A modified irrigating-aspirating needle

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SUMMARY To facilitate the safe and thorough evacuation of cortical lens debris in extracapsular extractions the author has modified the coaxial irrigating-aspirating cannula. The modified needle has a 45° bend 10 mm from its tip. The tip is rendered slightly bulbous, thus eliminating the step between the outer sleeve and the coaxial portion. This prevents snagging of the posterior capsule and eliminates sleeve slide. The needle has been found especially helpful in deeply recessed eyes, and, when it was rotated, cortical cleaning from the equatorial and superior portions of the capsular bag was easier than with a straight needle. There were no posterior capsular breakages in 54 consecutive cases of the use of this needle.

The safe and thorough evacuation of cortical lens matter continues to remain one of the extracapsular surgeon's main problems and priorities. While working within the confines of the capsular bag has simplified this task, difficulties continue to present themselves. A particular problem, often exaggerated by the use of the Honan's bulb, is a tendency, especially noted in older, thinner patients, for the eye to become markedly enophthalmic. This, coupled

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with a prominent supraorbital ridge, renders the introduction of the coaxial needle at the correct plane into the capsular bag exceedingly difficult. Indeed, the steepness of the approach may be such that rupture of the posterior capsule, particularly when cortical material is being cleaned from the inferior portion of the bag, becomes a real possibility.

To address this particular difficulty the author has modified the original coaxial needle. The modified needle (Fig. 1) adheres to the same basic principle as the standard one, but 10 mm from the tip, there is a

Fig. 1 *The modified needle.*

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45° bend. This not only greatly facilitates the introduction of the coaxial needle into the capsular bag, but enables the active portion of the needle to be more easily kept parallel to the posterior capsule when in the bag, despite a deeply recessed eye.

By rotating the needle the port itself can be positioned, so that equatorial cleaning of the capsular bag is more readily achieved. Manipulations in the 12 o'clock position are also considerably easier with this curved needle.

The length of the projecting tip of the needle has been standardised at 1.5 mm, and it has been rendered slightly bulbous inferiorly and at the sides to eliminate the step between the inner and the outer sleeve at these points, thus reducing the possibility of snagging the posterior capsule and effectively eliminating sleeve slide. The port itself remains a 0.3 mm circular opening, and is placed superiorly 0.5 mm from the tip. As the outer sleeve is now fixed, it is thought that all variables associated with the coaxial needle have been eliminated. Finally, the irrigating tubing connects at a 45° angle posteriorly, and there is

controlled movement of this outer casing on the coaxial needle. This prevents the drip tube encroaching on the field of vision and reduces the possibility of the drip feed line snagging on the head towels during manipulation within the eye.

Using the needle over a two-month period the author has carried out 54 consecutive extracapsular lens extractions, of which 52 were implanted with a posterior chamber lens, the two non-implanted cases being preoperatively designated so. The Honan's bulb and sodium hyaluronate (Healonid) were used in all cases. Of the 54 patients 32 had general anaesthesia. Their ages ranged between 47 and 91 years. There were no posterior capsular breakages.

The Docherty modified irrigating-aspirating needle is manufactured by Steriseal Ltd, of Redditch.

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