

Refractive Management Volume 1: Module 5

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Demographics of Refractive Surgery Patients and Market Trends

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Objectives

Upon completion of this module, the ophthalmologist should be able to:

1. Discuss the general distribution of refractive errors in the United States.
2. Describe how demand for laser in situ keratomileusis (LASIK) is associated with the short-term health of the economy.

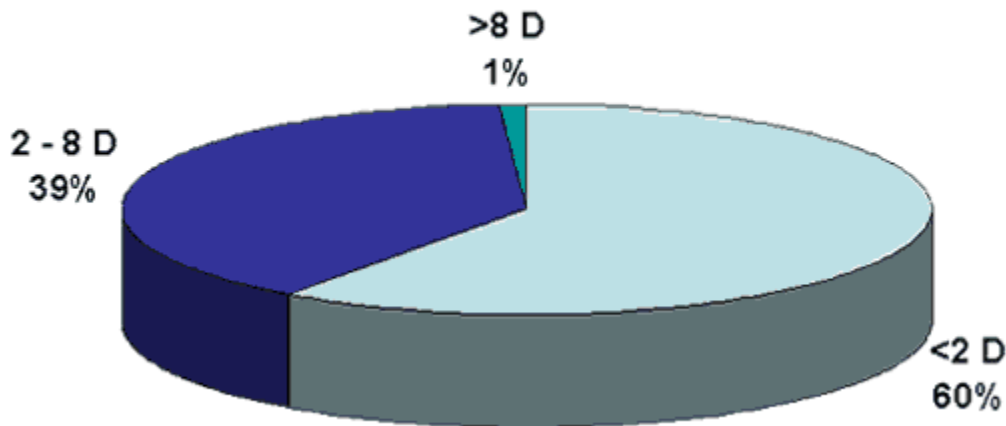
The high prevalence of refractive errors and the relative safety and effectiveness of modern laser vision correction have captured the attention of the world. The mainstay corrective procedures are generally straightforward, and results are often immediate, making refractive surgery extremely popular. These factors, combined with the fact that the surgery is generally an elective procedure with health care providers typically receiving immediate reimbursement, have changed the face of marketing and medicine in an unparalleled way.

U.S. Statistics

According to the United States Census Bureau, the population of the United States is 289 million. Of these, some 151 million require some form of vision correction. Approximately 24% of the population (69 million people) are myopic, and it is estimated that about 43 million of these are candidates for refractive surgery. Sixty percent have less than 2 diopters (D) of myopia, 39% have 2 to 8 D of myopia, and fewer than 1% have more than 8 D of myopia (**Figure 1**). Approximately 26% of the population (75 million people) are

hyperopic, but only 15 million of these are candidates for refractive surgery. The average age of the refractive surgery candidate with myopia is 40 years and with hyperopia, 55 years.

Figure 1: Distribution of Myopic Refractive Errors in the U.S.



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Figure 1. Distribution of myopic refractive errors in the U.S. (Used with permission from Anthony J. Lombardo, MD.)

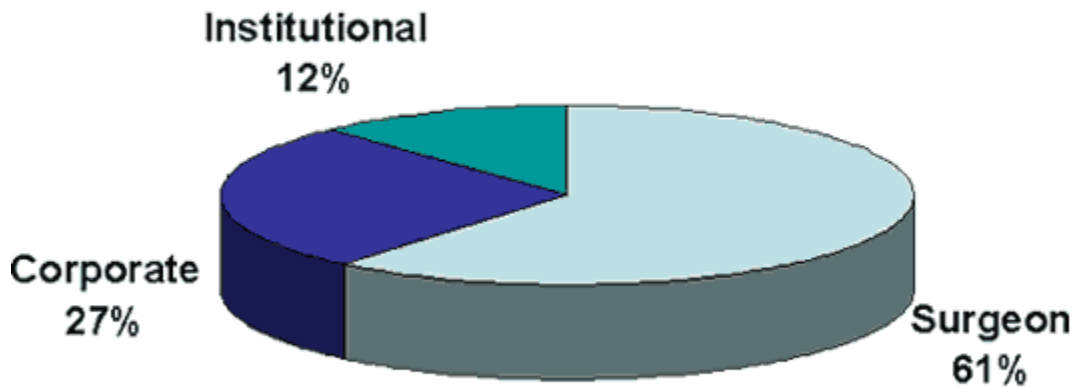
Fifty-one percent of the U.S. population is presbyopic. Although the number of candidates for refractive surgery in this group is more difficult to estimate, some 34 million people may be candidates for monovision or lensectomy with multifocal lens implantation. Of the above-mentioned 92 million myopic, hyperopic, and presbyopic candidates for refractive surgery, approximately 3 million people have been treated to date, resulting in a 2% to 3% market penetration.

Ninety-six percent of refractive procedures performed today are laser in situ keratomileusis (LASIK). Photorefractive keratectomy represents only 1% to 2% of the refractive procedures performed. Incisional work (radial keratotomy and astigmatic keratotomy) represents about 1% of the procedures, as does refractive lensectomy. Technologies such as corneal stromal rings, laser thermokeratoplasty, phakic intraocular lenses, and conductive keratoplasty together hold less than 1% of the market. Clearly, LASIK is the dominant refractive procedure performed today.

U.S. Statistics

Laser Ownership

Figure 2: U.S. Excimer Laser Ownership



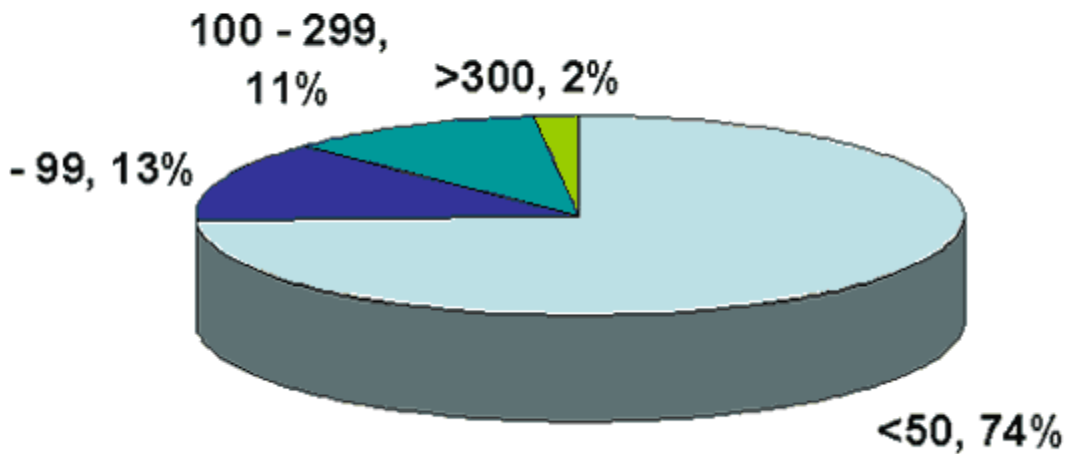
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Figure 2. U.S. excimer laser ownership (Used with permission from Anthony J. Lombardo, MD.)

Figure 2 illustrates the breakdown of laser ownership in the United States. Among corporations, TLC Vision Corporation and LASIK Plus Vision Centers are the leaders in excimer laser ownership. There are an estimated 4000 refractive surgeons using 1400 lasers and 2200 microkeratomes in the United States, with an equal number of surgeons, lasers, and microkeratomes located abroad. Although there is a very wide range, the median number of procedures per surgeon in the United States is about 400 per year (**Figure 3**). In comparison, a median of 200 cataract surgeries per year are performed by 12,000 surgeons in the United States.

Figure 3: Average Monthly Procedures per Surgeon



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Figure 3. Average monthly procedures per surgeon (Used with permission from Anthony J. Lombardo, MD.)

Marketing Issues

With a potential market of tens of millions of people in the United States, it is not surprising that large amounts of money and effort have been spent (1) trying to understand what drives people to have refractive surgery and (2) trying to convert these refractive candidates into refractive patients.

Companies such as Market Scope rely on questionnaires sent to representative populations of physicians and patients to provide direction to the growing refractive surgery market. Consumer demand for laser vision correction seems to be generally tied to the short-term economic health of the nation. Significant declines in the stock market reduce consumer prospects, increase financial worries, and correlate with declines in the volume of refractive surgeries.

In terms of economic indicators, procedure volume most closely correlates with changes in the Conference Board Consumer Confidence Index. For example, for a period after the tragedies of September 11, 2001, the Consumer Confidence Index for the second half of 2001 dropped 20% compared to the first half of 2001. This was accompanied by about a 17% decrease in LASIK procedures for the same period.

Demand for refractive surgery also appears to be relatively highly correlated with price: as price comes down, demand goes up. Moreover, some have argued that the current low cumulative refractive market

penetration levels are indicative of economic issues and not long-term market saturation. The average price for LASIK as of December 2002 was \$1500 per eye. Average LASIK prices have been relatively stable through 2002, with some reduction in the range of prices; that is, fewer surgeons are charging less than \$1000 or more than \$2000 per eye than before.

The majority of surgeons in the United States charge one fixed price for LASIK. Tiered pricing, however, remains a common marketing strategy, with about one-third of surgeons offering variable prices for LASIK. Of those offering a range of prices, the level of refractive error is the most common method of differentiating prices.

Besides price, the key factors in the decision to have refractive surgery are candidacy, effectiveness of the procedure, and safety. Put another way, refractive surgery prospects are most likely to ask:

- Can you correct my prescription with surgery? (candidacy)
- Will I be 20/20 after surgery? (effectiveness)
- What can go wrong? (safety)
- How much will it cost? (price)

Marketing Methods

Newspaper advertisements, seminars, internet Web sites, and radio advertising are the most common methods used to market LASIK, while televised infomercials and telemarketing are the least common methods used. Recent marketing polls suggest that radio advertising and seminars are the most effective marketing techniques while telemarketing programs and infomercials are considered to be relatively ineffective. Optometric referral programs rate low on the scale of important marketing programs for most surgeons, with approximately two-thirds having no involvement with the programs. In spite of the data that suggest the above marketing strategies are effective, the September 2002 Market Scope publication indicates that more than 42% of surgeons simply rely on word of mouth and reputation as their primary marketing strategy. This publication went on to note that 52% of surgeons reported spending less than \$100 per procedure, and only 3% spent more than \$500 per procedure. They make the point that the amount of money spent marketing to patients has fallen over the last few years as many surgeons have cut back on advertising due to lower patient volumes and a struggling economy.

With these key facts elucidated by surveys, “refractive surgery coordinators” at individual practices, corporate institutions, and academic centers attempt to use these facts to bring new business to their institutions. The dollar amount spent on advertising has surged, with outlays in newsprint and radio and

even billboards that feature physicians themselves. While this, in part, may have brought refractive surgery to the minds of potential candidates, many ads tout price as their primary basis. Some argue that the competition for refractive dollars should be waged on the basis of professional skill and not purely price. The American Academy of Ophthalmology has published guidelines on ethical advertising that are appropriate for refractive surgeons.

http://www.aao.org/aao/member/policy/advertising_refractive.cfm

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