of your career?

The only time I have been in the media was when I did phaco/IOL in a gorilla (whose name was Gorgeous) at the Hogle Zoo in Salt Lake City, Utah. She lived for 10 more years. It was very similar to a human eye; I used a single piece IOL (no YAG needed).

ALLEN HO

WILLS EYE HOSPITAL ATTENDING
SURGEON AND DIRECTOR
OF RETINA RESEARCH,
PHILADELPHIA, USA

His nominator commented:

"He is instrumental in developing new surgical treatments for retinal diseases. A big name from Wills Eye Hospital, which has a fantastic retina program. Ho edits scientific journals and is the author of many crucial publications in the field."



ALEX HUANG

ASSISTANT PROFESSOR,
DEPARTMENT OF OPHTHALMOLOGY,
DOHENY EYE INSTITUTE,
UNIVERSITY OF CALIFORNIA, LOS
ANGELES, CA, USA

The most unexpected turn your career took?

I shifted part of my research effort from glaucoma outflow research to Space-flight Associated Neuro-ocular Syndrome (SANS) investigation in the last five years. I never thought I would be doing this, as much of it is related to posterior segment research, while my glaucoma emphasis has been on the anterior segment. What made this possible was the development of imaging tools (FLEX Spectralis;



Heidelberg Engineering) for outflow imaging in the operating room, which could also be used to study the eye using OCT in different body positions. This was relevant for SANS. What I learned is the culmination of all of my training.

ALLEN FOSTER

CO-DIRECTOR OF THE
INTERNATIONAL CENTRE
FOR EVIDENCE IN DISABILITY
AND THE INTERNATIONAL CENTRE
FOR EYE HEALTH, LSHTM, LONDON, UK



What his nominator said about him:

"He has done a lot of work in the field of blinding neglected diseases, and has saved many people from blindness and disability. Any work that attempts to remove health inequalities deserves the highest honors."



AMAR AGARWAL

CHAIRMAN, DR. AGARWAL'S
GROUP OF EYE HOSPITALS,
CHENNAI, INDIA

Here is what his nominator said about him:

"A true force in ocular surgery, including anterior segment and vitreoretinal procedures. PDEK and glued IOL are among his many vital contributions to the field. He has had many 'firsts' in the surgical field, and is universally admired."

ANAT LOEWENSTEIN

CHAIR, DIVISION OF
OPHTHALMOLOGY, TEL AVIV
MEDICAL CENTER; VICE DEAN,
SACKLER FACULTY OF MEDICINE, TEL
AVIV UNIVERSITY, TEL AVIV, ISRAEL

A career turn you had not predicted?

When I decided to become a retina specialist I did it with the understanding that there was no cure for most retinal vascular diseases. I was prepared for years of frustration in which I would try to do the best for my patients with large scars in the macula... Being part of a process in which we can prevent blindness in most of our patients was really unexpected and it brings me satisfaction and reward every day.



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ANTHONY KHAWAJA

CONSULTANT OPHTHALMIC
SURGEON AT MOORFIELDS EYE
HOSPITAL AND HONORARY SENIOR
RESEARCH ASSOCIATE AT UCL
INSTITUTE OF OPHTHALMOLOGY,
LONDON, UK

The most unexpected turn your career took?
Actually, my research career was a surprise turn. I reached almost the end of my training with barely any research outputs, and my strengths were always considered surgical and clinical. Taking four years out for a PhD program completely changed my focus and my life.

**AUDREY TALLEY ROSTOV**

DIRECTOR OF CORNEA, CATARACT
AND REFRACTIVE SURGERY,
NORTHWEST EYE SURGEONS AND
GLOBAL MEDICAL DIRECTOR,
SIGHTLIFE, SEATTLE, USA

Your three wishes?

Increasing tolerance in societies, decreasing xenophobia, decreasing hatred and fear and increasing acceptance of those of different groups, whether it is based on religion, race, gender, sexual orientation or national origin. Second, positive solutions to curb, end or reverse global warming. Third, an end to the COVID-19 crisis.

**ANTONIA M. JOUSSEN**

PROFESSOR AND CHAIR,
DEPARTMENT OF OPHTHALMOLOGY,
CHARITÉ UNIVERSITÄTSMEDIZIN
BERLIN, GERMANY

The most serendipitous moment of your career?
When I was a medical student in Heidelberg, Judah Folkman gave a presentation about tumor angiogenesis. That caught my attention, and the interest in vascular pathology has never stopped since. I was lucky enough to do my postdoc in his lab, where we were able to investigate, for the first time in rodents, the same substances (such as VEGF antibodies, Angiopoietin-1 antibodies) in AMD and diabetes models that later entered the clinics. The atmosphere in the labs was thrilling because we had the proof of principle.

**ARTHUR B. CUMMINGS**

MEDICAL DIRECTOR, WELLINGTON
EYE CLINIC, AND CONSULTANT
OPHTHALMOLOGIST, BEACON
HOSPITAL, DUBLIN, IRELAND

The funniest moment of your career?

One of the funniest moments was when a good friend once said that he knew too many "I-doctors" and not enough good "eye doctors." He eventually landed under my laser one day and thankfully labelled me an "eye doctor, E, Y, E," much to my delight and my team's amusement and astonishment, directly after the procedure. I'm guessing the team figured he knew I was an "eye doctor" prior to his procedure.

**BERTIL DAMATO**

SENIOR CLINICAL RESEARCH
FELLOW, NUFFIELD LABORATORY
OF OPHTHALMOLOGY, CLINICAL
NEUROSCIENCES, UNIVERSITY OF
OXFORD, UK

The funniest moment of your career?

There have been many, but one of the most amusing is my accidental discovery of a novel brachytherapy dosimetry for choroidal melanoma, shortly after I started my career in ocular oncology. At a conference in Florence, in the mid-1980s, I heard a German opinion leader expound his technique, which I followed ever since, to good effect, with well over a thousand patients. About 30 years later, while chatting about our methods, he told me how much he admired my dosimetry as it was so clever and effective. When I

said I was only following his advice, he replied that he had never even thought of that approach, let alone advocate it. I had completely misunderstood whatever he had said at that conference in Florence, thankfully.



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CAUTION: Federal law restricts this device to sale by or on the order of a physician.

INDICATIONS FOR USE: The Hydrus Microstent is indicated for use in conjunction with cataract surgery for the reduction of intraocular pressure (IOP) in adult patients with mild to moderate primary open-angle glaucoma (POAG). **CONTRAINDICATIONS:** The Hydrus Microstent is contraindicated under the following circumstances or conditions: (1) In eyes with angle closure glaucoma; and (2) In eyes with traumatic, malignant, uveitic, or neovascular glaucoma or discernible congenital anomalies of the anterior chamber (AC) angle. **WARNINGS:** Clear media for adequate visualization is required. Conditions such as corneal haze, corneal opacity or other conditions may inhibit gonioscopic view of the intended implant location. Gonioscopy should be performed prior to surgery to exclude congenital anomalies of the angle, peripheral anterior synechiae (PAS), angle closure, rubeosis and any other angle abnormalities that could lead to improper placement of the stent and pose a hazard. **PRECAUTIONS:** The surgeon should monitor the patient postoperatively for proper maintenance of intraocular pressure. The safety and effectiveness of the Hydrus Microstent has not been established as an alternative to the primary treatment of glaucoma with medications, in patients 21 years or younger, eyes with significant prior trauma, eyes with abnormal anterior segment, eyes with chronic inflammation, eyes with glaucoma associated with vascular disorders, eyes with preexisting pseudophakia, eyes with uveitic glaucoma, eyes with pseudoexfoliative or pigmentary glaucoma, eyes with other secondary open angle glaucoma, eyes that have undergone prior incisional glaucoma surgery or cilioablativ procedures, eyes that have undergone argon laser trabeculoplasty (ALT), eyes with unmedicated IOP < 22 mm Hg or > 34 mm Hg, eyes with medicated IOP > 31 mm Hg, eyes requiring > 4 ocular hypotensive medications prior to surgery, in the setting of complicated cataract surgery with iatrogenic injury to the anterior or posterior segment and when implantation is without concomitant cataract surgery with IOL implantation. The safety and effectiveness of use of more than a single Hydrus Microstent has not been established. **ADVERSE EVENTS:** Common post-operative adverse events reported in the randomized pivotal trial included partial or complete device obstruction (7.3%); worsening in visual field MD by > 2.5 dB compared with preoperative (4.3% vs 5.3% for cataract surgery alone); device malposition (1.4%); and BCVA loss of ≥ 2 ETDRS lines ≥ 3 months (1.4% vs 1.6% for cataract surgery alone). For additional adverse event information, please refer to the Instructions for Use. **MRI INFORMATION:** The Hydrus Microstent is MR-Conditional meaning that the device is safe for use in a specified MR environment under specified conditions. **Please see the Instructions for Use for complete product information.**

References: 1. Samuelson TW, Chang DF, Marquis R, et al: HORIZON Investigators. A Schlemm canal microstent for intraocular pressure reduction in primary open-angle glaucoma and cataract: The HORIZON Study. *Ophthalmology*. 2019;126:29-37. 2. Vold S, Ahmed II, Craven ER, et al: CyPass Study Group. Two-Year COMPASS Trial Results: Suprachiliary Microstenting with Phacemulsification in Patients with Open-Angle Glaucoma and Cataracts. *Ophthalmology*. 2016;123(10):2103-2112. 3. US Food and Drug Administration. Summary of Safety and Effectiveness Data (SSED): Glaukos iStent[®] Trabecular Micro-Bypass Stent. US Food and Drug Administration website. https://www.accessdata.fda.gov/cdrh_docs/pdf/B/P080030B.pdf. Published June 25, 2012. 4. US Food and Drug Administration. Summary of Safety and Effectiveness Data (SSED): iStent inject Trabecular Micro-Bypass System. US Food and Drug Administration website. https://www.accessdata.fda.gov/cdrh_docs/pdf/P170043b.pdf. Published June 21, 2018.

*Comparison based on results from individual pivotal trials and not head to head comparative studies.

†Data on file - includes trabeculectomy and tube shunt.



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BONNIE AN HENDERSON

CLINICAL PROFESSOR OF
OPHTHALMOLOGY, TUFTS
UNIVERSITY SCHOOL OF MEDICINE,
BOSTON, MA, USA

The funniest moment of your career?

I have a very Scottish name although I am 100 percent Korean. A few years ago, an elderly patient came in for cataract surgery and told me that he was excited to meet a “Scottish lass from the old country.” I chuckled and said, “I guess I don’t look very Scottish.” He stopped in his tracks and asked me what I meant. I realized at that moment that his vision was very poor and he couldn’t see that I was Asian. So I told him that I was one of those dark Scots, similar to the dark Irish with black hair. He seemed satisfied with that answer.



I wondered what would happen after his cataracts were removed and his vision cleared. Fortunately, after surgery he was not disappointed that we did not share the same ancestry, and was delighted to have met a dark Scot from South Korea.

BRADLEY RANDLEMAN

PROFESSOR OF OPHTHALMOLOGY
AT THE KECK SCHOOL OF
MEDICINE, UNIVERSITY OF
SOUTHERN CALIFORNIA, AND
MEDICAL DIRECTOR OF BEVERLY
HILLS CLINIC, USC GAYLE AND
EDWARD ROSKI EYE INSTITUTE, LOS
ANGELES, CA, USA

Randleman’s career highlights include his work in the US trials that led to FDA approval for CXL, as well as his work in identifying risk factors for ectasia after LASIK and screening strategies to minimize this complication. He has authored four textbooks, including the gold standard “Corneal Cross-Linking Second Edition.” Brad is also Editor-in-Chief for the Journal of Refractive Surgery.



H. BURKHARD DICK

DIRECTOR AND CHAIRMAN,
UNIVERSITY EYE HOSPITAL,
BOCHUM, GERMANY

Your three wishes?

Health is always on top of everybody’s list. It is even more so this year: health for my loved ones, my colleagues, our patients. I also wish to have more time for education: ophthalmology is undergoing such phenomenal progress that I would love to share all these developments with my colleagues more closely. Finally: continued motivation for ophthalmology – it is the most fascinating field of medicine and science but bureaucracy, paper work and legal entanglements sometimes take some joy out of the job.





CARL REGILLO

DIRECTOR, RETINA SERVICE,
WILLS EYE HOSPITAL
AND PROFESSOR OF
OPHTHALMOLOGY, THOMAS
JEFFERSON UNIVERSITY,
PHILADELPHIA, PA, USA

Your three wishes?

To have effective gene, stem cell, and neuroprotection therapies.

Piece of advice for your younger self?

Ignore the “doom and gloom” comments about a career in medicine. It will always be a noble and worthwhile career.

CAROLINE BAUMAL

RETINA SPECIALIST AT NEW
ENGLAND EYE CENTER, AND
ASSOCIATE PROFESSOR AT TUFTS
UNIVERSITY SCHOOL OF MEDICINE,
BOSTON, MA, USA

In the words of our reader:

“Caroline Baumal is a dedicated clinician, educator and researcher who pushes the boundaries of knowledge to achieve significant impact. She has made contributions that will change the way we look at certain vitreoretinal conditions. Baumal holds herself to high standards that others strive to emulate.”



CYNTHIA J. ROBERTS

PROFESSOR, OPHTHALMOLOGY &
VISUAL SCIENCE; AND BIOMEDICAL
ENGINEERING, THE OHIO STATE
UNIVERSITY, USA

Piece of advice for your younger self?

Pay more attention in that typing class!

The most unexpected turn your career took?

My doctoral studies involved laser-tissue interactions for laser angioplasty – a dead field. Richard Lembach introduced me to laser-tissue interactions for ablative corneal procedures, which launched my career.



CAROLINE HARPER CBE

CHIEF EXECUTIVE OF
SIGHTSAVERS, UK

Your three wishes?

As I'm approaching a big birthday, I can't help but wish I was 10 years younger, as there is so much to do and so little time. Oh, and at least 10 pounds lighter! More seriously, there are quite a few people no longer in my life who died much too soon, and who I would love to see again: my friends, my parents.



CLARE GILBERT

PROFESSOR OF INTERNATIONAL EYE
HEALTH, AT THE LONDON SCHOOL OF
HYGIENE AND TROPICAL MEDICINE
(LSHTM), UNIVERSITY OF LONDON, UK

The most unexpected turn your career took?

It was the 180-degree change of career from being a vitreoretinal surgeon in the UK to working on public health approaches for the control of blinding eye diseases in children in low and middle income countries. It has been a very varied, fascinating and ultimately rewarding journey, and I have worked with many wonderful and inspiring people.

DAMIEN GATINEL

HEAD OF THE ANTERIOR
AND REFRACTIVE SURGERY
DEPARTMENT OF THE
ROTHSCHILD FOUNDATION,
PARIS, FRANCE

The most unexpected moment of your career?
During AAO 2018, The Jack Holladay, whom I revere as a tireless pioneer in the field of applied visual optics, came up to me and asked for 10 minutes of my time as he wanted me to explain certain aspects of the new diffractive trifocal IOLs. It was a real “pinch me now” moment.

**DAN Z. REINSTEIN**

MEDICAL DIRECTOR AT THE
LONDON VISION CLINIC, LONDON,
UK; AFFILIATED WITH COLUMBIA
UNIVERSITY MEDICAL CENTER, NEW
YORK, USA; SORBONNE UNIVERSITÉ,
PARIS, FRANCE; AND BIOMEDICAL
SCIENCE RESEARCH INSTITUTE,
ULSTER UNIVERSITY, UK

Your three wishes?

First, I wish that on waking next Monday, everyone in the general population who wears contact lenses and spectacles will instantly know all the scientific facts about the safety, side effects and long term stability of corneal refractive surgery.

Second, I wish that on waking next Monday, all ophthalmologists



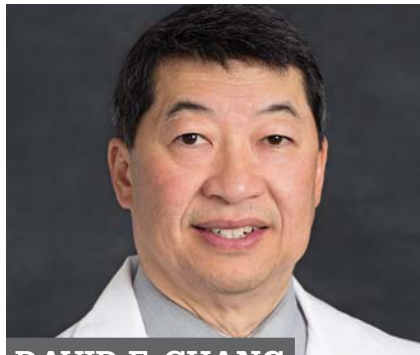
instantaneously know all the scientific facts about the relative safety, efficacy, side effects and long term stability of PRESBYOND Laser Blended Vision compared to Clear Lens Exchange with multifocal IOLs for presbyopic patients with no cataract.

Third, I wish that John Coltrane and Miles Davis were still alive so I could have given them the gift of presbyopic corneal laser eye surgery, PRESBYOND Laser Blended Vision as I have done for many of their band members!

**DANIEL PALANKER**

PROFESSOR OF OPHTHALMOLOGY
AND DIRECTOR OF THE HANSEN
EXPERIMENTAL LABORATORY,
STANFORD UNIVERSITY, CA, USA

The most unexpected turn your career took?
About 22 years ago, I visited Mark Blumenkranz as a patient, with a laser injury of my retina. At that time, he became a chair of the Department of Ophthalmology at Stanford, and I was a postdoc in the Department of Physics, and just accepted an offer for a faculty position in Harvard Medical School. Our conversation turned to a discussion of my research in laser technologies, and I was counter-offered a position in the Department of Ophthalmology at Stanford, which I still hold today.

**DAVID F. CHANG**

CLINICAL PROFESSOR AT THE
UNIVERSITY OF CALIFORNIA, SAN
FRANCISCO; PRIVATE PRACTICE IN
LOS ALTOS, CA, USA

The funniest moment of your career?

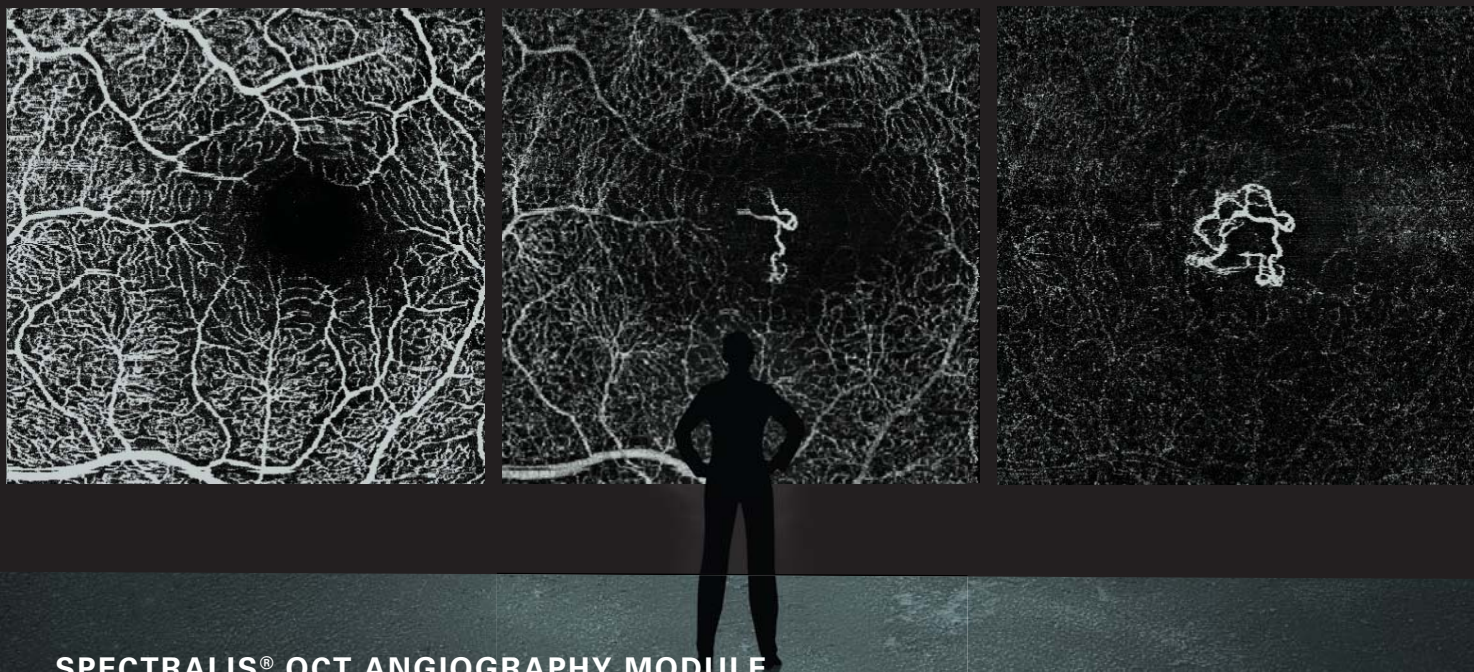
My son is athletic and loved little league baseball, but at age 9, the players themselves start pitching instead of the coaches. He was making errors in the outfield and striking out a lot, which humiliated and demoralized him to the point that he dropped baseball before the following season. During his next back-to-school exam, the pediatrician asked my wife: “Has David tested his vision?” Well, I hadn’t and he was quite myopic already! He was the proverbial cobbler’s kid.

DAVID SPALTON

FORMER PROFESSOR OF
OPHTHALMOLOGY AT ST
THOMAS’ HOSPITAL, LONDON, UK

The most unexpected moment of your career?
Apart from the surprise of being nominated for the Power List, undoubtedly the highlight of my professional career was my ESCRS Presidency. It is very much a “hands on” executive position. You meet the world leaders in cataract and refractive surgery, meet truly brilliant minds, see wonderful surgery, and have a unique opportunity to influence the Society’s work, as well as its educational, teaching and training programs. It was a most interesting, rewarding and enjoyable experience.





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**HEIDELBERG
ENGINEERING**

DAVID STEVEN FRIEDMAN

DIRECTOR OF THE GLAUCOMA SERVICE AT MASSACHUSETTS EYE AND EAR, BOSTON, USA

The most unexpected turn your career took?
Finding myself in a new city (Boston) at a new job (Director, Glaucoma Center of Excellence Mass Eye and Ear) after more than 20 years at the same institution.

The most serendipitous moment of your career?

Meeting Al Sommer as a medical student motivated me to become a public health ophthalmologist; that connection happened through a totally chance encounter.



DOUGLAS J. RHEE

PROFESSOR AND CHAIR, DEPARTMENT OF OPHTHALMOLOGY AND VISUAL SCIENCES AT CASE WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE, CLEVELAND, USA

Your three wishes?

To discover the cure for glaucoma; world peace; perfect health for my family and all the people reading this article. (These are not necessarily in order!)

What advice would you give to your younger self?

Keep working hard – it is worth it in many ways.



DAVID W. PARKE II

CHIEF EXECUTIVE OFFICER, AMERICAN ACADEMY OF OPHTHALMOLOGY, SAN FRANCISCO, CA, USA

Here is what one of his nominators wrote:

“Outstanding leadership and management of issues related to prevention of vision loss and blindness, appropriate representation of ophthalmologists in US Government discussion, and establishment of programs to aid business decisions of practicing ophthalmologists.”

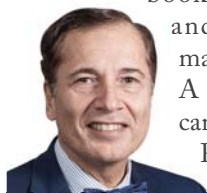


DIMITRI AZAR

DISTINGUISHED PROFESSOR AND BA FIELD CHAIR/ OPHTHALMOLOGY; FORMER DEAN OF MEDICINE UNIVERSITY OF ILLINOIS; SENIOR DIRECTOR VERILY LIFE SCIENCES, USA

One of Azar's nominators commented:

“With many honors and awards to his name, Azar is a household name in ocular surgery. He authored numerous scientific articles and book chapters, and he holds many patents. A very worthy candidate for the Power List.”



DAWN SIM

DIRECTOR OF TELEMEDICINE AND CONSULTANT OPHTHALMIC SURGEON AT MOORFIELDS EYE HOSPITAL, LONDON, UK

Your three wishes?

Emails are only allowed for a maximum of an hour per day. More time allocated for each patient in clinic. Meetings lasting no more than 30 minutes.

Piece of advice for your younger self?

Be less anxious and exercise more. It all works out at the end.

DENNIS S.C. LAM

CHAIRMAN AND CEO AT HONG KONG C-MER INTERNATIONAL EYE CARE GROUP LTD; EDITOR-IN-CHIEF OF THE ASIA-PACIFIC JOURNAL OF OPHTHALMOLOGY; SECRETARY GENERAL, ACADEMY OF ASIA-PACIFIC PROFESSORS OF OPHTHALMOLOGY AND ASIA-PACIFIC MYOPIA SOCIETY; AND PAST PRESIDENT OF THE ASIA-PACIFIC ACADEMY OF OPHTHALMOLOGY AND ASIA-PACIFIC VITREO-RETINA SOCIETY

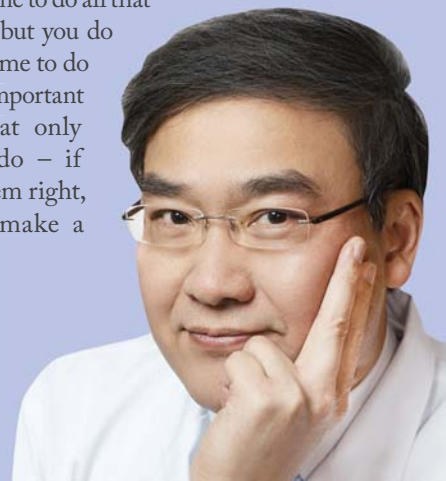
Piece of advice for your younger self?

Dream big, look for trends and game changers in the future, but embrace them

with actions today. Opportunity favors the prepared individual.

Practice kindness every moment of our lives. “We make a living by what we get, but a life by what we give.”

Focus, focus and focus! You don't have the time to do all that you want, but you do have the time to do the most important things that only you can do – if you do them right, you will make a difference.



Leading the Way

The 2020 Ophthalmologist Power List celebrates the outstanding individuals who have been recognized by their peers as leaders in the field of ophthalmology. Here, our industry sponsors tell us about their commitment to eye care, and how they are leading the way in the field to make a difference to ophthalmologists and patients.

James V. (Jim) Mazzo
Global President Ophthalmic Devices
Zeiss



What has been your career highlight?
A number of achievements stand out for me throughout my career, from creating and becoming the Chairman/CEO of AMO, to my involvement in establishing the Gavin Herbert Eye Institute for fighting blindness and serving on the board of a number of organizations including ASCRS, AAO and NASA's Mission to Mars Committee.

More recently, I am pleased to have been presented with the 2020 Ellis Island Medal, which recognizes the importance of immigration to America's prosperity. The medal is presented annually to those who have shown an outstanding commitment to serving our nation either professionally, culturally or civically, among other criteria.

What are the biggest unmet needs in your field? How is ZEISS working to address them?

One of the biggest unmet needs in ophthalmology is the growing number of patients and decreasing number of clinicians, which means that doctors

end up spending insufficient time with all types of patients, when limited clinic hours would be better suited focusing on patients that need the most help. ZEISS is continuing to develop technologies that produce, capture, display and analyze patient data across diagnostics and treatment products to help doctors identify patient needs before they get to the office or operating room – enabling them to make more efficient use of their time.

Another unmet need is having solutions that work seamlessly across the full continuum of care, from the physician's office to the operating room. From diagnostics to treatment, ZEISS is looking to adapt its technology to different solution designs using the information output as the constant and the devices as vehicles for care.

What should we expect from ZEISS over the next five years?

ZEISS has had a tremendous few years, but we are always looking for ways to improve our service. We are expanding

our digital footprint, continuing expansion in the USA, and will carry out further development by investing in R&D.

However, the real focus in the future will be on physicians making informed decisions right before or during surgery. Digital, data-driven technology that enables quick decisions is what will move us forward. The strength of ZEISS is that we are the only company that can diagnose, treat and manage. All ZEISS products are talking to each other, and with every piece of data online, doctors will be empowered to make better decisions. Our products will also enable doctors to be proactive in determining which patients can use self-diagnosis devices to cut down office visits, allowing for the best care possible.



Luis Iglesias
*President and Head of
Santen EMEA*



How is Santen addressing the biggest unmet needs in ophthalmology?

The prevalence of eye disease is on the rise, due to the worldwide trend of aging populations and factors attributed to modern lifestyles, such as increased use of screens. We are committed to protecting and preserving the precious sense of sight. But we are also aware that healthcare budgets are increasingly stretched, making it critical for us to illustrate that benefits seen from our glaucoma, dry eye, and allergy products in clinical trials are replicated in the daily lives of patients and that funds are well spent on these treatments. Patient access to our products is paramount, so we're investing in real-world evidence studies, such as the VISIONARY study, which demonstrates that our glaucoma medicine, tafluprost/timolol combination (Taptiqom®) is highly effective and well-tolerated, while preserving the ocular surface.¹

What is the most exciting project Santen is working on?

As a specialised, global company in ophthalmology, we are constantly investigating how to advance, adapt and

create technologies that benefit the eye health community.

In the immediate term, our new devices are now available and receiving excellent feedback. These include PRESERFLO™ MicroShunt, a minimally invasive surgical implant made of an innovative and bio-inert material to lower intraocular pressure, and the xact™ Mono-EDoF™ intraocular lens (IOL), a CE marked, monofocal, hydrophobic IOL with four diffractive rings, offering reduced dependence on glasses after cataract surgery.

We have recently established a number of exciting strategic partnerships. Santen is now the sole ophthalmology partner of the International Telecommunication Union, (a UN agency), WHO-led Be He@lthy, Be Mobile (BHBM) initiative, to drive implementation of national health programmes and raise awareness of non-communicable diseases in ophthalmology such as glaucoma, dry eye and cataract.

Our new joint venture with Verily, the life sciences and healthcare 'sister company to Google', is allowing us to work on developing unique and scalable software-based devices using artificial

intelligence and microelectronics.

What should we expect from Santen over the next five years?

Santen has 130 years of heritage in ophthalmology, and is the only global company with this sole focus. We have the expertise and resources to explore rare diseases and under-resourced areas in ophthalmology, and we are deeply involved in a number of ongoing, early-stage research projects at the forefront of medical science. For example, our collaboration with Oxford Biomedica is focused on researching and developing gene therapy products for the treatment of inherited retinal diseases – diseases that disproportionally affect children and young adults, resulting in vision loss or blindness. We look forward to bringing this innovation, amongst others, to physicians and patients in the coming years.

Reference

1. F Oddone et al., *Adv Ther* (2020). PMID: 32072493.

Santen
A Clear Vision For Life™

John Trefethen
Global Vice President, Marketing & Product Design
Topcon Healthcare



What are the biggest unmet needs – and how are you working to address them? My short answer is *smart* design. There have been brilliant developments in medical technologies in the last decade; however, many of these products were developed in silos without consideration for the larger ecosystems that they serve. In the healthcare space, we face two significant care challenges globally. Firstly, there has been huge growth in the patient population, but care is constrained due to the physical access limitations of diagnostic devices. Secondly, there is often restrictive and unnecessary data congestion and inconsistencies, frequently caused by the devices themselves.

To address these challenges, Topcon Healthcare is focused on *smart* design and developing technologies and products that integrate for a more proactive approach to patient diagnosis and treatment. Our *smart* devices help optimize quality, speed, and reach of care. By incorporating robotics, automation, AI, and remote capabilities, Topcon helps eye health professionals deliver diagnostic and treatment options for

better patient outcomes in both rural and urban communities.

Inherent to our *smart* software approach is an open architecture. This allows healthcare professionals to build a connected practice for remarkable efficiency gains. Our open ecosystem is not just for the clinical setting, but also for other health networks that rely on data consistently across time and space.

The Topcon Corporation leverages this *smart* design in three key areas: agriculture, infrastructure, and healthcare to help solve today's most pressing global issues, including shrinking land resources, population density growth, and age-related disease.

What is Topcon's most exciting project? That's easy. It's a project that leverages one of Topcon's most exciting *smart* technologies: robotic diagnostics.

Right now, at a top urban-based university, a remote pilot is underway that will give thousands of patients access to eye health professionals, without traveling from their rural communities. Utilizing Topcon's automated OCTs and

our new remotely controlled diagnostic instruments, doctors engage with patients, diagnose conditions, and recommend treatment through our connected ecosystems. This is making huge inroads towards addressing the impending epidemic in eye health today: insufficient access. The potential for remote diagnostics is urgent and tremendous, and Topcon's technology is well positioned to meet these changing needs as the eye care landscape evolves.

What should we expect from Topcon over the next five years?

As healthcare continues to advance, we at Topcon are inspired by the possibilities and dedicated to providing *smart* solutions. We're joining the efforts for early detection and prevention, and are committed to a more proactive provider-patient relationship. We will continue to push the boundaries of technology that allow all of us to see eye health differently.



www.TopconHealthcare.com

Shervin Korangy
President and Chief Executive Officer
BVI



How is BVI working to address the greatest unmet needs in the field?

In many parts of the world, preventable blindness as a result of cataracts, retinal disease or glaucoma is surprisingly common and unsurprisingly debilitating. Procedures have come a long way, but even in the developed world, there is still a lot of room for improvement of care and treatment options. At BVI, we are building a business that ensures it can adapt and specialize to the needs of each market. Certain markets are more open to premium technologies, while others can't afford them. Having dealt with multinational companies throughout my career, I realize a company becomes less effective when it employs a "one-size-fits-all" mentality. For example, many multinationals refer to Europe as one market when, in fact, each country's local healthcare system dictates a completely different product portfolio. By maintaining that focus, our speed and responsiveness to customers will outshine.

What is the most exciting project BVI is working on?

I would point to two key themes we think about in our company. Firstly, the USA has traditionally been one or two generations behind Europe for many innovative ophthalmic technologies, including IOLs – mainly because of our differing regulatory pathways. We are actively addressing an acceleration of our product presence in the US market. It is a massive undertaking, but once we bridge the gap, American surgeons and patients will benefit from European innovations. Secondly, we believe technology will continue to shape the way the industry delivers products and services to customers. We believe that technology will make the customer user experience with BVI materially enhanced, so it is cleaner, smoother, and more seamless. We are investing heavily in this aspect.

What should we expect from BVI over the next five years?

Five months is a long time in our

world – let alone five years. I have been at BVI for a short time, just three years, but during this period we have tripled the size of our business and expanded our product range significantly. We are currently well underway through a transformation from a trusted instrument supplier to the fastest-growing, comprehensive ophthalmology company with a sharp focus on our associates, our customers, and our patients. In the coming years, we will be bringing more product launches and innovation to market than any other company out there. We will also continue to develop our internal talent, and attract the best recruits in the industry. Keep watching our transformation – and join the BVI family, if you want to be part of something special.



Gene Lee
Chairman and Founder
Avellino Lab USA, Inc.



What path led you to ophthalmology?
I had just completed the sale of my previous precision medicine company in 2008 when I was approached by EK Kim in Korea with a challenging proposition: to help patients with corneal dystrophies. I had not worked in ophthalmology before, but I saw a real opportunity to make a difference in people's lives and introduce genetics more broadly in ophthalmology.

What's your career highlight?
Being named a Technology Pioneer by the World Economic Forum in 2016 and then being appointed to the WEF's Precision Medicine Council and receiving the Ellis Island Medal of Honor in 2019 are a few of my career highlights from the last 10 years. We are a group wholly dedicated to the advancement of technology and patient safety in precision medicine, big data and advanced diagnostics.

What are the biggest unmet needs in your field? How is the company working to address them?
Education, no doubt. We need to help

physicians and patients get comfortable with genetic data, and show how it can be used to make better decisions to reduce or avoid health and vision risks. There is a lot of fear out there around capturing genetic data. We are also developing AI and machine learning algorithms to manage the data we are gathering, which will lead to additional exciting breakthroughs in diagnosis and gene therapies in the coming years.

What is the most exciting project the company is working on?
We are excited for the AvaGen diagnostic test for keratoconus risk factors and corneal dystrophies, which we recently launched with the hope of making it part of the standard of care in ophthalmic and optometric practices. We are excited about our discovery – through partnership with Ulster University – of certain siRNA molecules that are capable of targeting genetic mutations; it gives us the unique opportunity to pursue genetic therapies for autosomal-dominant diseases. Another exciting development

is our partnership with SiSaf Ltd, whose technology will permit us to deliver siRNA molecules to the cornea, and block the production and accumulation of mutant TGFBI proteins. We believe that our partnership with Ulster and SiSaf will collectively yield significant advancement in gene therapies.

What should we expect from your company over the next five years?
Our goal is to expand precision medicine within eye care and beyond. We will continue to expand the capability of the AvaGen test, helping physicians make genetic testing an integral part of their examination and diagnosis strategy. Our therapy programs will be further developed or already in clinical trials, and we expect to have a genetic therapy approved and improving patients' lives within five years.



Charles Holmes

*Associate Vice President, Head of International Eyecare
Allergan*



How is Allergan addressing the biggest unmet needs in the field?

Being at the forefront of developing innovative treatments to meet the biggest unmet needs in ophthalmology is fundamental to Allergan. One of the most critical unmet needs in glaucoma is adherence to glaucoma medication; this is a constant challenge and it is recognized as an essential component to treatment (1). There is also a clear unfulfilled need for an objective measurement of patient adherence as well as improved delivery methods for drug therapies (1). Others include identification of biomarkers of retinal ganglion cell dysfunction as well as identification of novel targets for glaucoma treatments that lower IOP and preserve retinal ganglion cell function (1).

To answer some of these unmet needs our focus is on sustained delivery devices, which could be one way to address the problem of nonadherence in glaucoma by providing long-term IOP lowering without the need for drops. In retinal diseases there are a number

of challenges: intravitreal injections require frequent and indefinite evaluations, with a particularly high burden during the first two years of treatment; also, despite robust response and visual gains in many patients, up to 30 percent may continue to lose vision, and with long-term follow-up, more than half of patients may have vision worse than 20/40, which may limit their daily activities despite anti-VEGF treatment (2).

Allergan's approach in terms of meeting these unmet needs is to look to address patient burden as well as treatments that provide a sustained duration of action.

What is the most exciting project that Allergan is working on?

Other than bringing our pipeline products to market, Allergan has always had a reputation for delivering exceptional medical education. Through the Allergan Medical Institute (AMI) we look to provide education that goes "beyond the pill." We work with an eminent group of mentors who build our

curricula and agendas, meaning that all of our content is developed by doctors for doctors. We are currently focusing on innovative ways of learning through hands-on workshops with memorable and meaningful interactions tailored to the learner.

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1. Cursiefen C et al., *Ophthalmic Res*, 62, 123 (2019). PMID: 31382265.
2. MA Klufas, DJ D'Amico, *Retina Specialist* (2018). Available at: <https://bit.ly/38TvYp1>.





EDWIN STONE

PROFESSOR AND DIRECTOR OF THE MOLECULAR OPHTHALMOLOGY LABORATORY, UNIVERSITY OF IOWA CARVER COLLEGE OF MEDICINE, IOWA CITY, IA, USA

What nominators said of this vitreoretinal surgeon, who researches genes involved in AMD, glaucoma and heritable photoreceptor degeneration:

“The most important ophthalmologist in the field of inherited retinal disease.”

“A brilliant, inspirational champion of patients with IRDs!”

ERIC DONNENFELD

FOUNDING PARTNER OF OPHTHALMIC CONSULTANTS OF LONG ISLAND AND OPHTHALMIC CONSULTANTS OF CONNECTICUT; CLINICAL PROFESSOR OF OPHTHALMOLOGY AT NEW YORK UNIVERSITY MEDICAL CENTER; SURGICAL DIRECTOR OF THE LIONS EYE BANK OF LONG ISLAND, NY, USA

Quoting his Power List nomination:

“Donnenfeld has performed over 85,000 LASIK procedures and has won the Nordan Award. He has served as President of ASKERS and has been involved in countless FDA studies. What separates him the most is his ability to connect with the patient. He never forgets it is all about the patient.”

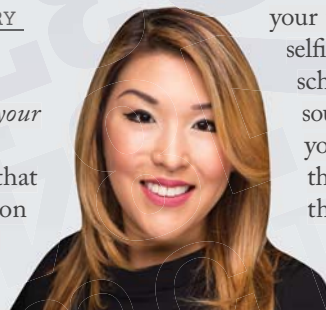


ELIZABETH YEU

ASSISTANT PROFESSOR OF OPHTHALMOLOGY AT EASTERN VIRGINIA MEDICAL SCHOOL, VA, USA, AND MEDICAL DIRECTOR AT VIRGINIA SURGERY CENTER, VA, USA

Piece of advice to your younger self?

Life is a journey that warrants appreciation of all the route



adjustments, stops and starts to different destinations. Don't treat your goals like a GPS system that defaults you to the “fastest route.”

Stop scheduling every minute of your time to others – it is not selfish to think this way. Please schedule time to refuel your soul, calm your mind and rest your body. It will improve the quality of what you can then devote to your family, patients and others.



EMILY Y. CHEW

DIRECTOR OF THE DIVISION OF EPIDEMIOLOGY AND CLINICAL APPLICATIONS, NATIONAL EYE INSTITUTE, NATIONAL INSTITUTES OF HEALTH, BETHESDA, USA

Here is a comment we received from a nominator:

“Clearly a major force in research of retinal diseases, including age-related macular degeneration. Brilliant investigator and clinician, outstanding administrator, clearly an exceptional leader in the field.”

FARHAD HAFEZI

PROFESSOR OF OPHTHALMOLOGY AT THE UNIVERSITY OF GENEVA, SWITZERLAND; ADJUNCT CLINICAL PROFESSOR OF OPHTHALMOLOGY AT THE USC ROSKI EYE INSTITUTE, LOS ANGELES, USA; AND VISITING PROFESSOR AT THE WENZHOU MEDICAL UNIVERSITY, WENZHOU, CHINA

Piece of advice for your younger self?

Don't worry about breaking conventions, and don't concern yourself too much with chasing titles and fame. Some of the best decisions I took in my life were completely the opposite of what was (at the time) conventional.





FLORIAN KRETZ

CEO OF PVK PRECISE VISION GMBH,
PRECISE VISION AUGENÄRZTE
ERLANGEN AND LEAD SURGEON AT
AUGENTAGESKLINIK RHEINE AND
GREVEN, GERMANY

Your three wishes?

Better support for medical services in developing countries; international synchronization of ophthalmology training; more acceptance for private research and better university cooperation.

GEOFFREY TABIN

FAIRWEATHER FOUNDATION
ENDOWED CHAIR; PROFESSOR
OF OPHTHALMOLOGY AND
GLOBAL MEDICINE AT STANFORD
UNIVERSITY; AND FOUNDING CO-
CHAIRMAN OF THE HIMALAYAN
CATARACT PROJECT

We don't have to introduce this humanitarian, our last year's Champion of Change. One of his nominators quoted Tabin's TEDx talk, saying: "He achieves the impossible!"



GEORGE L. SPAETH

ESPOSITO RESEARCH PROFESSOR AT
WILLS EYE HOSPITAL, PA, USA, AND
PROFESSOR OF OPHTHALMOLOGY
AT SIDNEY KIMMEL MEDICAL
SCHOOL, THOMAS JEFFERSON
UNIVERSITY, PA, USA

Piece of advice to your younger self?

Listen better, especially to my family, but also to everything alive – including myself. Really listen so I can become more inclusive, more courageous, more supportive of those who are good and honest and loving, and that which is good and honest and loving.



GERD U. AUFFARTH

PROFESSOR AND CHAIRMAN OF THE
DEPARTMENT OF OPHTHALMOLOGY,
UNIVERSITY OF HEIDELBERG; AND
DIRECTOR OF THE INTERNATIONAL
VISION CORRECTION RESEARCH
CENTRE, DAVID J APPLE
INTERNATIONAL LABORATORY FOR
OCULAR PATHOLOGY, GERMANY

What piece of advice would you give to your younger self?

Do everything as I did!



mst

Irrigating Goniectomy™

A new angle on glaucoma management.



TrabEx+™ and Trabectome®

Designed for a wide range of glaucoma conditions, with cataract surgery or as a standalone procedure.

Trabectome® and TrabEx™ platforms are indicated for management of pediatric or adult glaucoma such as open or narrow angle glaucoma, primary or secondary glaucoma, pseudoexfoliative or non-pseudoexfoliative glaucoma.

CPT code

65820: Goniotomy^[1]

mst

Glaucoma Cases,
Simplified™

1. Mattox C, Vicchirilli S. How to Code for Glaucoma Procedures in the Anterior Chamber Angle. EyeNet [Internet]. May 2018. Available from <https://www.aao.org/eyenet/article/how-to-code-for-glaucoma-procedures?may-2018>.

GERRIT MELLES

CORNEA SPECIALIST/ DIRECTOR, NIOS,
ROTTERDAM, THE NETHERLANDS

The most serendipitous moment of your career?
The most intriguing moments were, and still are, when you come to realize that something of which you were so convinced of being accurate, proves to be false - or at least different from what you have been told. As a consequence, a lot of things we are doing today with such good intentions, may be frowned upon tomorrow.

**GREGORY S. HAGEMAN**

JOHN A. MORAN PRESIDENTIAL
PROFESSOR OF OPHTHALMOLOGY
AND EXECUTIVE DIRECTOR OF THE
SHARON ECCLES STEELE CENTER
FOR TRANSLATIONAL MEDICINE,
UTAH, USA

Piece of advice you would give to your younger self?

To focus more intensely on the problems at hand and to collaborate with large, interdisciplinary and collaborative teams.

**GUS GAZZARD**

CONSULTANT OPHTHALMIC
SURGEON AND DIRECTOR OF
THE GLAUCOMA SERVICE,
MOORFIELDS EYE HOSPITAL;
UCL PROFESSOR OF
OPHTHALMOLOGY,
INSTITUTE OF OPHTHALMOLOGY
UCL AND NIHR BIOMEDICAL
RESEARCH CENTRE, UK

Your three wishes?

To be part of the team that proves the first non-IOP treatment for glaucoma; to see my children happily grown up; and to speak better Italian!

**HARMINDER DUA CBE**

CHAIR AND PROFESSOR OF
OPHTHALMOLOGY,
UNIVERSITY OF NOTTINGHAM
AND HEAD OF THE DIVISION
OF OPHTHALMOLOGY AND
VISUAL SCIENCES; HEAD OF
SERVICE, DEPARTMENT OF
OPHTHALMOLOGY, NOTTINGHAM
UNIVERSITY HOSPITALS NHS
TRUST, NOTTINGHAM, UK

As one of his nominators observed:

"Dua discovered a completely new layer of the cornea! An amazing clinician and researcher. I can't think of a more deserving ophthalmologist to be featured on the Power List."

**HARRY A. QUIGLEY**

A. EDWARD MAUMENEE PROFESSOR
OF OPHTHALMOLOGY, WILMER
INSTITUTE, JOHNS HOPKINS
UNIVERSITY SCHOOL
OF MEDICINE, BALTIMORE, MD, USA

If you had three wishes, what would they be?

Action on climate change, an effective US government, more money for medical research.

What was the funniest moment of your career?

Wilmer residents in a skit lampooning my research to the tune of the Hallelujah Chorus "Haaary Quigley."



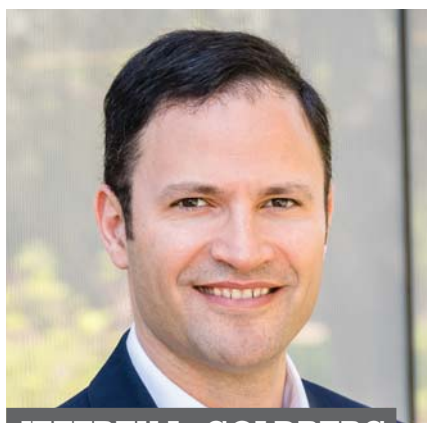


HUNTER CHERWEK

VICE PRESIDENT, CLINICAL SERVICES,
ORBIS INTERNATIONAL

Piece of advice for your younger self?

The expression, “Hindsight is always 20/20” resonates loudly as you age, mature, and grow. Gaining wisdom through this vision tunnel and reliving different moments in your life through remembrance offers all of us unique insights to “what could have been.”



JEFFEREY L. GOLDBERG

PROFESSOR AND CHAIR,
DEPARTMENT OF OPHTHALMOLOGY
AT THE BYERS EYE INSTITUTE AT
STANFORD UNIVERSITY, CA, USA

The most serendipitous moment of your career?

I am a big believer in serendipity, and both in taking advantage of the doors that open seemingly at random, and also in enjoying these moments. For my PhD I joined the lab of a brand-new assistant professor at Stanford, Ben Barres, who ended up being a leading developmental neurobiologist and a fantastic mentor, that was certainly something to be grateful for through the rest of my life!



IOANNIS PALLIKARIS

FOUNDER AND DIRECTOR OF THE
INSTITUTE OF VISION AND OPTICS,
UNIVERSITY OF CRETE, CRETE

Piece of advice you would give to your younger self?

Spend more time carefully listening to patients. Almost 90 percent of diagnosis can be achieved by analyzing the symptoms.

JIM MAZZO

GLOBAL PRESIDENT
OPHTHALMIC DEVICES, ZEISS

Here's a passionate justification from a nominator:

“I am delighted to nominate Jim Mazzo for the Power list. With Jim’s 39 years of dedication to the ophthalmic industry, he has proven to be a devoted leader in our space, driving innovations in multiple dimensions for the betterment of patients, surgeons, and all who work in eye care.

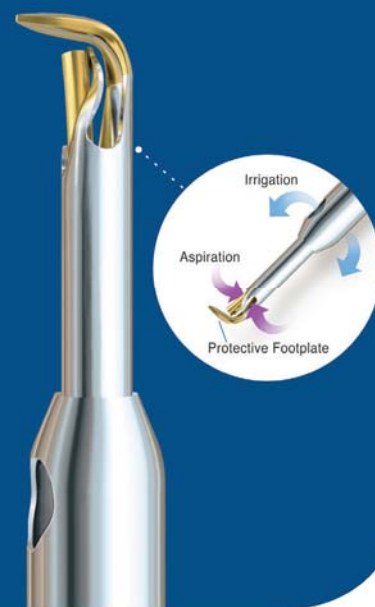
I started working with Jim when I was 22; he has seen me develop a career and a family, and his guidance has greatly impacted my personal dedication to driving positive change for the ophthalmic industry. My story is like thousands of others; for a true leader should impact much wider than themselves – but inspire generations to continue championing our industry.”



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Trabectome®

Designed for complete electrosurgical ablation of diseased trabecular meshwork.

Can be expected to lower IOP by approximately 36 percent to a final average IOP around 16 mm Hg, while decreasing the number of medications by less than one.^[1]

Features irrigation and aspiration for maximum visibility.

CPT code
65820: Goniotomy^[2]

MST Glaucoma Cases,
Simplified™

1. Kaplowitz K, Bussell II, Honkanen R, et al. Review and meta-analysis of ab-interno trabectomy outcomes. *Br J Ophthalmol*, 100, 594 (2016). PMID: 26733487.
2. Mattox C, Vicchirilli S. How to Code for Glaucoma Procedures in the Anterior Chamber Angle. *EyeNet* [Internet]. May 2018. Available from <https://www.aao.org/eyenet/article/how-to-code-for-glaucoma-procedures?may-2018>.

JOEL SCHUMAN

CHAIR, DEPARTMENT OF
OPHTHALMOLOGY, NYU LANGONE
MEDICAL CENTER, NEW YORK,
NY, USA

Schuman was nominated for:

"Many past and ongoing contributions to ophthalmology, including co-invention of OCT and explosive growth of UPMC/University of Pittsburgh and NYU Langone Health Ophthalmology programs while he was at their helms."

**JORGE L. ALIO**

PROFESSOR AND CHAIRMAN
OF OPHTHALMOLOGY,
FOUNDER VISSUM-INSTITUTO
OFTALMOLOGICO
DE ALICANTE, SPAIN

The most important moment of your career?

When a close friend of mine, George Waring III, invited me to dine at his home. He prepared a huge party in my honor with all my best friends who were attending the American Academy of Ophthalmology in Atlanta. I shall never forget that moment, as he even sent me a limousine to take me to his home in celebration of me winning the Barraquer award.

**JOHN BERDAHL**

PARTNER AT VANCE THOMPSON
VISION, CEO OF EQUINOX AND
FOUNDER OF EXPEROPINION.MD, USA

The most serendipitous moment of your career?

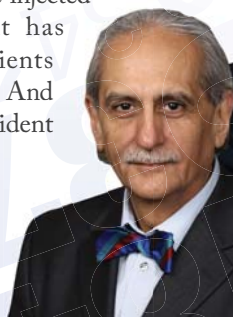
The most powerful moment was when I transplanted my father-in-law's cornea. He will live on forever in that gift. That, and the TED talk my dad and I gave.

JOSE S. PULIDO

LARRY DONOSO ENDOWED CHAIR OF
TRANSLATIONAL OPHTHALMOLOGY
AT WILLS EYE HOSPITAL,
PHILADELPHIA, PA; AND PROFESSOR
EMERITUS AT THE MAYO CLINIC, USA

Most serendipitous moment of your career?

When I was a first year ophthalmology resident, I was distraught that patients with AIDS were dying, but first going blind from CMV retinitis. I had an idea that a new drug (ganciclovir), if injected into the eye, might be able to help them. My chairman Morton Goldberg approved the study and Gholm Peyman helped me to design it. I needed someone to do ERGs and an optometry resident volunteered to help me with that. We showed that ganciclovir could be injected in the eye and it has helped many patients with CMV retinitis. And the optometric resident became my wife!

**JOHN MARSHALL**

DEPUTY DIRECTOR ENTERPRISE,
FROST PROFESSOR OF
OPHTHALMOLOGY AT THE
INSTITUTE OF OPHTHALMOLOGY,
UNIVERSITY COLLEGE LONDON, UK

The funniest moment of your career?

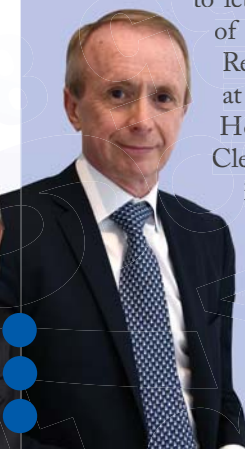
Too numerous to mention as an accident-prone individual. Examples: being electrocuted by a faulty lectern, a giant projection screen falling on my head, falling off the stage, trousers ripping at a crucial moment, zip failures on numerous occasions...

**KEITH BARTON**

CONSULTANT OPHTHALMOLOGIST,
MOORFIELDS EYE HOSPITAL;
HONORARY READER, UCL
INSTITUTE OF OPHTHALMOLOGY,
LONDON, UK; AND EDITOR-IN-
CHIEF, BRITISH JOURNAL OF
OPHTHALMOLOGY

The most serendipitous moment of your career?

When Vivian Balakrishnan, now Singapore's minister for foreign affairs, very generously stood aside to let me take the role of Specialist Senior Registrar in Glaucoma at Moorfields Eye Hospital in 1994. Clearly that did not impede his career!



JULIA HALLER

OPHTHALMOLOGIST-IN-CHIEF,
WILLS EYE HOSPITAL; WILLIAM
TASMAN ENDOWED CHAIR,
PROFESSOR AND CHAIR OF
OPHTHALMOLOGY, THOMAS
JEFFERSON UNIVERSITY,
PHILADELPHIA, PA, USA

The most unpredictable moment in your career?

The most unexpected turn my career took also turned out to be the most serendipitous! I was just out of the operating room after 27 years at Johns Hopkins and Wilmer, when I took a call from the executive recruiter hired by Wills Eye Hospital. That led to my sending in my CV, getting called up to Philadelphia for several rounds of interviews and then – the chance of a



lifetime – ending up as Ophthalmologist-in-Chief at Wills! To paraphrase the great Francis Moore, famous surgeon-scientist at the Brigham in Boston, it has been a miracle and a privilege to serve this remarkable and historic hospital, its faculty and its patients.

KEITH MARTIN

DIRECTOR, CENTRE FOR EYE
RESEARCH AUSTRALIA; RINGLAND
ANDERSON PROFESSOR AND HEAD OF
OPHTHALMOLOGY, UNIVERSITY OF
MELBOURNE; HONORARY PROFESSOR
OF OPHTHALMOLOGY, UNIVERSITY
OF SYDNEY, AUSTRALIA; HONORARY
SENIOR RESEARCH FELLOW,
UNIVERSITY OF CAMBRIDGE, UK



Piece of advice for your younger self?

I'm not sure my younger self would have listened, but I'd say don't expect to get to where you want to go by driving in a straight line. I am a sailor, and I now realize a career as a clinician scientist in ophthalmology is a bit like sailing; you

know roughly where you want to go, but you have to make best use of a changing environment, variable wind direction and a crew with complimentary abilities to get to your destination. And weather the occasional storm!

KULDEV SINGH

PROFESSOR OF OPHTHALMOLOGY,
STANFORD UNIVERSITY SCHOOL OF
MEDICINE, CA, USA

Your three wishes?

Global: Climate change is addressed before it is too late for future generations.

Local: Less divisiveness amongst people and the recognition that we are more similar than different.

Personal: to stay healthy and spend more time with family and friends.



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A new angle on glaucoma management.



TrabEx+™

Built on the clinically proven Trabectome platform with over 132 peer reviewed studies.^[1]

Laser-honed serrated blades that promote tissue cutting.

Trapezoidal blade head customizes the excision to patient anatomies and promotes optimal trabecular meshwork width removal.

Features irrigation and aspiration for maximum visibility.

CPT code
65820: Goniotomy^[2]

M&T

Glaucoma Cases,
Simplified™

1. Data on file.
2. Mattox C, Vicchirilli S. How to Code for Glaucoma Procedures in the Anterior Chamber Angle. EyeNet [Internet]. May 2018. Available from <https://www.aao.org/eyenet/article/how-to-code-for-glaucoma-procedures?may-2018>.



LILIANA WERNER

PROFESSOR OF OPTHALMOLOGY AND VISUAL SCIENCES, AND CO-DIRECTOR, INTERMOUNTAIN OCULAR RESEARCH CENTER, JOHN A. MORAN EYE CENTER, UNIVERSITY OF UTAH, UT, USA

Your three wishes?

To have unlimited resources to perform research on all unanswered questions regarding IOL implantation. To then develop an IOL that, besides exhibiting features such as excellent biocompatibility, clarity, and optical quality, would also allow for insertion through very small incisions, non-invasive multiple and reversible power adjustments, and accommodation. And to then make this IOL available to ALL.

MAIVINA B. EYDELMAN

DIRECTOR AT THE OFFICE OF HEALTH TECHNOLOGY, OPTHALMIC, ANESTHESIA, RESPIRATORY, ENT, & DENTAL DEVICES, OFFICE OF PRODUCT EVALUATION AND QUALITY, FOOD AND DRUG ADMINISTRATION, MD, USA

The most unexpected turn your career took?

After graduating from Harvard Medical School as an ophthalmologist, I was looking forward to a fulfilling career in direct patient care. While deciding



LLOYD PAUL AIELLO

PROFESSOR OF OPTHALMOLOGY, SECTION HEAD OF EYE RESEARCH, AND VICE CHAIR, CENTERS OF EXCELLENCE, DEPARTMENT OF OPTHALMOLOGY, HARVARD MEDICAL SCHOOL; VICE PRESIDENT OF OPTHALMOLOGY AND DIRECTOR, BEETHAM EYE INSTITUTE, JOSLIN DIABETES CENTER, BOSTON, MA, USA

The most unexpected turn your career took?

Originally I was sure that I would make a career in emergency medicine, wilderness medicine, or marine wildlife photography. However, eventually I became the third-generation ophthalmologist in my family and now my wilderness and marine photography is a passion constrained to my free time.



between a number of lucrative offers in private practice and academia, I flipped to the advertisements page in ophthalmology and saw an ad for an ophthalmic medical officer at the FDA's Center for Devices and Radiological Health. Having an undergraduate degree in Engineering, a graduate degree in Health Science and Technology from MIT, and a patent for an ophthalmic device, I thought it would be very interesting to talk to FDA staff. I was overwhelmed by the scope of the work and the potential impact I could have by working at the FDA. I was thrilled when the offer came, I accepted it and in the nearly 25 years since, being at the FDA continues to be more satisfying – and impactful – than I had ever imagined.



LYNDON DA CRUZ

CONSULTANT RETINAL SURGEON, MOORFIELDS EYE HOSPITAL; PROFESSOR OF STEM CELL AND RETINAL TRANSPLANTATION SURGERY, UNIVERSITY COLLEGE LONDON, UK

The most serendipitous moment of your career?

When I didn't get a job I applied for in London and ended up getting a job in Oxford. This led to more time with my future wife that meant I ended up with a lifelong job in London – it came full circle in the end!

NEIL BRESSLER

EDITOR IN CHIEF, JAMA OPTHALMOLOGY; PROFESSOR OF OPTHALMOLOGY, JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, MD, USA



Piece of advice for your younger self?

I would advise my younger self to recognize that seemingly impossible treatments can become realities, so never give up on pursuing new treatments for any disease. During my career, I have seen people with the neovascular form of macular degeneration invariably lose central vision in the 1980s, but in the 21st century, many of these patients have received anti-VEGF treatment and can now continue to read, drive, work and socialize in ways that never were imagined 35 years ago.





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AcrySof® IQ PanOptix®
TRIFOCAL IOL
TRIFOCAL TORIC IOL

ENLIGHTEN® OPTICAL TECHNOLOGY

AcrySof® IQ PanOptix® Family of Trifocal IOLs Important Product Information

CAUTION: Federal (USA) law restricts this device to the sale by or on the order of a physician. **INDICATIONS:** The AcrySof® IQ PanOptix® Trifocal IOLs include AcrySof® IQ PanOptix® and AcrySof® IQ PanOptix® Toric IOLs and are indicated for primary implantation in the capsular bag in the posterior chamber of the eye for the visual correction of aphakia in adult patients, with less than 1 diopter of pre-existing corneal astigmatism, in whom a cataractous lens has been removed. The lens mitigates the effects of presbyopia by providing improved intermediate and near visual acuity, while maintaining comparable distance visual acuity with a reduced need for eyeglasses, compared to a monofocal IOL. In addition, the AcrySof® IQ PanOptix® Toric Trifocal IOL is indicated for the reduction of residual refractive astigmatism. **WARNINGS/PRECAUTIONS:** Careful preoperative evaluation and sound clinical judgment should be used by the surgeon to decide the risk/benefit ratio before implanting a lens in a patient with any of the conditions described in the Directions for Use labeling. Physicians should target emmetropia and ensure that IOL centration is achieved. For the AcrySof® IQ PanOptix® Toric Trifocal IOL, the lens should not be implanted if the posterior capsule is ruptured, if the zonules are damaged or if a primary posterior capsulotomy is planned. Rotation can reduce astigmatic correction. If necessary, lens repositioning should occur as early as possible prior to lens encapsulation. Some visual effects may be expected due to the superposition of focused and unfocused multiple images. These may include some perceptions of halos or starbursts, as well as other visual symptoms. As with other multifocal IOLs, there is a possibility that visual symptoms may be significant enough that the patient will request explant of the multifocal IOL. A reduction in contrast sensitivity as compared to a monofocal IOL may be experienced by some patients and may be more prevalent in low lighting conditions. Therefore, patients implanted with multifocal IOLs should exercise caution when driving at night or in poor visibility conditions. Patients should be advised that unexpected outcomes could lead to continued spectacle dependence or the need for secondary surgical intervention (e.g., intraocular lens replacement or repositioning). As with other multifocal IOLs, patients may need glasses when reading small print or looking at small objects. Posterior capsule opacification (PCO) may significantly affect the vision of patients with multifocal IOLs sooner in its progression than patients with monofocal IOLs. Prior to surgery, physicians should provide prospective patients with a copy of the Patient Information Brochure, available from Alcon, informing them of possible risks and benefits associated with the AcrySof® IQ PanOptix® Trifocal IOLs. **ATTENTION:** Reference the Directions for Use labeling for each IOL for a complete listing of indications, warnings and precautions.



NICK MAMALIS

PROFESSOR OF OPHTHALMOLOGY,
DIRECTOR OF OPHTHALMIC
PATHOLOGY, AND CO-DIRECTOR,
INTERMOUNTAIN OCULAR
RESEARCH CENTER, JOHN MORAN
EYE CENTER, UNIVERSITY OF
UTAH, UT, USA

Piece of advice for your younger self?

Persevere, keep working hard and everything will work out.

The most unexpected turn your career took?

Becoming the editor of the Journal of Cataract and Refractive Surgery.



PABLO ARTAL

FOUNDER AND DIRECTOR OF
LABORATORIO DE OPTICA,
UNIVERSITY OF MURCIA, SPAIN

The most serendipitous moment of your career?

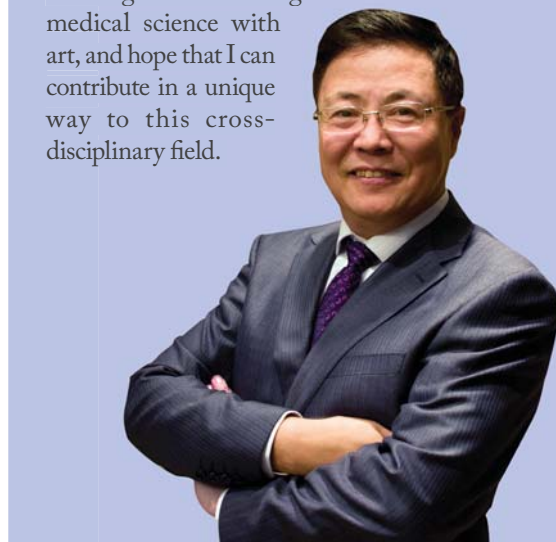
I believe I have many of those. I am a physicist by training and doing my PhD work in the optics of the eye was not planned at all. It happened by mere chance and completely changed my entire career, becoming a visual optics scientist.

NINGLI WANG

DIRECTOR OF BEIJING TONGREN
EYE CENTER, CHINA

The most unexpected turn your career took?

When I was young, I loved painting and had the dream of becoming an artist. Unexpectedly, my application to study art at university was not successful, and I became a medical student instead. Though I won't be able to depict the beauty of the world as an artist, I am truly blessed that I am able to help patients see the beauty of the world themselves. In addition, I am currently working on combining medical science with art, and hope that I can contribute in a unique way to this cross-disciplinary field.



OLIVER FINDL

CHIEF OF THE DEPARTMENT OF
OPHTHALMOLOGY AT HANUSCH
HOSPITAL IN VIENNA, AUSTRIA

Piece of advice for your younger self?

See more of the world while you're young.

The most unexpected turn your career took?

Moving abroad – a novel experience!





PEARSE A. KEANE

CONSULTANT OPHTHALMOLOGIST, MOORFIELDS EYE HOSPITAL; ASSOCIATE PROFESSOR, UCL INSTITUTE OF OPHTHALMOLOGY, LONDON, UK

Your three wishes?

My first wish would be to lead a project that starts with an idea, moves to a research paper, and then ultimately leads to something that benefits patients with retinal disease around the world. My second wish would be to spend the rest of my career working on cool projects with cool people, especially at the boundaries between disciplines, and between academia and industry. My third wish would be to achieve all this while getting to spend quality time with my wonderful wife and two amazing daughters!

PREEYA K. GUPTA

CLINICAL MEDICAL DIRECTOR AND ASSOCIATE PROFESSOR OF OPHTHALMOLOGY, CORNEA & REFRACTIVE SURGERY, DUKE UNIVERSITY EYE CENTER, NC, USA

Your three wishes?

1. To always live in the moment
2. To find a cure for chronic dry eye disease
3. To save our environment so future generations can enjoy what we have today.



PETER KAISER

CHANEY FAMILY ENDOWED CHAIR IN OPHTHALMOLOGY RESEARCH AND PROFESSOR OF OPHTHALMOLOGY, COLE EYE INSTITUTE, CLEVELAND CLINIC LERNER COLLEGE OF MEDICINE, CLEVELAND, OH, USA

Here is a comment from one of our readers:
"Kaiser is a world expert in retinal diseases. He is involved in almost all the clinical trials currently ongoing. He lectures throughout the world and is dedicated to teaching. He has RO1 NIH funding, runs one of the largest OCT reading centers in the world, and with all that, he is clinically outstanding."



ROBERT H. OSHER

PROFESSOR OF OPHTHALMOLOGY, UNIVERSITY OF CINCINNATI COLLEGE OF MEDICINE; MEDICAL DIRECTOR EMERITUS, CINCINNATI EYE INSTITUTE; FOUNDER AND EDITOR, VIDEO JOURNAL OF CATARACT, REFRACTIVE & GLAUCOMA SURGERY; FOUNDER & PROGRAM DIRECTOR, CATARACT SURGERY: TELLING IT LIKE IT IS! ANNUAL MEETING

Piece of advice for your younger self?

Be honest with yourself and your patients. Learn from your mistakes, which we all make. Be passionate about your work and never become lax in your quest to become the best physician you can be.



PHILIP J. ROSENFELD

PROFESSOR OF OPHTHALMOLOGY, BASCOM PALMER EYE INSTITUTE, UNIVERSITY OF MIAMI MILLER SCHOOL OF MEDICINE, FL, USA

Piece of advice for your younger self?

Trust your ideas, trust your judgement, and seek out people who know what you don't know.



RANDALL J. OLSON

PROFESSOR, CHAIR AND CEO, JOHN MORAN EYE CENTER, UNIVERSITY OF UTAH SCHOOL OF MEDICINE, UT, USA



Piece of advice for your younger self?

What goes around comes around. In other words, do not expect to succeed by burning bridges and treating people poorly.

REZA DANA

CLAES H. DOHLMAN PROFESSOR OF OPHTHALMOLOGY, SENIOR SCIENTIST AND W. CLEMENT STONE CLINICAL RESEARCH SCHOLAR AT MASSACHUSETTS EYE AND EAR, HARVARD MEDICAL SCHOOL, AND DIRECTOR OF THE HARVARD-VISION CLINICAL SCIENTIST DEVELOPMENT PROGRAM, BOSTON, MA, USA

One of the Power List front-runners with the most individual votes from our readers. Here are some of the justifications we received:

"Dana is an incredible physician and research scientist. I am surprised that The Ophthalmologist hasn't included him in the Power List till now! C'mon!"

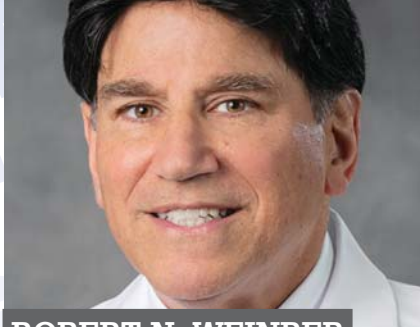




RICHARD L. LINDSTROM

FOUNDER AND ATTENDING SURGEON OF MINNESOTA EYE CONSULTANTS; ADJUNCT CLINICAL PROFESSOR EMERITUS AT THE UNIVERSITY OF MINNESOTA DEPARTMENT OF OPHTHALMOLOGY, MINNEAPOLIS, MN, USA

Quite possibly the most frequently mentioned as mentor among our American interviewees, Lindstrom has trained dozens of fellows in his career. An internationally recognized leader in corneal, cataract, refractive, glaucoma and laser surgery, he has been at the forefront of ophthalmology's evolutionary changes throughout his career, as a recognized researcher, teacher, inventor, writer, lecturer and highly acclaimed physician and surgeon.



ROBERT N. WEINREB

DIRECTOR OF THE SHILEY EYE INSTITUTE; DISTINGUISHED PROFESSOR AND CHAIR OF OPHTHALMOLOGY, PROFESSOR OF BIOENGINEERING AND DIRECTOR OF THE HAMILTON GLAUCOMA CENTER; HOLDER OF THE MORRIS GLEICH MD CHAIR IN GLAUCOMA, UNIVERSITY OF CALIFORNIA, CA, USA

Piece of advice for your younger self?

You should never stop learning and growing. However, you can only control to some extent what you do through study, practice, and preparation. You also should learn from networks of colleagues and collaborators who can serve as a collective conscious to test, catalyze, and improve new ideas. Success is not about only you, but about all of you.



ROBERTO ZALDIVAR

FOUNDER, INSTITUTO ZALDIVAR, MENDOZA, ARGENTINA

In his nominator's words:

"An inventor, who has designed dozens of instruments for ocular surgery, and first started using the excimer laser in South America. He is extremely well known in Latin America and worldwide."



SEAN IANCHULEV

PROFESSOR OF OPHTHALMOLOGY, NEW YORK EYE AND EAR INFIRMARY OF MOUNT SINAI, NEW YORK, USA; PRESIDENT AND CEO, EYENOVIA, INC.

The funniest moment of your career?

Immigrating to the US with just \$250 in my pocket and immediately losing half of it to an imposter skycap at JFK airport.

SANDUK RUIT

FOUNDER AND EXECUTIVE DIRECTOR OF THE TILGANGA INSTITUTE OF OPHTHALMOLOGY, NEPAL, AND FOUNDING CO-CHAIRMAN OF THE HIMALAYAN CATARACT PROJECT

Champion of Change in the 2019 Power List, the Barefoot Surgeon is extremely popular with our readers, who have pointed out that "he has dedicated his life to bringing back the sight of the most underserved, underprivileged people in the world."



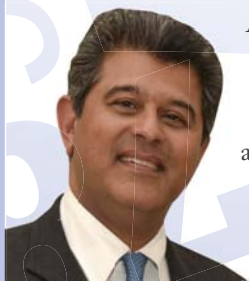
SHERAZ DAYA

MEDICAL DIRECTOR, CENTRE FOR SIGHT, UK

The most unexpected turn your career took?

While I was in a practice in New York, my brother – an ENT trainee – saw a misplaced advertisement in the BMJ at the top of the Plastic Surgery section for a Corneoplastic Consultant at the Queen Victoria Hospital in East Grinstead. Knowing I had trained in cornea, it piqued his interest and he made a call to the region requesting further information, which he faxed to me in New York. Reading through all 9 pages, I could not have designed a more appropriate fit in terms of my training and interest at the time (high risk keratoplasty and ocular surface reconstruction).

Although I had not really been interested in coming to the UK, I applied for the job and the rest is history.



RUSSELL N. VAN GELDER

BOYD K BUCEY MEMORIAL CHAIR, PROFESSOR AND CHAIR, DEPARTMENT OF OPHTHALMOLOGY, UNIVERSITY OF WASHINGTON SCHOOL OF MEDICINE, WA, USA

The most serendipitous moment of your career?

My career in medicine started at a Friendly's restaurant in New Jersey in 1981, when I was applying for a job as a busboy!



**SHIGERU KINOSHITA**

PROFESSOR AND CHAIR OF FRONTIER MEDICAL SCIENCE AND TECHNOLOGY FOR OPHTHALMOLOGY, AT KYOTO PREFECTURAL UNIVERSITY OF MEDICINE, KYOTO, JAPAN

What a nominator said about him:
 “A big name in Asian ophthalmology and worldwide. Great achievements in researching corneal epithelium and transplanting cultivated mucosal epithelial stem cells, as well as cultivated corneal endothelium.”

**STEVE CHARLES**

CEO AND FOUNDER, CHARLES RETINA INSTITUTE, TN, USA

Piece of advice for your younger self?
 Study cell biology, not just electrical, mechanical, and optical engineering.
The funniest moment of your career?
 Operating in China with my shirt cut off my back because it was so hot in the OR.

**WARREN HILL**

DIRECTOR, EAST VALLEY OPHTHALMOLOGY, MESA, AZ, USA

Another household name among the Power List front-runners, as one nominator noted:
 “Hill is extremely well known worldwide for intraocular lens power calculations.”

**SOBHA SIVAPRASAD**

CONSULTANT, MOORFIELDS EYE HOSPITAL AND PROFESSOR, INSTITUTE OF OPHTHALMOLOGY, UCL, LONDON, UK

The most unexpected moment of your career?
 Receiving an invitation to the Queen's Garden Party.

TERRY KIM

PRESIDENT OF THE AMERICAN SOCIETY OF CATARACT AND REFRACTIVE SURGERY (ASCRS); PROFESSOR OF OPHTHALMOLOGY, DUKE UNIVERSITY SCHOOL OF MEDICINE; CHIEF OF THE CORNEA AND EXTERNAL DISEASE DIVISION AND DIRECTOR OF THE REFRACTIVE SURGERY SERVICE, DUKE UNIVERSITY EYE CENTER, NC, USA

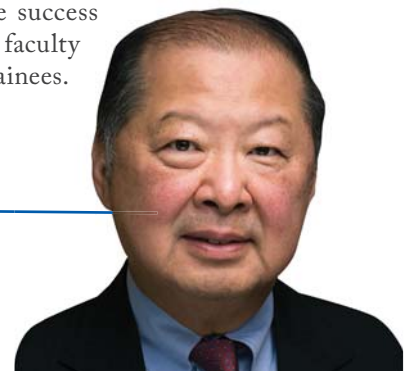
The most unexpected turn your career took?
 At the 2009 AAO meeting, Tony Aldave told me how he had just taken some DJ lessons. We pitched the idea of combining our talents for our inaugural DJ party at the 2010 ASCRS meeting – it was a huge hit and has continued to grow over the past decade. The event takes place at both the ASCRS and AAO meetings where we (aka DJ Special K and DJ AJA) spin at major clubs to a crowd of over 2,000 attendees. I certainly didn't anticipate becoming a doctor/DJ, but I do have to admit it has brought a lot of unexpected fun to my career!

**STANLEY CHANG**

KK TSE AND KT YING PROFESSOR OF OPHTHALMOLOGY, COLUMBIA UNIVERSITY IRVING MEDICAL CENTER, NY, USA

The most unexpected turn your career took?

I was fortunate to lead the Ophthalmology Department at Columbia from 1995- 2012. I became responsible for the success of our faculty and trainees.

**THEO SEILER**

FOUNDER OF THE INSTITUTE OF REFRACTIVE AND OPHTHALMIC SURGERY (IROC), ZÜRICH, SWITZERLAND

Seiler received numerous nominations, which point out the achievements cited by this reader:

“Seiler is a pioneer in refractive laser vision correction. PTK, customized laser ablations and cross-linking are among his most relevant contributions.”



A woman with dark, curly hair and sunglasses perched on her head is looking through the eyepiece of a white and black microscope. She is wearing a black top and a blue earring. The background is a warm orange wall with decorative vertical patterns. Another person wearing a black top with a white swan pattern is partially visible behind her.

Letting the Light In

Sitting Down With... Lucy Mathen,
BBC journalist-turned-ophthalmologist –
and founder of the charity Second Sight

What first drew you to journalism?

It was a tiny advert in The Guardian newspaper for a “trainee journalist for Surrey and South London Newspapers,” implying that ownership of a car might be useful for news-gathering in a rural area. I didn’t actually have a car, but the idea of gadding about the countryside chasing down stories was immediately appealing.

Why did you decide to make the switch to medicine after 16 years as a journalist?

In some ways, I think I was born to be a journalist – I have an insatiable curiosity about everyone and everything. And the written word is very important to me. Television reporting came my way rather than my seeking it, and I discovered that I had a good eye for pictures that tell the tale.

I became the BBC’s first female Asian reporter in 1976 when I joined John Craven’s Newsround, but during a TV assignment in Afghanistan in 1988, I had a Damascene moment. I was interviewing a doctor who complained about the paucity of medicines hampering his ability to carry out vital work, when I realized that our documentary would do nothing to help his situation. I decided then and there that I would retrain to become a doctor – so I could try at least to make a real difference.

Why did you choose ophthalmology in particular?

This time, it was a “light bulb” moment in the literal sense – when I looked down an ophthalmoscope as a medical student and marveled at being able to see the optic disc in magnified splendor. Ophthalmology also seemed to create relatively happy doctors, and there is a nice mix of medicine and surgery.

Could you tell us about the work of Second Sight and the principles it was founded on?

In the year 2000, when the global campaign called “Vision 2020: The Right to Sight” was launched, “eradication of blindness” programs were given a high profile. And yet, existing sight charities working in India demonstrated a complete blind spot when it came to the root cause of the problem – the shortage of eye surgeons in the areas of greatest need. I traveled the breadth of rural north India and found eye hospital after eye hospital built and equipped by wealthy sight charities, but unable to function effectively because of the lack of doctors.

“A good journalist doesn’t write a report without field work and investigation; a good doctor wanting to get involved in humanitarian/aid work should follow exactly the same principle.”

We believed that a clinician-led sight charity – with a clinician-led modus operandi – was needed. And when we were invited to Bihar, the poorest and blindest state in India, we opted to concentrate on this area alone. Why? Because this was a big enough agenda and because it would allow us to build up detailed, hands-on knowledge both about frontline clinical work and

the geography, people and culture of each region. A good journalist doesn’t write a report without field work and investigation; a good doctor wanting to get involved in humanitarian/aid work should follow exactly the same principle.

We began by providing the “missing” surgeons at hospitals with good infrastructure and in areas where cataract blindness was endemic. We also trained doctors on site – with the equipment and among the patients the teams would be dealing with every day.

Where is Second Sight now?

With 19 years behind us, over 450,000 people have had their sight restored, and countless others prevented from going blind. All the surgery is now done by eye surgeons from Bihar itself, many of them returning to – or deciding to remain – in the areas in which they grew up.

Our partners are small- to medium-sized hospitals in every quadrant of Bihar. Together, we are drastically reducing the numbers of blind people and helping each hospital to become financially self-sufficient by March 31, 2021. Our clinical links will continue as long as clinicians in both countries find them of mutual benefit – and as long as patients benefit, too.

Could you tell us about your FAME project?

FAME stands for food, vitamin A, measles vaccination and education (on eye care and general health). Every day since February 2017, as part of this project, 300 malnourished children in Basman village have received a protein-rich meal that includes a sufficient level of vitamin A. Unfortunately, most ophthalmologists in India work in the big cities where they do not see these at-risk children. So they tend to deny that this needless cause of childhood blindness still exists. Every arm of our FAME protocol is essential if you truly want to eradicate vitamin A

deficiency and the blindness it can cause in small children.

But the FAME project tackles just one of the many systemic challenges we have taken on in the state of Bihar. Blindness, poverty and gender inequality all walk hand-in-hand; set out to tackle one properly and you may tackle them all.

How has the field of ophthalmology changed during the course of your career? I answer this from an unusual perspective. I now run Second Sight full-time, so most of my ophthalmic experience is among patients and hospitals carrying out frontline medicine in the most deprived areas of India.

In comparison to ophthalmologists in developed countries, those working in the rural and small towns of India want to be able to provide truly comprehensive eye care – they are often the first and last point of contact for a villager with eye problems. Our approach to eradicating preventable blindness in these areas – to train ophthalmologists on site and as widely as we can – has brought great rewards for all. And that's also true for ophthalmic assistants – very young men and women who can screen for cataract-blind patients in the villages, refract, counsel patients, act as scrub nurses, and even give superb anesthetic blocks.

Meanwhile, back in the UK, I know that my former colleagues (many of whom also volunteer for Second Sight) are in a field in which super-specialism is the name of the game; narrowing down one's field of ophthalmic work has been happening for years. A stark contrast to my experience working in Bihar.

What are you most proud of?

Retaining my sense of humor – something I see as essential in our current world.

What inspired you to write your books?

During the first year of Second Sight, I was given a book written by the





journalist Graham Hancock. *Lords of Poverty* was a damning critique of big and wasteful projects carried out in the name of “Development,” which provided “jobs for the boys” and created a culture of dependency in poor countries. Hancock knew that, for the reign of the *Lords of Poverty* to end, we needed alternatives. He yearned for “local-level initiatives, relevant and realistic strategies, and the energy and enterprise of the poor to be allowed to flourish” – which could just as well be a summary of the Second Sight story in Bihar. I felt it was imperative to record this.

What advice would you give to those just setting out in their careers?

To pinch a quotation from my good friend and fellow ophthalmologist John Sandford Smith: “Do what you feel is important to do, and the career will take care of itself.” I have followed this principle with all of my careers and throughout my life, and I suggest others do the same.

Mathen's book, Outgrowing the Big, can be purchased from her website (www.secondsight.org.uk). Each book pays for pre-operative examination and treatment, cataract surgery, post-operative treatment, follow-up care, food, accommodation and transport to and from hospital for one blind patient.

Dextenza®

(dexamethasone ophthalmic insert) 0.4 mg
for intracanalicular use

BRIEF SUMMARY: Please see the DEXTENZA Package Insert for full prescribing information for DEXTENZA (06/2019)

1 INDICATIONS AND USAGE

DEXTENZA® (dexamethasone ophthalmic insert) is a corticosteroid indicated for the treatment of ocular inflammation and pain following ophthalmic surgery.

4 CONTRAINDICATIONS

DEXTENZA is contraindicated in patients with active corneal, conjunctival or canalicular infections, including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, varicella; mycobacterial infections; fungal diseases of the eye, and dacryocystitis.

5 WARNINGS AND PRECAUTIONS

5.1 Intraocular Pressure Increase

Prolonged use of corticosteroids may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision. Steroids should be used with caution in the presence of glaucoma. Intraocular pressure should be monitored during the course of the treatment.

5.2 Bacterial Infection

Corticosteroids may suppress the host response and thus increase the hazard for secondary ocular infections. In acute purulent conditions, steroids may mask infection and enhance existing infection [see Contraindications (4)].

5.3 Viral Infections

Use of ocular steroids may prolong the course and may exacerbate the severity of many viral infections of the eye (including herpes simplex) [see Contraindications (4)].

5.4 Fungal Infections

Fungus invasion must be considered in any persistent corneal ulceration where a steroid has been used or is in use. Fungal culture should be taken when appropriate [see Contraindications (4)].

5.5 Delayed Healing

The use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation.

6 ADVERSE REACTIONS

The following serious adverse reactions are described elsewhere in the labeling:

- Intraocular Pressure Increase [see Warnings and Precautions (5.1)]
- Bacterial Infection [see Warnings and Precautions (5.2)]
- Viral Infection [see Warnings and Precautions (5.3)]
- Fungal Infection [see Warnings and Precautions (5.4)]
- Delayed Healing [see Warnings and Precautions (5.5)]

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice. Adverse reactions associated with ophthalmic steroids include elevated intraocular pressure, which may be associated with optic nerve damage, visual acuity and field defects, posterior subcapsular cataract formation; delayed wound healing; secondary ocular infection from pathogens including herpes simplex, and perforation of the globe where there is thinning of the cornea or sclera [see Warnings and Precautions (5)].

DEXTENZA was studied in four randomized, vehicle-controlled studies (n = 567). The mean age of the population was 68 years (range 35 to 87 years), 59% were female, and 83% were white. Forty-seven percent had brown iris color and 30% had blue iris color. The most common ocular adverse reactions that occurred in patients treated with DEXTENZA were: anterior chamber inflammation including iritis and iridocyclitis (10%); intraocular pressure increased (6%); visual acuity reduced (2%); cystoid macular edema (1%); corneal edema (1%); eye pain (1%) and conjunctival hyperemia (1%).

The most common non-ocular adverse reaction that occurred in patients treated with DEXTENZA was headache (1%).

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are no adequate or well-controlled studies with DEXTENZA in pregnant women to inform a drug-associated risk for major birth defects and miscarriage. In animal reproduction studies, administration of topical ocular dexamethasone to pregnant mice and rabbits during organogenesis produced embryofetal lethality, cleft palate and multiple visceral malformations [see Animal Data].

Data

Animal Data

Topical ocular administration of 0.15% dexamethasone (0.75 mg/kg/day) on gestational days 10 to 13 produced embryofetal lethality and a high incidence of cleft palate in a mouse study. A daily dose of 0.75 mg/kg/day in the mouse is approximately 5 times the entire dose of dexamethasone in the DEXTENZA product, on a mg/m² basis. In a rabbit study, topical ocular administration of 0.1% dexamethasone throughout organogenesis (0.36 mg/day, on gestational day 6 followed by 0.24 mg/day on gestational days 7-18) produced intestinal anomalies, intestinal aplasia, gastroschisis and hypoplastic kidneys. A daily dose of 0.24 mg/day is approximately 6 times the entire dose of dexamethasone in the DEXTENZA product, on a mg/m² basis.

8.2 Lactation

Systemically administered corticosteroids appear in human milk and could suppress growth and interfere with endogenous corticosteroid production; however the systemic concentration of dexamethasone following administration of DEXTENZA is low [see Clinical Pharmacology (12.3)]. There is no information regarding the presence of DEXTENZA in human milk, the effects of the drug on the breastfed infant or the effects of the drug on milk production to inform risk of DEXTENZA to an infant during lactation. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for DEXTENZA and any potential adverse effects on the breastfed child from DEXTENZA.

8.4 Pediatric Use

Safety and effectiveness in pediatric patients have not been established.

8.5 Geriatric Use

No overall differences in safety or effectiveness have been observed between elderly and younger patients.

17 PATIENT COUNSELING INFORMATION

Advise patients to consult their surgeon if pain, redness, or itching develops.

Ocular
Therapeutix™

MANUFACTURED FOR:
Ocular Therapeutix, Inc.
Bedford, MA 01730 USA
PP-US-DX-0072-V2

BIG TIME INNOVATION¹

The first and only ophthalmic steroid insert approved for the treatment of inflammation and pain following ophthalmic surgery

DEXTENZA IS AN ADVANCEMENT IN STEROID TREATMENT

- Designed to deliver a tapered dose¹
- Contains fluorescein for visualization²
- No additional components or assembly required²
- Resorbable, so no need for removal²
- Insert can be removed via saline irrigation or manual expression, if necessary²
- Physicians rated DEXTENZA as easy to insert^{3,4*}

LEARN MORE AT DEXTENZA.COM

INDICATION

DEXTENZA is a corticosteroid indicated for the treatment of ocular inflammation and pain following ophthalmic surgery.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

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WARNINGS AND PRECAUTIONS

Prolonged use of corticosteroids may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision. Steroids should be used with caution in the presence of glaucoma. Intraocular pressure should be monitored during treatment.

Corticosteroids may suppress the host response and thus increase the hazard for secondary ocular infections. In acute purulent conditions, steroids may mask infection and enhance existing infection.

*73.6% of physicians in Study 1, 76.4% in Study 2, and 79.6% in Study 3 rated DEXTENZA as easy to insert.

References: **1.** Sawhney AS et al, inventors; Incept LLC, assignee. US patent 8,409,606 B2. April 2, 2013. **2.** DEXTENZA [package insert]. Bedford, MA: Ocular Therapeutix, Inc; 2019. **3.** Walters T et al. *J Clin Exp Ophthalmol*. 2016;7(4):1-11. **4.** Tyson SL et al. *J Cataract Refract Surg*. 2019;45(2):204-212.

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Fungus invasion must be considered in any persistent corneal ulceration where a steroid has been used or is in use. Fungal culture should be taken when appropriate.

Use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation.

ADVERSE REACTIONS

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Please see brief summary of full Prescribing Information on adjacent page.