field strength in the mid-cornea to be 2.349×10^{-8} gauss. This agrees with measurements made during the magneto-oculogram.[3]

This field is around 42.5 million times smaller than the Earth's magnetic field. In comparison with the field strengths used in the experiment, the estimated ocular magnetic field is 638 million times smaller than a 15 gauss field, 851 million times smaller than a 20 gauss field and 6.4×10^{10} times smaller than a field of 1500 gauss.

It seems that the field strengths used in the experiment are far higher than any that would be encountered in an eye under normal conditions. In fact, by far the largest field strength in any eye will be that of the Earth, and as these are vector quantities this would significantly disturb any concentric pattern of field lines across the cornea. Perhaps a better test of the hypothesis would be to have an electrical wire running vertically through a tissue culture plate. This could then carry a known current and generate a magnetic field with concentric field lines. The current in the wire and thus the field generated could be altered to test many field strengths, bearing in mind the magnitudes estimated above. The demonstration of epithelial whorling around such a wire generating a much smaller magnetic field would be much better evidence of the validity of the original hypothesis.

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References

1. Dua HS, Singh A, Gomes JAP, Laibson PR, Donoso LA, Tyagi S. Vortex or whorl formation of cultured corneal epithelial cells induced by magnetic fields. Eye 1996;10:447–50.
2. Lorrain P, Corson D. Electromagnetic fields and waves, 2nd ed. Freeman, San Francisco: 1970:296–7.
3. Armstrong RA, Janday B. A brief review of magnetic fields from the human visual system. Ophthalmic Physiol Opt 1989;9:299–301.

Sir,

I concur entirely with the comments made by Davies on our paper cited above. Davies has put in quantitative terms what we have already said in the last paragraph of the paper: 'The hypothesis that we originally set out to test is not totally substantiated by the above experiment. The response of corneal epithelial cells to magnetic fields *in vitro* does not prove that the same occurs on the ocular surface. The electromagnetic field of the eye is, theoretically, several orders of magnitude smaller than that used in the above experiments. This study does however, reveal a unique behaviour of cultured human corneal epithelial cells in response to static magnetic fields.'

Our original study was designed to demonstrate whether corneal epithelial cells exhibited magnetotaxis or magnetotrophism, whatever the strength of the field. As to the rationale of the strength of fields used, we were guided by the only previous publication by Galaktionova[1] in this regard, who had used magnetic field strengths of 0.4–1.6 T to induce changes in mitotic index of murine corneal epithelial cells. The appearance of 'whorls' was, to us, peculiar, unusual, unexpected and interesting. We were aware of the vast differences in order of magnitude of the electromagnetic fields of the eye and those used in the study and, as also indicated by Davies, are at present conducting experiments using a Helmholtz coil to subject corneal cells to finite and measurable quantities of current. We thank Davies for his formulae and calculations, which will certainly help us augment our thoughts in this regard.

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Reference

1. Galaktionova GV. Patterns of cell proliferation in the murine corneal epithelium in various schedules of exposure to static magnetic field. Vopr Kurortol Fizioter Lech Fiz Kult 1985;6:45–8.

Sir,

Fleck *et al.*[1] report in their audit on screening for retinopathy of prematurity (ROP) that no cases of threshold ROP developed in infants with birth weights >1250 g. They question the need to screen infants over 1250 g. Current Royal College of Ophthalmologists (RCO) guidelines recommend that all neonates with a birth weight ⩽1500 g and gestational age ⩽32 weeks should be screened.[2]

A recent audit carried out at St James's Hospital, Leeds, looked at all cases of neonates screened between July 1993 and May 1996. One hundred and eighty-nine patients were screened and a total of 288 screenings were carried out. Only 5 patients developed threshold disease (1.7%) as defined by RCO guidelines for screening of ROP.[2] Birth weights of these individuals ranged from 495 to 780 g (average 810 g).

These findings are consistent with other studies which have also found no cases of cicatricial or threshold ROP among infants with a birth weight >1250 g.[3–6] We agree that the current RCO guide-

lines may need to be modified if other departments report similar experiences to our own. This would not only reduce the number of unnecessary screenings but also lessen the psychological burden on parents who will already be under enormous strain in having to cope with their premature child.

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References

1. Fleck BW, Wright E, Dhillon G, Millar T, Laing IA. An audit of the 1995 Royal College of Ophthalmologists guidelines for screening for retinopathy of prematurity applied retrospectively in one regional neonatal intensive care unit. Eye 1995;9(Suppl):31–5.
2. Royal College of Ophthalmologists and British Association of Perinatal Medicine. Retinopathy of prematurity: guidelines for screening and treatment. The report of a joint working party, 1995.
3. Acheson JF, Schulenburg WE. Surveillance for retinopathy of prematurity in practice: experience from one neonatal intensive care unit. Eye 1991;5:80–5.
4. Palmer EA. Optimal timing of examination for acute retrolental fibroplasia. Ophthalmology 1981;88:662-6.
5. Flynn JT, Bancalari E, Bachynski BN, Buckley EB, Bawol R, Goldberg R, *et al*. Retinopathy of prematurity: diagnosis, severity and natural history. Ophthalmology 1987;94:620–9.
6. Flynn JT. Discussion of the paper 'Optimal timing of examination for acute retrolental fibroplasia' by Palmer EA. Ophthalmology 1981;88:667–8.

Sir,

I read Mr Manners and Mr Burton's excellent paper 'A randomised trial of topical versus sub-Tenon's local anaesthesia for small-incision cataract surgery' (Eye 1996;10:367–70) with great interest, having used topical anaesthesia as my only local anaesthetic technique for in excess of 3 years.

I was, however, quite concerned that the title of this paper was misleading in as much as the 'topical group' were in fact all recipients of a subconjunctival injection of local anaesthesia. This is a sharp needle technique and has theoretical risks of globe perforation, subconjunctival haemorrhage, etc. I believe that this otherwise excellent paper should have been entitled 'A randomised trial of subconjunctival injectional versus sub-Tenon's local anaesthesia for small incision cataract surgery' and I wonder whether the authors would agree with this.

Charles Claoué, MA, MD, FRCS, FRCOphth

North East London Eye Partnership

Sir,

In their paper 'Randomised trial of topical versus sub-Tenon's local anaesthesia for small-incision cataract surgery' (Eye 1996;10:367–70) Manners and Burton compare sub-Tenon's anaesthesia of 4-5 ml with 'topical' anaesthesia. With the latter mode of anaesthesia they additionally administer subconjunctival lignocaine behind the superior limbus to facilitate painless cautery. Strictly speaking this is a study comparing subconjunctival anaesthesia, rather than topical anaesthesia, with sub-Tenon's anaesthesia.

We studied 193 patients undergoing ocular surgery under local anaesthesia. We used peribulbar anaesthesia or subconjunctival anaesthesia (0.3 ml of 2% lignocaine with 1 : 200 000 of adrenaline). For high-volume phaco surgeons 78% of patients had subconjunctival anaesthesia. Not all patients are suitable for this technique and our guidelines are that the patients should be cooperative with uncomplicated ocular anatomy. Surgical experience is essential with this technique; special care is needed during capsulorrhexis as well as during insertion of the intraocular lens. Cooperation of the theatre staff is required during these manoeuvres to avoid distracting patient or surgeon. The advantage of subconjunctival anaesthesia is that the patient can look down to facilitate exposure of the globe and post-operative visual rehabilitation is rapid. This is of real benefit in an only eye.

We found mean pain levels of induction of subconjunctival anaesthesia of 0.5 (median 0, range 0–5) on a visual analogue scale from 0 to 10. Intraoperative mean pain levels were 0.36 (median 0, range 0–4). These are very similar to Manners and Burton's results.

Some patients with subconjunctival anaesthesia are very sensitive to raised intraocular pressure and the eye should not be overfilled with viscoelastic or balanced salt solution during capsulorrhexis or hydrodissection. Conversion to extracapsular cataract extraction or anterior vitrectomy is possible without additional anaesthesia.

We disagree with Manners and Burton over the role of sedation. Sedation can be a welcome anxiolytic for patients many of whom are nervous about surgery. Currently 9.1% of our patients have minimal sedation to allay anxiety – a decision made at the preoperative assessment. Monitoring is required, as it is for all patients, and the anaesthetist should be available should resuscitation be necessary.

We are pleased that Manners and Burton also find that topical combined with subconjunctival anaesthesia provides excellent surgical conditions for patient and surgeon. We would recommend its