

# Methods Of Estimation Of Ocular Blood Flow Choroidal Blood Flow Measurements Issues Laser Doppler Flowmetry

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[Plethysmography](#) Thomas V. Holohan 1996-06-01 Plethysmography, a semi quantitative method of measuring segmental blood flow and velocity in the carotid and peripheral vascular systems, is safe, easy to perform, and inexpensive. Impedance, strain gauge, air, and photoelectric plethysmographic methods are assessed for their relative safety, efficacy, and clinical utility in diagnosing vascular disease. Impedance, strain gauge, and photoplethysmography methods can be used for the initial eval. of acute and chronic venous insufficiency, although these tests are not reliable in predicting venous disease in the presence of nonobstructive thrombi and comorbid conditions.

[Becker-Shaffer's Diagnosis and Therapy of the Glaucomas](#) Robert L. Stamper 2009 Authored by three prominent specialists in the field, this text provides comprehensive coverage of diagnostic and treatment modalities for optimal glaucoma management. Revised throughout, this new edition presents the latest guidance in clinical examination, randomized trials, medical treatment, laser therapy, and surgical procedures. Hundreds of illustrations-with many classic black and white figures from the previous editions supplemented with new color images-depict the features of glaucomas and step-by-step procedures for their management, while expanded use of highlighted boxes, lists, and summary tables make the material easy to access. Evidence-based and updated information on all aspects of the glaucomas-including physiology, genetics, interventional trials, and new surgical techniques-offer a well-rounded foundation of knowledge for making the most informed diagnoses and choosing the most effective course of treatment. Combines the cumulative experience of three prominent glaucoma specialists-addressing a full range of clinical needs for practitioners of all levels-for a uniquely written coherent perspective. Includes extensive references to current and historically important sources to provide comprehensive interpretation of the latest medical literature. Synthesizes a classical approach to the glaucomas-based on seven earlier editions spanning over 40 years-with the most up-to-date evidence-based and epidemiologically-derived classifications and outcomes. Coherently correlates with authoritative consensus documents on key areas of glaucoma, drawn up by the world-wide specialists of the World Glaucoma Association, and reprinted in the text. Revamps traditional teachings on the angle closure glaucomas, in concert with the newest international literature and technologies, to keep you up to date on the latest advances. Illustrates detailed surgical interventions applicable to the complete spectrum of clinical settings-from the developing world through contemporary operating rooms. Examines the newest and most promising developments in pharmacology, laser and surgical advances for glaucoma management, to enable you to choose the most effective patient approach. Illustrates invaluable but little-known instruments for clinical and research diagnoses, including optic nerve cupping scales, bleb assessment instruments, and more.

[Ocular Toxicology](#) Keith Green 2012-12-06 On behalf of the editorial board and the organizing committee of the 4th congress of the International Society of Ocular Toxicology (I SOT), held in AnnecyNeyrier du Lac, France, October 9 -13, 1994, we are pleased to present to the ocular toxicology community this indexed volume of our congress proceedings. The 4th congress was designed primarily to facilitate and update the knowledge in ocular electrophysiology and ocular pharmacokinetics, in both the clinical and preclinical aspects. The outcome of this 4th congress, established in this volume, is a useful contribution to the methodology in both fields and will hopefully assist in the evaluation and interpretation of ocular findings recorded in animal studies on drugs and other chemicals, in order to protect human health. Undoubtedly, work on the mechanisms of ocular toxicology in the process of pharmaceutical development must continue and these proceedings, embodying the presented papers, will add to the data base. The editors, the congress organizing committee and the members of the International Society of Ocular Toxicology thank the speakers who gave their time, knowledge, and expertise to assist us in this project. The following manuscripts contain the main substance of each of the platform presentations and, in some cases, much more. Moreover, our thanks go to all the participants coming from a range of background- regulatory, academic and industrial -for their attention and excellent contributions during the discussion.

[Laser Scanning: Update 1](#) Juan R. Sampoalesi 2002-03-31 This book contains the proceedings of the Seventh International Meeting on Scanning Laser Ophthalmoscopy, Tomography and Microscopy, which was held between November 30 and December 3, 1999 at the City of San Carlos de Bariloche, in the Argentine Patagonia. A scientific meeting which gathered professionals from all over the world whose current research interests are confocal tomography, scanning laser Doppler flowmetry, digital angiography with indocyanine green and fluorescein, polarimetry, coherent optical tomography and many other different techniques. For an optimal coverage of the whole range of interests, the meeting has been divided into a technical area, a research area, and mainly, a clinical application area for each technology. It was during this event that the creation of the International Society on Laser Scanning (INSOLAS) was formally decided. This book is thus the first publication of this newly created society, in the wish that it will pave the way for future publications becoming a useful tool, as this one, for ophthalmologists around the world.

[Innovation in Glaucoma](#) Michele Lanza 2022-03-25

[Ocular Blood Flow](#) Hedwig J. Kaiser 1996-01-01 This book is a synopsis of up-to-date knowledge on the quantification of ocular blood perfusion and originates from expert lectures held at the 1995 Glaucoma Meeting in Switzerland. In the first section, a profound overview of the anatomy, physiology and pathophysiology of ocular perfusion enables the reader to gain distinct new insights into the pathogenesis of ocular diseases. The second part of the publication describes the different measuring methods that are currently applied in clinical practice and in research. It has been written by a team of leading researchers with the aim of bringing their findings to the attention of those working directly with patients, in particular the ophthalmologist in the clinic or private practice.

[Ischemic Optic Neuropathies](#) Sohan Singh Hayreh 2011-08-28 Ischemic optic neuropathy, often referred to as a stroke of the optic nerve, is one of the major causes of visual impairment or loss of vision. Yet it is a highly controversial and confusing subject because of the general lack of in-depth scientific understanding of the subject. In this book the leading authority in the field describes in detail the current knowledge about the different forms of the often devastating disease. Insights into the underlying pathogenesis and peculiar clinical features are given, leading the reader to the most appropriate way of management. This information will help any physician dealing with patients who suffer from sudden loss of vision.

[Tumor Blood Circulation](#) Hans-Inge Peterson 2020-04-15 First Published in 1979, this book offers a full, insight into the relationship between malignant tumors and blood flow. Carefully compiled and filled with a vast repertoire of notes, diagrams, and references this book serves as a useful reference for students of oncology, and other practitioners in their respective fields.

[Research Awards Index](#)

[EMBEC & NBC 2017](#) Hannu Eskola 2017-06-12 This volume presents the proceedings of the joint conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), held in Tampere, Finland, in June 2017. The proceedings present all traditional biomedical engineering areas, but also highlight new emerging fields, such as tissue engineering, bioinformatics, biosensing, neurotechnology, additive manufacturing technologies for medicine and biology, and bioimaging, to name a few. Moreover, it emphasizes the role of education, translational research, and commercialization.

[Methods of Estimation of Ocular Blood Flow](#) Nithyanantham Palanisamy 2012 Cataract, Glaucoma, Age-related macular degeneration, and Diabetic retinopathy are the greatest threat to vision problems in humans. These diseases are predicted well in advance by measuring the retinal blood flow. The development of Ocular fundus reflectometry and Laser Doppler flowmetry in mid 1970's to investigate the blood flow in the posterior segment of human eye has provided much useful information on the physiology of ocular blood flow. These methods suffers some drawbacks like: (i) it does not provide absolute value of blood flow (ii) uncertainty in knowing the sampling volume (iii) optical properties of ocular tissue (iv) angle of impinging and scattering beams (v) changes in pupil diameter. This book provides the experimental results of effect of one drop of timolol on heart rate, IOP and choroidal blood flow (ChBF). In the book, we proposed use of an artificial pupil to measure the effect of various pharmacological agents on choroidal blood flow (ChBF) using LDF reduces the variability and increases the sensitivity of the technique to detect the changes in ChBF

[Research Grants Index](#) National Institutes of Health (U.S.). Division of Research Grants 1971

[Ocular Blood Flow in Glaucoma](#) Robert N. Weinreb 2009 This is the sixth World Glaucoma Association Consensus. The relationship between ocular blood flow and glaucoma has been discussed for more than a century, and still it uniformly fuels debates at glaucoma meetings throughout the world. Clearly, the results of this report will have broad and significant impact on glaucoma research and clinical practice. The global faculty, consisting of leading authorities on the scientific and clinical aspects of ocular blood flow, have met in Fort Lauderdale on May 2, 2009 to discuss the reports and refine the consensus statements.

[Glaucoma E-Book](#) Tarek M. Shaarawy 2014-09-05 As the irreversible effects of glaucoma can lead to blindness, there is high demand for early diagnosis and an ongoing need for practitioners to adopt new and evolving medical and surgical treatment options to improve patient outcomes. Glaucoma, Second Edition is the most comprehensive resource in the field delivering expert guidance for the most timely and effective diagnosis and treatment of glaucoma – aimed at specialists, fellows and general ophthalmologists. More than 300 contributors from six continents provide a truly global perspective and explore new approaches in this user friendly reference which has been updated with enhanced images, more spotlights, new videos, and more. Consult this title on your favorite e-reader, conduct rapid searches, and adjust font sizes for optimal readability. Get all the accuracy, expertise, and dependability you could ask for from leading specialists across six continents, for expert guidance and a fresh understanding of the subject. Develop a thorough, clinically relevant understanding of all aspects of adult and pediatric glaucoma and the latest diagnostic imaging techniques including ultrasound biomicroscopy and optical coherence tomography. Broaden your surgical repertoire with the latest surgical techniques - such as trabeculectomy, gonio-surgery, combined surgeries, and implant procedures. Glean all essential, up-to-date, need-to-know information about stem cell research, gene transfer, and implants. Find answers fast thanks to a well-organized, user-friendly full-color layout. Stay at the forefront of your field with 10 brand new chapters on trending topics including: new surgical approaches such as trabectome and canoplasty; glaucoma implications in cataract and ocular surface disease; and, updates in the costs-effectiveness of medical management. Avoid pitfalls and achieve the best outcomes thanks to more than 40 brand new spotlight commentaries from key leaders providing added insight, tips and pearls of wisdom across varying hot topics and advances in the field. Refine and improve your surgical skills by watching over 50 video clips depicting the latest techniques and procedures including: new trabeculectomy methods, needling, implants, valve complications, and more. Prevent and plan for complications in advance by examining over 1,600 illustrations, photos and graphics (1,250 in color) capturing essential diagnostics techniques, imaging methods and surgical approaches. Grasp each procedure and review key steps quickly with chapter summary boxes that provide at-a-glance quick comprehension of the key take away points.

[Ocular Blood Flow](#) Leopold Schmetterer 2012-06-14 Adequate blood supply to the eye is an important prerequisite for normal visual function. Over the past 40 years our knowledge of ocular blood flow regulation has improved significantly. This reader-friendly textbook provides a comprehensive overview of the current knowledge of ocular blood flow. Lavishly illustrated, it evaluates the wide array of methods that have been used to measure ocular blood flow. Furthermore, it not only offers the reader an evidence-based summary of the physiological and pharmacological properties of ocular blood flow regulation, but also demonstrates the ocular blood flow abnormalities in different vascular diseases. This book will enhance the understanding of all who are interested in learning more about ocular blood flow in health and disease.

[The William Mackenzie Centenary Symposium on the Ocular Circulation in Health and Disease](#) James Stanley Cant 1969

[Physiology of the Human Eye and Visual System](#) Raymond E. Records 1979

[Ischemia and Loss of Vascular Autoregulation in Ocular and Cerebral Diseases](#) Maurice E. Langham 2010-01-23 From the introduction: "The purpose of the present book is to bring together in a coherent manner new knowledge gained from research over the past 50 years on the physiology of intraocular pressure, ocular blood flow and the relation of these fundamental parameters to early diagnosis and therapy of vascular diseases of the eye and brain. It will be evident to the reader that the presentation is influenced significantly by the author's own research. My justification is that by good fortune I have spent many years with superb collaboration helping solve outstanding problems of ocular physiology. This knowledge has increased understanding of the parameters underlying the onset of ischemia and the loss of autoregulation associated with common ocular disease and thereby led to new methods of diagnosis and therapy."

[Glaucoma](#) Tarek M. Shaarawy 2009 Recent dramatic advances in diagnosis, as well as medical and surgical treatment, mean that you can offer your glaucoma patients more timely and effective interventions. This brand-new clinical reference delivers the comprehensive, expert guidance you need to make optimal use of these new approaches.online, in print, and on video on DVD! Get in-depth guidance on all aspects of adult and pediatric glaucoma with one volume devoted to diagnosis and medical treatment, and another that focuses on surgical techniques. Presents world-class expertise through advice

from leading specialists across six continents. Captures key diagnostic findings and operative procedures with 1,200 high-quality images and photographs-1,000 in full color-that highlight nuances of glaucoma presentation and treatment. Covers all aspects of adult and pediatric glaucoma in Volume One, and the latest diagnostic imaging techniques including ultrasound biomicroscopy and optical coherence tomography. Guides you through the newest surgical techniques-such as trabeculectomy, gonio-surgery, combined surgeries, and implant procedures-in Volume Two. Features an entire section devoted to new horizons, including the latest in stem cell research, gene transfer, and implants. Allows quick reference thanks to a well-organized, user-friendly full-color layout. Provides access to the contents of the book online with downloadable images, Gold Standard drug information, and more. Includes a DVD that features 25 diagnostic and surgical techniques being performed in real time on video. Your purchase entitles you to access the web site until the next edition is published, or until the current edition is no longer offered for sale by Elsevier, whichever occurs first. If the next edition is published less than one year after your purchase, you will be entitled to online access for one year from your date of purchase. Elsevier reserves the right to offer a suitable replacement product (such as a downloadable or CD-ROM-based electronic version) should online access to the web site be discontinued.

Cumulated Index Medicus 2000

Neuro-Ophthalmology Symposium of the University of Miami and the Bascom Palmer Eye Institute Joseph Lawton Smith 1967

Becker-Shaffer's Diagnosis and Therapy of the Glaucomas E-Book Robert L. Stamper 2009-06-18 Authored by three prominent specialists in the field, this text provides comprehensive coverage of diagnostic and treatment modalities for optimal glaucoma management. Revised throughout, this new edition presents the latest guidance in clinical examination, randomized trials, medical treatment, laser therapy, and surgical procedures. Hundreds of illustrations—with many classic black and white figures from the previous editions supplemented with new color images—depict the features of glaucomas and step-by-step procedures for their management, while expanded use of highlighted boxes, lists, and summary tables make the material easy to access. Evidence-based and updated information on all aspects of the glaucomas—including physiology, genetics, interventional trials, and new surgical techniques—offer a well-rounded foundation of knowledge for making the most informed diagnoses and choosing the most effective course of treatment. Combines the cumulative experience of three prominent glaucoma specialists—addressing a full range of clinical needs for practitioners of all levels—for a uniquely written coherent perspective. Includes extensive references to current and historically important sources to provide comprehensive interpretation of the latest medical literature. Synthesizes a classical approach to the glaucomas—based on seven earlier editions spanning over 40 years—with the most up-to-date evidence-based and epidemiologically-derived classifications and outcomes. Coherently correlates with authoritative consensus documents on key areas of glaucoma, drawn up by the world-wide specialists of the World Glaucoma Association, and reprinted in the text. Revamps traditional teachings on the angle closure glaucomas, in concert with the newest international literature and technologies, to keep you up to date on the latest advances. Illustrates detailed surgical interventions applicable to the complete spectrum of clinical settings—from the developing world through contemporary operating rooms. Examines the newest and most promising developments in pharmacology, laser and surgical advances for glaucoma management, to enable you to choose the most effective patient approach. Illustrates invaluable but little-known instruments for clinical and research diagnoses, including optic nerve cupping scales, bleb assessment instruments, and more.

Vascular Considerations in Glaucoma Alon Harris 2013-03-28

Glaucoma: Medical diagnosis & therapy Tarek Shaarawy 2009-01-01 Recent dramatic advances in diagnosis, as well as medical and surgical treatment, mean that you can offer your glaucoma patients more timely and effective interventions. This clinical reference details the most critical developments in the field.

Novel Diagnostic Methods in Ophthalmology 2019-09-04 In the last 10 years, there has been huge progress in the general understanding of ocular disorders due to the availability and development of new in vivo imaging techniques, such as anterior and posterior eye segment optical coherence tomography as well as biochemical methods allowing rapid confirmation of clinical diagnosis. Introducing noninvasive diagnostic methods in ophthalmology led to an improvement in early differential diagnosis of conditions such as corneal dystrophies, dry eye disease, and various retinal and optic nerve diseases. Recent advances in diagnostic methods have also impacted the treatment methods. This book intends to provide the reader with a comprehensive overview of current ocular diagnostic methods, including the theoretical basis as well as practical approaches and usage in clinical practice.

Medical Research in the Veterans' Administration United States. Veterans Administration 1972

A Textbook of Clinical Ophthalmology R. Pitts Crick 2003 The material in this edition of A d104book of Clinical Ophthalmology has been thoroughly revised and expanded to include the latest research and practice. Containing 357 illustrations throughout the text, the book is not only a reasoned practical guide to the study of ophthalmology, but it embraces the ocular aspects of general diseases world-wide and basic methods of investigation and treatment where applicable. This book has references by page and illustration number, resulting from collaboration with the authors of Colour Atlas of Ophthalmology; the two books contain all together an outstanding 579 illustrations (343 in colour), including 16 stereo plates. Another companion book is The Ophthalmology Examinations Review, which aims at the most effective presentation of knowledge for examination purposes. Together these three compact and inexpensive books provide an excellent study basis for ophthalmologists in training, while supplementing their learning of clinical work and surgical technique with the essential study of recent research papers and review monographs.

Augenärztliche Diagnostik Anselm Kampik 2003

Recent Advances in Ophthalmology - 14 HV Nema 2019-06-30 This book is the latest volume in the Recent Advances in Ophthalmology series providing ophthalmic trainees and ophthalmologists with the latest surgical and technological developments in the field. Divided into 21 chapters, each section is dedicated to a specific topic, explaining symptoms, investigation techniques, imaging, differential diagnosis and treatment methods. The pros and cons of various surgical procedures are covered in depth. New to this volume is discussion on advances in lamellar keratoplasty, deep anterior lamellar keratoplasty, Descemet's membrane endothelial keratoplasty (DMEK), and a new technique – keratopigmentation. The text features nearly 400 clinical photographs, diagrams, flowcharts and tables to assist learning. Key points Latest volume in Recent Advances in Ophthalmology series Covers latest surgical and technological developments in the field Features new topics and nearly 400 images, flowcharts and tables Previous volume (9789386322784) published in 2017

Ocular Rigidity, Biomechanics and Hydrodynamics of the Eye Ioannis Pallikaris 2021-05-26 This book focuses on the concept of ocular rigidity, the biomechanical properties and hydrodynamics of the human eye. The basics of anatomy and physiology are explored and the relevant data for the clinician are emphasized throughout the book. The engineering aspects as well as the clinical interpretation are presented to provide context. Ocular Rigidity, Biomechanics and Hydrodynamics of the Eye summarises recent evidence on ocular rigidity, but also provides a complete presentation of the data so far. The authors have recently worked on ocular rigidity corneal and globe biomechanics and hydrodynamics and the new, up-to-date data on the subject are highlighted in each chapter. The aim is to provide the framework or the understanding of these parameters and to determine their relevance in health and disease. This book will be an essential read for all practicing ophthalmologists looking to gain a more in-depth understanding of this interesting area of research particularly in refractive surgery and glaucoma.

Glaucoma in the New Millennium Jonathan D. Nussdorf 2003 The 50th annual symposium of the New Orleans Academy of Ophthalmology was held from April 6th – 8th, 2001. This was the Academy's ninth meeting devoted to glaucoma and consisted of formal lectures, round table discussions, and workshop presentations. The New Orleans Academy of Ophthalmology maintains a strong tradition of providing the ophthalmologist with a venue for learning from exceptional mentors and innovative leaders. Inspection of the list of Academy meetings pertaining to glaucoma will highlight the fact that we have been privileged to have outstanding contributors and notable repeat performers (Appendix 1). The first symposium of this Academy was held in 1952 and, with its focus on glaucoma, the contributors were Sir Stewart Duke-Elder, Paul A. Chandler, MD, and Peter C. Kronfeld, MD. The first three lectures from that 1952 meeting were presented by Sir Stewart Duke-Elder and are published for the first time, from a copy of the original transcript, in this collection of papers. I think you will find his discussion of 'simple' and 'congestive' glaucoma enlightening and instructive. The Program Committee chairpersons, Claude F. Burgoyne, MD and Katherine Lofffield, MD, were instrumental in putting together a strong assembly of contributors and a well-balanced meeting. Special acknowledgment for their hard work in organizing this symposium goes to committee members Rameish Ayyala, MD, Annemarie Etienne, MD, Kenneth Haik, MD, Jill B. Koury, MD, and Daniel A. Long, MD, and to executive secretaries, Emily Busby and Amber Howell. For his dedicated and thoughtful leadership, much appreciation is given to the president of the New Orleans Academy of Ophthalmology, 2000-2002, George S. Ellis, Jr, MD, and to the board of directors. The Academy acknowledges its sponsors for providing unrestricted financial support, which helped to defer the expense of this medical education meeting and subsequent publication. Special thanks go to Peter Bakker at Kugler Publications for his guidance and wisdom, as well as his unending support for the task of publishing this glaucoma specialty symposium. The contributors to this symposium on glaucoma are outstanding. They provided chapters covering a wide range of issues that confront the general ophthalmologist, as well as the glaucoma specialist. Due to an unfortunate circumstance, Chris A. Johnson, PhD, was unable to attend the meeting; however, he was gracious enough to provide his written contribution, which is included in this compilation of papers. You will find that the lectures, round table discussions, and workshop sessions are filled with pearls of wisdom that will help guide you toward a modern, common sense approach in addressing the special needs of your glaucoma patients. Jonathan D. Nussdorf, MD Ochsner Clinic Foundation New Orleans, Louisiana, USA

Medical Research in the Veterans' Administration United States. Congress. House. Committee on Veterans' Affairs 1972

Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition 2012-01-09 Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Ophthalmology and Optometry Research and Practice. The editors have built Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Ophthalmology and Optometry Research and Practice in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

5th European Conference of the International Federation for Medical and Biological Engineering 14 - 18 September 2011, Budapest, Hungary Ákos Jobbágy 2012-02-02 This volume presents the 5th European Conference of the International Federation for Medical and Biological Engineering (EMBE), held in Budapest, 14-18 September, 2011. The scientific discussion on the conference and in this conference proceedings include the following issues: - Signal & Image Processing - ICT - Clinical Engineering and Applications - Biomechanics and Fluid Biomechanics - Biomaterials and Tissue Repair - Innovations and Nanotechnology - Modeling and Simulation - Education and Professional

To See or Not to See Rani Toll 2020-04-01 Background: Assessment of the critically ill is traditionally based on vital signs (blood pressure, pulse, respiratory rate, temperature and level of consciousness). Altered vital signs are, however, late indicators of deranged hemodynamics pointing to a need for additional, more sensitive markers of circulatory compromise. In the beginning of the 20th century, the capillary refill (CR) time evolved as a possible, non-invasive adjunct to early prediction of the outcome in the critically ill. The manoeuvre entails application of blanching pressure on the skin of the finger pulp or sternum for 5 seconds. After release of the pressure, the observer estimates time in seconds for the skin to return to original colour. This time is hypothesized to reflect the dynamics of the microcirculation and its possible connection with hemodynamics. In the 1980s the “normal capillary refill time” was set to The Impact of Tonometry Measurement Error on Ocular Pulse Amplitude and the Estimation of Pulsatile Ocular Blood Volume Ryan H. Somogye 2021 The complete ocular pressure waveform consists of intraocular pressure (IOP) and ocular pulse amplitude (OPA). IOP is the steady-state component and is related to aqueous humor production and flow in the anterior chamber. OPA is the pulsatile component and drives the arterial pulse pressure, pushing blood into the eye with every cardiac cycle. OPA is positively correlated with IOP and negatively correlated with axial length (AL) and ocular rigidity (OR). IOP (thus OPA) is positively correlated with central corneal thickness (CCT) when measured with a Goldmann-type tonometer that applanates the cornea. OPA can be used to estimate pulsatile ocular blood volume (POBV), so it is important to understand the effect corneal biomechanics and tonometer-specific error have on measurements of the ocular pressure waveform. An electronic interface was constructed to allow real-time recording of the ocular pressure waveform measured with a pneumatonometer (PNT) using a standard bedside patient monitor. This system can capture the complete ocular pressure waveform signal simultaneously with other invasive pressures, ECG, and other standard patient monitor signals. Presently, PNTs display IOP and OPA averaged over a given sample period and print a paper strip chart of the ocular pressure waveform. The novel electronic interface allows quick and more accurate recording of the PNT output waveform for post-processing and comparison to other waveforms. The electronically recorded data from the PNT interface was shown to highly correlate to the strip chart data without the presence of the errors inherent in scanning paper and processing images. This analog interface was used to conduct a tonometer measurement error study between the PNT and the dynamic contour tonometer (DCT). The measurement target of this study were an artificial cornea (lacking the non-linear biomechanical properties of a real cornea) fed by a mechanically set IOP and OPA. The differences in measurement error between the PNT and DCT using the artificial cornea were dependent on IOP. However, the measurements of both tonometers were significantly correlated on human subject data. This indicated that the PNT may be calibrated to mimic the error exhibited by the Goldmann applanation tonometer (GAT) in the clinically-relevant range of IOP. The characterization of the PNT error in the artificial cornea allows a better understanding of the effect of corneal biomechanics on OPA. A data set from an accuracy study on the DCT provided measurements of IOP, OPA, and AL at a range of IOPs set by a manometer. A significant correlation of OR to AL has been established and used to estimate OR from the data set. Friedenwald's pressure-volume relationship was used to calculate a pulsatile ocular blood volume (POBV) estimate, similar to POBF but with no time component. POBV was found to be significantly correlated to both OPA and OPA/IOP, which is the best surrogate factor for POBF available in the data set. Characterizing the measurement error of tonometers on an artificial cornea compared to human subject data provides a better understanding of how to interpret changes in OPA in the context of IOP and corneal biomechanics. Combining this understanding with the development of a method to estimate POBF allows tonometers capable of measuring IOP and OPA to provide an easily calculated, clinically useful estimate of ocular blood flow.

Atlas of Glaucoma Neil T. Choplin 2014-06-04 Glaucoma affects all age groups and is a leading cause of blindness worldwide. It is imperative that practicing clinicians and surgeons recognize both primary and secondary glaucoma as well as cases of glaucoma associated with other disorders. Atlas of Glaucoma, Third Edition provides an in-depth review and analysis of the management of glaucoma an

Rapid Eye Movement Sleep Mallick/Inoue 1999-06-29 This reference also includes nine color plates. Written by leading international scientists in the field, this comprehensive and up-to-date reference provides detailed coverage of various aspects of rapid eye movement sleep (REMS)-including phylogeny and evolution, ontogeny, neurophysiological and neurochemical phenomena, molecular processes, behavioral and physiological changes due to deprivation, and hypotheses on the neurodynamics of REMS. Examining the relationship between the neocortex in mammals and birds in the evolution of REM sleep, Rapid Eye Movement Sleep considers the roles of REMS in the maturation of the brain reveals a new theory that challenges the assumption that REM is solely initiated by bulbar mechanisms in intact animals explores experimental studies of REMS atonia and the mechanisms underlying tonic and

phasic muscle atonia describes the cellular and molecular mechanisms and function of pontine ponto-geniculo-occipital waves during REMS details the role of nitric oxide in the regulation of REMS summarizes new evidence on which neurotransmitters are responsible for the REMS generating mechanism presents an overview of several endogenous sleep substances that may positively or negatively regulate REMS and more. Rapid Eye Movement Sleep serves as essential reading for all researchers and clinicians in the study of sleep science, particularly physiologists and biologists; neurologists, neuropsychiatrists, psychiatrists, and psychologists; anesthesiologists; and pharmacologists.

Current Concepts on Ocular Blood Flow in Glaucoma Lutz E. Pillunat 1999

Clinically Applied Microcirculation Research John H. Barker 2019-06-04 First published in 1995: Clinically Applied Microcirculation Research combines state-of-the-art microcirculation technology with present and potential applications in clinical medicine. This comprehensive guide unites the expertise of clinicians and basic researchers from around the world. Many of the chapters are authored by scientist/physician teams. The book provides a broad overview of how microcirculation is involved in clinical research. This is also a valuable reference source for both the history of and latest developments in microcirculation research.