IntraLase's International Expansion
A Growing Global Presence

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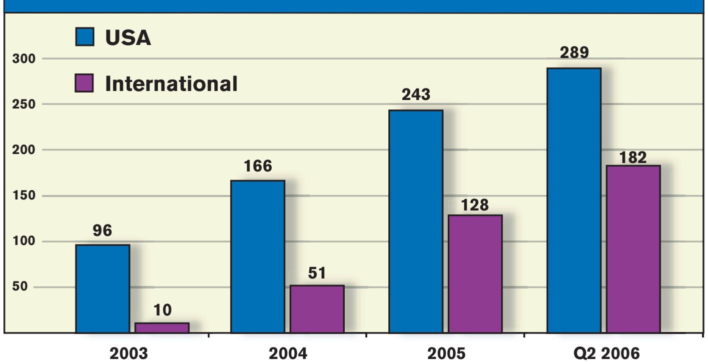
Twenty years after laser vision correction was first performed, the technology utilized in the procedure today has improved dramatically to make the procedure (now known as "LASIK") even safer and better than before. One of the key transitions currently underway in many markets is in how the corneal flap is created, moving from a "bladed" approach with traditional microkeratomes to an "all laser" approach utilizing the femtosecond laser as well as the excimer. For the past 3 years, SM² Consulting has conducted a survey of US surgeons who utilize the IntraLase FS laser (IntraLase Corp., Irvine, CA), in order to assess the impact of the technology on key business metrics within the refractive surgery practice. In that time, the US installed base has grown from 41 units to 289 units. CE mark for the laser was issued in March 2004, and the company began actively commercializing its technology in Europe and select Asian Pacific markets. This year, our firm was asked by IntraLase to conduct a similar survey in markets outside the United States, an installed base of 182 units that comprises 40% of all customers worldwide as of Q2 2006 (see Figure 1).

Fig. 1: IntraLase Installed Base – Cumulative



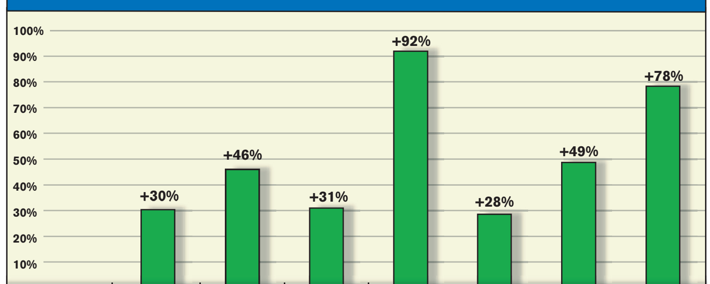
Methodology

A survey tool was developed to collect data on average price per eye, procedure volume, conversion rates of patients (from consultation to surgery), and adoption of IntraLase within the practice. Countries were considered for inclusion that have sufficient experience with the technology (ie, 12 months or more since commercial introduction) and represent a diverse geography across major regions around the globe. Follow-up interviews were conducted with customers and distributors to bring context and perspective to the quantitative data.

Results

Data were collected from 78 customers in 7 markets. This survey sample encompasses customers across three major regions (North America, Europe, and Asia Pacific) where IntraLase technology has been introduced to surgeons and patients (see Figure 2).

Fig. 2: % Change in LASIK Revenue for IntraLase Surgeons After IntraLase vs. Prior to IntraLase



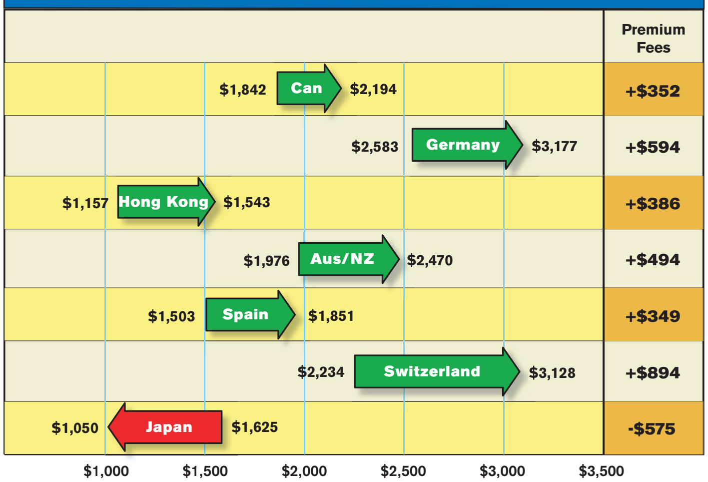
Country IntraLase Units	Canada N=13	Germany N=13	Spain N=19	Switzerland N=4	Aus/NZ N=10	Hong Kong N=7	Japan N=12
Price Change	+19%	+23%	+23%	+40%	+25%	+33%	-37%
Volume Change	+10%	+19%	+6%	+37%	+2%	+11%	+182%

Changes in Business Metrics with IntraLase

Revenue Data were analyzed to compare changes from before to after the incorporation of IntraLase technology into the practice. Customers in all markets have typically seen an increase in LASIK revenue (calculated by multiplying the average procedure volume by the average collected fee per eye, both before and after). Analysis of the change between the two periods shows that on a percentage basis, revenues are up for IntraLase customers ranging from 28% to 92% (see Figure 2). The table below the chart shows proportionally the percentage changes in both price and volume in each market. IntraLase customers' prices have increased since introducing the technology in six of seven markets, and procedure volume has increased in all seven markets.

Price Traditionally, surgeons adopting IntraLase technology have raised their fees for LASIK. Six of the seven markets had fee increases. After converting local currencies to US dollars, the average premium fee increase ranges from $352 per eye (Canada) to $894 per eye (Switzerland). These fee increases represent a 19% to 40% premium above earlier pricing for standard LASIK. By comparison, US surgeons showed an increase of $394 per eye (24% higher than non-IntraLase fees) in the most recent survey in 2005. Japan, by contrast, saw fee decreases averaging $575 (37%) in its market. Japan's market dynamics are extremely different than those of other major markets and are explained more fully in a later section. A summary of LASIK prices in each market is shown in Figure 3.

Fig. 3: LASIK Pricing per Eye
Before and After IntraLase (US Dollars)



Procedure Volume The change in the average number of total LASIK procedures performed each month ranges from a modest 2– 6% (two markets) to a moderate 11 – 37% (four markets) to an extreme 182% increase in Japan. Other technologies, such as customized wavefront, have been in place in these markets and does not account for the differences seen in this survey. In the case of Japan, it appears that procedure pricing has had a highly significant impact on procedure volume. Volume changes are summarized in Figure 4.

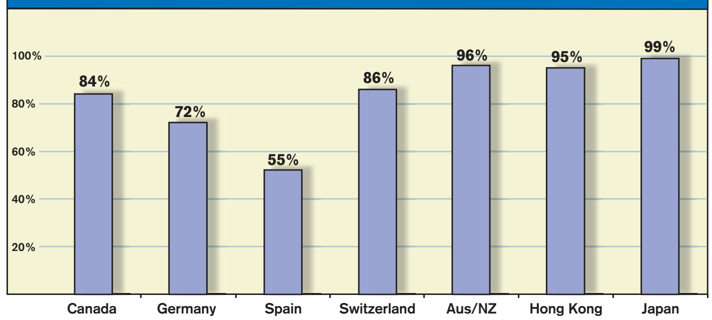
Fig. 4: Average Total LASIK Procedures (Eyes) per Month
Before and After IntraLase

MARKET	BEFORE	AFTER	INCREASE	% INCREASE
Canada	152	168	16	11%
Germany	85	101	16	19%
Spain	110	117	7	6%
Switzerland	73	100	27	37%
Aus/NZ	130	133	3	2%
Hong Kong	61	68	7	11%
Japan	135	381	246	182%

Conversion Rates to Surgery Data on the movement of patients from the consultation to surgery were available for five of the seven markets (not reliably tracked in Japan or Hong Kong). Improved conversion rates were seen ranging from 3% (Germany) to 14% (Australia/New Zealand). Spain, with a pre-existing conversion of 98%, had little room for improvement.

Adoption In the Asia/Pacific markets, IntraLase is used by its customers nearly exclusively (95% to 99%). IntraLase is used for the vast majority of cases by IntraLase customers in Switzerland (86%), Canada (84%), and Germany (72%). The anomaly here is Spain at 55% of cases, which will be discussed further below. See Figure 5.

Fig. 5: Adoption of IntraLase within the Practice
Weighted Average: % of LASIK performed with IntraLase



Market-by-Market Summary

Canada – "Premium Market Recovery"

CANADA	
Population:	32 Million
Number of Laser Centers:	69
Number of IntraLase Placements:	13
2006 # of LASIK eyes (est):	90,000
2006 # of IntraLase eyes (est):	20,000

With the excimer laser available commercially in 1990, Canada is the world's most experienced market with laser vision correction. Peaking with over 120 centers in the late 1990s, the impact of negative media attention and discount pricing led to a "shake-out" that has settled currently at 69 excimer laser centers. IntraLase technology, which was introduced commercially in 2005, has experienced the most rapid adoption of any technology for laser vision correction, with installations in 13 centers during the past 18 months. Surgeons report that the technology appeals to those who were ready for LASIK as well as expanding interest in the population by touting an "increased margin of safety" message analogous to the advent of airbags and ABS braking systems for automobiles.

Such comparisons are easily communicated and understood, allowing large and small volume centers to increase prices, with 7 of 13 centers prices now $CDN 400 – 700 higher per eye. Additionally, surgeons report that multiple IntraLase users in the same market has been beneficial to conversion and volume.

In 2006, it is likely that 20,000 of the 90,000 LASIK procedures will be performed with IntraLase, a share that is rapidly moving towards a national tipping point where the top 30 centers will eventually use IntraLase to initiate the majority of procedures performed in the market.

Germany – "Market Validation"

GERMANY	
Population:	82 Million
Number of Laser Centers:	200
Number of IntraLase Placements:	13
2006 # of LASIK eyes (est):	90,000
2006 # of IntraLase eyes (est):	11,500

As with Canada, Germany is often the first market entry point for new ophthalmic technology. IntraLase's success has resulted in large part because introduction came after FDA approval and validation by surgeons in the United States, a unique feature of the product which is valued by the primarily higher volume surgeons who have adopted IntraLase. Demand for LASIK is down from a peak of 120,000 eyes per year, and IntraLase surgeons are striving to rebuild with a new message for consumers. With the new IEK application for corneal transplant surgery, German universities are adding the IntraLase platform, serving as further validation of the technology for the next wave of private practice surgeons. IntraLase's success is noteworthy in the face of three domestic German manufacturers and one Swiss entity that have or plan to launch competing femtosecond laser platforms.

Spain – "Culturally Influenced"

SPAIN	
Population:	40 Million
Number of Laser Centers:	220
Number of IntraLase Placements:	19
2006 # of LASIK eyes (est):	180,000
2006 # of IntraLase eyes (est):	15,000

Consumer demand and acceptance for LASIK is among the highest seen in Europe with 180,000 LASIK procedures in 220 centers predicted for 2006. Surgeon influence on medical decisions transcends the impact of any advertising or promotion for LASIK. Citizens with private insurance have benefitted from pre-negotiated rates by major carriers, which only now are beginning to include an optional fee for IntraLase. These carriers are a prime source of patient referrals, and surgeons are hesitant to make any changes to a system that already turns high conversion rates into a large volume of LASIK procedures nationally. This built-in resistance has delayed IntraLase technology from becoming part of the standard surgeon-patient conversation for fear of losing patients, which helps make sense of the lower adoption rate.

However, the increases in price, volume and revenue are consistent with other markets, and IntraLase surgeons are not reporting loss of patients to other providers. With greater experience, it is reasonable to expect that adoption by Spanish surgeons within their practices will more closely mirror that seen in other markets. It simply will take longer to achieve. Adoption will also be impacted by increased availability of the technology; more installed base leads to more awareness among both surgeons and patients.

Switzerland – "No Compromise"

SWITZERLAND	
Population:	7 Million
Number of Laser Centers:	20
Number of IntraLase Placements:	4
2006 # of LASIK eyes (est):	6,000
2006 # of IntraLase eyes (est):	4,200

Swiss consumers, unlike their German counterparts, have not been enticed for discount surgery offered abroad. Swiss patients want surgery from Swiss surgeons. Although small in size at 6000 procedures per year, the market is now dominated by four centers that each use IntraLase technology, accounting for 7 of every 10 procedures done in the country. Price increases for IntraLase are the highest seen globally; the success in achieving the majority position was helped in part by live surgery performed in primetime on Swiss television.

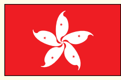
Australia & New Zealand – "Turning the Tide"

AUSTRALIA/NZ	
Population:	24 Million
Number of Laser Centers:	24
Number of IntraLase Placements:	10
2006 # of LASIK eyes (est):	28,000
2006 # of IntraLase eyes (est):	15,000

The first IntraLase customer placement (late 2004) in Australia was already a "premium" priced center and increased their fees to $3,250 per eye, more than double the average price in the market at that time. Under heavy barrage of negative advertising from the centers doing traditional bladed LASIK, this first customer saw a slight increase in volume for calendar 2005 over the prior year. Since that time, there is now system wide acceptance as 10 of the 25 centers now use IntraLase nearly exclusively (95% or more of cases) and account for the majority of LASIK procedures (15,000/28,000 or 54%).

Surgeons report that patients are more engaged, optometrists now have a reason to offer patients as to why fees are what they are, and staff members find it easier to convert interest into procedures. The Australian and New Zealand markets should experience continued steady growth over the next few years.

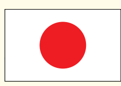
Hong Kong – "Hyper Competitive"



HONG KONG	
Population:	7 Million
Number of Laser Centers:	11
Number of IntraLase Placements:	7
2006 # of LASIK eyes (est):	10,000
2006 # of IntraLase eyes (est):	6,000

As in much of Asia, the competition in Hong Kong for the discretionary consumer dollar is fierce. The LASIK market was estimated to be at 25,000 eyes per year before literally crashing in 2002 due to negative publicity (similar to what happened in Taiwan, when poor surgical results became headline news). Today's market is just over one-third the size, as 10,000 LASIK procedures are estimated for 2006. IntraLase technology, after purchased by one hospital, was quickly added by 6 more of the 11 centers. The market is characterized by dynamic pricing and strong promotion (especially of IntraLase). Today, 60% of all cases in Hong Kong are done with IntraLase, and IntraLase customers' procedure volumes are reportedly growing at 15%, approximately twice the market rate during this recovery period.

Japan – "Market Expansion"



JAPAN	
Population:	127 Million
Number of Laser Centers:	40
Number of IntraLase Placements:	12
2006 # of LASIK eyes (est):	80,000
2006 # of IntraLase eyes (est):	55,000

The Japanese market for laser vision correction has not yet meaningfully developed, due to delayed regulatory approvals, lack of training in the use of traditional microkeratomes, and the ability of non-ophthalmic surgeons to perform refractive procedures (this dates back to RK and PRK). Japan has very restrictive guidelines for patient marketing, which has kept all but a few select and savvy providers from generating the levels of awareness required to attract prospective LASIK patients. The net result is that demand has been a paltry 40,000 eyes per year (by comparison, Japan's population is 40% of the US yet has only 3% of the US LASIK surgical volume).

Several providers, highly experienced with elective surgery centers for aesthetic procedures, have changed the game for LASIK in Japan. They have added IntraLase to existing centers and simultaneously dropped prices by a third, using a "blue ocean strategy" to appeal to a younger consumer. By simultaneously using both price and the advanced "blade free" approach offered by IntraLase, procedure volume has nearly tripled for these centers. 12 of the 40 centers in Japan use IntraLase, use it exclusively, and account for over half of the 80,000 procedures that are estimated to be performed in 2006. Executives and surgeons attribute their market expansion to IntraLase and its ability to standardize technique as well as results. The greater consistency they are achieving across all surgeon outcomes have enabled them to create a higher volume approach to surgery, strongly appealing to a younger "wireless" consumer. The recent success with LASIK is understood in a country where the paradigm for market-building is often accomplished via lowering unit costs through aggressive price/volume dynamics.

Summary and Discussion

This survey has shed light on two main issues. First, it is clear that the impact of IntraLase technology can be seen in markets around the globe and is not just a US phenomenon. Surgeons universally can add the technology and expect an improvement in their business to justify the investment. Interest in the technology is seen initially among a nation's leading surgeons and then spreads to a core of customers. With the notable exception of Japan, customers have increased fees and seen increases in procedure volumes, often in competitive markets such as Hong Kong or Australia, where procedure volumes were flat to declining. As a group, these markets demonstrate that revenue increases are indeed happening for surgeons and that the paths to getting there can be different.

Second, there is now emerging evidence that IntraLase technology can help grow the size of the market. In four of the seven markets, IntraLase is now used in the majority of LASIK procedures, which may ultimately serve as a tipping point for market expansion. This is clearly the case in Japan, which has not seen meaningful demand for refractive surgery until now. Other markets, such as Canada and Germany, seem to trend more like the US, where share of the technology is increasing but has not yet reached majority status.

Cultural and environmental influences are indeed strong and play a role that can either temper or enhance penetration and adoption of a technology that improves an existing offering in the market. Notable examples are Spain and Switzerland.

As IntraLase technology is introduced into other major markets (such as Latin America, the UK and China), we look forward to researching and reporting on its impact.

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3. *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant, W. Chan Kim and Renee Mauborgne, Harvard Business School Press, February 2005*