In designing the Survey, we did consider the issues of pre-operative testing and the safety of adhering/not adhering to the guidelines. However, we do not feel that these questions can be adequately addressed by an audit such as ours, particularly if the anonymity of respondents is to be preserved. Thus, the Survey was not designed to assess the safety or otherwise of pre-operative testing. The Survey did show that a small number of adverse events were reported, and that in many cases the patients had pre-operative testing.² However, we do not know what the results of these tests were, nor what action was taken when test results were abnormal. This is true of those patients who had uneventful surgery, and applies equally to those who suffered adverse events. Hence, we cannot agree with Kamath *et al.*'s assertion that '[the Survey] strongly supports our view that "routine" pre-operative investigations before LA are unnecessary'. As we have already pointed out,³ we do not feel that the Survey results *per se* can be used to argue for or against pre-operative testing.

Kamath *et al.* highlight the dangers of misinterpretation of our data, and make the point that the papers should be read in full. They claim that the 3.6% total incidence of reported adverse events means that LA is 'unsafe'. In our second paper, the tables clearly show that the majority of these adverse events were minor (e.g. inadequate block or mild periocular haemorrhage). We concluded that 'serious adverse events associated with LA are rare'.² Regarding the aetiology of reported adverse events, we agree with Kamath's speculation as to likely causes, with the caveat that correlation does not imply causation.

Kamath *et al.* point out that we do not know which LA technique is safest, or how LA compares with general anaesthesia. This question cannot be addressed by an observational study such as ours, but would require a randomised trial so large that it could probably never take place. If Kamath or others can suggest ways in which our design could have been improved, we would be pleased to hear from them.

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Sir,

I would like to clarify recent reports that the plastic multifocal lens used to replace cataracts during eye surgery originated with pieces of plastic from the canopy of Spitfires that splintered in the eyes of pilots during crash-landings in World War II. These wounds, while unpleasant, never caused any eye reaction. Harold Ridley, a medical professor attending such cases, decided to make lenses out of the same material (Perspex) to improve the eyesight, which of course has benefited many millions of people since. Not surprisingly, the Perspex 'bubble' hood of the Spitfire was so clear it offered unrestricted visibility and, if accidentally scratched, the scratch could be removed by a rubbing compound, the predecessor of 'Glass Wax' and others.

As a former Spitfire pilot (who survived five crashes) and a recent survivor of a cataract operation I should like to comment on this legend which, as legends do, needs some clarification. The Perspex hood was above the pilot's head, and front where it joined the top of the bulletproof windscreen being well above eye-level, though the sides extended down to about shoulder height.

During take-off – and landings – the pilot always wore his goggles over his eyes, though once airborne he pushed them up over the forehead; it was impossible to sight accurately or watch for enemy aircraft when wearing them. If he knew he was going to crash (as I so often did) one of his first automatic emergency procedures was to pull the goggles down to avoid eye injury (mostly from fire). The next was to shove the canopy back (it locked automatically) so he would not be trapped in the cockpit. Even if the pilot did not pull his goggles down due to lack of time, injury, unconsciousness, panic or negligence, or failed to push back the hood, the chance of an eye injury from shattered Perspex would be negligible.

More likely the chance of such an injury might occur in combat, in which the pilot's eyes, with his goggles back, would be exposed to splinters caused by enemy fire. Even that is a very remote

possibility. Dead ahead the pilot was protected by a bullet-proof windscreen. The enemy angle of fire would have to come from either quarter from behind and if it was accurate enough it would pierce the Perspex, not shatter it, in which case eye injury would be the least of the pilot's worries. More likely it would blow his head off.

While none of these possibilities can ever be ruled out – war has a way of breaking the rules – I am dubious that the Spitfire was the catalyst to the 'miracle' multi-focal lens. Queen Elizabeth Hospital, East Grinstead in the south of England, known as the 'Gash House', which attended to Commonwealth aircrew wounded, was famous for performing burn surgery but also cared for other wounds such as eye injuries. Patients there included pilots, observers, navigators, flight engineers, bomb-aimers and air-gunners rescued from Lancaster and Halifax bombers, Beaufighter and Mosquito night-fighters, Liberator and Sutherland coastal command flying boats and many others whose construction and configurations had much more 'glass-work' than the tiny Spitfire. This made their crews highly vulnerable to eye injury from pieces of Perspex.

Because the Spitfire enjoys the reputation of being the most famous combat aircraft of all time it is often credited, with the best intentions, with being the answer to many a solution to many a worthwhile problem. In this case, however, it hardly seems justified. For those of us who flew her and cherish her memory, my case rests.

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Sir,

The interesting note by Mok *et al.*¹ invites comment on several counts. They reported an impressive linear relation between the ocular pressure measured in the centre of the cornea, P_c , and peripherally, P_p , respectively. They state that 'no clinically significant difference was observed between the IOP readings of central and mid-peripheral cornea measured by the Tono-Pen'. However, the data do not bear this out altogether. In the first place, they quote the relation between the two quantities as

$$P_c = 1.5 P_p + 0.87$$

This suggests that central readings are almost 50% greater than peripheral ones, and the expression is therefore likely to be in error. Secondly, the regression does not pass through zero – a point that does not seem to have been commented on. While the authors have paid some

attention to problems linked to corneal thickness, the potential role of the corneal radius of curvature was missed. To a first approximation, the pressure in an inflated balloon is inversely proportional to its radius. The corneal radius of curvature increases toward the limbus, and, halfway along, the radius is such² as to produce readings systematically reduced by approximately 4.5%. The constant of 0.87 (which appears to be correct) is consistent with this notion. Lastly, we have not been given any information on the patients' ages. This could be important since Fischer³ noted a systematic variation with age in a study in which he compared pressures measured corneally and sclerally respectively, and the mechanical properties of the cornea are known to alter with age.

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Sir,

We congratulate Banerjee and colleagues on their recent paper on the role of ophthalmic triage and the nurse practitioner in the eye casualty department.¹ It is particularly interesting to note that there was high concordance between the ophthalmologist and the nurse practitioner in the diagnosis and management of patients in the ophthalmic casualty. However, it is disappointing to observe that in a prospective study such as this, they had to exclude 171 (36%) out of a total of 472 patients from the final analysis due to partially completed forms. We wonder whether this has induced a bias in final concordance levels between two professional groups.

Banerjee *et al.* suggest that the well-recognised problems of increased workload and unacceptable waiting times could be solved by improving the ophthalmic training of the GPs, setting up primary care clinics and expansion of the role of nurse practitioners. A hospital-based primary care centre such as the one established at Liverpool would address all these issues.² The ophthalmic primary centre that has replaced the old ophthalmic accident and emergency department has been in commission since 1994. Staffing consists of a mixture of part-time GPs, trainees and specialist primary care staff including the director of primary care, triage nurses and nurse practitioners. It functions as a quick, efficient one-stop shop for all urgent and non-urgent self-referrals as well as GP referrals. We agree that nurse practitioners can play an invaluable role in reducing the workload and the waiting times – a fact also highlighted in our previous publications.^{2,3}

In addition to long waiting times, increased workload in ophthalmic accident and emergency departments would result in shorter consultation time (often as short as 2 minutes). The nurse practitioners at the primary centre of St Paul's eye unit diagnose, treat and discharge about 32% of all attenders.⁴ This allows the medical staff to devote more time to complex cases.

Finally, it is not clear what objective measures the triage nurse took before assigning a patient to a particular triage category. In our experience a short history supplemented by measurement of visual acuity, pupillary functions, colour vision testing when appropriate, slit-lamp examination and tonometry would increase the accuracy of triage.

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