

MAILBOX

An "overtrained" ophthalmologist responds

EDITOR.—As one of the most "overtrained"(!) ophthalmologists in the United Kingdom at the present time, I was delighted and stimulated to read the excellent, erudite, and witty commentary by James Acheson.¹ I think that the issue that lies at the heart of the matter is, as Mr Acheson himself puts it, "It all depends on what you mean by training . . ." Surely one of the driving reasons behind the length of all specialist training in the UK has always been the high demands of the service commitment of the senior house officer and registrar grades alike. Until the issue of doctors' numbers can begin to be tackled at a meaningful level in the UK we shall forever have the push-pull politics of service versus training. It is still worth pointing out that we have the lowest number of doctors per capita in the developed world, bar only Greece and Albania.

It is also very true that the standards of ophthalmology training in the UK are regarded very highly by trainees from overseas, who regularly come to the UK to complement and polish off their training. However, they come mainly for subspecialty training and often go to superspecialist regional centres, where they act as fellows, often in a somewhat privileged position. They are able to benefit from the high level of internationally renowned expertise in their chosen field that the UK is still able to provide. We in the UK face a rather unique situation, in that superspecialist fellowship training is quite rightly becoming the norm while still being outside the national Calman training programme. This sends a very mixed message about its value to the powers that be. It is also far from easy for every trainee to find a suitable fellowship and funding.

So, on the one hand the length of training could be shortened by tackling the issue of service versus training demands, and on the other hand perhaps training could formally be lengthened to ensure that British ophthalmologists are able to stay at the forefront of their chosen fields in the international arena.

We all await developments with interest!

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1 Acheson J. Are ophthalmologists overtrained? *Br J Ophthalmol* 2001;85:383-4.

Biometric aspects and comparison with published papers

EDITOR.—In their discussion on central corneal thickness determined with optical coherence tomography in glaucoma in the *BJO*, Bechmann *et al*¹ mention the results of Ehlers *et al*.² and compare them with the results of Whitacre *et al*³ without regarding generally accepted principles of interpretation.⁴ Some biometrical considerations will be found in the following.

In the paper by Ehlers *et al* in figure 4 the correlation coefficient between the correction value and corneal thickness is 0.768 at $n = 29$. In the comparable figure 2 of Whitacre *et al* no correlation coefficient is given at $n = 15$. This

coefficient was calculated by us after digitalising the data points. It equals 0.51. According to Klemm,⁴ (page 97) the estimate of regression is extremely unreliable and thus useless at $r < |0.6|$. The data of Ehlers *et al*, therefore, are much more convincing than the data of Whitacre *et al*. This fact does not reduce the merit of Whitacre, who brought the problem of corneal influence on tonometry to our notice.

It escaped the attention of Bechmann *et al* that figure 4 of Ehlers *et al*² and figure 2 of Whitacre *et al*³ differ fundamentally from figure 2 in the paper by Wolfs *et al*.⁵ Furthermore, regarding the results of the Rotterdam study, the ordinate of figure 4 of Ehlers *et al* shows the correction value according to corneal thickness, and in figure 2 of Whitacre *et al* the ordinate shows the measurement error according to corneal thickness. These two ordinates (Ehlers *et al* and Whitacre *et al*) differ by sign and show the result of subtraction of intracamerally measured IOP and applanation tonometry values. The ordinate in figure 2 of the Rotterdam study, however, shows the results of applanation tonometry. This is a fundamental difference that absolutely forbids a comparison. The Rotterdam study does not provide a correlation coefficient of the data shown in figure 2, which may be interpreted as a cloud of points. We have similar data and have calculated the coefficient of correlation $r = 0.17$. Therefore, in this case it may be concluded that the estimate of regression is playing with figures only (Klemm,⁴ page 97).

In summary, the data of Ehlers *et al* currently show the association of measurement error and corneal thickness in the most convincing way. Although Bechmann *et al* have (erroneously) seen a small influence of central corneal thickness in IOP measurement in the literature they attribute an important part to corneal thickness in the diagnosis and understanding of various types of glaucoma. It can be concluded from the context that the authors treat corneal thickness as a new quantity in the diagnosis of glaucoma, comparable with optic disc parameters. They have nicely shown different values of corneal thickness in the various types of glaucoma. However, they do not believe that corneal thickness influences applanation tonometry. Therefore, they have to explain their findings in a more complicated way. The psychologist and philosopher Watzlawick⁶ (page 67) states that we prefer declaring undeniable facts (which are inconsistent with our explanation) to be untrue or unreal instead of fitting our explanation to these facts. The application of biometric knowledge in judging the data of Whitacre *et al*³ and a reinterpretation of figure 2 of the Rotterdam study⁵ may fit the opinion of the authors to the most likely explanation⁷⁻⁹ that corneal thickness influences the results in applanation tonometry to a clinically relevant degree, and that recommends the application of OCT in the diagnosis of glaucoma if available.

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- 1 Bechmann M, Thiel MJ, Roesen B, *et al*. Central corneal thickness determined with optical coherence tomography in various types of glaucoma. *Br J Ophthalmol* 2000;84:1233-7.
- 2 Ehlers N, Bramsen T, Sperling S. Applanation tonometry and central corneal thickness. *Acta Ophthalmol (Copenh)* 1975;53:34-43.
- 3 Whitacre MM, Stein RA, Hassanein K. The effect of corneal thickness on applanation tonometry. *Am J Ophthalmol* 1993;115:592-6.
- 4 Klemm PG. *Keine Angst vor Biomathematik*. Berlin: Ullstein Mosby, 1993.

- 5 Wolfs RC, Klaver CC, Vingerling JR, *et al*. Distribution of central corneal thickness and its association with intraocular pressure: The Rotterdam Study. *Am J Ophthalmol* 1997;123:767-72.
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- 8 Stodtmeister R. Applanation tonometry and correction according to corneal thickness. *Acta Ophthalmol Scand* 1998;76:319-24.
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Major orbital complications of endoscopic sinus surgery

EDITOR.—We read with interest the article by Rene *et al*.¹ We would like to clarify a few points regarding endoscopic sinus surgery. Endoscopic sinus surgery is considered by many to be the most exciting development in otolaryngology. The aim is to restore the natural mucociliary clearance mechanism, drainage, and aeration of the sinuses by a minimally invasive technique, maintaining as much of the normal anatomy as possible.² We agree with the authors that the incidence of ocular complications is low and similar to those reported by other non-endoscopic approaches.³ The authors mentioned CT scanning as a preoperative measure to reduce complications; this is a well established practice in all departments that practise endoscopic sinus surgery. Orbital complications are more likely to occur in patients with extensive polyposis especially those who had multiple surgery; however, in a survey of British otolaryngologists⁴ the overall estimated complication rate was 0.24%. As a matter of fact endoscopic sinus surgery techniques are being used to treat orbital complications such as malignant exophthalmos in thyroid eye disease.⁵ We believe that the key to avoiding such complications is the adequate understanding of the nasal anatomy endoscopically, which is only achieved through attending specialised workshops that are widely available throughout the country; adequate haemostasis intraoperatively is of paramount importance. If complications are encountered then the immediate termination of the procedure is recommended and an urgent ophthalmological opinion should be sought.

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- 1 Rene C, Rose GE, Lenthall, *et al*. Major orbital complications of endoscopic sinus surgery. *Br J Ophthalmol* 2001;85:598-603.
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- 4 Cumberworth VL, Sudderick RM, Mackay IS. Major complications of functional endoscopic sinus surgery. *Clin Otolaryngol* 1994;19:248-53.
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Posterior canal predominance in bilateral skew deviation

EDITOR.—We were excited to see the recent case report of Park *et al* regarding the 30 year old man with horizontal locked-in syndrome and disconjugate gaze.¹ We were intrigued by the description of his eye movements on attempted horizontal gaze, whereas “when the patient was asked to look to the right side, the right eye moved upward with intorsion, and at the same time, left eye moved downward and extorsion . . . when the patient was asked to look to the left side, . . . the left eye moved upward with intorsion whereas the right eye moved downward with extorsion.” Magnetic resonance imaging revealed a large ventral pontine infarct. The authors postulated that the lesion caused a disturbance in the neural integration of prenuclear inputs to the interstitial nucleus of Cajal.

We believe we can refine further their mechanism for this observed disconjugate gaze based on the anatomy of the vestibular ocular reflect pathways, as it is probably a type of bilateral skew deviation. Each semicircular canal provides excitatory innervation to an extraocular muscle and its contralateral yoke, and inhibitory innervation to the corresponding antagonist extraocular muscles.² The otolithic pathways are less well understood but are believed to follow the same pathways as the semicircular canal pathways.³ Each anterior semicircular canal provides excitatory innervation to the ipsilateral superior rectus and the contralateral inferior oblique muscle, while inhibiting the yoke ipsilateral inferior rectus and contralateral superior oblique muscle. Unilateral injury to these vestibular-ocular pathways produces classic skew deviation with hypertropia of one eye in all fields of gaze, whereas bilateral injury produces alternating hypertropia in side gaze. Bilateral damage to anterior canal pathways causes a posterior canal predominance with bilateral tonic downgaze.⁴

Theoretically, bilateral damage to the otolithic-ocular pathways corresponding to those of the anterior semicircular canal should produce the motility disturbance described in the patient reported by Park *et al*. The disinhibition resulting from such damage would produce posterior canal predominance, and increase tonus to all four depressors (both inferior recti and both superior obliques). Since the vertical action of the superior oblique is more prominent in adduction, the abducting eye should have a relative hypertropia on side gaze (alternating skew on lateral gaze). Likewise, because the torsional action of the superior oblique is more prominent in abduction, dynamic intorsional movements of the hypertropic eye would be seen on attempted abduction.

In this scenario, fundus examination should demonstrate bilateral intorsion in primary position, and detailed motility measurements would show an A-pattern. However, these findings would have been difficult to detect in this patient who could not elevate the eyes above the midline. We believe that bilateral injury to the same pathways may be responsible for A-pattern strabismus and bilateral superior oblique overaction seen in some patients with posterior fossa disease.⁵

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NOTICES

Onchocerciasis

The latest issue of *Community Eye Health* (No 38) discusses onchocerciasis and the impact of interventions, with an editorial by Bjorn Thylefors, former director of the Programme for the Prevention of Blindness and Deafness, WHO. 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.

International Centre for Eye Health

The International Centre for Eye Health has published a new edition of the *Standard List of Medicines, Equipment, Instruments and Optical Supplies* (2001) for eye care services in developing countries. It is compiled by the Task Force of the International Agency for the Prevention of Blindness. Further details: Sue Stevens, International Centre for Eye Health, 11-43 Bath Street, London EC1V 9EL, UK (Tel: (+44) (0) 20-7608 6910; email: eyesource@ucl.ac.uk).

4th Vitreoretinal Symposium Frankfurt-Marburg 2001

The 4th Vitreoretinal Symposium Frankfurt-Marburg 2001 will take place on 2-3 November 2001 at the Department of Ophthalmology, University of Frankfurt/Main, Germany. Further details: Prof Dr Frank Koch, Department of Ophthalmology, University of Frankfurt/Main, Theodor-Stern-Kai 7, D-60590, Frankfurt/Main, Germany (tel: +49 69/6301-5649; fax: +49 69/6301-5621; email F.Koch@em.uni-frankfurt.de).

22nd Annual Meeting of the Glaucoma Society (UK & Eire)

The 22nd Annual Meeting of the Glaucoma Society (UK & Eire) will take place on 22 November 2001 at the Central Conference

Centre, 90 Central Street, London EC1V 8AQ.

The Allergan Guest Lecture will be delivered by Professor Jost Jonas of the University of Erlangen, Germany on the subject of the optic disc.

Further details: Mrs Janet Flowers, Administrator, 29 Quarry Hill, Grays, Essex, RM17 5BT (tel/fax: 01375 383172; email: glaucomasocukeire@talk21.com; website: www.iga.org.uk).

41st St Andrew's Day Festival Symposium on Therapeutics

The 41st St Andrew's Day Festival Symposium on Therapeutics will be held on 6-7 December 2001 at the Royal College of Physicians of Edinburgh. Further details: Ms Eileen Strawn, Symposium Co-ordinator (tel: 0131 225 7324; fax: 0131 220 4393; email: e.strawn@rcpe.ac.uk; website: www.rcpe.ac.uk).

4th International Conference on the Adjuvant Therapy of Malignant Melanoma

The 4th International Conference on the adjuvant therapy of malignant melanoma will be held at The Royal College of Physicians, London on 15-16 March 2002. Further details: Conference Secretariat, CCI Ltd, 2 Palmerston Court, Palmerston Way, London SW8 4AJ, UK (tel: + 44 (0) 20 7720 0600; fax: + 44 (0) 20 7720 7177; email: melanoma@confcomm.co.uk; website: www.confcomm.co.uk/Melanoma).

EUPO 2002 Course Retina

A course on retina will be held on 15-17 March 2002 at Erlangen, Germany, where European professors will teach European residents. Further details: Priv Doz Dr Ulrich Schonherr, Friedrich-Alexander-University of Erlangen-Nuemberg, Department of Ophthalmology, Schwabachanlage 6 (Kopfklimum), D-91054 Erlangen, Germany (tel: +49 9131-853-4379; fax: +49 9131-853-4332; email: ulrich-schoenherr@augen.imed.uni-erlangen.de).

XXIXth International Congress of Ophthalmology

The XXIXth International Congress of Ophthalmology will be held on 21-25 April 2002 in Sydney, Australia. Further details: Congress Secretariat, C/- ICMS Australia Pty Ltd, GPO Box 2609, Sydney, NSW 2001, Australia (tel: +61 2 9241 1478; fax: +61 2 9251 3552; email: ophthal@icmsaust.com.au; website: www.opthalmology.aust.com).

International Society for Behçet's Disease

The 10th International Congress on Behçet's Disease will be held in Berlin 27-29 June 2002. Further details: Professor Ch Zouboulis (email: zoubbere@zedat.fu-berlin.de).