

such as Medline. We can assure Dr. Fugo that we will credit his contribution to this particular incision type in future publications related to this topic. —*Walter Sekundo, MD, Thorsten Böker, MD, Rolf Fimmers, PhD*

Proposal for Increased Accuracy in Wavefront-Guided LASIK

The American Society of Cataract and Refractive Surgery provided an excellent summary and update of wavefront-guided refractive surgery (B. Fundingsland, ed, *Surf's Up: The New Refractive Paradigm of Wavefront Technology*, EyeWorld, May 2000, pages 68–72). I would like to propose a strategy for refining clinical results of wavefront-assisted laser in situ keratomileusis (LASIK).

As Reinstein has demonstrated (C. Glenn, ed, *Beyond Wavefront*, Review of Ophthalmology, April 2000, page 51), results of even conventional LASIK are limited by unpredictable postoperative epithelial and biomechanical stromal changes that are unique to each patient's healing characteristics. Clinical experience shows that the need for enhancement surgery, which could be characterized as a response to these unique epithelial and biomechanical changes, increases with increasing degrees of attempted correction: the more we sculpt with the laser, the more we tend to evoke idiosyncratic responses. Thus, conventional LASIK is unable to consistently achieve perfect correction of even the lower-order aberrations (sphere and cylinder). It is therefore likely that the more subtle effects of any corneal sculpting done to correct higher-level optical aberrations would be swallowed up by the idiosyncratic epithelial and biomechanical changes invoked by the correction of the cylinder and sphere.

I propose that wavefront-guided LASIK, rather than being conceived of as an attempt to correct all Zernike coefficients with one treatment, be approached from a staged strategy. I propose that the first LASIK surgery would correct only the primary optical aberrations, the spherocylindrical error. I propose that a second surgery be performed with a standard LASIK enhancement technique 3 months later to "enhance" the higher-level optical aberrations. By first correcting the spherocylindrical error, the bulk of the laser sculpting

would be addressed and most of the epithelial and biomechanical idiosyncratic responses to this sculpting would be allowed to run their course. After 3 months, once the eye has stabilized, the flap would be lifted and more subtle attention could then be applied to correcting higher-order optical aberrations without invoking as much healing response as if the higher-level errors were addressed at the same time as the spherocylindrical correction. In this way, the higher-order optical aberrations, including any aberrations induced by the initial LASIK procedure, could be addressed more precisely. This technique could be expected to take most optimal advantage of the information available from wavefront analysis and also of the extraordinary precision of the latest excimer laser systems.

DAVID R. SHAPIRO, MD
Ventura, California, USA