

Six Phaco Tips

Pay attention to the basics!

BY WILLIAM J. FISHKIND, MD, FACS

This article describes several ways in which you can achieve better surgical outcomes with phacoemulsification. Many of the tips are basic, but I have found that they can make a profound difference.

1. CHECK HEAD POSITION

If the patient's head tilts too far forward or backward, the eye plane will be improperly positioned for the microscope. Your view will be obscured by either the patient's brow or lower eyelid during cataract surgery. Verify that the patient's head is appropriately positioned prior to the staff's moving him into the OR.

2. USE A TEMPORAL INCISION

Creating the incision in the steep axis of astigmatism or at the 12-o'clock position can make surgery unnecessarily complex. I strongly recommend using a temporal incision so that you do not have to maneuver around the patient's brow. A temporal incision provides easy access to the cataract, and you can manage any astigmatism separately with a limbal relaxing incision.

3. INJECT SUFFICIENT VISCOELASTIC

As you create the capsulorhexis, positive pressure from the vitreous creates a vector force that pushes the cataractous lens anteriorly. This movement generates a secondary vector, which produces stress on the tearing anterior capsule and propagates the tear peripherally, toward the equator. Loosening the speculum and ensuring that the anterior chamber is adequately filled with viscoelastic will neutralize these vitreous forces, and you can then create the capsulorhexis without difficulty and more safely.

4. PERFORM CORTICAL CLEAVING HYDRODISSECTION

Mastering the technique of cortical cleaving hydrodissection is well worthwhile. In addition to lessening the amount of cortex that you must remove after phacoemulsification, cortical cleaving hydrodissection also reduces the adherence of cortex to the capsular bag, thereby minimizing stress on the zonules. As a result, the risk of a capsular tear during I/A decreases, and you will encounter less difficulty with subincisional cortex.

5. EMPLOY NEW TECHNOLOGY

Surge causes trampolining of the posterior capsule and can lead to a capsular rupture. Newer phaco machines feature suppressors that minimize surge. In addition, new power modalities decrease the amount of energy in the anterior segment; one example is ultrashort pulsing (Ultra Pulse [INFINITI Vision System; Alcon Laboratories, Inc., Fort Worth, TX], WhiteStar Technology [SOVEREIGN System; Advanced Medical Optics, Inc., Santa Ana, CA], and MicroPulse [Millennium microsurgical system; Bausch & Lomb, Rochester, NY]). This reduction minimizes damage to the blood-aqueous barrier and lowers the risk for capsular tears, because phacoemulsification occurs in the pre-occlusion phase. Eliminating occlusion further helps decrease surge.

6. CONDUCT OUTCOMES ANALYSIS

Study your outcomes. Analyze your patients' visual acuities on postoperative day 1, weeks 1 and 2, and month 3. Evaluate the levels of postoperative astigmatism as well as the rates of capsular rupture and vitrectomy in your cases. Honestly assess whether there is an area that needs your attention and then work to improve your skills in that area. Consider videotaping and reviewing your procedures to identify other areas in which you might improve or to determine how you might better manage intraoperative complications.

CONCLUSION

What we do is magical, and our success is composed of many small achievements. Although several external entities seek to trivialize our work, cataract surgery is life-changing for our patients. Our attention to the basics can make their outcomes even better. ■

William J. Fishkind, MD, FACS, is Codirector of Fishkind and Bakewell Eye Care and Surgery Center in Tucson, Arizona, and Clinical Professor of Ophthalmology at the University of Utah in Salt Lake City. He is a consultant for Advanced Medical Optics, Inc. Dr. Fishkind may be reached at (520) 293-6740; wfishkind@earthlink.net.

