

Program

Advances in
Glaucoma Research
and Clinical Science

#AGRCS2021 • Online
SEP 16-19, 2021

www.newconceptsinglaucoma.com

Advances in Glaucoma Research and Clinical Science

**#AGRCS2021 • Online
SEP 16-19, 2021**

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Kugler Publications organizes the Advances in Glaucoma and Clinical Science meeting with the aim of providing education and scientific discourse in the field of glaucoma. Kugler Publications accepts no responsibility for any products, presentations, opinions, statements or positions expressed by speakers at the congress. Inclusion of material in the scientific program does not contribute an endorsement by Kugler Publications.

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Program at a Glance

Day 1 | Thursday, September 16, 2021

14:10–16:10 Session 1

16:10–16:25 ☰ Break

16:25–18:05 Session 2

18:05–18:20 ☰ Break

18:20–19:05 Special Feature Talk

Day 2 | Friday, September 17, 2021

14:10–16:10 Session 3

16:10–16:25 ☰ Break

16:25–18:05 Session 4

18:05–18:20 ☰ Break

18:20–19:05 Special Feature Talk

Day 3 | Saturday, September 18, 2021

14:10–16:10 Session 5

16:10–16:25 ☰ Break

16:25–18:05 Session 6

18:05–18:25 ☰ Break

18:25–19:05 Special Feature Talk

Day 4 | Sunday, September 19, 2021

14:10–16:10 Session 7

16:10–16:25 ☰ Break

16:25–18:05 Session 8

18:05–18:20 ☰ Break

18:20–19:05 Special Feature Talk



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Welcome

A warm welcome to our returning and new participants!

This is our third annual conference on Glaucoma Research and Clinical Advances here in Amsterdam under sponsorship from Kugler Publications. Or at least the organizing team is in Amsterdam, while the rest of us are joining our homes or offices. Do send us a picture of your setup at agrcs@kuglerpublications.com. We love to see how you are enjoying the talks!

Our goal is a little different from that of other meetings. We want to provide a highly scientific view of glaucoma diagnosis and treatment focusing on pathogenesis. By intent, there is practical information to help our patients, but the information is less clinical and more scientific than one is going to encounter in other meetings. We do want to spark useful dialogs that will facilitate patient care and believe that a greater understanding of the science behind some of the newest innovations and treatment directions will help you educate your patients, and hopefully promote improved compliance. Effective glaucoma care remains a struggle and a challenge, even with the current rapid scientific progress we are seeing.

Our meeting is unique as we devote four days to various aspects of glaucoma science:

- **Day 1: The Science of Glaucoma and Molecular Pathophysiology**
- **Day 2: The Science of Intraocular Pressure (IOP) and Medications**
- **Day 3: The Science and Application of Alternative Medications & Lasers**
- **Day 4: The Science and Application Glaucoma Surgery**

Feel free to pick and mix days and subjects to fill the gaps in your glaucoma education, and actively participate through the Q&A and chat features.

This year's program has been approved for **16 European CME credits (ECMEC®s)**, which may be converted to local credits.

COVID has been hard on many aspects of life, including medical education. Attendance at international meetings is down and the collegial discussions which we all have depended on throughout our careers and which help our patients don't seem to work as well in the virtual environment. We do hope to return to a live meeting next year in Amsterdam, if not in 2023. In the meantime, we are heartened to see so much interest in this our second virtual meeting due to the pandemic. Our first meeting In Amsterdam in 2019 at the Rose Garden was incredibly successful. **Our planned 2022 dates are September 14-16, 2022.**

We expect to fill the room and reach our limit quickly based on history and the keen interest in these virtual versions so feel free to write to agrcs@kuglerpublications.com with an expression of early interest if you think that you want to come.

This meeting is part of a coordinated effort at **Kugler Publications**, where one will find the two book series that underpin this meeting: *New Concepts in Glaucoma* and *New Concepts in Glaucoma Surgery*, the latter co-edited by John Samples and Ike Ahmed. Follow-up books are in the

planning stages. Questions raised during this meeting such as this one may help shape the direction of future publications. Kugler Publications is also home to the World Glaucoma Association Consensus series, several books on corneal thickness, and a catalogue of luxury books on the history of ophthalmology.

All presentations will be available for viewing at your own leisure after the congress and remain eligible for 16 European CME credit until December 19, 2021. Access to the website allows you to revisit salient points and browse the books that provide some of the underpinnings of this meeting.

We hope you enjoy this year's meeting. Please let us know what we can do better; w. We also hope to meet you in person next year in Amsterdam.



John R. Samples
Congress Co-Chair



Ernst Tamm
Congress Co-Chair























Simon Bakker
congress organizer

Advances in Glaucoma Research and Clinical Science

Mark your calendar!
September 14–16, 2022

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Our Platform

How to contact us during the conference days

- On the platform: Click on the chat tab and then via private chat, look for an Admin (Lieke, Paula, Willem, or Simon).
- Send us an email at AGRCS@kuglerpublications.com.

AGCRS2021 on demand

All presentations, Q&A sessions, and panel discussions will be made available through our video library at www.newconceptsinglaucoma.com, by November 1, 2021.

How to access the meeting room

You may access the online meeting room through your personal access link. This link is the same for each day and will be emailed to you before the start of the congress and before the first session of the day. Contact us (see above) if you lost this link or have access problems.


Requirements

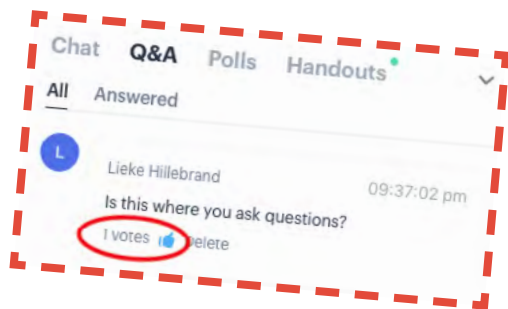
(Follow [this link](#) for an extended version)

- **Internet:** The *minimum* download *and* upload speed to join the room as an attendee without interruption is **2 Mbps**. If you fail to meet the minimum requirements you may experience technical difficulties in the room including losing connection and poor audio and video.
 - » A wired connection is more stable and will help prevent dropped connections and interference.
 - » To increase your bandwidth, close all other programs and applications.
 - » Test your speed: https://www.bigmarker.com/system_check
- **Browser:** To attend the platform you'll need to be on the latest version of Chrome or Firefox. It is highly recommended to update your browser before the start of the congress to enable the best experience.
- **Mobile device:** It is possible to enter the meeting room with your tablet or phone, although not recommended for the best interactive experience.

Asking questions

Every talk ends with a short Q&A (5 minutes) and every session ends with a panel discussion (see our full program [here](#)). We encourage you to participate in the Q&A and panel discussions, and you can do so right from the start of a presentation:

- First open the **Chat** and **Q&A** tab by clicking on the  **Chat** button in the bottom right corner of your screen
- Enter questions via the Q&A tab.
- You can also upvote questions you feel are important on the Q&A tab.



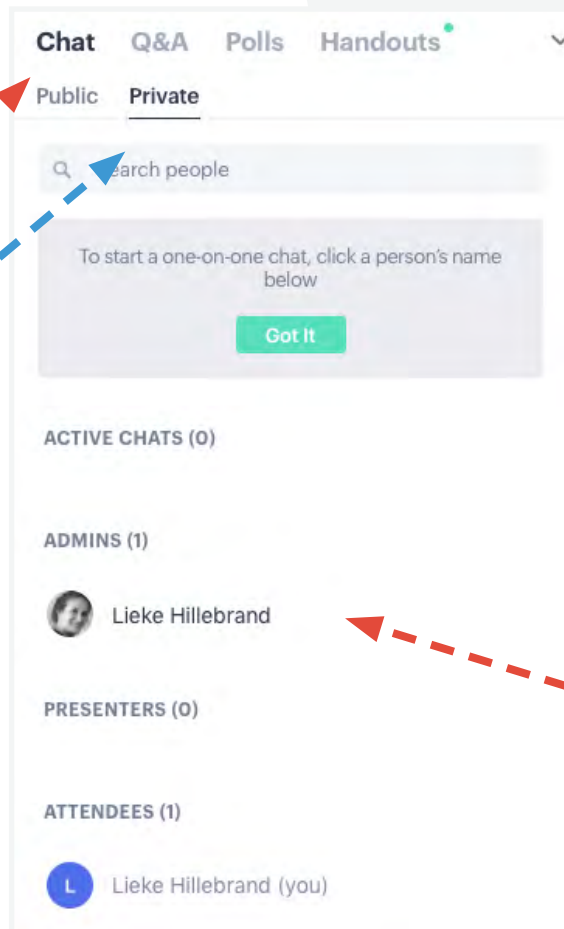
- **Please note:** If you have any questions regarding the platform or any other practical questions, please ask us (look for Admins) via a private **chat** message (not using the general chat or the Q&A).

 **To ask a speaker a question regarding their current presentation: use only the Q&A tab**



Chat

- The chat is for general remarks and comments.



- You can send private chat messages (for example to the Admins or attendees you know).

How do I know who else is attending?

- If you click on **Private** in the chat, you can see everyone who is present.

Program

Program Committee

Chairs





John Samples
Clinical Professor, Washington
State University School of Medicine,
Spokane, WA, USA




Ernst Tamm
University of Regensburg, Institute
for Human Anatomy, Regensburg,
Germany


Scientific Program *Day 1*


 **Thursday, September 16, 2021**  **14:00–19:05 CEST**
The Science of Glaucoma and Molecular Pathophysiology


14:00–14:10 Welcome and introduction  Ernst Tamm, John Samples & Simon Bakker


14:10–16:10 Session 1


14:10–14:30 Trabecular anatomy  Ernst Tamm

14:30–14:50 Genetics of outflow  Alex Hewitt

14:50–15:10 Vacuoles & pore formation  Haiyan Gong


15:10–15:30 What causes resistance to outflow  Vijaykrishna Ragunathan

15:30–15:50 Cell to cell communication  Kate Keller


15:50–16:10  Q&A + Panel discussion  Moderator: Ernst Tamm

16:10–16:25  Break



16:25–18:05 Session 2

16:25–16:45 Trabecular stem cells  Mary Kelley

16:45–17:05 Canal structures & function  Nils Loewen


17:05–17:25 Challenges to Optic Nerve Head Homeostasis in Aging, Glaucoma and Myopia
 Claude Burgoyne



17:25–17:45 What we know about the segmental nature of outflow
 Vijaykrishna Raghunathan

17:45–18:05  Q&A + Panel discussion  Moderator: Ernst Tamm

18:05–18:20  Break

18:20–19:05 Special Feature Talk

18:20–18:50 Canal Anatomy, Motion, Flow Control: Insights Using Multiple Modalities
 Murray Johnstone

18:50–19:05  Q&A + Panel discussion  Moderator: Ernst Tamm


Scientific Program Day 2

 **Friday, September 17, 2021**  **14:00–19:05 CEST**


The Science of Intraocular Pressure (IOP) and Medications

14:00–14:10 Welcome and introduction  Ernst Tamm, John Samples & Simon Bakker


14:10–16:10 Session 3

14:10–14:30 Nitric oxide and ‘fast’ conventional outflow homeostasis  Dan Stamer

14:30–14:50 Gene therapy with BCLXL to treat glaucoma  Rob Nickells

14:50–15:10 Mechanisms of glaucoma medications  Carol Toris


15:10–15:30 The impact of preservatives on glaucoma care  Andrew Tatham


15:30–15:50 Traditional glaucoma medications  Norbert Pfeiffer


15:50–16:10  Q&A + Panel discussion  Moderator: Dan Stamer

16:10–16:25  Break

16:25–18:05 Session 4

16:25–16:45 New glaucoma medications  Peter Netland

16:45–17:05 OCT angiography in glaucoma update  David Huang


17:05–17:25 Bleb failure  Esther Hoffmann

17:25–17:45 The Asian eye  Shan Lin

17:45–18:05  Q&A + Panel discussion  Moderator: Dan Stamer

18:05–18:20  Break

18:20–19:05 Special Feature Talk

18:20–18:50 Etiology of glaucoma  Ted Acott

18:50–19:05  Q&A + Panel discussion  Moderator: Dan Stamer

Scientific Program Day 3


 **Saturday, September 18, 2021**  **14:00–19:05 CEST**


The Science and Application of Alternative Medications & Lasers


14:00–14:10 Welcome and introduction  Ernst Tamm, John Samples & Simon Bakker


14:10–16:10 Session 5



14:10–14:30 Are Alternative Therapies Effective for Glaucoma Treatment  Shan Lin

14:30–14:50 Clinical trials in glaucoma - is neuroprotection a reality?  Miriam Kolko

14:50–15:10 Nutrition and glaucoma  John Samples


15:10–15:30 The role of blood flow and normal pressure glaucoma  Alon Harris

15:30–15:50 Cyclo destruction in glaucoma: the preferred treatment  Mike Giovingo

15:50–16:10  Q&A + Panel discussion  Moderator: Shan Lin

16:10–16:25  Break

16:25–18:05 Session 6

16:25–16:45 Practical trabeculoplasty  John Samples

16:45–17:05 The “Light” Trial  Gus Gazzard

17:05–17:25 ELT  Michael Berlin


17:25–17:45 Laser iridotomy  Sunita Radhakrishnan

17:45–18:05  Q&A + Panel discussion  Moderator: Shan Lin

18:05–18:20  Break

18:20–19:05 Special Feature Talk

18:20–18:50 Future of Laser in Glaucoma  Giorgio Dorin


18:50–19:05  Q&A + Panel discussion  Moderator: Shan Lin


Scientific Program Day 4


 **Sunday, September 19, 2021**  **14:00–19:05 CEST**
The Science and Application Glaucoma Surgery

14:00–14:10 Welcome and introduction  Ernst Tamm, John Samples & Simon Bakker


14:10–16:10 Session 7

14:10–14:30 The role of wound healing in trabeculectomy and related glaucoma surgeries
 Franz Grehn

14:30–14:50 MIGS procedure selection  Ike Ahmed

14:50–15:10 The canal stents  Kaweh Mansouri


15:10–15:30 Secondary Canalogenesis after GATT  Ron Fellman


15:30–15:50 Critical evaluation of MIGS  Tony Fea


15:50–16:10  Q&A + Panel discussion  Moderator: Vanessa Vera


16:10–16:25  Break

16:25–18:05 Session 8

16:25–16:45 Subconjunctival stents  Vanessa Vera

16:45–17:05 The suprachoroidal space  Steve Vold


17:05–17:25 Trabecular ablation  Nils Loewen



17:25–17:45 Non-penetrating surgery  Gordana Sunaric-Mégevand

17:45–18:05  Q&A + Panel discussion  Moderator: Vanessa Vera

18:05–18:20  Break

18:20–19:05 Special Feature Talk

18:20–18:50 Future of glaucoma surgery  Ike Ahmed

18:50–19:05  Q&A + Panel discussion  Moderator: John Samples

Faculty



Ted Acott
Portland, OR, USA



Ron Fellman
Dallas, TX, USA



Alex Hewitt
Melbourne, Australia



Ike Ahmed
Toronto, Canada



Gus Gazzard
London, UK



Esther Hoffmann
Mainz, Germany



Mike Berlin
Beverly Hills, CA, USA



Mike Giovingo
Chicago, IL, USA



David Huang
Portland, OR, USA



Claude Burgoyne
Portland, OR, USA



Haiyan Gong
Boston, MA, USA



Murray Johnstone
Seattle, WA, USA



Giorgio Dorin
Ojai, CA, USA



Franz Grehn
Würzburg, Germany



Kate Keller
Portland, OR, USA



Tony Fea
Torino, Italy



Alon Harris
New York, NY, USA



Mary Kelley
Portland, OR, USA



Miriam Kolko
Copenhagen, Denmark



Norbert Pfeiffer
Würzburg, Germany



Ernst Tamm
Regensburg, Germany



Shan Lin
San Francisco, CA, USA



Sunita Radhakrishnan
San Francisco, CA, USA



Andrew Tatham
Edinburgh, UK



Nils Loewen
Würzburg, Germany



Vijaykrishna Ragunathan
Houston, TX, USA



Carol Torris
Cleveland, OH, USA



Kaweh Mansouri
Laussane, Switzerland



John Samples
Olympia, WA, USA



Vanessa Vera
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Peter Netland
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Steve Vold
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Rob Nickells
Madison WI, USA



Gordana Sunaric-Mégevand
Geneva, Switzerland



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New Concepts in Glaucoma

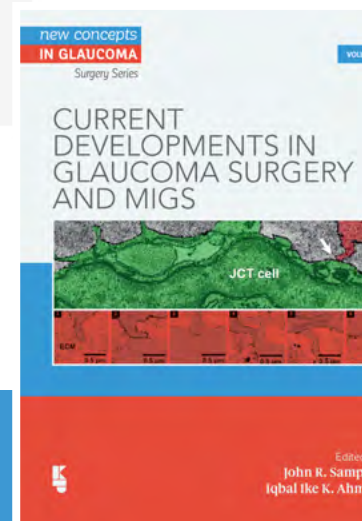
This series has been conceived as a recurring project. It is neither book nor journal. Books are infrequently edited and rarely up-to-date for more than a year or two; journals are really devoted to the standard experimental format and no longer permit authors to wander into speculation or lengthy discussions of what might come next. There is room for a plurality of publishing approaches. All of these formats have their place and all have different purposes in moving a field forward.

This series is designed to allow us to consolidate new information and hold forth on speculation in glaucoma. It does so in both the basic sciences and clinical sciences.

It is our hope that this consolidation of hypotheses and theories, along with identifying new information and new speculation will propel us toward a more rapid cure for glaucoma.

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2020 TO 2022

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Glaucoma Research and Clinical Advances 2020 to 2022

Edited by: P.A. Knepper & J.R. Samples
Volume 3 of the **New Concepts in Glaucoma** Series

Volume 3 of our serial publication continues to address glaucoma with the same combination of science and speculation. This collection is deliberately eclectic with both theoretical and clinical impact, encouraging speculation into the future while remaining scientifically sound. The closing chapters include a selection of abstracts presented at the 2018 and 2019 Trabecular Meshwork Study Club meetings, a venue for innovative work devoted to anterior segment outflow. It is our hope that the present volume gives the reader a better understanding of the current disease process and opens new directions for the future discoveries in glaucoma.

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Edited by: J.R. Samples & P.A. Knepper
Volume 2 of the **New Concepts in Glaucoma** Series

Volume 2 of the Glaucoma Research and Clinical Advances series continues our desire to address glaucoma with a combination of science and speculation. As science expands, the emphasis is on data, interpretation, and dogma. We disagree; open minds open new approaches. Using methodologies that are primarily molecular and genetic, we seek to refine the causes of glaucoma as well as how it is best treated, especially incorporating thoughts and hypotheses about new methods of treatment. Glaucoma is a complex disease, and genetics proves that a variety of proteins are culpable at one level. At another level, however, there are likely final common pathways and numerous feedback loops which have defied explanations to date.

ISBN: 978-90-6299-271-3

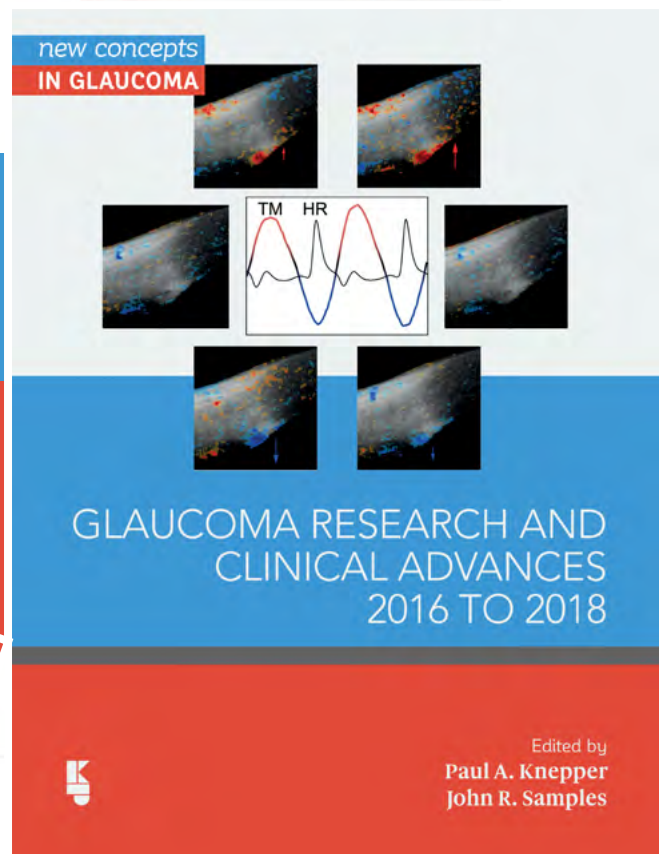
Publication details: 2018. xxvi and 358 pages. Hardbound. US letter format, with many full color figures.



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Glaucoma Research and Clinical Advances 2016 to 2018

Edited by: P.A. Knepper & J.R. Samples
Volume 1 of the **New Concepts in Glaucoma** Series

This first volume of the *New Concepts in Glaucoma* series was conceived as a platform to express new ideas and approaches to understanding and solving primary open-angle glaucoma. The authors have attempted to expand levels of knowledge, present new ideas and challenge existing theories. Although the authors have painted a broad picture, the central theme of the book is to ask the right questions and seek the answers for patients with primary open-angle glaucoma.

ISBN: 978-90-6299-247-8

Publication details: 2016. x and 326 pages. Hardbound. Letter format, with many full color figures.



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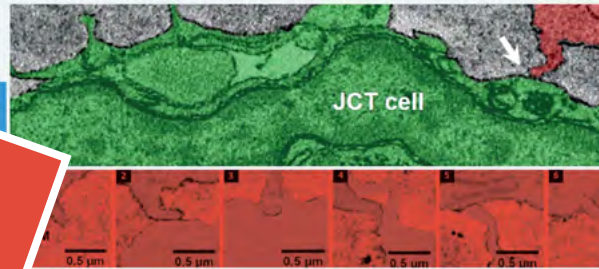
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VOLUME 1

Surgery Series

CURRENT DEVELOPMENTS IN GLAUCOMA SURGERY AND MIGS



Edited by
John R. Samples
Iqbal Ike K. Ahmed



Current Developments in Glaucoma Surgery and MIGS

Edited by: J.R. Samples & I.I.K. Ahmed
Volume 1 of the **New Concepts in Glaucoma** Surgery Series

Successful interventional glaucoma remains a sought-after goal for the glaucoma clinician for many reasons. Medical costs, compliance, and adherence remain major barriers for the treatment of our patients. A truly definitive treatment for glaucoma is most likely to be largely surgical, as it is doubtful that patients will continue to use glaucoma drugs in the future for anything other than transient lowering of intraocular pressure. In the coming era, it seems probable that neuroprotection and neurorestoration will be combined with MIGS to lower pressure.

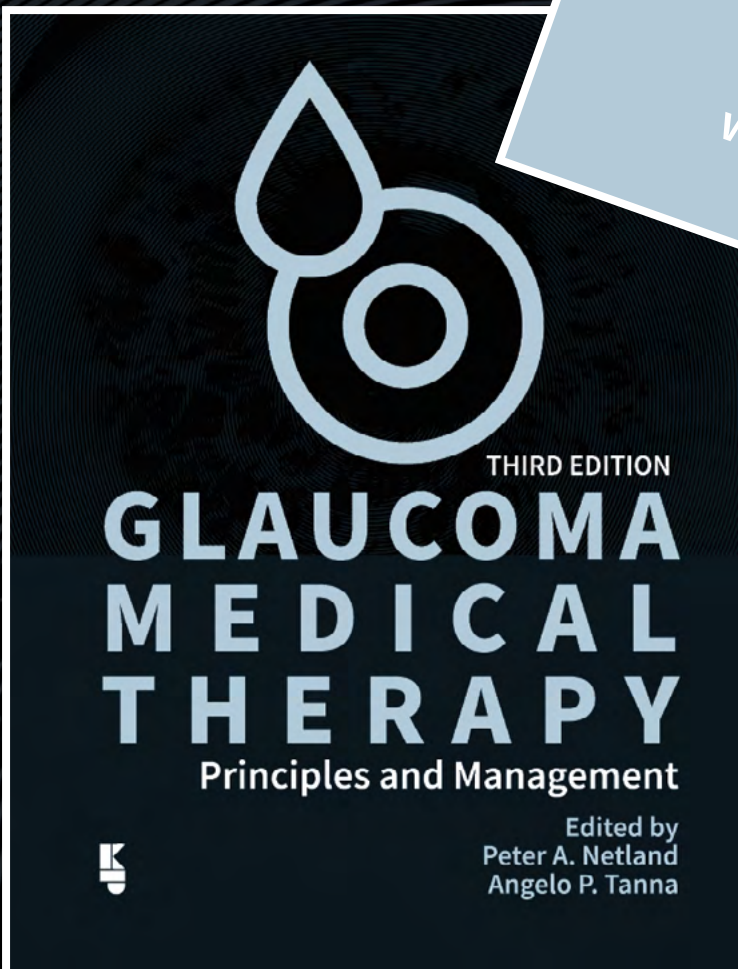
The different types of MIGS are increasing in proportion to their efficacy. To date, there are no fewer than 12 choices available to glaucoma specialists. Choice of procedure depends on the underlying anatomy as well as the patient's individual characteristics. Truthfully, the number of available surgeries depends upon their taxonomy. Most are based on the outflow system and the canal, as illustrated in this book.

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GLAUCOMA MEDICAL THERAPY **Principles and Management - THIRD EDITION**

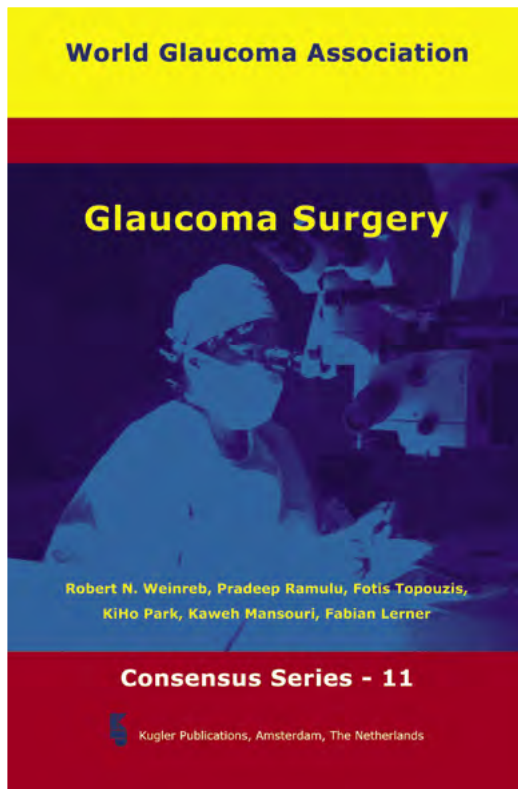
Edited by: Peter A. Netland & Angelo P. Tanna

Now in its third edition, Glaucoma Medical Therapy addresses all aspects of the pharmacology relevant to the management of glaucoma. The book starts with the basic principles of ocular pharmacology, including a detailed review of emerging sustained drug delivery devices and methods. Each medication class is covered in detail, including the novel nitric oxide-donating agents and Rho kinase inhibitors. Other chapters cover the effects of various non-ophthalmic medications and drugs on intraocular pressure, glaucoma therapy during pregnancy and lactation, pediatric glaucoma medical therapy, medication adherence, and adjunctive anti-fibrotic therapy for glaucoma surgery.

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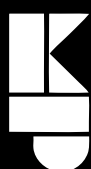
WGA CONSENSUS SERIES 11: Glaucoma Surgery

Edited by: R.N. Weinreb, P. Ramulu, F. Topouzis, K.H. Park, K. Mansouri, S.F. Lerner

The topic for the eleventh World Glaucoma Association Consensus was glaucoma surgery. Global experts were invited and assembled by our international co-chairs, beginning in September 2018, to participate in an online discussion of glaucoma surgery. Consensus was reached for each of the five sections on key issues relating to indications, performance, monitoring, and reporting of glaucoma surgeries. The results of these thoughtful discussions then were summarized with preliminary consensus statements for each of the sections.

The draft of the Consensus Report, including the preliminary consensus statements, was distributed to the societies and partners for comments prior to the Consensus Meeting, which took place in Melbourne on Tuesday March 26, 2019. At this time, relevant stakeholders engaged in a stimulating, educational, and thought-provoking session that reviewed and revised the consensus statements. Once again, the collective wisdom of the crowd superseded time and time again the opinion of any single expert. The Consensus Report then was finalized by the Consensus co-chairs, participants, and editor.

ISBN: 9789062992805



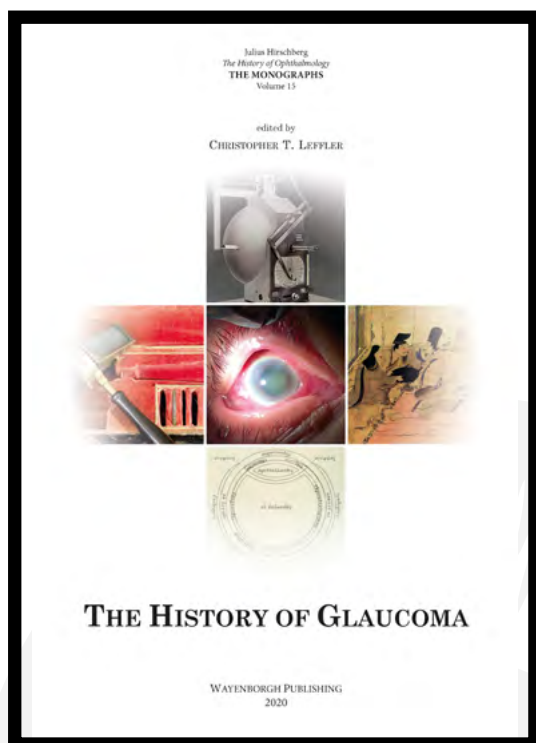
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The History of Ophthalmology:
The Monographs Volume 15

The History of Glaucoma

Edited by: C.T. Leffler

Earlier generations of ophthalmologists who oversaw the care of glaucoma patients could only dream of the extraordinary diagnostic tests and technologies that we have available today for managing glaucoma. Most likely, they also could not have conceived that there would be so many amazing medical and surgical therapies for glaucoma that are now used to ameliorate and even cure some of these patients. From where and from whom has all this originated? Study of the medical history, particularly the history of glaucoma, can provide an insight. - *from the foreword by Robert N. Weinreb*

Price: € 175.00

ISBN: 978-90-6299-467-0

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