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Sir,

We welcome the comments made by Mr Adam Booth regarding the family that we recently described.¹ We became aware of the autosomal dominant iridogoniodysgeneses only after submission of our own manuscript, hence their omission from our differential diagnosis. As suggested by Mr Booth, we hope to use the known loci for these conditions as a starting point for our own investigations.

Reference

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Sir,

We were interested to read the paper by Zambarakji *et al.* on the interesting complication of anterior capsular shrinkage following phacoemulsification surgery.¹ We would argue with their conclusion that silicone folding lenses are at greater risk of this complication, as this is neither supported by the literature nor proven by their data.

The capsule contraction syndrome (CCS) is an incompletely understood phenomenon, but is likely to involve many factors besides optic material. Those implicated in the literature to date include: (1) factors relating to the patient (as summarised by Zambarakji *et al.*); (2) factors relating to surgical technique, including degree of capsular polishing² and capsulorhexis size,³ and (3) factors relating to intraocular lens (IOL) design

including both optic materials¹ and haptic materials,³ as well as design of haptic (loop vs plate).⁴

Whilst the authors dealt with the patient risk factors by excluding subjects with ocular co-morbidity, they failed to deal adequately with the surgical risk factors. Two surgeons performed the surgeries and the subjects were not randomly allocated to lens type or surgeon. It is likely that the two surgeons involved have slightly different techniques and differ in their preference for IOL design. When investigating a phenomenon such as the interaction of the CCS with so many putative risk factors there is no substitute for randomisation in order to eliminate conscious or unconscious bias. Ideally randomisation of IOL should occur after cortical aspiration is completed in order to ensure that IOL design does not influence the preceding steps of surgical technique. A further step in the elimination of bias would have been the use of an objective system of capsulorhexis measurement as used by Gonvers *et al.*,⁴ or masking the observer to the date of surgery and previous measurements.

The importance of randomisation in a prospective study of this sort is not mere academic pedantry. The two groups in a study such as this must be identical apart from the variable under investigation. In this paper they clearly were not identical. A striking difference is that the mean capsulorhexis sizes in the two groups were unequal at 20.43 mm² in the PMMA group and 16.05 mm² in the silicone group on day 1. It is not surprising that the silicone IOL group had smaller capsulorhexes at 6 weeks when they started off smaller!

The data presented in the paper could easily be used to argue that a small capsulorhexis is more liable to the CCS. There is a sound pathophysiological basis for this theory in that a 5.5 mm capsulectomy removes twice as many lens epithelial cells as a 4.0 mm capsulectomy;⁵ contact between lens epithelial cells and an optic causes proliferation and metaplasia,⁶ and finally the centripetal force required to close a smaller opening is less than for a larger opening.


A further potential reason for the apparent shrinkage of the capsulorhexis in the silicone IOL group is the nature of the haptic on the particular IOL chosen. Polypropylene haptics are recognised to provide less resistance to deforming forces and to be more prone to decentration.⁷ If one were to suspect that the optic material influences the development of the CCS then a more rational comparison would be between a PMMA lens and a silicone lens with PMMA haptics. We appreciate that these lenses may not have been available at the time of the study. A recent study by Gonvers *et al.*⁴ found that capsular shrinkage was not statistically

significantly different between one-piece PMMA lenses and silicone lenses with PMMA haptics.

In conclusion we feel that Zambarakji's study cannot be considered strong enough evidence to justify their condemnation of silicone lenses. It is possible that silicone lenses are a factor, but without meticulous attention to experimental methodology it is premature to make that judgement. We thank Zambarakji and colleagues for their thought-provoking study of this increasingly common problem. None of the authors of this letter have any proprietary interest in any form of lens manufacture.

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Sir,

We thank Wong *et al.* for their comments on our paper¹ discussing capsular phymosis following uncomplicated phacoemulsification surgery.

Although the starting capsular diameters in our study were smaller in the foldable intraocular lens (IOL) group, we do not consider that the observed greater reduction in anterior capsular areas is solely due to the initial capsular diameters. We found no significant difference between the