Are Microkeratomes Dead or Alive?

"If history repeats itself, and the unexpected always happens, how incapable must Man be of learning from experience." —George Bernard Shaw

The debate on whether microkeratomes are obsolete continues. At this moment in time, in 2007, there are good arguments presented for both camps: the femtosecond laser and mechanical microkeratome. The excellent contributions in this issue attempt to provide a balanced view, with good argument for continued use of microkeratomes for LASIK. There is no doubt that microkeratomes have improved in leaps and bounds, and for those surgeons who had to deal with the temperamental devices of the mid-1990s, these newer models would have been a godsend. It is interesting to see continued development of new microkeratomes, such as the one recently released by WaveLight AG (Erlangen, Germany). With the new and stringent regulations in Europe that are heavily enforced by the UK authorities, disposable instrumentation is really the future. Jérôme C. Vryghem, MD, of Brussels, Belgium, has illustrated the Moria (Antony, France) alternative in this issue.

Although 28% to 30% of all LASIK procedures in the United States are performed using IntraLase (Advanced Medical Optics, Inc., Santa Ana, California), the majority of procedures are still being performed using microkeratomes. It is interesting to see surface ablation increasing in proportion to laser vision correction procedures, too, and I find this quite curious. Generally speaking, patients not suitable for thin-flap LASIK are probably not suitable (by my criteria) for surface ablation. As a femtosecond user, I hardly ever perform PRK or its derivatives—and yes, I am uncomfortable using mitomycin C. Are advocates of surface ablation performing high levels of correction on thinner corneas or form fruste keratoconus? It would be useful to know and have some input from the readership.

Back to femtosecond lasers: Is this technology financially realistic for both vendors and users? Certainly with the increasing (and very welcomed) number of competitors, more resources are being allocated to this area than to microkeratomes, which suggests that either microkeratomes have reached their peak or they are ailing. Some companies have seen a long-term future in femtosecond technology, and in wishing to deliver what the customer wants as well as doing the right thing, have committed phenomenal resources. On the consumer end, like Stephen G. Slade, MD, of Houston, my practice experienced an increase in revenue following the introduction of the femtosecond laser more than 3 years ago, not just from increased fees, but also from reducing other costs that usually accompany sterilization and maintenance of multiple microkeratomes.

It is slightly amusing to see so many original—and some very vocal—naysayers steadily switch over to femtosecond technology! Why were they so vocal in the first place?

Understandably, protection of their revenue streams or perhaps industrial financial interests may have played a part. It is interesting how much fun and enthusiasm users demonstrate once they have adopted femtosecond technology!

I tend to agree with Dr. Slade that in the future, most LASIK flaps will be performed using a femtosecond laser. I would also like to add that this will be the case in the industrialized world, with microkeratomes probably only used in less-developed countries where disposable income is lower.

I have no doubt that this issue will generate much emotion, and I look forward to hearing from you, the readership! ■

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