

Seri Singapore Eye Research Institute

Seri: Singapore's World-Class Research ***Seri Singapore's World-Class Research - Singapore Eye Research Institute*** ***World Scientific***

In our world of information overload, there is an increasing struggle to keep the main thing the main thing. Fundamental OSCE Guide in Ophthalmology is a concise study guide presented in a direct, exam style question and answer format, illustrated with high quality clinically relevant photographs tailored to medical students, nurses, optometrists and residents in their early ophthalmology training. This book provides invaluable guidance to readers in presenting their answers in a logical, succinct and elegant manner. The style and format have been intentionally designed to simulate examination conditions and to provide readers with ample practice in preparation for the examinations. Ophthalmology is a very specialized field with many textbooks providing a wealth of information. Exposure to ophthalmology is limited in most undergraduate interactions to a few weeks at best. With a shortage of time, gaining a good understanding of what is important is overwhelming. This book helps to streamline and focus knowledge of readers in understanding the essential conditions in ophthalmology. Various other texts on ophthalmology are often in prose and covers a wide range of topics, including the esoteric conditions. To the untrained eye, it is difficult to discern what should be focused on. Students are often times excited about knowing rare conditions and spend precious time and effort remembering details of these conditions without a strong foundation of the more common conditions seen day to day. This books not only highlights the important conditions, it is structured to simulate examination conditions and can be used as a self-testing tool.

Pathological Myopia is a major cause of severe vision loss worldwide. The mechanisms for vision loss include cataract, glaucoma, retinal detachment, and above all, degeneration of the macula within the posterior staphyloma. Pathological Myopia is one of the only current books to specifically address this disease and discusses recent developments in imaging technologies and various approaches to treatments, such as laser photocoagulation, photodynamic therapy, pharmaco-therapeutic injections in the vitreous, and surgery. Complete with high-quality color images, this book is written and edited by leaders in the field and is geared towards ophthalmologists, including residents and fellows in training, glaucoma and cataract specialists, and vitreoretinal macula experts.

Sydney Brenner's 10-on-10: The Chronicles Of Evolution

Seri

Handbook of Basic and Clinical Ocular Pharmacology and Therapeutics

International Research Centers Directory

Myopia is the most common optical disorder in the world, and is on the rise in many countries, particularly in East Asia. The impact of myopia is evident as the driving force in the development of refractive surgery and of the spectacle and contact lens industries. While myopia is often seen as a childhood disease that involves complex genetic-environmental factors, it is also a major cause of adult blindness. In Singapore (where myopia has reached one of the highest rates in the world) as well as in Taiwan, Japan and Hong Kong, affected patients have greater severity of myopia, leading to additional secondary complications such as glaucoma. This book provides a comprehensive coverage of all aspects of myopia. It is aimed at ophthalmologists, optometrists, opticians, scientists and pharmaceutical companies. The topics are uniquely treated in that they cover research at the laboratory bench as well as clinical applications and population-based approaches in epidemiology.

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.

This volume follows the publication of Rasch Analysis in the Human Sciences. This new book presents additional topics not discussed in the previous volume. It examines key topics such as partial credit analysis of data, common person linking, computing equating constants, investigating discrimination, evaluating dimensionality, how to better utilize Wright Maps, how to design tests and surveys using Rasch theory, and many more. The book includes activities which can be used to practice the theme of each chapter and to test the reader's understanding of Rasch techniques. Beginning and ending with a conversation between two

students, each chapter provides clear step-by-step instructions as to how to conduct an analysis using the chapter theme. The chapters emphasize applications for the beginner learning Rasch and provide guidance for composing a write-up of an analysis for a presentation, paper, thesis or report. This book explores in detail many important yet often rarely discussed topics in Rasch. With its easy-to-read language and engaging format it reaches a wide audience of scientists, clinicians, students, researchers and psychometricians, providing a valuable toolkit for practical users of Rasch analysis. – Dr. Eva Fenwick, Clinical Research Fellow, Singapore Eye Research Institute (SERI) Assistant Professor, Duke-NUS Medical School, Singapore It is an easy to read book and provides immediate guidance for those wishing to conduct a Rasch analysis. The “conversations” between students in each chapter provides a welcome introduction to each topic. – Prof. Maik Walpuski, University Duisburg-Essen, Germany The lessons learned in their first book are extended by providing insightful demonstrations of some of the more complex concepts and techniques used in applying Rasch models. – Dr. Michael R. Peabody, National Association of Boards of Pharmacy, Illinois, USA I am amazed with the ability of these authors to communicate complicated knowledge, and the ability to make this highly complicated knowledge accessible to new learners guiding every step of the way. Through this book we get important knowledge about techniques and the different areas of use for Rasch methods in the human sciences This is truly an important book for students and researchers. – Prof. Charlotte Ringsmose, Aalborg University, Denmark

Singapore's World-class Research

Artificial Intelligence in Ophthalmology

Directory

Recent Advances in Ophthalmology - 15

Surgical Retina

Ever since Singapore became independent in 1965, its leaders have invested tremendous efforts and resources to develop its economy in order to create jobs for its people and to support national development. This book describes the challenging journey of Singapore in developing a knowledge-based economy driven by research and innovation and the roles played by research institutes, universities, research manpower and appropriate collaboration between research institutes and industry. The book traces the foundations of Singapore's research story from the time of its independence in 1965 to the present day. Through interviews with the key players and research into the records, the establishment of the key institutes and the roles of a global cast of researchers, scientists and engineers in setting up the R&D infrastructure are outlined. The impact of the concerted efforts to build up a credible and world-class research capability in Singapore over the last 25 years is discussed, as are the tremendous challenges faced by the key players in the drive to develop a knowledge-based economy and the ultimate goal of an innovation-driven economy. Contents:Foreword by PM Lee Hsien LoongAcknowledgementsCover Photo CreditsAbout the ContributorsIntroductionSetting the Stage (Hang Chang Chieh and Yeoh Keat Chuan)Shifting Gear into Research (Hang Chang Chieh, Low Teck Seng and Yeoh Keat Chuan)The Multi-Agency Approach (Hang Chang Chieh, Low Teck Seng and Raj Thampuran)Research in Physical Sciences and Engineering (Hang Chang Chieh and Raj Thampuran)The Biomedical Sciences: Research for Better Health (Raj Thampuran and Kong Hwai Loong)Developing Research-Intensive Universities (Barry Halliwell and Bertil Andersson)Partnering Multinational Corporations in R&D (Low Teck Seng, Raj Thampuran and Yeoh Keat Chuan)Developing R&D in Local Enterprises (Hang Chang Chieh, Raj Thampuran and Png Cheong Boon)Towards Innovation & Entrepreneurship (Low Teck Seng, Raj Thampuran, Tan Kai Hoe and Philip Ong)Appendices:Singapore's Science & Technology, R&D TimelineChairmen, Executive Directors and DirectorsHonouring Scientific TalentOral History InterviewsAcronymsSelect BibliographyIndex Readership: Researchers, professionals, academics, and laymen interested in all aspects of research and development.

The serious nature of cardiovascular adverse drug reactions occurring in patients makes assessment of a drug's cardiac safety profile a high priority during both development and post-approval monitoring. Integrated Cardiac Safety provides necessary guidance and methodology for professionals assessing cardiac safety of drugs throughout all stages of the drug's life, from discovery and development through postmarketing research. This self-contained, reader-friendly text is valuable to professionals in the pharmaceutical, biotechnology, and CRO industries, pharmacologists, toxicologists, government officials, and students.

This text provides expert instruction on the varying surgical techniques currently employed for the regeneration of the ocular surface. Corneal Regeneration: Therapy and Surgery begins with a thorough discussion of current research based on data obtained in clinical human studies, and discusses the potential clinical implications for this promising new stage of eye surgery. Sections devoted to the stem cell, regenerative surgery and therapy of the ocular surface epithelium, corneal stroma, and corneal endothelium follow, each section comprehensively covering applied anatomy, current therapy and regenerative techniques, with a look to future directions of the field including eventual cell therapy. Corneal Regeneration: Therapy and Surgery is the first book of its kind, systematically covering the developments the medical community has achieved in corneal regeneration from all angles. Written and edited by leading experts in the field, researchers and ophthalmologists alike will find this to be a unique source of information on corneal regeneration, as well as a thoughtful reflection on potential applications of regenerative surgery in ophthalmology as a whole.

Annals of the Academy of Medicine, Singapore

SERI, Singapore Eye Research Institute

Animal Models to Clinical Trials

Myopia

Human Amniotic Membrane: Basic Science And Clinical Application

This book is a comprehensive guide for all tissue bank operators to screen, procure and process amniotic membrane for clinical application. The amnion comes close to being the ideal biological membrane or dressing – readily available, inexpensive to procure and process. Its basic science is discussed in detail – anatomy, biological and biomechanical properties. It can be procured from the placenta in normal vaginal deliveries and from Caesarean Sections. Processing is by freeze-drying or by air-drying process with sterilisation using gamma irradiation. The product has low antigenicity, has anti-microbial properties with ability to enhance epithelisation with marked relief of pain. It is useful as a dressing for wounds – flap wounds, burn wounds, injury wounds, diabetic ulcers, leprosy ulcers and post-surgery wounds and post-radiation wounds. It is also used as a biological scaffold for cells in tissue engineering. Its ophthalmic applications include treatment of corneal ulcers and conjunctival tumours. Oral uses include gingiva depigmentation and periodontal regeneration.

This well-structured and lavishly illustrated book is a comprehensive reference on intraocular inflammation that encompasses all anatomic forms, settings and etiologies. Individual sections are devoted to uveitis associated with systemic disorders, uveitis syndromes restricted to the eye, bacterial uveitis, viral uveitis, fungal uveitis, parasitic uveitis, uveitis caused by other microbes, traumatic uveitis, and masquerade syndromes. Chapters on the different forms of uveitis are in a homogeneous reader-friendly format, with identification of core messages, explanation of etiology and pathogenesis, up-to-date information on diagnostics and differential diagnosis and guidance on the most appropriate forms of treatment and prognosis. Helpful flow charts are included to assist in identification of potential underlying disorders and the reader will also have online access to one hundred informative case reports demonstrating the different courses of intraocular inflammation. The authors are world experts keen to share their vast experience with the reader. Intraocular Inflammation will be a valuable resource for all physicians who deal with patients with inflammatory eye disease.

Humans now wield a greater influence on the planet than any other species in history, and human-developed technologies like genetic engineering and artificial intelligence stand poised to overtake biological evolution. Just how did we arrive at this unique moment in human history, 14 billion years after the birth of the universe Sydney Brenner's 10-on-10: The Chronicles of Evolution brings together 24 prominent scientists and thinkers to trace the story of evolution through ten logarithmic scales of time. Through expert insights, this unique volume considers how humans found our place in the cosmos, and imagines what lies ahead. Published by Wildtype Books and distributed by World Scientific Publishing Co.

Assessment Methodologies for Noncardiac Drugs in Discovery, Development, and Postmarketing Surveillance

Acronyms, Initialisms & Abbreviations Dictionary

Arthur Lim & His Crusade

Singapore's World-Class Research - Singapore Eye Research Institute

Copeland and Afshari's Principles and Practice of Cornea

This book provides a wide-ranging overview of artificial intelligence (AI), machine learning (ML) and deep learning (DL) algorithms in ophthalmology. Expertly written chapters examine macular degeneration, glaucoma, retinopathy of prematurity and diabetic retinopathy screening. AI perspectives, systems and limitations are all carefully assessed throughout the book. Aspects of DL systems for retinal diseases including the application of Google DeepMind, the Singapore algorithm, and the Johns Hopkins algorithm. Artificial Intelligence in Ophthalmology is a resource that reviews the benefits and pitfalls of AI, ML and DL in ophthalmology. Ophthalmologists, optometrists, eye-care workers, neurologists, cardiologists, internal medicine, and IT specialists with an interest in how AI can help with early diagnosis and monitoring treatment in ophthalmic patients will find this book to be an indispensable guide to an evolving technology.

The peroxiredoxin family was discovered approximately 30 years ago and is now recognized as one of the most important families of enzymes related to antioxidant defense and cell signaling. PRDX6 shares the basic enzymatic functions that characterize this family, but also exhibits several unique and crucial activities. These include the ability to reduce phospholipid hydroperoxide, peroxidase activity, and an acyl transferase activity that is important in phospholipid remodeling. This book describes the available models for investigating the unique functions of PRDX6 and its physiological function, as well its roles in the pathophysiology of diseases including cancer, diseases of the eye, and male fertility.

Practical Guide to VIVA and OSCE in Ophthalmology Examinations is an essential study guide presented in a direct, exam-style question-and-answer format. It combines detailed explanations

clinical photographs tailor-made to help readers ace specialist oral examinations (MMed, MRCS, FRCS, FRCOphth, FAMS, FRANZCO). Co-authored by ophthalmology trainees who too FRCOphth (Oral) in 2016 and 2017, this is a book written by trainees, for trainees, with prominent author contribution by Prof Wong Tien Yin. This book provides invaluable guidance their answers in a logical, succinct and elegant manner. Practical Guide to VIVA and OSCE in Ophthalmology Examinations aims to complement the book titled The Ophthalmology Exam Prof Tien Yin Wong to guide candidates onto the path of success in examinations. This book illustrates the answering techniques employed during examinations, utilizing clinical photos full template answer script of various high yield conditions. The style and format has been intentionally designed to simulate examination conditions and to provide candidates with for the examination. Most major ophthalmic degrees require trainees to take and pass an oral ophthalmic exam. This book fills a significant void in the market for ophthalmic training clinical photos and actual exam answering techniques are severely lacking. Readers will be able to follow the answering techniques and examples provided within the book so as to exams. Contents: CataractsCorneaGlaucomaVitreoretina and UveitisNeuro-OphthalmologyOculoplasticsPediatricsRefractiveMiscellaneous Readership: University students and course VIVA;OSCE;Ophthalmology Examinations;Q&A;Atlas;GuidebookReview: Key Features: Provision of high quality and more complex clinical photos for discussionDetailed and to the point scripts provided relevant to the clinical photograph providedProminent author contribution by Prof Wong Tien Yin

Visual Snow: Old Problem, New Understanding

Tempo

Fundamental Osce Guide In Ophthalmology

The Singapore Research Story

Say what Should be Said

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.

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 14 chapters, the text begins with discussion on the effects on the eye of COVID 19.

The next sections provide state of the art knowledge on the diagnosis of eye diseases using artificial intelligence, and robotic surgery. Each of the following sections covers recent trends and advances in the diagnosis and management of a different ocular disorder. The comprehensive text is further enhanced by clinical photographs, diagrams and tables to assist learning. Key points Latest volume in Recent Advances in Ophthalmology series Covers latest technological and surgical advances in the field Highly illustrated with clinical photographs, diagrams and tables Previous volume

(9789352709014) published in 2019

Biography of Arthur Lim, an ophthalmologist.

Investigative Ophthalmology & Visual Science

Seri: Singapore's World-Class Research

Corneal Regeneration

Expert Consult Premium Edition - Enhanced Online Features, Print, and DVD, 2-Volume Set

Therapy and Surgery

Therapy and Surgery

Just 10 years ago, ophthalmic research was almost unheard of in Singapore. With little money and no infrastructure, ophthalmologists and scientists expressed scant interest in research. Today, however, ophthalmic research in Singapore is at a high international level, as exemplified by the activities of the Singapore Eye Research Institute (SERI), which is capable of competing with and challenging the world's leading eye

research centers. Indeed, the world-class research carried out at SERI has helped to extend Singapore's international reach as the country moves towards its goal of becoming a global city and a leading nation influencing developments across Asia and the world. This book summarizes a decade of hard work, dedication, and commitment by a handful of doctors and researchers in their efforts to establish SERI and ensure its success. In particular, the remarkable contributions of two of Singapore's ophthalmic pioneers, the late Associate Professor Chew Sek Jin and current Professor Donald Tan, are acknowledged. The book will inspire leaders of developing nations in visualizing how research can develop rapidly in their own country, and how support and facilities may materialize if they can gather a few dedicated, intelligent researchers. Pathologic Myopia is a major cause of severe vision loss worldwide. The mechanisms for vision loss include cataract, glaucoma, retinal detachment, and above all, myopic maculopathy within the posterior staphyloma. The first edition of Pathologic Myopia is one of the only current books to specifically address this disease and discusses recent developments in imaging technologies and various approaches to treatments, such as laser photocoagulation, photodynamic therapy, pharmaco-therapeutic injections in the vitreous, and surgery. This new edition is a timely update to the standard reference in the field, with new chapters on advanced refractive error correction, genetics, developing a classification system, and special surgical approaches for pathologic myopia. Complete with even more high-quality color images and informative tables, this book is written and edited by leaders in the field and is geared towards ophthalmologists, including residents and fellows in training, glaucoma and cataract specialists, and vitreoretinal macula experts.

Handbook of Basic and Clinical Ocular Pharmacology and Therapeutics provides a review of the basic anatomy, physiology, biochemistry and pathology of the eye with a focus drug therapy, drug delivery and use of therapeutic medical miniature devices. An understanding of the pharmacological actions of drugs acting on the eye requires the student and health care practitioner to learn additional principles in basic and clinical sciences that are unique to this organ. As a sensory organ, the eye is relatively inaccessible to the systemic circulation due to the blood-vitreous, blood-aqueous and blood-retinal barriers. Consequently, the administration of drugs for therapeutic effects in the eye necessitates an understanding of physico-chemical properties of the molecules and pharmacokinetic principles involved in the access to its site of action via topical, intracameral and intravitreal administration. This book includes information on the general principles of pharmacokinetics and pharmacodynamics of drugs as it pertains to the eye and in combating ocular disorders and diseases. Using a disease-themed approach, the book discusses basic and clinical pharmacological principles involved in the therapy of these diseases including the ocular side effect of systemically-administered drugs, drugs used in ophthalmic surgery and miscellaneous agents, the therapeutic utility of biologics, drug conjugates, combination products, gene and cellular therapy are also covered. Handbook of Basic and Clinical Ocular Pharmacology and Therapeutics is useful as a primary and secondary source of reference for up-to-date information about the pharmacological mechanisms of action, pharmacokinetics, side effects, drug-drug interactions and therapeutic indications of drugs for pharmacologists, pharmaceutical scientists, students in the health care disciplines (nursing, pharmacy, optometry, medical), and practitioners in optometry and ophthalmology. Explains the mechanisms of action, side-effects and therapeutic uses of drugs, biologics, miniature devices, gene and cellular therapies for the eye Provides a comprehensive review of the anatomy, physiology, biochemistry, pharmacology, microbiology, genetics and pathology of parts of the eye involved in drug therapy to combat eye disorders and diseases Explores the pharmacological and clinical basis of drugs, drug conjugates, combination products used in the treatment of anterior and posterior segment diseases

Practical Guide to Viva and OSCE in Ophthalmology Examinations

Updates on Myopia

Integrated Cardiac Safety

Glaucoma

Singapore Biotech Guide

This book is open access under a CC BY 4.0 license. This open access book discusses basic clinical concepts of myopia, prevention of progression and surgical treatments for myopia and pathological myopia. It also summarises the latest evidence and best practices for managing myopia, high myopia and its complications. Written by leading experts, the book addresses clinical diagnosis and interpretation of imaging modalities, and various complications of myopia such as glaucoma, choroidal neovascularization, retinal degeneration and cataracts. It is a valuable comprehensive resource for general and sub-specialist ophthalmologists as well as residents and ophthalmologists in training.; This work was published by Saint Philip Street Press pursuant to a Creative Commons license permitting commercial use. All rights not granted by the work's license are retained by the author or authors.

An update on the essentials of retina surgery In the new book series ESASO Course Series', the essentials of the courses of the European School for Advanced Studies in Ophthalmology (ESASO) are made available to interested ophthalmologists, optometrists, technicians and residents all over the world. In this volume, the seminars on surgical retina presented by renowned experts during ESASO's activities are collected. Many specialists have contributed their knowledge to make this volume a device to give practical support. The topics range from prevention to state-of-the-art diagnostic techniques and the latest surgical treatment options for many eye conditions such as diabetic retinopathy and rhegmatogenous retinal detachment. This publication provides the ophthalmologist with the main aspects of surgical retina in a simple and practical update.

Reverse Acronyms, Initialisms, & Abbreviations Dictionary

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Pathologic Myopia

Annual Report

Glaucoma E-Book