

Letters

Danger of Oversimplification

I found “How to Handle DSAEK Complications” (Clinical Update, October) to be a very interesting read. However, I am concerned by Dr. Steven I. Rosenfeld’s statement that “DSAEK takes about 10 to 15 minutes to perform.”

During a time of cost control in health care, DSAEK would be an easy target for reducing reimbursement. The public and those who have the power to determine physicians’ reimbursement do not necessarily understand the complexity of the surgery. They may assume that we can do four to six DSAEKs in an hour and that reimbursement should be reduced accordingly—perhaps in the range of a few hundred dollars. In the setting of the current economy, the public may view this rate to still be too high on a per-hour basis.

I think we all have to be careful about oversimplifying the work that we do.

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Phaco and Rapid Retinopathy: A Possible Mechanism

In “Phaco May Speed Retinopathy” (News in Review, November/December), a summary of studies appeared show-

ing that phaco may indeed speed the pace of diabetic retinopathy. According to the article, the etiology of the problem remains uncertain.

Clearly something about the procedure itself contributes to the problem. I think the culprit is the rapidly changing IOP. Substantial fluctuations in IOP have been recorded in closed-system intraocular surgery for decades.

Reasons for the rapidly changing IOP are 1) whenever there is any occlusion of the aspiration needle tip by tissue, the pressure in the eye increases, with the bottle height pressure as the maximum and 2) depending on the surgeon’s use of the foot pedal, aspiration rates are variable. When the surgeon is changing the aspiration rate and simultaneously aspirating fragments of tissue, the IOP fluctuations are rapid and chaotic.

The association between IOP variations, the resulting decreased vascular perfusion pressure and diminished blood flow to the retina has been shown. In another study, ocular blood flow in patients with diabetic retinopathy is significantly decreased after vitrectomy. Although this was not a phaco study, the basic issues of fluctuating IOP and retinopathy remain the same. While patients with normal retinal vascula-

ture can recuperate from the mechanical stress of closed-system surgery, those with vascular compromise from diabetes cannot.

Attempts to monitor IOP at the instrument console have been shown to be accurate only when there is no fluid flow. If the IOP measurement during fluid flow is to be accurate, the data must be taken in the immediate vicinity of the eye. There has been developed a noninvasive IOP monitor, which when taped to the patient’s face during surgery, tracks the actual measured IOP with precision. It is not difficult to develop controller software and use a peristaltic pump for irrigation—instead of the standard gravity infusion system now in use. In this manner, two pumps would be in use during phaco—one for irrigation and one for aspiration. The surgeon would select the desired IOP for the surgery, the IOP monitor would determine the immediate IOP and the fluid flow for infusion would automatically adjust to rapidly changing IOP during the procedure and maintain the pressure close to the desired level.

Both cataracts and diabetic retinopathy are in-



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creasing in frequency. If we hope to make a meaningful difference in long-term phaco outcomes in the future, it may be necessary to think about the mechanics of the surgery in a different way.

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