A Diagnosis for the Future of Refractive IOLs

An assessment of the growth and evolution of the industry.

BY SHAREEF MAHDAVI

Across ophthalmology, there has been a good deal of excitement about the potential of the refractive IOL to revolutionize the outcomes surgeons can offer patients. There has also been a lot of disappointment, relative to expectations, about the number of implantation surgeries performed since the first commercialization of the lenses. This article attempts to explain what is happening and why as well as what the future could hold.

As an industry, refractive surgery is still extremely young, especially relative to glasses and contact lenses. In medicine, we turn to pediatrics to diagnose children. In this sense, we would view LASIK as a preteenager (now 11 years old) and the refractive IOL as a toddler. My dad, a pediatrician for more than 40 years, is primarily concerned with the healthy growth and development of his patients. If we apply that same concern to the refractive IOL, there are four main questions we would ask in diagnosis:

(1) Is there a market?
(2) Is the technology ready?
(3) Is the channel of distribution sufficiently developed? and
(4) Is the timing right?

Let us examine each of these questions one at a time in assessing the growth and development of refractive IOLs.

THE MARKET

With refractive IOLs, we need to distinguish between the two available markets: (1) the "upgrade" market for those patients who are eligible for Medicare and (2) the "self pay" market for younger individuals (50- to 65-year-olds) who seek improved vision. Most of us have heard about the *graying* of America, a term coined to describe the aging

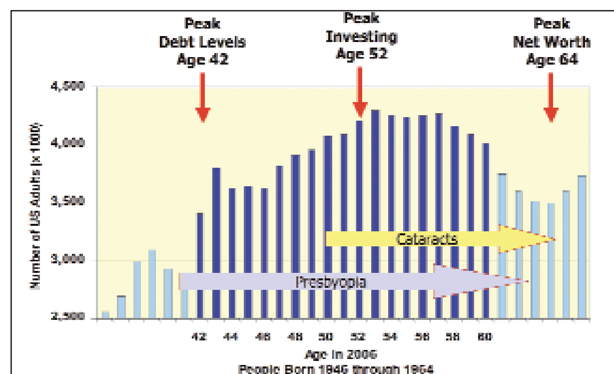

Figure 1. Baby boomers' key life events are shown. Presbyopia is often viewed as a sign of middle age, and cataracts have been associated with "old age," two negative connotations to baby boomers. At the point in their lives when they develop cataracts, however, they have already passed their peak debt and are en route to their peak net worth; the latter scenario creates an opportunity for refractive surgeons.

population, with those aged 65 and older now numbering over 35 million people (approximately 12% of the US population).[1] Currently, however, the largest adult demographic is the baby boomer population (42- to 61-year-olds).[2] As Figure 1 shows, this population has or will develop the highest incidence of both cataracts and presbyopia. Baby boomers are known for differing from previous generations in that they increasingly seek out medical alternatives to help them stay, look, and feel young. Furthermore, these people possess (or are set to inherit) the greatest amount of wealth in US history.[3] Clearly, the groundwork has been prepared

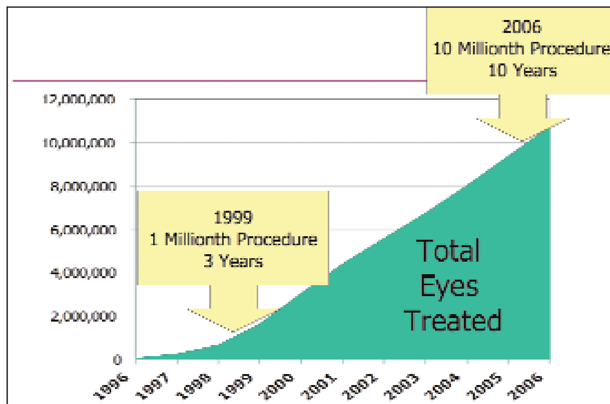

Figure 2. This chart shows growth in laser vision correction. It took more than 3 years to treat 1 million eyes and 10 years to treat 10 million eyes in the US.

physiologically, psychologically, and financially in this population to allow the refractive IOL offering to take root.

TODAY'S TECHNOLOGY

Many of the conversations among ophthalmologists about contemporary refractive surgery seem to focus on the technology's flaws rather than its successes. Without question, LASIK's popularity and outstanding outcomes have created a high bar for the refractive IOL to reach. It is important to realize, however, that laser vision correction did not achieve success overnight. Only several years after the surgery's commercialization did its total procedural volume in the US begin to rise. Three years passed before 1 million eyes had been treated, and, it took 7 more until 10 million eyes had undergone laser vision correction (Figure 2). During the first decade, the technology underwent significant improvements. My personal story with laser vision correction illustrates the point. The best procedure available to me in 1995 had the longest name and acronym that I am aware of in refractive surgery: transepithelial multipass multizone photorefractive keratectomy (TMMPRK) performed on a Visx Model 2020A. Since then, there have been 10 innovations in the laser platform, including smaller scanning spots, eye tracking, and wavefront-guided customized ablation. The procedures offered today are far superior to what I underwent at the hands of pioneering surgeon Don Johnson of Vancouver, British Columbia. Nonetheless, my outcome was incredible! Healing took a while, but I saw 20/15 and still do 12 years later.

I predict that the refractive IOL will travel a similar path of innovation. Today's lenses are very good. Tomorrow's offerings will be even better.

THE CHANNEL OF DISTRIBUTION

The means by which a product or technology gets from the developer to the end user is called the *channel*(s) of distribution. In refractive surgery, the channel is the surgeon and his refractive practice and infrastructure. After more than a decade of modern refractive surgery, however, the data in Figure 2 suggest that this channel is far from fully developed. This is an important point, because it is all too easy to assume that the mania created by aging baby boomers translates into an automatic demand for "youth-preserving" technologies, including refractive IOLs. As any successful refractive surgeon will tell you, there is nothing automatic about the protocols and processes required to successfully attract, educate, and treat a prospective patient.

With LASIK, surgeons have begun to dispel three myths associated with patient demand: (1) patients are emotionally ready to get rid of their glasses; (2) lower prices stimulate demand; and (3) patients want a lot of choices. All three myths have proven false in LASIK and will, I predict, prove incorrect with IOLs. Unfortunately, there is still too much attention placed on paid advertising (much of which is poorly constructed and thus ineffective) rather than on

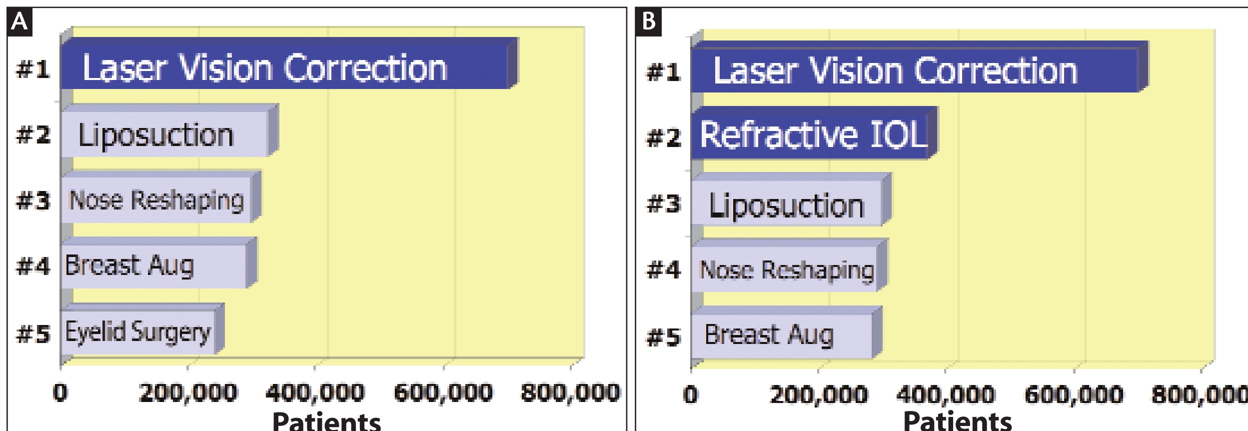

Figure 3. With approximately 700,000 patients each year, LASIK is the top elective surgical procedure in the US (A).[4] If 20% of traditional cataract patients upgrade to a premium IOL by 2010, ophthalmology will own the top two elective surgical procedures (B).[5]

internal marketing. Focusing internally is less expensive (but not without cost) and allows the surgeon to grow a business organically rather than artificially. I am not against advertising; I just believe it is the *last* thing the surgeon should implement rather than the first. Building consumer awareness is critical, yet those efforts are wasted if the initial inquiry by telephone, preoperative consultation, surgery, and postoperative counseling are not well executed.

Too often, that sacred moment between the surgeon and the patient (when the patient is trying to decide "is this right for me?") is marred because the surgeon allows (or even forces) the patient to choose a procedure, lens, and/or package of services. This strategy works in consumer packaged goods and some services, but it has no place when it comes to eye surgery. Rather than delegate the decision to the patient, the surgeon needs to manage the decision, thus giving *MD* a whole new meaning that should not be ignored.

TIMING

Is the consumer marketplace ready for the refractive IOL? Refractive surgery is just one of several emerging elective surgical trends designed to improve the way people look and feel. Botox and Juvederm (both from Allergan, Inc., Irvine, CA) have redefined dermatology. The Waterlase MD (Biolase Technology, Inc., Irvine, CA) is a laser that combines with water particles and is changing the way dentists offer and perform their services. Among surgical procedures, laser vision correction leads the list of top elective surgical procedures (Figure 3A), whereas traditional cataract surgery is the most commonly performed surgical procedure.[4] During the next 3 years, if surgeons achieve a 20% conversion rate of traditional cataract patients to premium refractive IOLs, these lenses will likely hold the number 2 spot for elective procedures, right behind LASIK (Figure 3B).[5]

WHERE WE ARE HEADED

Although the US population is increasingly ready for the technology, growth in the refractive IOL category is far from inevitable, . Ophthalmologists have greatly improved their surgical skills, but they have generally done a poor job of providing an overall experience that is unique to each patient. The latter is critical, because it is the only true differentiator between surgeons (more significant than clinical skill, reputation, and marketing, each of which can be matched). Businesses, including refractive surgery practices, that focus on the overall experience of their patients will be more profitable over time. What patients recall, as much as their improvement in vision, is their experience before, during, and after their procedure. As surgeons shift from simply providing a service to creating and staging an experience, they make their offering more intangible. Economists believe that the more intangible an offering, the more highly it is valued.[6] Another way to think of this phenomenon is that customization—*how* you do what you do—is the antidote to commoditization (Figure 4).

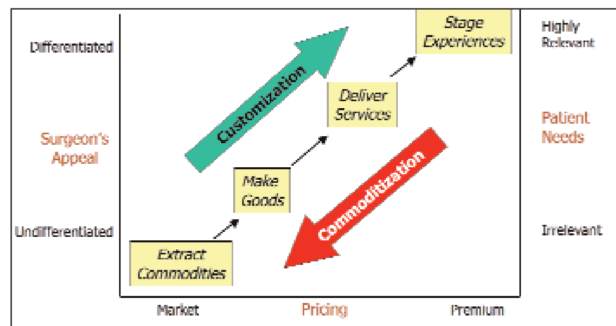

Figure 4. Achieving greater value by customizing the patient's experience is the only true differentiator for the refractive surgeon. Customization, in fact, becomes the antidote to commoditization that is typically seen in the form of trying to compete on price.

This phenomenon is visible across many successful businesses in different industries, such as: air travel (Jetblue Airways; New York, NY); grocery shopping (Whole Foods Market; Austin, TX); electronics (Best Buy; Minneapolis, MN and Apple Computer, Inc.; Cupertino, CA). Of course, there is also Starbucks Coffee Company (Seattle, WA), which has elevated the premium coffee category to what appears to be a form of art that gets customers to pay $4.00 for a commodity of about $0.10.

Those of you who sit back and wonder, "how do these businesses achieve premium pricing for their offering?" will find answers in my columns in *Cataract & Refractive Surgery Today*. This year, I will explore the customer's experience in different industries and consumer categories, with the goal of helping surgeons realize how vital the overall experience is to the success of the comprehensive refractive surgeon who offers LASIK, IOLs, or (preferably) both. ■

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