

MAILBOX

Advancing microsurgical instrumentation into the 21st century

EDITOR.—It seems a surprising omission from the Waldocks' recent commentary¹ on the future of microsurgical instrumentation not to have mentioned contamination with specific reference to transmissible spongiform encephalopathies (TSE).

It is known that prion protein is not reliably destroyed by most disinfection or sterilisation procedures, including autoclaving at a temperature as high as 138°C for an hour.² Although more effective methods, such as exposure to combinations of alkali and heat, are being developed³ they may require instruments to be particularly durable. Also fine, and particularly, toothed instruments require thorough cleaning before sterilisation by current procedures, to avoid retention of tissue.

Although there is no clear evidence of the transmission of TSE from one patient to another by ophthalmic surgery other than through corneal transplantation,⁴ the only extant Department of Health guidelines state that any instruments used on patients with Creutzfeldt-Jakob (CJD) or suspected of this condition must be destroyed. Patients with classic sporadic CJD are predominantly in their 60s and may come into contact with ophthalmologists because of cataract, glaucoma, and macular degeneration or because of visual symptoms caused by their condition.⁵

The number of individuals in the UK who are incubating variant CJD (vCJD), believed to be the human form of bovine spongiform encephalopathy (BSE), is unknown. Prion protein has been shown to be present in the tonsils and appendices of its victims; the possibility of it being present in the eye, and particularly in the retina and optic nerve of apparently healthy individuals, must unfortunately be entertained. The Department of Health has identified neurosurgery and ophthalmology as areas of particular risk, though arguably many forms of routine surgery could, in theory, pass on prions from one patient to another via contamination of instruments.

The only certain way to avoid the as yet unquantifiable risks of ophthalmic (or any set) surgical instruments as vectors of transmissible disease is for them to be disposable. Even then, the temptation to reuse disposable instruments for cost containment will be present. The Medical Devices Agency has already issued guidelines on devices that touch the eye, in particular contact lenses, though the full implementation of these recommendations is not possible without the eye services grinding to a halt. Nevertheless, there are situations when disposable instrumentation could be implemented—for example, eye banking, without compromising standards or indeed increasing costs, by saving on tracing and autoclaving.

We agree that surgeons, engineers, and manufacturers should engage in an active and productive debate on instrumentation for the 21st century, but this should include further initiatives to utilise new materials to facilitate disposable instruments. This dialogue may

also bring about a rethink of the number of instruments on trays, the majority of which may be autoclaved time and again without being used.

A B TULLO
Manchester Royal Eye Hospital, Oxford Road
Manchester M13 9WH

D M TAYLOR
Neuropathogenesis Unit, Ogston Building,
West Mains Road, Edinburgh EH9 3JF

- 1 Waldock A, Waldock TA. Advancing microsurgical instrumentation into the 21st century. *Br J Ophthalmol* 1999;83:1317-8.
- 2 Taylor DM. Inactivation of prions by physical and chemical means. *J Hosp Infect* 1999;43 (suppl):S69-76.
- 3 Taylor DM, Fernie K, Steel PJ. Boiling in sodium hydroxide inactivates mouse-passaged BSE agent. Association of Veterinary Teachers and Research Workers. 53rd Annual Scarborough Meeting, March 1999.
- 4 Hogan RN, Brown P, Heck E, *et al*. Risk of prion disease transmission from ocular donor tissue transplantation. *Cornea* 1999;18:2-11.
- 5 McElvanney AM, Boodoo MG. Creutzfeldt-Jakob disease presenting with visual disturbance. *Eye* 1999;13:693-5.

Reply

EDITOR.—I thank Tullio and Taylor for their interest in our commentary and for highlighting a very important issue regarding the future of microsurgical instrumentation. Instrument manufacturers are aware of the implications of contamination, in particular from transmissible spongiform encephalopathies. We agree that there is a need for everyone associated with "high risk of transmission" surgery, such as ophthalmology, to rethink the strategies towards avoiding the risks of contamination. This needs to include a review of cleaning and sterilisation procedures as well as surgical instrument design.

As far as engineers and manufacturers of ophthalmic surgical instruments are concerned, there needs to be a complete reconsideration of instrument design. This includes a review of the materials being utilised, taking into account the need for durability to rigorous sterilisation procedures as well as cost. The assembly of the instruments must enable easy and thorough cleaning, while an evaluation of the methods by which manufacturing costs can be kept to a minimum may enable the production of affordable disposable instruments. Despite such criteria, it is important to maintain the high standards of quality which are required from instruments used in this field of surgery. This poses an interesting challenge and one which we agree requires an active and productive discussion from surgeons, eye-bank technicians, engineers, and manufacturers,

A WALDOCK
Bristol Eye Hospital, Lower Maudlin Street,
Bristol BS1 2LX

Central serous chorioretinopathy complicated by massive bilateral subretinal haemorrhage

EDITOR.—We read with interest the report by Lip *et al*,¹ describing a 43 year old Asian man with central serous chorioretinopathy (CSCR) complicated by massive bilateral subretinal haemorrhage. The authors attributed the massive haemorrhage to CSCR itself. As the authors have pointed out, massive subretinal macular haemorrhage could be due to several causes, including idiopathic polypoidal

choroidal vasculopathy (IPCV). In their article, there is a colour fundus photograph of the left eye (Fig 3A) showing a small red nodule in the centre of fovea with surrounding subretinal hemorrhage. The lesion corresponds to the hyperfluorescent spot in the fluorescein angiogram (FA) and indocyanine green angiogram (ICGA) in the same figure (Fig 3B, C). These clinical pictures are still compatible with the diagnosis of IPCV, although the presence of massive subretinal haemorrhage precludes the visualisation of other classic features of IPCV. Recently, we have had the opportunity of examining a similar patient presented with massive subretinal haemorrhage in one eye, with a history of CSCR documented by FA. ICG of the other eye showed the presence of classic signs of IPCV including dilated choroidal vessels with terminal polyps.² As CSCR and IPCV are both choroidal vascular diseases, their presence in the same eye or same patient is possible.

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ALVIN K H KWOK
TIMOTHY Y Y LAI

Department of Ophthalmology and Visual Sciences, the
Chinese University of Hong Kong, Prince of Wales
Hospital, Shatin, New Territories, Hong Kong

NITIN S SHETTY

Department of Ophthalmology and Visual Sciences, the
Chinese University of Hong Kong, Prince of Wales
Hospital, Shatin, New Territories, Hong Kong and
Medical and Vision Research Foundations, Sankara
Nethalaya, Chennai, India

DENNIS S C LAM

Department of Ophthalmology and Visual Sciences, the
Chinese University of Hong Kong, Prince of Wales
Hospital, Shatin, New Territories, Hong Kong

Correspondence to: Dr Alvin K H Kwok, Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, 3/F Hong Kong Eye Hospital, 147K Argyle Street, Hong Kong.
kwokkh@ha.org.hk

- 1 Lip PL, Mowatt-Dixon L, Hope-Ross MW. Central serous retinopathy complicated by massive bilateral subretinal haemorrhage. *Br J Ophthalmol* 1999;83:990-1.
- 2 Yannuzzi LA, Wong DW, Sforzolini BS, *et al*. Polypoidal choroidal vasculopathy and neovascularized age-related macular degeneration. *Arch Ophthalmol* 1999;117:1503-10.

Reply

EDITOR.—We thank Kwok *et al* for their observations. Kwok *et al* felt that the case presented by us was compatible with a diagnosis of idiopathic polypoidal choroidal vasculopathy (IPCV). We have recently described the indocyanine green angiographic (ICG) findings in a group of patients with IPCV, its different modalities of treatment and follow up over a period of 6 years.¹

The polyps in IPCV persist following recurrent haemorrhages, and only disappear following laser ablation. Ophthalmic imaging, before onset of the submacular haemorrhage, in this patient showed classic features of central serous retinopathy. There were no polypoidal lesions (including the fellow eye) seen before or after the submacular haemorrhage in our patient. The hyperfluorescent spot, shown on the fluorescein angiogram and the ICG, bears no resemblance to polypoidal lesion in IPCV. In addition, a solitary lesion is not a characteristic of IPCV.

We agree with Kwok *et al* that IPCV is a cause of massive submacular haemorrhage; the coexistence of two diseases in one patient

is certainly possible. In this case, however, we feel there is no evidence that our patient had IPCV.

P L LIP
L MOWATT-DIXON
M W HOPE-ROSS
The Birmingham and Midland Eye Centre, City
Hospital NHS Trust, Birmingham

1 Lip PL, Hope-Ross MW, Gibson JM. Idiopathic polypoidal choroidal vasculopathy: a disease with diverse clinical spectrum and systemic associations. *Eye* 2000 (in press).

Retinopathy and myopia of prematurity

EDITOR,—I have some comments on the recently published article by Choi *et al*¹ dealing with long term refractive outcome and oculometry variables in Korean children of very preterm delivery. As for the sample under study (n=65) there are certain points to suggest a marked deviation in composition from the usually analysed preterm cohorts. The material appears highly selective; over a 6 year period, from two university clinics, only 10–11 preterm infants have been included per year. Screening limits were 1500 g birth weight and 28 weeks' gestational age. Exclusion of a great number of preterms appears likely, but criteria are not specified or discussed.

Eighty three per cent acquired active ROP of at least stage 3. If unselected, this is the highest figure of advanced (and of any) ROP ever reported in developed countries. Apparently 54% of all in the series had threshold ROP according to US standards² and were given retinal ablation therapy by cryotechnique. Again, this represents a cryotherapy top score in ROP literature.

Sixty seven eyes (out of the 125 under study) "survived" their ROP and the subsequent cryotherapy. The eventual full sample myopia frequency of 67% is very high. No account is given of visual acuity or blindness data. Mention is made only that 17 eyes developed macular dragging after the cryotherapy (and apparently there were no cases of more advanced retinal detachment). The remaining 50 eyes with cryotherapy were even recorded as having no cicatricial ROP at follow up at the ages of 3 months, 3 years, and 6 years.

With the overall ROP severity recorded, it is impressive that only 27% of the ROP cases had cicatricial sequelae of the retina, the narrow definition apparently being dragging of the macula.

In this context one may wonder why the authors preferred Reese's classification³ of the early 1950s, and not its acknowledged successor regarding cicatricial ROP.⁴ It even appears as if the Reese classification was not quite followed to the letter.

For comparison, in the same issue of *BJO* in the US university clinic material published by Saunders *et al*,⁵ 143 preterm subjects were collected over 13 months and 12% acquired threshold or prethreshold ROP. To my knowledge there is no reason to assume that the Korean university clinics are not on quite such a developed level, nor that the infant susceptibility regarding ROP should markedly differ from what is known from nearby Asian metropolises. The authors further state that there are no previous longitudinal reports in the field. Depending on how "longitudinal" is defined, however, there are several studies of a rather similar set up, and with emphasis on subsequent refraction and oculometry/

keratometry results.^{6–12} It is from these studies that our present knowledge is compiled.

This knowledge may be summarised as follows: In ordinary myopia the correlations between the "minor" refractive factors (corneal power, anterior chamber depth, lens thickness) all tend to reduce the myopia otherwise induced by the established main factor—the axial length elongation. Contrarily, as regards myopia of prematurity: the corneal curvature is steeper, anterior chambers are more shallow, and lenses thicker; axial lengths therefore appear as "relatively short for their myopia". Myopia is still mainly axial, but not so axial as usual. Though emphasising anterior segment features in high myopia the authors ignore or discard their own higher corneal powers compared with presumed norm values. Apparently the generally steeper corneas may have contributed 1–1.5 D to the myopia.

Finally, it was interesting to see the split up according to +/- cryotherapy for the 29 eyes with cicatricial ROP. *With* cryotherapy their 6 year myopia averaged -2.97 D. In contrast, those *without* cryotherapy had -6.18 D. This might be interpreted as some protection exerted by the cryotherapy against the relative developmental involution that myopia of prematurity seems to represent. Otherwise, the cryotherapy itself has been blamed for generating myopia,¹³ but here it seemed to be subordinate to the severity of the eye disease for which the ablation therapy was applied.

HANS C FLEDELIOUS
University Eye Clinic of Rigshospitalet, 2100
Copenhagen Ø, Denmark

- Choi MY, Park IK, Yu YS. Long term refractive outcome in eyes of preterm infants with and without cryotherapy of prematurity: comparison of keratometric value, axial length, anterior chamber, and lens thickness. *Br J Ophthalmol* 2000;84:138–43.
- Cryotherapy for Retinopathy of Prematurity Cooperative Group. Multicenter trial of cryotherapy for ROP: preliminary results. *Arch Ophthalmol* 1988;106:471–9.
- Reese AB, King MJ. A classification of retrolental fibroplasia. *Am J Ophthalmol* 1953;36:1333–5.
- International Committee for the Classification of the Late Stages of Retinopathy of Prematurity: An International Classification of Retinopathy of Prematurity. II. The classification of retinal detachment. *Arch Ophthalmol* 1987;105:906–12.
- Saunders RA, Donahue ML, Berland JE, *et al*. Non-ophthalmologist screening for retinopathy of prematurity. *Br J Ophthalmol* 2000;84:130–4.
- Fledelius HC. Prematurity and the eye. Thesis. *Acta Ophthalmol* 1976;(Suppl) 128.
- Fledelius HC. Myopia of prematurity. Oculometric considerations based upon a Danish material. In: White D, Brown RE, eds. *Ultrasound in medicine*. Vol 3A. New York: Plenum Press, 1977:959–62.
- Tane S, Ito S, Kushi H, *et al*. Echographic biometry in myopia of prematurity in Japan. In: Gernet H, ed. *Diagn Ultrason Ophthalmol*. Münster: Remy, 1979:190–4.
- Yamamoto M, Tatsugami H, Bun J. A follow-up study of refractive errors in premature infants. *Jpn J Ophthalmol* 1979;23:435–43.
- Fledelius HC. Myopia of prematurity, clinical patterns. A follow-up of Danish children now aged 3–9 years. *Acta Ophthalmol (Scand)* 1995;73:402–6.
- Gallo JE, Fagerholm P. Low-grade myopia in children with regressed retinopathy of prematurity. *Acta Ophthalmol (Copenh)* 1993;71:519–23.
- Fledelius HC. Preterm delivery and subsequent ocular development. A 7–10 year follow-up of children screened 1982–84 for ROP. III Refraction, myopia of prematurity. *Acta Ophthalmol (Scand)* 1996;74:297–300.
- Laws F, Laws D, Clark D. Cryotherapy and laser treatment for acute retinopathy of prematurity: refractive outcome, a longitudinal study. *Br J Ophthalmol* 1997;81:12–15.

Cell subpopulations in failed human corneal grafts

EDITOR,—In the well illustrated paper by Kuffová and co-authors,¹ conclusions are presented on the roles of different inflammatory cell phenotypes based on immunohistochemical findings in excised corneal transplants. The detailed pathological findings should be interpreted with caution as insufficient information is presented to support the clinical diagnosis of rejection in some of those patients with graft inflammation.

In several patients in Table 2, and all in Table 3, surface wound healing problems, graft melting, and spontaneous perforation are listed as postoperative complications. However, none of these are clinical features of graft rejection, even in experimental models of unmodified rejection. They are signs typical of HSV epithelial or necrotising stromal keratitis, which can complicate transplantation in patients taking postoperative steroid treatment, particularly in whom HSV keratitis is the primary corneal diagnosis. This possibility would be less likely if the indication for transplantation was a corneal disorder other than HSV or if viral infection was excluded by pathological study of the corneal specimens. It is also possible that in these specimens the immunohistochemical findings represent HSV recurrence accompanied by allograft rejection. However, I question the validity of the conclusions relating to rejection in specimens from those patients with signs indicating possible viral keratitis. This may explain in part, for example, the counterintuitive finding that the number of CD1a/MHC class II double positive cells was not significantly higher in a group with severe inflammation at the time surgery than in the group with no inflammation.

D F P LARKIN
Moorfields Eye Hospital

f.larkin@ucl.ac.uk

- Kuffová L, Holán V, Lumsden L, *et al*. Cell subpopulations in failed human corneal grafts. *Br J Ophthalmol* 1999;83:1364–9.

Reply

EDITOR,—Larkin's letter questions the primary diagnosis in the patients listed in Tables 2 and 3 and suggests possible herpes virus origin of the disease. The question arises from our description of postoperative complications in some of our patients which include graft melting and perforation. We agree that graft melting is not a typical feature of corneal graft rejection.

We would wish to clarify the clinical status of our patients. Only in two patients was the primary condition related to HSV infection. In all other grafts, in which there were surface wound healing problems, the diagnoses included lime burns, keratoconjunctivitis sicca, and Stevens-Johnson syndrome without signs of herpes simplex virus keratitis. In these patients graft epithelial healing problems are related rather to the limbal stem cells and tear film deficiency than to infectious causes. In fact, it is recognised that there are sometimes difficulties in distinguishing graft rejection from infiltration due to chronic epithelial defect. In our patients we made a diagnosis of rejection in association with epithelial healing problems. We cannot exclude the possibility of HSV infection of the transplanted grafts but clinical signs indicated that limbal stem cell

deficiency was the cause of the epithelial healing problem and subsequent graft melting.

MARTIN FILIPEK

Late onset lattice dystrophy

EDITOR.—I read with great interest the article by Stewart *et al*¹ on late onset corneal dystrophy with systemic amyloidosis (familial amyloidosis of the Finnish type/Merotoja syndrome) and their claim that this was the first case described in the UK. I would like to point out our case report published in the *BJO* in November 1999.² We described a classic case of Merotoja syndrome in an English woman which was confirmed by genetic testing of the patient and her daughter who both demonstrated the point mutation on the gelsolin gene located on chromosome 9.

The authors bring to our attention a second family with this disorder and rightly state that the concept of a geographically limited disorder—namely, familial amyloidosis of the Finnish type, must be treated with caution as indeed the condition can occur elsewhere.

In our patient, immunocytochemistry of the corneal button removed at keratoplasty showed no labelling of the amyloid deposits with antibodies to pre-albumin, amyloid A, and amyloid P. This was in contrast with other studies where amyloid stained with antisera to serum amyloid P.³ Whether this represents a subtype of the condition is uncertain and it would be interesting to compare findings with Stewart *et al*¹ although there is no mention of immunocytochemistry results in their paper.

A A MEARZA

Department of Ophthalmology, The Royal Free Hospital, Pond Street, London NW3 2QG

- 1 Stewart HS, Parveen R, Ridgway AE, *et al*. Late onset lattice dystrophy with systemic familial amyloidosis, amyloidosis V, in an English family. *Br J Ophthalmol* 2000;84:390–4.
- 2 Mearza AA, Ajaio M, Etchells DE. Familial amyloidosis of the Finnish type. *Br J Ophthalmol* 1999;83:1306–11.
- 3 Starck T, Kenyan KR, Hannin LA. Clinical and histopathologic studies of two families with lattice corneal dystrophy and familial amyloidosis (Merotoja syndrome). *Ophthalmology* 1991;98:1197–206.

Topical analgesia during retinal laser photocoagulation

EDITOR.—We read with interest the report by Weinberger *et al*,¹ evaluating the analgesic effect of topical sodium diclofenac 0.1% during retinal laser photocoagulation. They found that topical sodium diclofenac 0.1% was associated with a statistically significant lower pain score compared with topical sodium chloride 0.9%, in patients receiving panretinal photocoagulation. It was concluded that topical sodium diclofenac 0.1% should be applied before panretinal photocoagulation. We agree with the authors that topical sodium diclofenac 0.1% has a better analgesic effect than topical sodium chloride 0.9% in this group of patients. However, this finding may not be clinically relevant. Topical sodium chloride 0.9% does not have any significant analgesic effect. Moreover, it is a common practice that patients receive topical anaesthetic, like oxybuprocaine 4%, before the procedure of panretinal photocoagulation. It may be more meaningful to compare the analgesic effect of these two groups of agents. There is also concern about the side effects of topical diclofenac. Ocular stinging is one of them.^{2,3} This may cause patient discomfort, as well as

affect the rating of pain score of the panretinal photocoagulation procedure. Exacerbation of asthma by topical diclofenac has been reported.⁴ It may not be the appropriate analgesic in laser treatment for asthmatics and in patients with obstructive airway diseases. In summary, the role of topical diclofenac in patients receiving panretinal photocoagulation needs further evaluation.

Financial and proprietary interest: Nil.

ALVIN K H KWOK
T H WONG
DENNIS S C LAM

Department of Ophthalmology and Visual Sciences, the Chinese University of Hong Kong, Hong Kong Eye Hospital, Hong Kong

Correspondence to: Dr Alvin K H Kwok, Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, 3/F Hong Kong Eye Hospital, 147K Argyle Street, Hong Kong, kwokkh@ha.org.hk

- 1 Weinberger D, Ron Y, Lichter H, *et al*. Analgesic effect of topical sodium diclofenac 0.1% drops during retinal laser photocoagulation. *Br J Ophthalmol* 2000;84:135–7.
- 2 Szucs PA, Nashed AH, Allegra JR, *et al*. Safety and efficacy of diclofenac ophthalmic solution in the treatment of corneal abrasions. *Ann Emerg Med* 2000;35:131–7.
- 3 Seitz B, Sorken K, LaBree LD, *et al*. Corneal sensitivity and burning sensation. Comparing topical ketorolac and diclofenac. *Arch Ophthalmol* 1996;114:921–4.
- 4 Sharir M. Exacerbation of asthma by topical diclofenac. *Arch Ophthalmol* 1997;115:294–5.

BOOK REVIEWS

The Art of LASIK. JJ Machat, SG Slade, LE Probst, eds. 2nd ed. Pp 544; £155. Thorofare, NJ: Slack Inc, 1998. ISBN 1-55642-386-1.

The Art of LASIK is the second edition of the well known *Excimer Refractive Surgery: Practice and Principles*, by Jeffrey Machat, Stephen Slade, and Louis Probst. It is an outstanding reference, not only for the ophthalmic refractive surgeon but also for anyone managing or co-managing patients who have had or plan to have laser refractive surgery. With the successes of refractive surgery for myopes, hyperopes, and astigmats being on everyone's lips, it is easy to become complacent as the number of successful cases and satisfied patients continues to mount. While the first edition placed great emphasis on procedures and techniques, there have been numerous advances in both instrumentation and in refinements of surgical technique in the intervening years to warrant a second edition. However, as one reads this volume, which has the contributions and clinical expertise of 45 clinicians worldwide, one cannot help but be impressed with its comprehensive scope, but more importantly, with the authors' concerns for avoidance of preventable conditions and their detailed management plans when postoperative complications do occur. *The Art of LASIK* also provides the reader with innovative chapters on the use of LASIK in patients with previous ocular surgery, as well as topography assisted laser ablation, and management of complex LASIK cases.

As one would expect, section one's introductory chapter deals with refractive surgery options and with the historical evolution of

today's LASIK procedures from keratomileusis, PRK, keratophakia, epikeratoplasty, and automated lamellar keratoplasty, as well as newer peripheral mass addition techniques (such as intracorneal rings and gel injection adjustable keratoplasty). Dr Machat presents an excellent chapter on the fundamental principles of excimer lasers and excimer laser surgical ablation, including discussion of the need for continual maintenance and the continual calibration of such lasers. He rightfully points out that despite the phenomenal precision in tissue ablation by the excimer laser, PRK's limitations revolve around the much less predictable effects of wound healing, thus paving the way for LASIK's embrace by refractive surgeons worldwide. A useful section dealing with Munnerlyn's formula for ablation depth and mathematical considerations involved in microkeratome produced flap thickness, maintenance of adequate residual stromal thickness, and diameter of ablation zone is provided, along with specific highlighted "pearls" showing the maximal correction possible using various LASIK techniques. These highlighted clinical pearls are present throughout the book, which serve to nicely emphasise major points and clinical observations.

LASIK surgeons will find the chapter on predictive formulas for LASIK most valuable, with nomograms provided for various levels of refractive correction and for different lasers. The discussion of adjustment factors, based on altitude of the treatment centre, age of patient, and even dryness of the climate, is most interesting, as well as the discussion of LASIK nomogram refinement from postoperative results.

Section two deals with the instrumentation involved in the LASIK procedure, including speculums, corneal markers, tonometry, forceps and spatulas, as well as irrigation cannulas and antidesiccation chambers (in the rare event of a free flap). A very useful chapter devoted to in-depth discussion of various traditional microkeratomes and their comparative data is presented, along with excellent photographs. A specific chapter devoted to the operation of the Chiron Hansatome and the "down-up" LASIK technique for production of a superior based hinge will be welcomed by both experienced and novice LASIK surgeons alike. This section also has the individual chapters devoted to disposable keratomes including the FLAPmaker (used on a monitored basis as numerous sites worldwide, including the Center for Sight at the Queen Victoria Hospital) and the Hydroblade water-jet microkeratome.

Section three is devoted to the preoperative evaluation of the patient. This is an extremely important topic, which should be read by anyone involved in the care of the LASIK patient. To quote Dr Machat, "Managing patient expectations is the pivotal element to creating happy refractive patients". Additionally, he writes "A surgeon who never has a complication is one who never performs surgery". Candidate selection, careful screening for pre-existing conditions and anatomical limitations, as well as contraindications for LASIK are thoroughly explored, as is the topic of LASIK as the procedure of choice of patients over the age of 40 is given, but the reality is that few refractive surgeons wish to retreat patients, and as such bilateral LASIK treatment is commonly recommended. This is unfortunate as most presbyopic patients wish to shed their glasses or their presbyopic

contact lenses (monovision or bifocal variety) and now must use glasses to read.

Section four includes seven chapters devoted to detailed descriptions and superb photographic and diagrammatic illustrations of personal LASIK surgical techniques of some of the world's outstanding LASIK surgeons. This will surely be one of the most valuable sections of this text for surgeons beginning their LASIK practices. Section Five is devoted to the topic of LASIK enhancements, whether for refractive undercorrection or regression, or for complications such as central islands, epithelial ingrowth, flap striae, or flap melt.

Section six deals with another critical issue for both the refractive surgeon as well as the co-managing optometrist—namely, the postoperative care of the LASIK patient. Here we have an excellent chapter detailing the specific normal and potentially abnormal responses occurring in the intermediate postoperative period, as well as in weeks and months after surgery. A wonderful section on corneal topography evaluation is presented, along with an excellent chapter written by co-managing optometrist (Dennis Kennedy, OD), illustrating how effectively the healthcare team can work in the best interest of the patient.

The next section presents details of surgical outcomes for LASIK, including studies done at the Emory Vision Correction Center, TLC (The London [Ontario] Laser Center) outcome studies, and the CRS LASIK study. Two chapters follow, devoted to hyperopic LASIK. Another two deal with LASIK following penetrating keratoplasty, RK, and intraocular surgery such as phakic IOLs.

Section nine is another "must read" for the refractive surgeon, as it includes several chapters with specific treatment techniques for LASIK complications. The photographs and diagrams in these chapters are invaluable and every conceivable complication is dealt with thoroughly, including chapters on epithelial ingrowth, flap striae, and overcorrection. My one criticism of this section comes only from an editorial viewpoint, in that there is considerable overlap in the topics discussed by the several chapter authors in this section, which could have been streamlined by the editors. However, as with most ocular complications of surgical procedures and/or ocular diseases, there is a variation in clinical treatment detail, even though the basic management principles are likely to be the same. Thus the reader may appreciate these treatment variances when reading this section.

The final section deals with topography assisted LASIK techniques that can be helpful in cases of decentred ablation zones after PRK, irregular astigmatism after PK and RK, and asymmetric corneal astigmatism. In addition, the reader will appreciate the last chapter which contains 15 clinical cases involving complex LASIK management.

The Art of LASIK is an outstanding collaborative effort. The editors and contributors are highly experienced, and have greatly expanded our knowledge of this increasingly popular surgical treatment of refractive conditions. Its major strengths lie in its emphasis on careful patient selection and counselling, meticulous preoperative, surgical, and postoperative examination techniques, and in effective management of complications. *The Art of LASIK* should be read not only by refractive surgeons, but by all ophthalmic clinicians involved in the care of the refractive surgery patient.

JOEL A SILBERT

Director, Cornea and Specialty Contact Lens Service,
The Eye Institute, Philadelphia, PA, USA

Clinical Ocular Photography. By Denise Cunningham. Pp 140; £24.95. New Jersey: Slack, 1998. ISBN 1-55642-377-2.

As part of the *Basic Bookshelf for Eyecare Professionals* series Denise Cunningham's contribution on clinical ocular photography does exactly what it says and gives a clear, basic explanation of a range of photographic skills and techniques needed to provide an ophthalmic photography service.

Aimed at professionals in all branches of eye care, subjects covered include basic and scientific photography, ophthalmic photography, external eye, fundus photography, slit lamp photography, and fluorescein angiography with sections on relevant darkroom techniques and photographic organisation.

There are 140 pages including a comprehensive bibliography and useful index. The photographs used to illustrate various viewpoints are excellent and ingeniously devised—for example, the use a photograph of the face with drawings of the pattern of blood vessels held in front of each eye to show orientation. The quality of reproduction in the publication is somewhat lacking, although this is not glossy hardback and the price reflects this. It is suggested that gaining knowledge of the interpretation of fluorescein angiography, including pattern recognition and association with disease or disorders, will make individuals' work more stimulating and also make them more valuable to the employer.

This book does not include digital photography of any kind and neither anterior segment fluorescein angiography nor indocyanine green angiography get a mention. However, although the digital age is with us all, a good background awareness of silver based photography as related to ophthalmic photography is still very important, and this publication provides it.

ALISON FARROW

Ophthalmic Ultrasound: a Diagnostic Atlas. By Cathy Dibernado, Andrew Schachat, and Sharon Fekrat. Pp 160; £63. Stuttgart: Thieme, 1999. ISBN 3-13108-631-9.

This book is a diagnostic atlas of ophthalmic A and B mode images. The diagnostic scanning techniques and labelling formats are described with clarity in the opening chapter. The techniques described are based on those of Karl Ossoinig, which have been further refined by Sandra Byrne.

B-scans are taken using a dedicated eye scanner with a mechanically rocked single transducer producing a sector format image. The probe is coupled to the open eye with methyl cellulose coupling. The dedicated eye scanners are much less sensitive than their more modern whole body counterparts, and often operators work on the open eye to avoid a reduction in sensitivity caused by attenuation of sound as it is transmitted through the eyelid.

This atlas contains over 400 diagnostic images, three quarters of which are B-scans. This reflects a shift in stress away from the A mode technique. Each chapter concentrates on a different portion of the globe. The resolution and grey scale on images is in general poor but, despite this, the authors illustrate some retinal tears and the diagnoses given in the clear and comprehensive figure legends are correct.

The book does not cover colour flow mapping or spectral Doppler techniques nowadays used routinely to image blood flow. The authors generally attempt to determine blood flow in tumours by flickering of echoes as seen using A mode techniques.

I found this atlas to be a clearly presented and, within the limitations mentioned above, well balanced book. I would recommend it to all those using dedicated eye scanners, and to those starting out in ophthalmic ultrasound.

MARIE RESTORI

Clear Corneal Lens Surgery. Ed I Howard Fine. Pp 374; £100. New Jersey: Slack Incorporated, 1999. ISBN 1-55642-381-0.

This book will, no doubt, sell well. It has a well known editor and many prominent contributors. The book has a high quality feel to it but is let down by the very poor photographic reproduction of many of the photographs taken from preoperative videos. James Davidson (chapter 12) can produce reasonable quality stills. Why can't the other contributors? Tables and figures, taken from lectures, may look great on screen, but look tacky when incorporated into text. There is clearly no "house style" since some of the chapters have attractive line drawing figures in the text. The lack of style is irritating in a subject where presentation is so obviously important. Equally irritating is the needless repetition of some figures.

I found the title a little misleading since several of the chapters, particularly those towards the end of the book, really have very little to do with clear corneal incisions. Only a relatively small portion of the book actually deals with the incision itself. For the most part what you have is a series of descriptions of "How I do phaco" by a series of well known cataract surgeons, which is fine. Of course, there are lots of other books along the same lines and another would probably not look so attractive. What would be a catchy title for another of the same? *Clear Corneal Lens Surgery?* Am I being cynical?

Clear corneal cataract incisions were not practised very widely in the USA before phacoemulsification but many British and quite a few European readers will have been entirely at home with an extracapsular extraction through a clear corneal incision and will have been familiar with its many advantages over a corneoscleral incision. Thus, moving from a scleral tunnel to the cornea as they settled into phaco techniques was a natural and welcome step. I thought the chapter on historical background was superficial and lacking the detail which subsequent chapters contained. Expansion could have made a much more fluent introduction to the book and would have helped put it in better context.

Reading most of the chapters in the main part of the book I found it difficult to believe I was not reading a formalised version of the authors' talks on their favourite method of performing cataract surgery. There was a lot of description and opinion but not very much in the way of explanation or justification. This is not the sort of book that one could dip into, and it certainly is not the sort of "cookbook" that could take a beginner through a procedure. Someone trying to identify a technique that would suit his or her personal style would have to work quite hard to get what was wanted. The information is there but there is a great deal of repetition in the process.

In summary, dear reader, if you are the sort of person who likes to read or hear about lots of nice cataract surgeons do their cataracts, then this is just the sort of book that you'll like.

COLIN M KIRKNESS

Developments in Ophthalmology. Vol 32 Mycosis of the Eye and its Adnexa. Ed W Behrens-Baumann. Pp 201; £93.26. Basle: Karger, 1999. ISSN 0250-3731.

It really is a misnomer to refer to Professor Behrens-Baumann as editor since he has written all but the first chapter himself. I must plead a certain personal pleasure in being asked to review this book, since I have always found Behrens-Baumann's writing clear and to the point. He writes from a position of strength about things he understands in a way that is comprehensible to the clinician.

The approach is straightforward and logical. An overview of important ocular pathogenic fungi is provided by a mycologist. Thereafter, there is a clear exposition of the few antifungal drugs available to us including a useful description of how these can be manufactured in drop form, which is of considerable use to those ophthalmologists working without the support of a good manufacturing pharmacy department.

There follow three large chapters or sections covering adnexal infection, keratomycosis, and fungal endophthalmitis. Histoplasmosis is treated separately and, finally, there is a chapter on laboratory experimental work which probably could be subdivided into animal models and pharmacology.

If I have any criticism it is about the very extensive listing the author provides in the clinical section. He has large tables listing fungi that have caused infection in various sites—for example, lids, cornea, or endophthalmitis. It is not explicit that these lists are meant to be exhaustive but the presentation makes one assume they are. They are not. He omits a number of single case reports of infections while including others. This may just be the fault of his search engine or perhaps more likely the fact that he missed them when they were first published. It is a small point but it detracts from what otherwise would be an encyclopaedic work.

The text is, nevertheless, concise. There are only 201 pages and many of these are lists of references (381 on keratomycosis). It is highly readable and of good practical value not just for the candidate cramming for Part 3 membership but for anyone, either specialist or non-specialist, who has to manage a case of fungal infection. He gives useful information on how to improve the yield of laboratory investigation, always a difficult question. Perhaps this section could have been expanded a little. I would also have liked to have seen a little more on epidemiology (although this was covered) and on geographic variation which was only mentioned in passing.

These relatively minor whinges aside, this is an important text which should be on the shelves of every departmental library. The pages should be worn from constant reference. Fungal infection in the UK is rare enough that most of us have fairly limited experience in dealing with it. The easily accessed advice of an expert such as Behrens-Baumann is a godsend and is very welcome. Mr clinical director, please buy this book.

COLIN M KIRKNESS

CD ROM REVIEW

Topics in International Health: Trachoma. £45 (\$80) institutional rates; £20 (\$35) individual rate. The Wellcome Trust. Wallingford, Oxon: CABI Publishing, 1998. ISBN 0 85199 242 0.

This is one of a series of CD ROMs on international health produced by the Wellcome Trust. The series was originally planned as a replacement when the trust closed its museum of tropical medicine more than 10 years ago, and has been a long time in gestation. The available software has come a long way in the past 10 years, and we have come to expect a degree of user friendliness that enables a computer illiterate such as myself to gain easy access to the material; but unfortunately this CD ROM did not come up to my expectations in this respect. It was only after some frustration and considerable help from my wife that I was able to get hold of the main menu.

The menu revealed that the material was arranged in three main scenarios: a glossary, an image library, and a tutorial. The glossary is very broad and covers a wide variety of ophthalmological terms that bear no relation to trachoma. The image library is extensive, but includes a large number of pictures of *Chlamydia trachomatis* at various stages of its life cycle in tissue culture; it is hard to see that these will be relevant to most users with an interest in trachoma, who are unlikely to have access to tissue culture facilities. The other unfortunate, but undeniable fact is that all images are of very poor quality when viewed on standard PCs, whether desktop or laptop. I tried both, but the images were at best of advanced cartoon standard. The tutorial was well written and well planned, but also suffered seriously from the poor quality of the images; it would not be possible to learn how to diagnose or grade trachoma with images such as these.

In conclusion, given the choice, I would prefer a simple manual written on paper, which would be more easily accessible, and considerably more informative than this expensively produced CD ROM.

DAVID MABEY

NOTICES

Community participation in eye health and trachoma and the SAFE strategy

The latest issue of *Community Eye Health* (33) discusses provision of services for individuals with refractive errors with an editorial by Hugh R Taylor. For further information please contact *Community Eye Health*, International Centre for Eye Health, Institute of Ophthalmology, 11–43 Bath Street, London EC1V 9EL. (Tel: (+44) (0) 20-7608 6909/6910/6923; fax: (+44) (0) 7250 3207; email: eyesource@ucl.ac.uk) Annual subscription £25. Free to workers in developing countries.

Residents' Foreign Exchange Programme

Any resident interested in spending a period of up to one month in departments of ophthalmology in the Netherlands, Finland, Ireland, Germany, Denmark, France, Austria, or Portugal should apply to: Mr Robert Acheson, Secretary of the Foreign Exchange Committee, European Board of Ophthalmology, Institute of Ophthalmology, University College Dublin, 60 Eccles Street, Dublin 7, Ireland.

Guide Dogs for the Blind Association

The Guide Dogs for the Blind Association will host the 10th International Mobility Conference at Warwick University on 4–7 August 2000. Further details: Guide Dogs, c/o Michelle Grant, One Events (tel: 020 8682 2442; email: michelle@one-events.com).

Ophthalmology 2000

A conference "Eye care in the clinic and the community" will be held 9–12 August 2000 in Melbourne, Australia. Further details: John Keefe, Centre for Eye Research Australia at the Royal Victorian Eye and Ear Hospital, 32 Gisborne Street, East Melbourne 3002, Australia (tel: +61 3 9929 8360; fax: +61 3 9662 3859; email: 2000@cera.unimelb.edu.au).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series

A course entitled "Diagnostic Ultrasound in the 21st Century" will be held in New York City, NY, on 25–27 August 2000. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).

DR-2000, International Forum on Diabetic Retinopathy

The International Forum on Diabetic Retinopathy will take place on 7–9 September 2000 at the Palazzo Reale, Naples, Italy. Further details: Francesco Bandello, Congress Secretariat, MGR Congressi, Via Servio Tullio, 4, 20123 Milano, Italy (tel: 39 02 430071; fax: 39 02 48008471; email: dr2000@mgr.it).

VIII Tuebingen Angiography course

The VIII Tuebingen Angiography course with wet lab will take place on 9 September 2000 in the auditorium, University Eye Clinic, Schleichstrasse 12, 72076 Tuebingen, Germany. Further details: WIT-Wissenstransfer, Universität Tuebingen (tel: ++49 7071-29 76439; fax: ++49 7071 29 5051; email: wit@uni-tuebingen.de/wit).

30th Cambridge Ophthalmological Symposium

The 30th Cambridge Ophthalmological Symposium entitled "The Ageing Macula" will be held on 13–15 September 2000 at St John's College Cambridge. Chairman: Professor Alan Bird. Further details: COS Secretariat, Cambridge Conferences, The Lawn, 33 Church Street, Great Shelford, Cambridge CB2 5EL (tel: 01223 847464; fax: 01223 847465; email: b.ashworth@easy.net.co.uk).

Ophthalmic Anesthesia Society—14th Annual Meeting

The Ophthalmic Anesthesia Society will hold its 14th annual meeting on 15–17 September 2000 at the Wyndham Chicago Hotel, Chicago, Illinois, USA. Further details: Allied Management Associates (tel: 760-751-8841; fax: 760-751-8842; we: www.amianc.com).

European Association for Vision and Eye Research (EVER)

The European Association for Vision and Eye Research (EVER) will be meeting on 4–7 October 2000 in Palma de Mallorca, Spain. Further details: Secretariat EVER, Postbus 74, B3000 Leuven, Belgium (fax: +32 16 33 67 85; email: EVER@med.kuleuven.ac.be).

Fifth Annual Meeting of the Association for Ocular Pharmacology and Therapeutics

The Fifth Annual Meeting of the Association for Ocular Pharmacology and Therapeutics will be held on 2–5 November 2000 in Birmingham, AL, USA. Further details: Jimmy D Bartlett, OD, Department of Optometry, University of Alabama at Birmingham, 1716 University Blvd, Birmingham, AL 35294-0010, USA (tel: 205-934-6764; fax: 205-975-7052; email: jbartlett@icare.opt.uab.edu).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series

A course entitled “Ultrasound Diagnosis and Management of Fetal Growth Abnormalities” will be held in Las Vegas, Nevada, on 3–5 November 2000. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).

Mind’s Eye 2—Psyche and Sight Loss

The Society for Psychosomatic Ophthalmology and the British Psycho-Analytical Society present a conference “Mind’s Eye 2—Psyche and Sight Loss” on 4 November 2000 at the Institute of Psycho-Analysis, London. Further details: Mandy O’Keeffe, 67 Avenell Road, London N5 1BT (tel: 020 7288 2359; email: okeeffe@ukgateway.net).

12th Afro-Asian Congress of Ophthalmology

The 12th Afro-Asian Congress of Ophthalmology (Official Congress for the Afro-Asian Council of Ophthalmology) will be held on 11–15 November 2000 in Guangzhou (Canton), China. The theme is “Advances of ophthalmology and the 21st century”. Further details: Professor Lezheng Wu, Zhongshan Eye Center, SUMS, New Building, Room 919, 54 Xianlie Nan Road, Guangzhou 510060, PR China (tel: +86-20-8760 2402; fax: +86-20-8777 3370; email: lwuicv@gzsums.edu.cn).

Singapore National Eye Centre 10th Anniversary International Congress

The Singapore National Eye Centre 10th Anniversary International Congress will be held in conjunction with 3rd World Eye Surgeons Society International Meeting on 2–4 December 2000 at the Shangri-La Hotel, Singapore. Further details: The Organising Secretariat, 11 Third Hospital Avenue, Singapore 168751 (tel: (65) 2277255; fax: (65) 2277290; internet: www.snec.com.sg).

The Hong Kong Ophthalmological Symposium ’00

The Hong Kong Ophthalmological Symposium ’00 will be held 4–5 December 2000, in Hong Kong, China. Further information:

Miss Vicki Wong, Room 802, 8/F Hong Kong Academy of Medicine, 99 Wong Chuk Hang Road, Aberdeen, Hong Kong (tel: (852) 2761 9128; fax: (852) 2715 0089; email: cohk@netvigator.com).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series

A course entitled “Obstetrical Ultrasound” will be held in Marina del Rey, CA, on 12–14 January 2001. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).

Optometry Study Tour to Kenya, Tanzania, and Zanzibar

The tour offers a wonderful opportunity to optometrists and ophthalmologists to examine eye care in East Africa. It will take place from 28 January to 10 February. Further details: Master Travel, Croxted Mews, 288 Croxted Road, London SE24 9BY (tel: 0208 678 5320; fax: 0208 674 2712; email: tours@mastertravel.co.uk).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series

A course entitled “Obstetrical and Gynecological Ultrasound” will be held in New York City, NY, on 24–26 August 2001. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).

Contributors please note:

Communications from **all countries except the UK and Republic of Ireland** should be sent to Professor C Hoyt, Editor, *British Journal of Ophthalmology*, University of California, Department of Ophthalmology, 10 Kirkham Street, K 301, San Francisco, CA 94143-0730, USA (tel: 001 415 502-6871; fax: 001 415 514-1512).

Manuscripts from the **UK and the Republic of Ireland** should be sent to Professor Andrew Dick, UK Editor, *British Journal of Ophthalmology*, Division of Ophthalmology, University of Bristol, Lower Maudlin Street, Bristol BS1 2LX (tel: +44 (0)117 929-4496; fax: +44 (0)117 929-4607).