

# Is LASIK Dead?

A long-term perspective on this elective surgical procedure.

BY SHAREEF MAHDAVI

I have had the privilege to help commercialize laser vision correction for nearly 2 decades, beginning with the excimer laser's FDA clinical trials and the international experience of the early 1990s. In 2002, I started analyzing the relationship between the price of LASIK and consumers' demand for the procedure, and I published a three-part series on the subject in *Cataract and Refractive Surgery Today* during the ensuing 5 years. We in the industry learned a valuable, if painful, lesson in the first few years of the new millennium that I summarize as follows: Demand for LASIK does not increase when the price of the procedure is lowered.

Data from surveys of surgeons, as tracked over the years by Market Scope (St. Louis, MO), clearly indicate that the demand for LASIK is inelastic, as it is for other elective surgical procedures (eg, breast augmentation). In other words, lowering unit pricing fails to increase unit demand. By the end of 2001, approximately 20% of surgeons offered LASIK for less than \$1,000 per eye, and the average fee declined by more than 20%. During the following year, demand dropped by 11%. The lower average fees resulted in lost revenue of \$1.6 billion from 2000 to 2002, an average of more than \$400,000 per refractive surgeon.<sup>1</sup> Because that revenue came from procedures that were actually performed, accountants would agree that every one of those dollars left on the table was part of the profit margin.

When the average fee for LASIK began rising in 2003 (due to customized ablations and flaps created with a femtosecond laser), demand almost returned to peak historic levels before the recession hit in 2008. I am thankful to report that average fees have remained higher than \$2,000 per eye since the middle of the past decade, indicating that the lesson on pricing has been learned. Price-drop skirmishes will emerge from time to time (eg, doctors attempting to generate procedural volume through Groupon or similar discounting tactics). However, attempts to commoditize LASIK—make the purchase decision based predominantly on price—will not

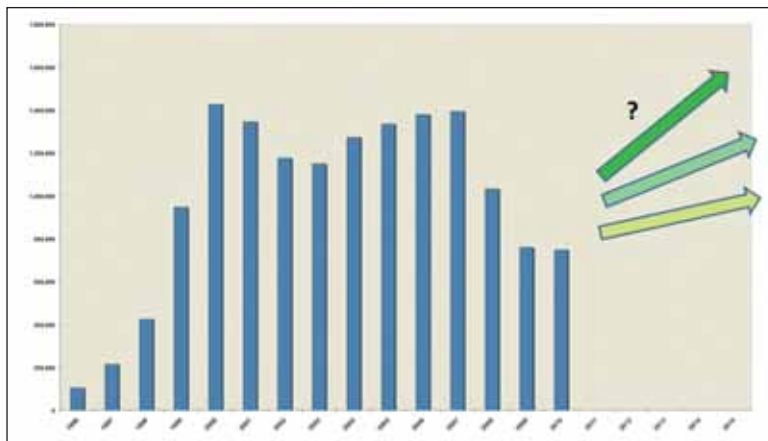


Figure 1. LASIK procedural volume across 20 years. The next up cycle in demand for LASIK will be influenced in large part by surgeons' behavior in terms of messaging and communicating with prospective patients. (Source: Market Scope).

succeed until and unless the procedure becomes so mainstream that we have a much higher penetration than that of current consumer demand.

Indeed, the bigger problem that remains is on the demand side of the equation, prompting more than one surgeon to ask, "Is LASIK dead?" Although I think this is the wrong question, I can understand why it is being posed. Demand is 40% to 50% below peak levels, and the FDA's scrutiny of outcomes is ongoing. Among the 7 million Americans who have had laser vision correction since its approval in 1995, a very small percentage of patients with poor outcomes have dominated the discussion regarding its safety and effectiveness.

My view is that LASIK is a strong procedure that will continue to thrive for many years to come. I underwent PRK myself more than 16 years ago in Canada and have met thousands of people over the years who are thrilled with their results. The demand for LASIK far exceeds that for any other elective medical surgical procedure, both in the United States and worldwide. In 2010, China became the leading market for LASIK when measured by the number of eyes treated by country. Looking ahead, I see seven key trends that will have a positive impact on the demand for LASIK over the next decade and beyond.

### TREND No. 1. THE CYCLICAL NATURE OF THE ECONOMY

Market Scope data have shown a strong relationship between LASIK demand and consumer confidence. For the past 3 years, consumer confidence has stayed very low, as measured on a monthly basis by the Conference Board Inc. (New York, NY). This outlook has affected LASIK to an even greater extent than many other aesthetic procedures. As consumer confidence improves, we can expect the demand for LASIK to rise as well. When mapped out over 15 to 20 years (Figure 1), it appears that a recovery in demand is due. The trajectory for this demand, as I have long argued, is under surgeons' control, and it depends on customers' overall experience beyond the outcome of the procedure itself.

Based on the data I have collected during the past decade, most surgeons still fail to stage an experience that creates a perceived value much greater than the fees being charged. Those surgeons who have succeeded report privately that their businesses' metrics stayed steady during the recession or did not decrease as much as the industry average. As shown in Figure 2, one client's practice in the Upper Midwest showed how the use of CareCredit's (GE Money, Orlando FL) no-interest financing grew his business, as the cash-paying component stayed steady during the past 3 years. This practice recognized that its customers' experience was the competitive advantage and has focused daily on making that experience worthy of spending versus other discretionary choices.

### TREND No. 2. Q4 AS A PREDICTOR OF THE FOLLOWING YEAR

Each quarter, Market Scope surveys surgeons regarding how their procedural volume compares with that of the same quarter a year earlier. The direction of volume is strongly positive when looking at responses for the fourth quarter. One-third of surgeons (Figure 3) reported that their volume in 2010 was up compared with the prior year, and the percentage of "up" doctors has grown significantly in the past 2 years. This particular trend makes sense given anecdotal reports that the first half of this year has been the strongest for many practices since 2007.

### TREND No. 3. CONTACT LENS DROPOUTS: THE LOW-HANGING FRUIT

Much of the negativity about LASIK outcomes has been reported without any regard to context. Several

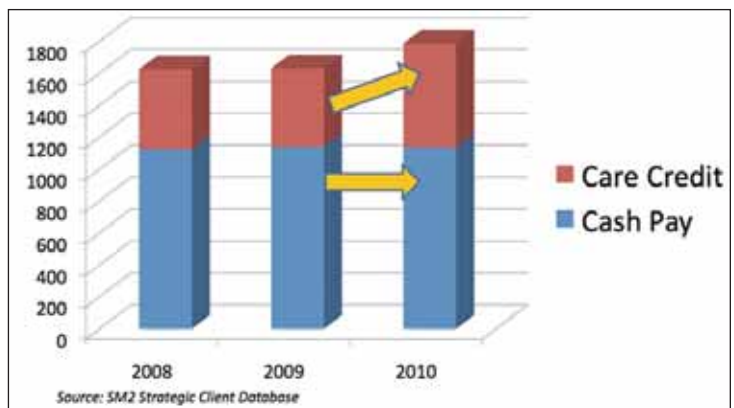


Figure 2. Financing options have been used to help practices offset the decline in demand during the economic recession.

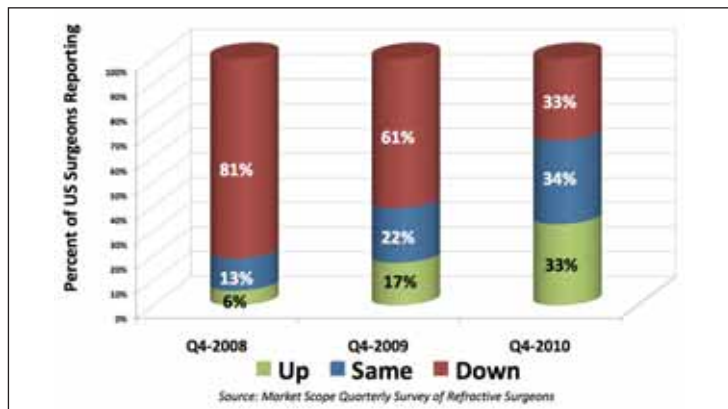


Figure 3. Surgeons have an accelerating rate of improvement in procedural volume, as measured in the fourth quarter of each of the past 3 years. This is a positive indicator for future demand.

published articles comparing the complication rates of LASIK to those of contact lenses favor the former.<sup>2</sup> This leads to a legitimate claim of its being a safer way to correct vision than contact lenses. Although individual surgeons and centers discuss this very point, no focused message has emerged to make this statement in a broad, public fashion. The fact that each of the major manufacturers of lasers has a competing contact lens division (either directly or via distribution) does not help the cause. Still, there are approximately 40 million contact lens wearers, and 3 million of them drop out each year (Figure 4). They should be considered the prime target for LASIK surgeons, as those 6 million eyes represent the single best growth opportunity for laser vision correction.

### TREND No. 4. THE RISE OF GENERATION Y

The initial wave of demand for LASIK came from the baby boomer generation, which (with an average age of 53 years) has now largely moved past the sweet spot for the procedure. The next wave of LASIK patients will

# Nevanac®

(nepafenac ophthalmic suspension) 0.1%

NEVANAC® (nepafenac ophthalmic suspension) 0.1%, topical ophthalmic  
Initial U.S. Approval: 2005

Revised: 9/2007

## BRIEF SUMMARY

### 1 INDICATIONS AND USAGE

NEVANAC® ophthalmic suspension is indicated for the treatment of pain and inflammation associated with cataract surgery.

### 2 DOSAGE AND ADMINISTRATION

#### 2.1 Recommended Dosing

One drop of NEVANAC® should be applied to the affected eye(s) three-times-daily beginning 1 day prior to cataract surgery, continued on the day of surgery and through the first 2 weeks of the postoperative period.

#### 2.2 Use with Other Topical Ophthalmic Medications

NEVANAC® may be administered in conjunction with other topical ophthalmic medications such as beta-blockers, carbonic anhydrase inhibitors, alp ha-agonists, cycloplegics, and mydriatics.

### 3 DOSAGE FORMS AND STRENGTHS

Sterile ophthalmic suspension: 0.1%

3 mL in a 4 mL bottle

### 4 CONTRAINDICATIONS

NEVANAC® is contraindicated in patients with previously demonstrated hypersensitivity to any of the ingredients in the formula or to other NSAIDs.

### 5 WARNINGS AND PRECAUTIONS

#### 5.1 Increased Bleeding Time

With some nonsteroidal anti-inflammatory drugs including NEVANAC®, there exists the potential for increased bleeding time due to interference with thrombocyte aggregation. There have been reports that ocularly applied nonsteroidal anti-inflammatory drugs may cause increased bleeding of ocular tissues (including hyphemas) in conjunction with ocular surgery.

It is recommended that NEVANAC® ophthalmic suspension be used with caution in patients with known bleeding tendencies or who are receiving other medications which may prolong bleeding time.

#### 5.2 Delayed Healing

Topical nonsteroidal anti-inflammatory drugs (NSAIDs) including NEVANAC®, may slow or delay healing. Topical corticosteroids are also known to slow or delay healing. Concomitant use of topical NSAIDs and topical steroids may increase the potential for healing problems.

#### 5.3 Corneal Effects

Use of topical NSAIDs may result in keratitis. In some susceptible patients, continued use of topical NSAIDs may result in epithelial breakdown, corneal thinning, corneal erosion, corneal ulceration or corneal perforation. These events may be sight threatening. Patients with evidence of corneal epithelial breakdown should immediately discontinue use of topical NSAIDs including NEVANAC® and should be closely monitored for corneal health.

Postmarketing experience with topical NSAIDs suggests that patients with complicated ocular surgeries, corneal denervation, corneal epithelial defects, diabetes mellitus, ocular surface diseases (e.g., dry eye syndrome), rheumatoid arthritis, or repeat ocular surgeries within a short period of time may be at increased risk for corneal adverse events which may become sight threatening. Topical NSAIDs should be used with caution in these patients.

Postmarketing experience with topical NSAIDs also suggests that use more than 1 day prior to surgery or use beyond 14 days post surgery may increase patient risk and severity of corneal adverse events.

#### 5.4 Contact Lens Wear

NEVANAC® should not be administered while using contact lenses.

### 6 ADVERSE REACTIONS

Because clinical studies are conducted under widely varying conditions, adverse reaction rates observed in the clinical studies of a drug cannot be directly compared to the rates in the clinical studies of another drug and may not reflect the rates observed in practice.

#### 6.1 Ocular Adverse Reactions

The most frequently reported ocular adverse reactions following cataract surgery were capsular opacity, decreased visual acuity, foreign body sensation, increased intraocular pressure, and sticky sensation. These events occurred in approximately 5 to 10% of patients.

Other ocular adverse reactions occurring at an incidence of approximately 1 to 5% included conjunctival edema, corneal edema, dry eye, lid margin crusting, ocular discomfort, ocular hyperemia, ocular pain, ocular pruritus, photophobia, tearing and vitreous detachment.

Some of these events may be the consequence of the cataract surgical procedure.

#### 6.2 Non-Ocular Adverse Reactions

Non-ocular adverse reactions reported at an incidence of 1 to 4% included headache, hypertension, nausea/vomiting, and sinusitis.

See full prescribing information for NEVANAC®.

**Alcon**  
ALCON LABORATORIES, INC.  
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## COVER STORY

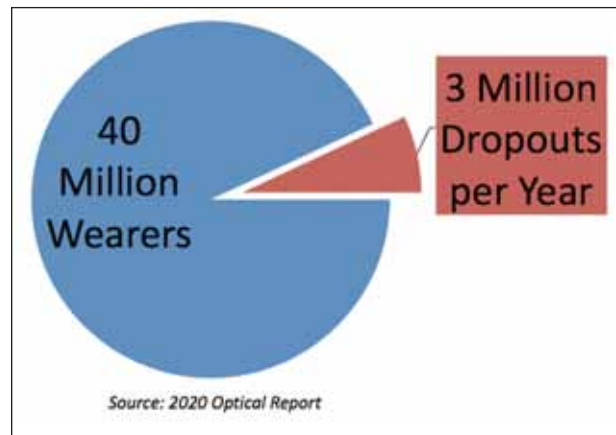


Figure 4. Contact lens wearers are the largest single consumer target group available to LASIK surgeons.

come from the 79 million citizens that comprise *Generation Y* (also known as the *Millennial Generation* or *Echo Boomers*, depending on the source). The oldest members of this group are now in their early 30s, and the youngest are in their late teens. When the first Gen Y'ers turn 40, their demographic profile will be nearly identical to that of the baby boomers of 1995 and LASIK's first FDA approval.

The key advantage here is that surgeons now have 20 years of clinical experience, millions of treated patients with more than 90% satisfaction, and a group of prospective patients who are much more tech savvy than their parents. Indeed, the financial return on investment for LASIK versus glasses or contacts is very compelling for a person in his or her 20s, paying off in 3 to 10 years (depending on relative costs) and creating much greater lifestyle convenience. As shown in Figure 2, it is important now to adjust for a population that is still in the early years of its wealth creation (Facebook, Google, and Groupon employees excepted). As described earlier, financing options—not lower prices—are what will create affordability for this coming wave of patients. Equally important is for each LASIK surgeon and his or her team to understand that this demographic goes about learning, discussing, and deciding on major purchasing decisions very differently than previous consumers.<sup>3</sup> Thus, a requirement is to re-imagine many of the processes practices have—or still need to—put in place.

## TREND No. 5. THE BOOMERANG EFFECT OF CONSUMER ELECTRONICS

The iPhone 4 (Apple, Inc., Cupertino, CA) can shoot video with 720-pixel resolution, and R&D efforts in the field of consumer electronics are moving toward even higher quality. In my interview with Robert Stephens, chief technology officer for Best Buy (Richfield, MN) and the founder

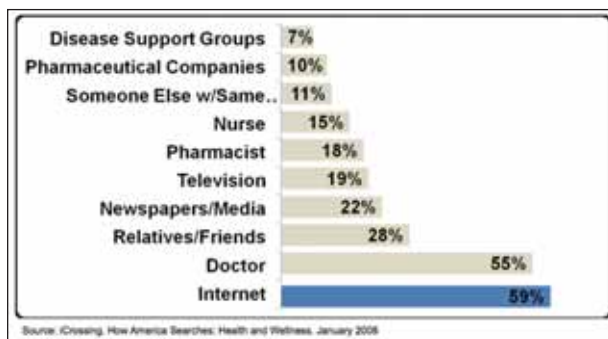


Figure 5. The power of the Internet in medicine can be seen in this survey, which was taken in January 2008. Physicians and their staff are no longer the primary source of information on health issues.

of its Geek Squad, he said that he believes higher levels of resolution will stimulate demand for better vision. That idea makes sense, given the increasing domination of our lives by four “screens”: high-definition TVs, smartphones, tablets, and navigation systems. Surgeons should be aware of this societal trend and capitalize on it in discussions with patients.

#### TREND No. 6. THE FEMTOSECOND LASER COMES OF AGE

According to Market Scope surveys, 9 years ago, roughly 1% of LASIK flaps were made with a laser; now, that figure is almost 70%. A similar trend will take place in laser cataract surgery, as conventional cataract removal is already the most commonly performed surgical procedure. The increasing use of lasers in conjunction with cataract surgery will have a spillover effect that will only benefit LASIK, as both become equal players in the refractive arena and each has appeal to a distinct population segment. Ophthalmology owns the top two surgical procedure spots, which should come as no surprise given the value people place on their eyesight. The key for eye surgeons is to resist the impulse to undervalue the role that their services and the associated technologies play in that process.

#### TREND No. 7. THE ROLE OF THE INTERNET

As a source of information, the importance of the Internet to consumers’ decision making will continue to grow. Three years ago, the Web became the primary source of health information, surpassing the doctor (Figure 5). The first major evolution in Web behavior has already taken place since that 2008 survey. People have moved from one-way communication (the Web site’s/message’s being viewed passively by consumers) to multi-way communication where patients are seeing a practice’s Web site as one

of several inputs. Much more important than what a practice says on its Web site is what patients are saying about it (via ratings on numerous sites) as well as what patients are saying to each other (via postings on Facebook, Twitter, and countless other social media sites, many of which have not yet been created).

Surgeons like control. Although they maintain it inside the operating suite and their practices, the Internet has changed everything beyond these domains. The bad news is that surgeons are no longer in control when it comes to public opinion. Their brands and reputations are out there, and those compliments and complaints are no longer on their bulletin boards and in filing cabinets, respectively. The praise and the scorn are just a few mouse clicks away for anyone to see. The good news is that the opportunities are abundant to reduce friction in consumers’ decision-making processes. Rather than block the flow of information, the new call to arms in the battle for consumers’ attention is to realign the staff’s resources to monitor and proactively manage online activity. The focus should be on Facebook, not the Yellow Pages.

#### SUMMARY

I cannot accurately predict which of these seven trends will have the biggest effect. I can say that, collectively, they represent a strong indication that the demand for LASIK will eventually exceed its previous peak of approximately 1.4 million eyes per year in 2000 and again in 2007. The procedure is far too successful to be considered dead, either figuratively or literally. LASIK represents the future direction of health care, where more and more of the decisions will be elective, and cost continues to shift directly to the consumer. The fact that millions of people have chosen to spend their own money on LASIK is testament to its benefits. The coming years present an opportunity for an even bigger wave of patients. I hope the industry has learned from the past on its way to the future. ■

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