ESSENTIALS IN OPHTHALMOLOGY

G. K. Krieglstein · R. N. Weinreb
Series Editors

Glaucoma

Cataract and Refractive Surgery

Uveitis and Immunological Disorders

Vitreo-retinal Surgery

Medical Retina

Oculoplastics and Orbit

Paediatric Ophthalmology,
Neuro-ophthalmology, Genetics

Cornea and External Eye Disease
Essentials in Ophthalmology is a new review series covering all of ophthalmology categorized in eight subspecialties. It will be published quarterly; thus each subspecialty will be reviewed biannually.

Given the multiplicity of medical publications already available, why is a new series needed? Consider that the half-life of medical knowledge is estimated to be around 5 years. Moreover, it can be as long as 8 years between the description of a medical innovation in a peer-reviewed scientific journal and publication in a medical textbook. A series that narrows this time span between journal and textbook would provide a more rapid and efficient transfer of medical knowledge into clinical practice, and enhance care of our patients.

For the series, each subspecialty volume comprises 10–20 chapters selected by two distinguished editors and written by internationally renowned specialists. The selection of these contributions is based more on recent and noteworthy advances in the subspecialty than on systematic completeness. Each article is structured in a standardized format and length, with citations for additional reading and an appropriate number of illustrations to enhance important points. Since every subspecialty volume is issued in a recurring sequence during the 2-year cycle, the reader has the opportunity to focus on the progress in a particular subspecialty or to be updated on the whole field. The clinical relevance of all material presented will be well established, so application to clinical practice can be made with confidence.

This new series will earn space on the bookshelves of those ophthalmologists who seek to maintain the timeliness and relevance of their clinical practice.

G. K. Krieglstein
R. N. Weinreb
Series Editors
This first issue of *Vitreoretinal Surgery*, in the series *Essentials in Ophthalmology*, has been written to update our knowledge on the large body of experimental research performed to date on the most urgent problems of vitreoretinal disease. Priority is given to the most important problems in terms of patient numbers – retinal degeneration, retinal oedema, and proliferative vitreoretinopathy.

Proliferative vitreoretinopathy (PVR) is the leading cause of blindness in retinal detachment (RD). Recent progress in surgical techniques, sophisticated surgical tools and new vitreous tamponades has reduced the number of enucleations, at least in Europe, but ultimately the risk of PVR has not been reduced, which is reported to be between 5% and 10% for idiopathic PVR, and between 10% and 45% for ocular trauma (the incidence being higher in cases of perforating and blunt injuries and lower with intraocular foreign bodies). Functional outcome of surgery for PVR is often disappointing despite attached retina. Carl Sheridan (Liverpool) reports on the cellular mechanisms of PVR. Adjunct pharmacotherapy reduces the number of reoperations in eyes with established PVR. Improvement of functional outcome requires that high-risk eyes are identified and selected, and that adjunct pharmacotherapy is applied prior to the establishment of PVR. The chapter by Chee Kon (London) elaborates the criteria for detecting eyes with increased risk of PVR, justifying a prophylactic dose of cytostatic drugs, and that by Martin Snead (Cambridge) portrays the “giant retina tear” as an example of a high-risk PVR situation. David Charteris (London) describes the pharmacological progress made in preventing PVR in eyes at risk, and David Wong (Liverpool) elaborates the rationale for heavier than water long-term vitreous substitutes in the prevention and treatment of PVR.

Retinal degeneration is common as a complication of age-related retinal pigment epithelial cell insufficiency (age-related macular degeneration), as a consequence of the inflammatory diabetic metabolism (diabetic macular oedema), and as a result of inherent outer retinal genetic disease (retinitis pigmentosa). Peter Walter (Aachen) reports on the latest progress on epiretinal implants for retinitis pigmentosa as research project results are turned into a commercially available medical device. The chapter by Antonia Joussen (Cologne) explains medical aids for macular oedema of different origins according to pathogenesis. Jan van Meurs (Rotterdam) reports the first experience with translocation of autologous whole grafts of choroids and retinal pigment epithelium under the macula, and Johann Roider (Kiel) questions the rationale of transpupillary thermotherapy in age-related macular degeneration.

Other chapters in the volume are by Silvia Bopp (Bremen), who discusses the latest surgical techniques for modulating macular oedema due to epiretinal membranes, and Tom Williamson (London), who describes the diagnostic and therapeutic value of vitrectomy in uveitis.

We hope that this review of the latest research in the field of vitreoretinal surgery will be of interest to practicing ophthalmologists and researchers alike.

Bernd Kirchhof
David Wong
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Contributors

AYLWARD, GEORGE WILLIAM, MD
Consultant Ophthalmologist
Moorfields Eye Hospital, City Road
London, EC1V 2PD, UK

BOPP, SILVIA, PD Dr.
Augenklinik Universitätsallee
Parkallee 301, 28213 Bremen, Germany

CHARTERIS, DAVID G., MD
Consultant Ophthalmologist
Moorfields Eye Hospital, City Road
London, EC1V 2PD, UK

GRIERSON, IAN, MD
Professor of Ophthalmology
The University of Liverpool
Unit of Ophthalmology, Department of Medicine, University Clinical Departments
Duncan Building, Daulby Street
Liverpool, L69 3GA, UK

HISCOTT, PAUL, MD
Professor of Ophthalmology
The University of Liverpool
Unit of Ophthalmology, Departments of Medicine and Pathology
University Clinical Departments
Duncan Building, Daulby Street
Liverpool, L69 3GA, UK

JOUSSEN, ANTONIA M., PD Dr.
Universität zu Köln
Zentrum für Augenheilkunde
Joseph-Stelzmann-Straße 9
50931 Köln, Germany

KIRCHHOFF, BERND, PROF. DR.
Professor of Ophthalmology
Department of Ophthalmology
University of Cologne
Joseph-Stelzmann-Straße 9
50931 Cologne, Germany

KON, CHEE HING, MD
6 Offington Gardens, Worthing
West Sussex, BN14 9AT, UK

ROIDER, JOHANN, PROF. DR.
Universitätsklinikum Schleswig-Holstein
Klinik für Ophthalmologie
Hegewischstrasse 2, 24105 Kiel, Germany

SHERIDAN, CARL, MD
The University of Liverpool
Unit of Ophthalmology, Department of Medicine, University Clinical Departments
Duncan Building, Daulby Street
Liverpool, L69 3GA, UK

SNEAD, MARTIN, MD FRCS FRCOPHTH
Consultant Ophthalmic Surgeon
Vitreoretinal Service, Addenbrooke’s Hospital
Hills Road, Cambridge, CB2 2QQ, UK

TRANOS, PARIS, MD
6 Offington Gardens, Worthing
West Sussex, BN14 9AT, UK

VAN MEURS, JAN C., DR.
Rotterdam Eye Hospital, Schiedamsevest 180
PO Box 70030
3000 LM Rotterdam, The Netherlands
WALTER, Peter, Dr.
Universität zu Köln
Zentrum für Augenheilkunde
Joseph-Stelzmann-Strasse 9
50931 Köln, Germany

WILLIAMS, Rachel, Dr.
Lecturer, Clinical Engineering Department
University of Liverpool
Royal Liverpool University Hospital
Liverpool, L69 3GA, UK

WILLIAMSON, Tom H., MD
Consultant Ophthalmologist
St. Thomas Hospital
London, SE1 7EH, UK

WONG, David
Consultant Ophthalmologist
St. Paul’s Eye Unit
Royal Liverpool University Hospital
Prescot Street, Liverpool, L7 8XR, UK