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Ophthalmology
MANAGEMENT

Vision Care at a Crossroads

Today, technology must create more profitable revenue streams from all sources in your practice.



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Vision Care at a Crossroads

Utilizing the *right technology* will help make your practice more profitable.

By J.C. Noreika, MD, MBA

Running a small business isn't easy and managing an ophthalmic practice is especially challenging. You have to provide sophisticated services to price-sensitive customers who have very high expectations. Messing up an order for a burger and fries is an inconvenience; misdiagnosing a person's vision problem can be tragic.

It Isn't Going to Get Easier If We Don't Embrace Solutions NOW

A Pricewaterhouse survey of 1,202 voters taken after November's election showed that "half of voters said cutting payments to doctors and hospitals should be the top priority to reduce federal spending on healthcare."¹ This is occurring at a time when ophthalmologists are struggling with reimbursement for critical services such as cataract surgery. Its remuneration is approaching that of a manicure and pedicure in a stylish Manhattan salon.

What can you do? Answering this question requires an analysis of how a practice provides services. You can do this; you once mastered the Krebs cycle.

As a doctor with an MBA, I will examine the market assumptions of healthcare spending for the immediate future.. First, let's assume the fee-for-service model of reimbursement will persist into the foreseeable future and capitated insurance schemes will remain at bay. Second, construct reimbursement scenarios wherein compensation for services remains flat or, more likely, erodes as the federal government grapples with its penchant to overpromise in the face of public fallout for underperformance. Third, let's agree that ophthalmology will preserve a private-practice niche within the construct of medicine's movement toward consolidation such as Accountable Care Organizations (ACOs). Finally, let's project that the Accountable Care Act will result in a significant increase in demand by newly insured patients who were previously underserved and, as such, are likely to seek primary healthcare services.

This leaves the practitioner with three choices: (1) increase volume, i.e., throughput, of scheduled patients and render additional appropriate services by maximizing practice efficiencies in the back-office and clinic; (2) decrease practice costs. This is especially challenging for a service business. Most costs such as staffing and space are fixed; expenditures on equipment and furnishings are called sunk costs, i.e., not recoverable. These two choices need not be mutually exclusive although, as we shall see, their synergy requires careful planning, judicious investment and creative implementation, or (3) retire to a beach. The price is the loss of gratification in the restoration or improvement of a patient's vision. Recipients of tomorrow's miracles will continue to hold their doctors in highest esteem.

Increasing Volume While Decreasing Costs: An Oxymoron?

At first glance, increasing patient volume and decreasing practice costs appear to be counterintuitive. In manufacturing, making one more widget increases overall marginal cost. In a service business such as ophthalmology, examining one more patient increases the use of clinic resources, the most important of which is the physician's time.

Time is the constraining factor. Reducing time spent with a patient while maintaining acceptable standards of care proves to be relatively inelastic. In other words, there is a finite limit as to how many patients can be physically seen in a given period of time without eroding quality of care and patient satisfaction. Ophthalmologists can choose to eliminate pleasantries, aka good bedside manner, or delegate lesser skilled tasks to physician-extenders. But, once the low-hanging fruit is picked, further shortcuts become more difficult and potentially risky.

The goal is to enhance the patient's perception of the service while sustaining its quality. This is accom-



The TRS 5100 digital refractor allows practitioners to control the entire refraction process from a keypad small enough to sit on their lap, table top or custom stand.

plished by reducing bottlenecks in critical pathways and by trading total time for quality time with patients.

Technology's Answer

Advanced ophthalmic technology saves time, increases throughput, reduces cost, enhances quality of care and heightens patient satisfaction. The very best technology is cost-effective, user-friendly, reliable and over-engineered to resist obsolescence. When considering the purchase of new technology, three critical issues, each with its own metrics, must be considered: (1) impact on the practice's costs; (2) impact on the practice's profits; and, (3) effect on patient perception and satisfaction.

Marco Technology and Ophthalmic Cost Centers

The greatest line item cost on a practice's profit-and-loss statement is personnel. But by effectively utilizing their high-cost personnel, a practice can enjoy a healthier bottom line.

Standardization is a means to efficiency, as demonstrated best by the fast food and hospitality industries, but ophthalmologists produce a highly customized service within an indeterminate time frame with the expectation of a specific, individualized outcome. This is not a formula for standardization.

Traditional refraction is a subjective test, difficult to standardize and, if done properly, consumes valuable time. Skilled refractionists are hard to find and command premium wages. With traditional methods, training is often lengthy and difficult.

The Marco refraction system combines accurate standardization with

the ability to customize. The vision exam lends itself to division into discrete tasks, some of which may be delegated to non-physician staff. To increase efficiency, time-consuming bottlenecks must be eliminated. Technology, such as the Marco System, can eliminate otherwise specialized tasks such as refraction.

Although ophthalmologists may consider refraction beneath their pay grade, the patient regards it as the most important part of the examination. Patients have little knowledge of the retinal periphery or anterior chamber angle but they know when they like their eyeglasses.

The Role of the Marco Systems

Our practice features Marco Refraction Workstations (which combine the Marco OPD-Scan and TRS-5100), with corneal topography and wavefront aberrometry. The EPIC system occupies its own "high-tech" room and is the first piece of clinical equipment new patients encounter. It sets the tone and instills the perception that ours is a practice incorporating the latest tools to supplement our skills. The EPIC is elegantly engineered to have a small footprint with enormous capability. It provides a refraction unlike any the patient has experienced.

Most of our patients receive an 'EPIC' refraction. Those that don't may have one of the following conditions: If the patient has had previous refractive surgery, the protocol includes a corneal topography. Patients with specific problems with visual function, e.g., driving at dusk, will receive a wavefront analysis to help delineate the problem. Patients referred to our corneal specialist

Technology: The OPD-Scan and TRS-5100 Create a Powerful Combination Process, Branded by Marco as XFractionSM

The OPD-Scan (wavefront aberrometer and corneal analyzer) and TRS-5100 (digital refractor) combine to more comprehensively define each patient's total visual system in a fraction of the time of traditional refractions. The OPD-Scan first harvests over 20 diagnostic measurements while assessing all aberrations in the full optical pathway, and also establishes the refraction start points. The TRS then completes all necessary refractions with unprecedented digital speed and accuracy. This XFractionSM process can be configured in the existing lane or on the unique EPIC workstation platform.

Continued on page 5

Key Surgical Benefits

Today's cataract surgeons have optimized the way they perform surgery. Technologies such as the OPD-Scan wavefront aberrometer/corneal analyzer and the TRS-5100 digital refractor are helping them optimize the decisions that go into planning surgery. Armed with the accurate data they need, surgeons are choosing the right candidates for toric and multifocal IOLs, as well as tracking and comparing outcomes to fine-tune their approach in the future.

"As the industry continues developing new lenses, it will

unique astigmatism measurements in planning treatment. "The OPD-Scan's accurate measurement of absolute astigmatism has helped me choose toric lenses," he says. "And by combining robust corneal topography with wavefront aberrometry, it also allows us to separate the lenticular astigmatism from corneal astigmatism that may be present in the refraction. When we notice a difference between refraction and what we get on the topography, this analysis provides the explanation."

Using the OPD-Scan, surgeons are able to mark the eye for IOL placement using ocular structures, rather than pen marks. The device also helps surgeons formulate a treatment plan by measuring angle kappa, the difference between the optical axis and the visual axis.

"The Marco OPD-Scan device has made it quite easy to measure angle kappa, which has facilitated my ability to choose IOL implants to enhance visual outcomes. In my experience and as I presented at ESCRS, when patients have an angle kappa of 0.4 mm or greater, multifocal IOLs can induce more aberrations, glare and halo. Patients can be dissatisfied with their outcome," says **Mitchell A. Jackson, MD**, Medical Director of

Jackson-Eye in Chicago and Lake Villa, Ill. "If patients with large angle kappa want presbyopia correction, I prefer to use an aspheric accommodating or monovision lens implant."

Dr. Jackson also points to the advantages of the Marco system capturing multiple tests quickly in a single sitting. "Testing time is cut significantly, which improves our efficiency. Patients don't have to move from machine to machine. The test results are potentially more accurate than those we get by spending 15 minutes on consecutive tests because the eyes don't have time to become dry and desiccated in a way that can affect the diagnostic results."

A final key step in improving surgical outcomes is to track and compare them. Marco gives surgeons the ability to do this very easily.

"No matter what kind of lenses we implant, we need to track and evaluate our own outcomes data," explains Dr. Solomon. "To hit our refractive mark without glasses, we get a good postoperative refraction and plug the data into the ASCRS website using the OPD-Scan at every 1-month postoperative exam. This allows us to fine-tune our approach to cataract surgery."

Cataract surgeons are capable of delivering better visual outcomes than ever before. With the accuracy of single-sitting, multi-parameter testing and new ways to look at astigmatism and angle kappa before surgery, the bar continues to be raised. This is how the OPD-Scan and the TRS-5100 are helping to position cataract surgeons for the future.

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– Kerry D. Solomon, MD

become increasingly important to get more information on the front end and the back end, closing the loop and improving refractive outcomes. Robust refraction and accurate topography will be key, and the OPD-Scan provides that," says **Kerry D. Solomon, MD**, Director of the Carolina Eyecare Research Institute at Carolina Eyecare Physicians in Charleston, S.C.

Dr. Solomon uses the OPD-Scan's

often present with keratoconus, forme-fruste and other ectasias. An occasional patient presents without prior diagnosis despite years of complaints and discontent.

All prospective cataract and corneal surgery patients receive a wavefront optimized autorefractometer, subjective refinement of the refraction, a corneal topographic and wavefront analysis. Measurement of axial length is performed at the same time in the same location. Appropriate OCT is performed. That's a lot of visual system analysis in a space of one hundred square feet. Appropriately performed and coded, the provided services represent an important profit center. And, as the fee for refraction is not covered by Medicare but must be charged to the patient, the practice's cash flow is enhanced (See Key Surgical Benefits).

The Exam Lanes

The Marco TRS-5100 automated refractors are also used in the exam lanes. Their sleek, compact screen and keypad resonate with patients increasingly accustomed to tablets and smart phones.

The synergy of the automated refractor with the vision chart projector is seamless and permits rapid identification of visual acuity without correction, with current correction, at near, with pinhole and best corrected. Special testing for phorias, tropias, convergence insufficiency and other abnormalities are intuitively designed into the machine.

The Marco refraction systems offer great flexibility. The computerized programs that guide each refraction are easily customized. For example, if a doctor's comprehensive refraction requires duochrome testing, it is programmed into one of the five computerized refraction protocols.

One of the most important features of the TRS-5100 is its ability to allow both practitioner and patient to verify and validate the results of the refraction with the push of a button: "this is what you see with your old glasses, this is your vision with your new prescription." Because of this, our optical dispensary has an excellent capture rate and buyer's remorse has been virtually eliminated.

Reducing Practice Costs

In our practice, all staff, front and back office, area required to cross-train. Technicians who prepare patients for examination perform autorefractometers. Many can perform refractions on EPIC workstation or TRS-5100 systems



The OPD-Scan wavefront aberrometer delivers accurate and reliable analysis of corneal and lenticular aberrations.

within the lanes.

The practice's two licensed opticians have learned to refract on the Marco system, as well. They can shep-

herd a patient through lensometry, refraction, selection, fitting and delivery. They 'own' the dispensary customers. They help the rare non-adapt patient by confirming the refraction without involving an ophthalmologist or optometrist.

A practice's personnel expense is a fixed cost, i.e., it does not vary materially with the level of business. A practice poised for the future replaces high cost refractionists — ophthalmologists, optometrists and refracting technicians — with cross-trained personnel utilizing advanced technology that can perform the job at least equally well, more quickly, and less expensively.

Increasing Practice Revenues

As more citizens exercise their new health insurance benefits, the number of young, healthy patients covered by plans with vision benefits will increase by an estimated 30 million.² Unlike Medicare patients, these patients rarely present with chronic diseases or degenerations. Wanting new glasses, wearing contact lenses or considering refractive surgery, they're scheduled to see the practice's optometrist. A refraction system that can rapidly assess the integrity of the optical path and discern patients needing only minimal corrections (thus saving 5-7 minutes/exam), is essential.

Because reimbursement for primary vision care has low margins, it's imperative that the capability of the optometrist to see patients efficiently and cost-effectively is enhanced. The Marco wavefront refraction system is especially useful for establishing a baseline that requires little subjective refinement. The process is remarkably quick and, since the refraction is the time-delimiting factor of the exam, additional patients can be scheduled. Since their vision care plan includes an eyeglass benefit, our optical dispensary is fully capacitated.

Continued on page 7

Ensuring Patient Satisfaction with Premium IOLs

Cataract patients have very high expectations, particularly when they're paying out of pocket for premium IOLs. Surgeons are challenged daily to meet those lofty expectations and satisfy their patients. Success hinges on three factors: 1) a consistent, systematic approach, 2) well-managed patient expectations and 3) excellent outcomes.

1 A consistent, systematic approach

Every cataract surgeon has consistent testing procedures. The best ones have systems that provide, in a time-efficient manner, all the information they need to make the best clinical decisions. Marco's suite of diagnostic technologies provides just that.

By combining the OPD-Scan wavefront aberrometer/corneal analyzer and the TRS-5100 digital refractor, surgeons get a comprehensive profile of each patient's total visual system in minutes. The OPD-Scan first harvests over 20 diagnostic measurements while assessing the integrity of the full optical pathway and establishing the refraction start points. The TRS then completes all necessary refractions with unprecedented digital speed and accuracy. Marco has branded this process as "XFractionSM".

Some surgeons incorporate these technologies in an existing lane configuration, while others use Marco's EPIC workstation platform. Both systems deliver all the information surgeons need to meet patients' high expectations for surgery.

"Some people might see us looking at angle kappa and corneal spherical aberration and wonder if it's overkill," says **Farrell "Toby" Tyson, MD**, a refractive cataract/glaucoma eye surgeon at the Cape Coral Eye Center in Florida. "We're aiming for perfection, and if we're not trying to find every data point that can help us get there, we're never going to reach it."

2 Well-managed patient expectations

Using the Marco system, surgeons can show patients their refraction and the physical state of their eyes before and after surgery. For example, before surgery, patients can compare their day refraction to their night refraction or see the refraction they'll achieve with a premium IOL versus a standard one. After surgery, patients can see how the procedure achieved its goals.

Patients are more satisfied because they've seen what's happening in a concrete way: This is what's wrong, this is how we'll fix it, and finally, this is how we fixed it. Surgeons set expectations before surgery, including scientific measures for success to accompany the patient's subjective opinion.

3 Excellent outcomes

To achieve excellent outcomes, surgeons need accurate data that will help them choose the right lens. Factors like angle kappa, spherical aberrations, differences in day and night refractions, and asymmetrical astigmatism all affect lens choice and patient satisfaction after surgery.

Using the Marco system, surgeons see the asymmetric astigmatism that rules out toric lenses. They get the wavefront data they need to choose a lens that enhances contrast sensitivity. They even avoid night vision and multifocal complaints.

"We're aiming for perfection, and if we're not trying to find every data point that can help us get there, we're never going to reach it."

- Farrell "Toby" Tyson, MD

Night driving problems are such a common complaint that surgeons gain a great deal by increasing patient satisfaction in this area alone. "The OPD-Scan system allows you to take measurements and refractions with both mesopic and photopic pupils," Dr. Tyson explains. "This information, combined with wavefront data, helps us to adjust the prescription to ensure good vision for nighttime driving."

Dr. Tyson also depends on his Marco system to measure angle kappa for multifocal patients. "We used to occasionally get surprised when a patient who appeared to be an excellent multifocal candidate had below-target vision after surgery. Now we know that the cause was large angle kappa. With the OPD-Scan, I know the angle kappa and choose the right lens."

This attention to detail — a must in a world where expectations are high and premium IOLs are ever more sophisticated — helps ensure that outcomes are top notch and patients are happy with their cataract surgery.

Other profit centers are significant. Those involving premium intraocular lens implantation and Lasik surgery generate income irrespective of insurance plans. Here, perception is reality. As expectations are different when shopping for a new Lexus as opposed to a used car, patients considering the benefit and value of an out-of-pocket upcharge for an enhanced procedure are highly judgmental. Patients demand their doctors use the latest technology. The EPIC system makes an immediate, profound impression on prospective patients. I suspect, like all good marketing, it subliminally influences the decision-making process (See Ensuring Patient Satisfaction with Premium IOLs).

The Investment Decision

When considering a game-changing technology investment, I find two metrics helpful: (1) contribution to free cash flow and (2) the determination of payback period — part of the soft and hard ROI.

The Marco refraction systems increase free cash flow by enhancing the profitability of the optical dispensary in capturing eyeglass sales to patients who have been refracted. As newly insured patients with low-margin vision benefits seek care, this capture rate will become paramount. Ironically, the examination may become a loss leader. As noted, the refraction fee is not covered by Medicare and our practice collects the fee at checkout.

Another important source of free cash flow is the conversion of potential refractive surgery and premium implant surgery patients. These patients command more chair time and personal attention. It is critical that the surgeon have all necessary information to quickly qualify these patients. Our practice uses the Marco system as the starting point for qualification because of its accuracy of refractive indices, provision of corneal topography parameters and wavefront analysis.

Beyond Return on Investment

The Marco refraction systems allow our practice to see more patients, increase our dispensary's capture rate, convert more refractive and premium IOL surgical patients and free our high-cost physicians from the bottleneck of the refraction. The criteria of advanced technology's value are fulfilled with this system: time is saved, costs reduced, and patient satisfaction increased.

Because the revenue from an additional examination on a doctor's schedule drives nominal additional cost, the system's payback period can be measured in months.

"The criteria of advanced technology's value are fulfilled with this system: time is saved, costs reduced, and patient satisfaction increased."

– J.C. Noreika, MD

The Intangibles

Because of our practice's emphasis on cross-training and perfecting refraction skills, staff satisfaction is enhanced. What is a bane to the ophthalmologist becomes a source of gratification for the technician. In our office, a key staff member was considering a career move after twenty-plus years as the practice's administrator. She was retained because she found satisfaction in direct patient contact. She was trained to refract at Marco's Institute of Vision Technology in Jacksonville, Fla., and is the practice's most accurate refractionist. Other staff members have learned by studying the tutorials on Marco's outstanding website and sharpening their skills through hands-on practice.

A small exurb of Cleveland, Medina is a highly competitive vision care market. In 2012, our doctors examined a record number of new patients. Exit surveys show that these patients leave our office highly satisfied and, more importantly, will tell their friends and family about us. The efficient implementation of the Marco XFractionSM process, combining the OPD-Scan and TRS-5100, is an important component of our success. Our practice is well positioned for tomorrow's inevitable challenges.

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The Difference is Marco

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