

---

## LETTERS TO THE EDITOR

Sir,

We wish to draw your readers' attention to an important additional finding with regard to our recently published paper 'Adherence of Silicone Oil to Standard and Heparin-coated PMMA Intraocular lenses (Eye 1994;8:547-9).

In September 1994, at the XIXth Gonin Meeting in Versailles, Dr Jay Federman presented his observation of the adherence of silicone oil to silicone intraocular lenses. He found that at the time of silicone oil removal, multifocal silicone oil droplets developed and appeared to be adherent to the surface of the silicone implant. These droplets could not be dislodged intraoperatively, either by focal aspiration or by irrigation. He postulated that the silicone oil polymer had somehow made a permanent bond to the silicone polymer of the intraocular lens. He went on to speculate that a chemical reaction had occurred between the siloxane molecules and substances used to induce cross-linkage in the foldable intraocular lens.

His findings were in fact identical to our own observations with PMMA and heparin-coated PMMA lenses. Silicone lenses are more hydrophobic than PMMA lenses. On the basis of surface energies, it is expected that silicone oil will have an even greater affinity to silicone intraocular lenses than to PMMA lenses. We found that it was impossible to dislodge silicone droplets from PMMA lenses by vigorous washing. It is therefore not unexpected that silicone droplets cannot be dislodged from silicone lenses by aspiration or irrigation unless powerful surfactants are used. We suggest that Dr Federman's observations are entirely predictable on the basis of the surface energies of the substances used. There is no need to invoke chemical reactions for the silicone molecule, which is chemically inert.

We have now confirmed in the laboratory that silicone oil adheres to silicone lenses and cannot be entirely removed by irrigation.

In our paper we concluded that when intraocular lens implantation is combined with silicone oil removal, care should be taken to avoid contact between the lens and the oil. This would seem to be as necessary and appropriate for the implantation of silicone intraocular lenses as for PMMA lenses.

David Wong  
Rachel Williams  
Mark Batterbury

Royal Liverpool University Hospital  
Prescot Street  
Liverpool L7 8XP  
UK

Sir,

I would like to comment on the paper by Claoué and Steele concerning vitreous loss during cataract surgery,<sup>1</sup> and in particular the relationship to subsequent rhegmatogenous retinal detachment (RRD). In their series of 43 cases an 'expected retinal detachment rate' of between 2% and 8% suggests an expected number of RRD cases of between 1 and 4.

In a study of pseudophakic retinal detachments (following both extracapsular and intracapsular extractions) conducted between St Thomas' and Moorfields Hospitals in 1991,<sup>2</sup> we found that in all forms of pseudophakic detachment those complicated by vitreous loss were more likely to produce RRDs earlier than those not thus complicated. However, even in those cases of RRD following vitreous loss the main interval from the time of extraction to the onset of the detachment was just over 8 months (the interval was 14½ months after extraction without vitreous problems). The greater number of patients (79%) reported by Claoué and Steele have been followed for only 1 year, and it will be important to find out whether or not any detachments occur when the study is extended over a longer period, especially as the 'expected' retinal detachment number is so small.

The relationship between vitreous loss and RRD is certainly intriguing. In our own study of the 36 patients who had extracapsular operations, 26 had had vitreous loss, 14 of whom had vitreous adherent to the section when presenting with their retinal detachment. Thus although the presence of vitreous in the section is not an invariable finding, it appears to be an important one. However, unless this event is gross (as was the case in many of Vail's cases in pre-microscope days with subsequent direct traction on the inferior retina), it is not clear why more modest incarceration increases the risk of detachment. It