

Book reviews

Cataract Surgery Technique, Complications, Management

Roger F Steinert, editor

USA: Saunders, 2003

639 pages, RRP \$442.75

Reviewed by: **JOHN SLACK**, Department of Optometry and Vision Sciences, The University of Melbourne

The development of cataract surgery has seen some remarkable changes. In the early days, it had a high rate of complications and a prolonged recovery. Even when successful, it left the patient with thick unattractive spectacles with poor optics and limited peripheral vision. This has altered dramatically over the years. Success is so high with modern-day routine surgery that patients have begun to expect 'perfect' vision without the need for distance glasses. Instrumental to this improvement was the development of the intraocular lens. The first intraocular lens was implanted in 1795 but with no supporting structure the pioneering Dr Casaamata watched the glass lens slide back towards the fundus. The next attempt was made in 1949. Unfortunately the power calculation was 21 dioptres out. The poor patient ended up with a refraction of -18.00/-6.00x120. The second eye was implanted shortly after with a similar result.

As late as 1981 when I graduated from The University of Melbourne, most patients were still aphakic following cataract surgery. I remember shortly after graduation attending a lecture in which my former diseases of the eye lecturer, John Nathan, advocated referring patients for the latest implant surgery due to the rapidly reducing complication rate and greatly improved patient outcome. How

far we have come in such a short time.

The results of cataract surgery are now generally excellent but as the nuances of surgical technique are still rapidly improving, it is important for optometrists to be familiar with the latest techniques. This is where *Cataract Surgery* is such a wonderful book. It uses step-by-step descriptions that, together with excellent illustrations by Laurel Cook Lhowe, make the author's point very clear, even to someone without surgical training. The pros and cons of different methods, and techniques useful for difficult cases, are discussed in detail. There are separate chapters covering combined cataract and filtering surgery or corneal transplantation. The difficult cases of cataract surgery in paediatric patients and those with uveitis, high myopia and intumescent or brunescient cataract are covered in detail. Of particular interest to optometrists is part seven. The 12 chapters in this part deal with the management of complications. Chapters on postoperative endophthalmitis are important reading for all optometrists.

The book has been significantly updated and expanded from the 478 pages in the first edition published in 1995.

It was a pleasure to review such an excellent book. Fifty-three chapters and 639 pages cover every aspect of cataract surgery. The writing and illustrations are so clear that much of it could be read and understood by someone with little medical background but it is hard to imagine even the most experienced cataract surgeon not gaining something worthwhile from its pages. The goal of the authors was to create a definitive resource for cataract surgeons at all stages of their careers. They have achieved this but also created a book that will have much wider application: a definitive book that is essential for those involved in comanagement.

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Uveitis: Fundamentals and Clinical Practice

Robert B Nussblatt and Scott M Whitcup

USA: Mosby, 2004

450 pages, RRP: \$279.40

Reviewed by: **ERICA FLETCHER**, Department of Anatomy and Cell Biology, The University of Melbourne

Prior to 1950, many patients with uveitis were treated by inducing hyperpyrexia; patients were placed in a bath for up to six hours, where their temperature was elevated to 40-41 degrees Centigrade. As noted by Duke-Elder, this treatment was often poorly tolerated and dangerous to the patient. Thankfully, the treatment of uveitis has moved a long way since.

Robert Nussblatt and Scott Whitcup are both leaders in the field of uveitis. This third edition of *Uveitis: Fundamentals and Clinical Practice* is testament to their authority within the field. It is an authoritative book covering the clinical aspects of the treatment of uveitis and the current theories of its aetiology. It should be of interest to a wide audience: those with therapeutic endorsement who are treating these often challenging cases, and those wishing to improve their knowledge of the basic mechanisms. Few, if any, textbooks are available that deal with both the clinical and basic sciences of uveitis.

Part I of the book provides a thorough discussion of the basic science of inflammation and immunology. For those doing a therapeutics course, the latter chapter provides a very readable up-to-date synopsis of immunology as applied to the eye. There are flow diagrams, graphs and pictures to help the novice understand immunology. It covers the traditional topics of B and T cells, MHC and HLAs, as would be expected in any discourse on

immunology. In addition there are sections on the anterior chamber-associated immune deviation and a detailed discussion on the genetics underlying our immunity, topics that I have never really understood until reading this book.

Part 2 provides an overview of diagnosis, including a chapter on the medical history, examination of the patient with uveitis and interestingly, evaluating the literature. A questionnaire is provided to aid diagnosis and there is a detailed discussion of each aspect of the examination.

Part 3 comprises several chapters on medical therapy and surgical intervention. In this section, all the current therapies are discussed, as well as those in current clinical trials. As one would expect of such a definitive book, the modes of action and possible side effects of each of the drugs are discussed in detail.

Part 4 is a large section on the infectious uveitic conditions. The chapter on AIDS was particularly interesting because of the number of advances that have been achieved in recent years. For example, in the 1996 edition the authors wrote, 'until effective treatment and preventative therapy are available, we will continue to see an increasing number of patients with AIDS and HIV-related disorders'. In 2003–2004, control of AIDS and HIV-related disorders has been achieved, with a dramatic change in the presentation of the associated ocular disease. Highly active anti-retroviral therapy (HAART) has had a major impact in the incidence, course, presentation and prognosis of cytomegalovirus-induced retinitis. The inflammatory conditions experienced by those being treated with HAART are new and the condition has been termed immune-recovery uveitis.

All 29 chapters provide a definitive review of each topic. They are well written, beautifully illustrated and provide practical pearls where appropriate. A practitioner wanting to find some specific information can easily flick through the book, reading pertinent information provided in highlighted panels. Alternatively, a thorough reading of the case reports incorporated within each chapter provides an easy way to learn the material in a problem-

based manner. I thoroughly recommend this book to all wishing to improve their clinical knowledge and basic understanding of uveitis.

Practical Retinal Photography and Digital Imaging Techniques

ME Tyler, PJ Saine and TJ Bennett

USA: Butterworth Heinemann, 2003

222 pages, RRP \$136.40

Reviewed by: **ASSOCIATE PROFESSOR**

PETER G SWANN, School of Optometry, Queensland University of Technology

Times have changed. Once ocular photography was pretty much the sole preserve of university departments of optometry, ophthalmology clinics and hospital departments. Now, many optometrists in private practice have camera systems both on slitlamps for more anterior ocular structures and for photographing the fundus. Photography is becoming an integral part of patient care for base line measures, clinical diagnosis and monitoring the progression of a condition and its response to treatment. It is advocated by many as a useful screening tool in the examination of the fundus of the diabetic patient.

The technology underpinning ocular photography is also changing rapidly and dramatically. It is only a matter of time before the humble 35 mm slide, which still gives the best image in my opinion, is totally superseded by the sophistication of digital, computerised imaging processes.

This little book, written by three ophthalmic photographers, will be of considerable help to the practitioner getting started and the optometrist experienced in ocular photography. In their preface to the book, the authors indicate that their intent is 'to provide a resource for professionals whose roles require quality retinal imaging but whose education does not include photographic training'. They have succeeded well.

The book comprises 10 chapters, the

first seven of which are devoted to the essentials of fundus photography. They lead the reader from a very basic review of pertinent ocular anatomy to the more challenging aspects of fundus photography. The final four chapters discuss the use of digital imaging and computer processing techniques in fundus photography. A very brief appendix details some useful resources for the practitioner, such as other selected books on the subject. Most chapters have references at their conclusion and the index appears complete and accurate. The book is particularly well illustrated, with colour photographs and diagrams of good quality supporting the text.

This book should be part of the clinical libraries of optometry schools and any optometrist commencing fundus photography in his or her practice. Practitioners who are considering upgrading their photographic equipment to digital systems would also find the book very useful.

Biochemistry of the Eye, 2nd edition

David R Whitehart

Philadelphia, USA: Butterworth-Heinemann, 2003

319 pages, RRP \$114.40

Reviewed by: **DR ALEX GENTLE**, Department of Optometry and Vision Sciences, The University of Melbourne

Eye care practitioners are increasingly reliant on knowledge of ocular biochemistry, particularly when diagnosing and managing ocular disease. Despite this fact, it has always surprised me how few basic ocular biochemistry textbooks become available to student and practising clinicians each year. Since I began lecturing to optometry students in this field, it has been a constant source of frustration to me that available books are so long between editions even though advances in this field are probably more rapid than in any other area relevant to our understand-

ing of ocular function, development and disease. For example, our knowledge of the molecular biochemistry of the eye has advanced at a bewildering rate over recent years, accelerating the process of drug development and influencing the way we manage disease. In my experience, the lack of simple, up-to-date books in this area causes student frustration because the teacher cannot recommend a readable book and because the review articles the students are directed to as an alternative can be heavy going. No wonder so many optometry students find biochemistry dry and difficult to study.

Now we have the second edition of this very readable text, albeit about nine years after its predecessor. It will be a welcome aid to study for student optometrists or indeed any optometrist seeking to revise their knowledge of a field that is of increasing importance in therapeutic practice. David R Whitehart is Professor of Physiological Optics in the School of Optometry at the University of Alabama. Over the years, he has researched and published on various aspects of ocular biochemistry, with a particular emphasis on the biochemistry of the anterior segment. It follows that this book is written by an author with great experience in the field and is targeted at optometrists, although it will be of interest to any student or practitioner in vision-related areas.

The structure of the book follows that of its predecessor, with the chapter titles referring to biochemical entities, such as proteins, enzymes and carbohydrates, rather than ocular structures. There are obvious advantages to organising the book in this fashion as it limits repetition of the same, basic biochemical processes that occur in different ocular tissues. However, this organisation of the book also means that to read about tear film biochemistry, for example, you must jump between three chapters to obtain information regarding the lipid, aqueous and mucoid components.

Although I find the organisation a little cumbersome and lacking continuity, there is the benefit that each chapter starts with a review of the basic biochemical processes relevant to the particular biochemical en-

tity. Herein lies the major strength of this book as the simple approach to explaining complex phenomena will doubtless prove very agreeable to students, which is surely of primary importance in any basic textbook. On the downside, this simplicity filters across to the ocular biochemistry, resulting in an oversimplified and sometimes outdated coverage of ocular processes. For example, the description of aqueous production does little justice to current models of pump and enzyme functions, or our understanding of the way therapeutic agents manipulate aqueous production. In the book's defence, it could also be argued that the function of a textbook is to provide the student with a basic grounding and that the student and teacher should gain recent and more specific information from the scientific literature.

It is often said that a picture paints a thousand words and this appears to be David Whitehart's philosophy as the text is complemented by many clear diagrams and well-structured tables to convey the information. Being a simple soul, I also find pictures and diagrams to be the best learning aid in any biochemistry book and found this to be another of the book's strong points. Despite this fact, there are some inaccuracies and inconsistencies within the figures and tables. For example, in a diagram that illustrates the mechanism of aqueous production, tight junctions are positioned between the pigmented epithelial cells, rather than between the non-pigmented cells where most literature suggests they lie. The book also reproduces a rather tired old table of collagen subtypes in the eye, listing only eight subtypes despite the fact that the text states at least 12 of 19 known subtypes have been found in the eye. Type XI collagen was found to be important in the vitreous before publication of the first edition of this book and still does not find its way into this table.

Despite my criticisms, my overall impression of this book was very positive. It is well-illustrated, easy to read and understandable, without going into any great depth on certain important ocular matters. It is produced in paperback and at a relatively

competitive price for such a specialised book. As a result, I recommend the book to all students of this area, confident that it will give them a solid grounding in the basics, along with some specifics of ocular biochemistry. Those seeking more up-to-date insights into specific ocular processes will have to look elsewhere for such information.

Practical Binocular Vision Assessment

Frank Eperjesi and Michelle M Rundstrom

UK: Butterworth-Heinemann, 2004
94 pages, RRP \$82.50

Reviewed by **CATHERINE M SUTTLE**,
School of Optometry and Vision Science,
University of New South Wales

In the introduction to this book, the authors note that for many eye care practitioners, binocular vision assessment is surrounded by mystery and intrigue and is viewed as something to be avoided. How true this is; surely many readers of the book will be happy to read this opening paragraph, telling them that they are not the only ones who still, after university degree courses and perhaps years in practice, lack confidence in binocular vision assessment.

The authors are able to offer insights from extensive experience of binocular vision practice and research. Dr Frank Eperjesi, first author of this book, is a lecturer in optometry at the School of Life and Health Sciences, University of Aston, UK, and is an examiner in binocular vision at the British College of Optometrists. Michelle Rundstrom has a background in orthoptics and optometry and is primary care optometrist and a sessional orthoptist in hospital practice in Nottingham, UK.

The book is written with the aim of removing some of the mystery and increasing the practitioner's confidence in this field by providing a straightforward guide to accurate binocular vision assessment

and diagnosis of anomalies. It does provide a good guide to the type of binocular vision assessment required in optometric practice. Various aspects of binocular vision assessment from history and symptoms to correspondence testing are addressed in a step-by-step fashion, using dot-points and with illustrations of the tools of the trade, such as acuity test charts and cards, stereopsis tests and even the old faithful cover stick. Clear drawings of eye movements seen on cover test are provided, which will be helpful for many students and practitioners.

A CD-ROM is provided, showing demonstrations of the cover test technique, with video clips of cover tests on patients with various binocular vision anomalies such as Duane's retraction syndrome and accommodative alternating esotropia. The CD-ROM is an excellent accompaniment to the book and a valuable tool for practitioners wishing to increase their confidence in binocular vision assessment.

Also included in the book is a quiz, consisting of 100 questions about assessment techniques and anomalies of binocular vision. The questions are similar to those that have been asked in Professional Qualifying Examinations for optometrists in the UK. They will be particularly useful for students in the UK but for others they will also stimulate thought and perhaps discussion on topics that will help to reinforce and extend understanding of binocular vision assessment and anomalies, gleaned from this book and other sources.

The book addresses assessment only and does not extend to management but readers are referred to appropriate books for additional reading. It is an excellent handbook for any student or novice optometric practitioner, or eye care practitioners for whom binocular vision assessment is something of a mysterious art and who wish to acquire the necessary skills without the wand and pointed hat.

Clinical Procedures in Primary Eye Care

David B Elliott

UK: Butterworth-Heinemann 2003

307 pages, RRP \$124.30

Reviewed by **ANTHEA COCHRANE**,

Senior Optometrist, Melbourne Optometric Clinic, Department of Optometry and Vision Sciences, The University of Melbourne

This is a second edition of a book first published in 1997. I used the first edition occasionally in preparation for clinical procedures teaching and the second edition I will use much more frequently.

Clinical Procedures in Primary Eye Care has been written as a teaching aid for undergraduate optometry students and for practitioners wishing to review their clinical practice. It is divided into five chapters that cover the areas of introduction to the primary eye care examination, assessment of visual function, assessment of binocular vision, determination of the refractive correction and ocular health assessment.

Each chapter describes a range of tests or techniques. For each recommended test there is an explanation of the rationale behind choosing the test, how to interpret test results, a list of errors most commonly made by students and some key references.

Three changes to the first edition make this edition much more appealing. The first is that the choice of recommended tests has been justified using the research literature whenever possible and the short list of references for each recommended test allows readers to delve deeper if they wish. The second is that the book has been written for an international audience and the United Kingdom bias for testing found in the original edition is not evident. The third is that the book contains many more diagrams and photographs.

To assess the book, I looked up recommended tests for some of the techniques where I know that clinical teachers do not all agree on the 'right' answer. For exam-

ple, we all seem to give slightly different advice on the best way to determine a near addition. This book devotes eight pages to determination of the near addition and gives advice based on the research literature. There is a good table of tentative additions for age taken from the literature and the important issue of an incorrect reading addition being one of the most common causes of a patient's unhappiness with new spectacles is discussed. What is the recommended test? Tentative addition plus trial frame range determination is the test recommended. Tentative addition determination is made on the basis of previous near prescription, age and working distance.

I was interested to note that for general fundus examination, the recommended technique is indirect fundus biomicroscopic examination using a high plus condensing lens either with or without dilation. This should not be surprising if the patient is dilated but as I had expected, direct ophthalmoscopy would still be the recommended technique for an undilated eye. Elliott points out that undilated fundus lens examination is possible, although more difficult, and the need for a stereoscopic view to accurately judge a CD ratio or to look for macular oedema makes it the technique of choice even for an undilated pupil. He also points to the field of view using a 60 D lens being similar to that obtained by a direct ophthalmoscope and that there is a greater ability to penetrate media opacities with a fundus lens.

This book is an excellent reference for optometry students and clinical teachers. It might even make the experienced practitioner think about his or her choices of clinical tests. It is easy to read and well indexed. The second edition is much better than the first and is well worth reading.