Laser Cataract Surgery: Initial Reactions

BY MARK A. KONTOS, MD; PARAG A. MAJMUDAR, MD; SAMUEL MASKET, MD; AND STEVEN G. SAFRAN, MD

Laser cataract surgery is just getting its start. What do you anticipate will be the benefits of, challenges of, negative aspects of, or other issues with this surgical approach in the short term (1-2 years) and the long term (3-10 years)?

MARK A. KONTOS, MD

I am writing these comments after what should have been an uneventful morning of cataract surgery. Two capsulorhexes that wanted to radialize and a wound that did not want to seal had me thinking how nice it would be to have a femtosecond laser in my surgery center. I have had the opportunity to see laser cataract surgery firsthand, and I know the technology works well. Having said that, the challenge for ophthalmologists over the short term will be deciding if, when, and how to integrate the laser into their cataract practices. How successfully the early adopters convince patients to choose this technology will determine whether laser cataract surgery is rapidly integrated into the mainstream or if the transition occurs more slowly over several years. I feel that the technology will eventually win over most surgeons, the financial challenges will be worked out, and in 5 to 7 years, most cataract surgery will be performed with femtosecond lasers. If I have a few more days in the OR like this morning, I may be making that call sooner rather than later.

PARAG A. MAJMUDAR, MD

As I write this, it is coming up on tax day, April 18. Can someone tell me where I can get my abacus fixed? Wait a minute; I actually have never even seen one of those things. Can anyone practicing LASIK today even recall reading about Barraquer's cryolathe to reshape a corneal lenticule dissected freehand, let alone actually performing this procedure? Of course not. Femtosecond flapmakers (or at the very least, very sophisticated mechanical microkeratomes) have dominated the LASIK landscape for the better part of a decade. Technology has a way of forcefully taking over—for better or for worse (mostly better)—and making itself quickly indispensable (think cell phones and texting). For those of you who have seen femtosecond cataract lasers in action, you will understand when I say that, even though in its infancy, the technology is amazing. As is the way with all technological advances, before these lasers become intertwined in our lives, they must actually be better than their predecessor, make life easier and more efficient rather than the opposite, and be cost-effective. I have no doubt that, in the near future, laser cataract surgery will be and do all of these things. I firmly believe that, when I need to have cataract surgery myself in 25 years, it will be dramatically different from the way we are doing it now. Only time will tell whether it will be laser cataract surgery or something that we have not yet imagined.

> "The challenge over the short term will be deciding if, when, and how to integrate the laser into cataract practices."
> —*Mark A. Kontos, MD*

SAMUEL MASKET, MD

We are in the infancy of automated cataract surgery, and many iterations of the technology will be necessary to reach that endpoint. It is likely that future skilled

technicians (or retired ophthalmologists) will perform the laser aspect of what is now a two-stage surgery. As a result, there is both excitement for and apprehension toward laser cataract surgery among colleagues. But, good technology always wins, which I believe will be the case here. Without a doubt, cataract surgery assisted by the laser is still currently skill based, and better surgeons will get better results. The playing field will be more level, but the plane will be higher. I predict that data demonstrating improved outcomes will match the hype surrounding laser cataract surgery.

Presently, we are using the laser to mimic current cataract surgery styles; however, in the long term, my sense is that the laser will dictate surgical methods as techniques and technology emerge.

STEVEN G. SAFRAN, MD

I am not overly enthusiastic or excited about a half-million-dollar laser with a click fee that runs a few hundred bucks per procedure and performs parts of the cataract procedure that most skilled surgeons currently have little difficulty doing. Increasing the cost and complexity of what we do without significantly improving patients' outcomes is the wrong direction to be going in given our current economic situation. My feeling is that most ophthalmologists will not adopt this technology because of the added complexity and expense without demonstrable benefit, and I think the companies that have invested millions of dollars in this will pursue optometry to recoup their losses. It is interesting that, when ophthalmologists recently moved away from using lasers to treat age-related macular degeneration and instead started sticking needles in the eye to inject vascular endothelial growth factor inhibitors, there was little concern about how patients would perceive the change. We do hear from some people who insist that patients will demand laser technology, but our experience treating age-related macular degeneration tells us otherwise: the patients will want what we tell them is best for them.

There is no evidence that laser cataract surgery is superior—or even equal—to what we are currently doing (although it may help some capsulorhexis-challenged surgeons). I have heard some liken this advance to that of phacoemulsification versus extracapsular cataract surgery, but those individuals are overlooking the simple fact that those two procedures, when expertly performed, yielded wildly different outcomes that almost anybody could perceive from either side of the slit lamp. The results of laser cataract surgery versus standard phacoemulsification are not discernibly different to even the most discriminating eye on slit-lamp examination. Patients who keep their wallets in their back pockets may have less risk of a piriformis syndrome after laser cataract surgery, however, because their wallets will be much thinner after paying for the procedure.

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—Steven G. Safran, MD

Unless some new IOL technology requires a specifically shaped capsulorhexis that cannot be reliably reproduced surgically without the laser (a big if), or if the laser becomes available for a fraction of its current cost without a click fee, I do not see laser cataract surgery's gaining widespread acceptance among ophthalmologists. Optometrists, on the other hand, may see it as an invitation to the ball. ■

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