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From the publisher

It is all too easy to slip into doing the same thing, day in and day out, because it works. In today's economic climate, being good at the daily routine may not be enough to give you the competitive edge you need. In this issue of Ophthalmology Business, we offer different ideas for putting technology and innovation to use in your practice so that you can take your practice to the next level of service.

Today, most people go to the Web to find local services, including healthcare, which means that your online presence is essential for drawing in new patients. Adding a regular blog to your practice’s website or adding social media such as Facebook or Twitter to your communication repertoire can help (“Increasing online visibility through blogging,” pg. 8, and “Getting Social,” pg. 16).

EHR can be an incredibly useful tool for your practice, but you need to be aware of the potential legal liabilities. Ophthalmology Business shares several physicians' personal perspectives and pearls for minimizing the legal risks (“Digital dilemmas” pg. 12). Innovation means different things to different people. The final feature story for this issue, “Practice innovations,” looks at all angles of innovation and shares three practices' stories on what innovation has done for them.

Be sure to check out the newest addition to Ophthalmology Business: Dr. J.C. Noreika’s column, InSights. His inaugural article, “Femtosecond: The billion dollar bet,” looks at femtosecond cataract surgery from a slightly different perspective (pg. 24).

Thanks for reading.

Donald R. Long
Publisher, Ophthalmology Business
Contents

3  From the publisher

6  What to know about practice valuations
What a practice valuation is, what to look for in a valuator, and the benefits of doing a valuation of your practice
by Brad Ruden, M.B.A.

Special feature: Technology/innovation

8  Increasing online visibility through blogging
Hold readers’ attention with multimedia, microposts
by Faith A. Hayden

12  Digital dilemmas
Avoiding legal peril in computerized offices
by Maxine Lipner

14  Practice innovations
Three distinctly different practices describe their most recent innovations
by Michelle Dalton

16  Getting social
Ophthalmologists learning to “like” Facebook, Twitter, and more
by Maxine Lipner

18  Apps in ophthalmology
A look at some of the most popular apps used in everyday practice
by Enette Ngoei

22  Section 529 plans
The best way for doctors to save for college
by W. Ben Utley, C.F.P.

24  InSights: Femtosecond: The billion dollar bet
A different perspective on the femtosecond cataract laser
by J.C. Noreika, M.D.

26  Envisioning Calhoun Vision
Looking at the story and the man behind the LAL
by Vanessa Caceres
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What to know about practice valuations

by Brad Ruden, M.B.A.

What is a business valuation?
The National Association of Certified Valuation Analysts (NACVA) states: “A business valuation is a process and a set of procedures used to estimate the economic value of an owner’s interest in a business.”

Because the ownership stake in a practice is often one of the most valuable assets one can own, a proper valuation—performed by an experienced and qualified valuator—can provide vital information for the practice owner. There are many reasons for needing a practice valuation, some of which are:

- Practice sale
- Practice acquisition
- Practice merger
- Buy/sell agreements
- Fairness opinions
- Capital infusions
- Litigation support
- Estate planning and taxation
- Solvency/insolvency opinions
- Insurance purposes
- Collateral valuations
- Banks/loan applications
- Eminent domain proceedings
- Marital dissolution

Most valuation reports are attempts to identify the fair market value of a business. IRS Revenue Ruling 59-60 defines Fair Market Value as:

The price at which the property would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts.

That being said, one must also identify the purpose of the valuation. The purpose of the valuation will affect the assumptions and methodologies used to determine value. Are we identifying the fair market value of a 100% controlling interest or is the purpose for identifying the fair market value of a 40% minority stake? NACVA states, “before a valuation analyst proceeds in valuing a business, they must first recognize the purpose for which the
valuation is needed. Different purposes require the use of different valuation methodologies and approaches—and will frequently generate different values as a result." NACVA’s Professional Standards go on to say: "No single valuation method is universally applicable to all appraisal purposes. The context in which the appraisal is to be used is a critical factor. Many business appraisals fail to reach a number representing the appropriate definition of value because the appraiser failed to match the valuation methods to the purpose for which it was being performed. The result of a particular appraisal can also be inappropriate if the client attempts to use the valuation conclusion for some purpose other than the intended one."

It needs to be emphasized that when it comes to identifying fair market value—whether a 100% ownership stake, a controlling interest, or a non-controlling minority share—there is no perfectly accurate approach. One can provide the same practice financials to four separate valuers, and the result can reasonably be four different values, even if all use essentially the same valuation methodologies. This is because each valuator can interpret data differently, make assumptions differently, and apply variables differently. There is no right or wrong approach so valuators can reasonably come to different conclusions as to the value of a practice.

Keep in mind that a valuation report renders an opinion of value, which is different from price. Simply put: Value is an opinion while price is a figure negotiated based on the needs and wants of each party. While a valuation may attempt to identify fair market value, true fair market value (i.e., price) is only achieved through negotiation. That being said, if a valuation report is based on accurate information, combined with sound analysis and reasoning, the opinion of value and negotiated price should be very close. Lastly, a valuation report identifies a value at a specific point in time. If there are no drastic changes to a practice’s internal operations, performance, or external environment, the results of a valuation report may be sound for a fiscal year.

Any report is only as legitimate as the person conducting the valuation. As an unlicensed profession, the area of practice valuation is ripe for abuse. Anyone can claim to be a practice valuator, and many do, so the abilities and competencies can greatly vary depending on training and experience. When it comes to business valuations, the major credentialing agencies (and their certifications) are:

- American Society of Appraisers: Accredited Senior Appraiser (ASA)
- Institute of Business Appraisers: Certified Business Appraiser (CBA)
- National Association of Certified Valuation Analysts has two designations:
  - Accredited in Business Valuation (ABV) for CPAs
  - Certified Valuation Analyst (CVA) for non-CPAs

Using a certified valuator doesn’t ensure the report will be sound. Even if one is a certified valuator, if the person has little to no experience with medical practices—in this case, specifically ophthalmology—the report can contain errors in judgment or assumptions. The analysis of a medical practice—and the general medical environment—differs greatly from that of a general business. For example, many general business valuators have little to no knowledge of or experience with third party payers as they typically don’t exist in other industries. Even if the appraiser has some medical experience, the profession of ophthalmology can differ greatly from other medical professions (for example, general surgery, otolaryngology, etc.), and because of this, one should use an appraiser who is not only certified, but who also has substantial experience in eyecare and who understands the nuances of the specialty.

**Summary**

Many owners tend to overvalue their practice. This can be dangerous if they are anticipating receiving a certain amount from a sale but the hoped-for price isn’t supported by a valuation. Also, if they are carrying insurance to cover the business, overvaluing the business can lead them to carry too much insurance, paying higher than necessary premiums. A properly written report should contain an easily comprehensible summary of the analysis leading to the value derived. A well-trained valuator will plainly lay out for the reader how he/she came to his/her opinion. The report should make clear the assumptions used, why and how variables were applied, the reasoning behind the valuation process, and clearly show the calculations used. Any report written in a convoluted manner confusing to a non-expert reader should come under additional scrutiny.

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Increasing online visibility through **blogging**

by Faith A. Hayden Staff Writer

**Hold readers’ attention with multimedia, microposts**
When is the last time you flipped through a physical copy of the Yellow Pages to find the name and number of a service? It’s probably been awhile, and with good reason. According to Google numbers, these days 97% of consumers search for local businesses online.

“The way people are finding information now has fundamentally shifted from going out and finding people in the real world, to looking in the Yellow Pages, to seeing it as it appears in their Twitter and Facebook [feeds],” said Steve Webb, Ph.D., internet marketing consultant, Weblgnomes.org. “If you want to reach those people you have to be in their arena so they can find you.”

As Maine-based cataract and refractive surgeon Jordan Sterrer, M.D., discovered, having a regularly updated and maintained blog and/or Facebook and Twitter pages can drastically help with online visibility. The practice group Dr. Sterrer belongs to, Eyecare Medical Group, has had a blog since May 2010.

“As a progressive practice we’ve realized the importance of social media and the impact it has on advertising,” he said. “We’ve come a long way from the traditional advertising for LASIK ... with circulars, kiosks, and radio advertisements, and we’ve realized that most of the potential patients are more in the Facebook and Twitter years than anywhere else. We’ve dabbled in [blogging], and we are seeing some responses from it.”

To some practitioners, however, creating and maintaining social media may seem like a time-consuming waste of resources, especially for older doctors who may not be up on technology. Dr. Sterrer’s practice struggled with this at first as well.

“Early on the feeling was that this was a big waste of time,” he said. “But soon we all concurred that this was a good thing. It was the logic behind the demographic changes. We’re trying to reach the younger, more computer-savvy patients—the Gen Xers rather than the baby boomers. But even now, baby boomers are into computers, and everyone is on Facebook. It seemed like a pretty good idea. There’s not much to lose.”

And that includes time put into blogging. For example, Erica Mitchell, Eyecare Medical Group’s resident blogger, only spends about an hour a week drafting and posting the practice’s two weekly posts. Thanks to a trend toward multimedia-heavy microblogging—which is a blog post longer than the 140-character Twitter guideline but shorter than a traditional 500-word blog post—practices can disseminate information in a quick and timely manner though photos, video, or a 200-word post. With the enormous popularity of Twitter and Facebook, which favor snippets of information over paragraphs-long posts, brevity is often best.

“Attention span is plummeting for what people are willing to look at,” said Dr. Webb. “With any multimedia [posting], it’s easy to stand out and easy to consume. It’s easier to post one picture and get your point across than force someone to read 500 words of content to figure out what you’re talking about.”

The people at Eyecare Medical Group seem to understand this. Although some of the longer blog posts come in around 400 words, most are short, hovering near the 200-word mark. Eyecare Medical tries to focus on “short, concise, here’s what you need to know” postings, said Ms. Mitchell. Although she classified the blog as “informational,” she does give it a human element by highlighting, for example, a staff member.

“We try to mix in information with personal touches here and there,” she said. “To keep it fresh, every once in awhile we’ll put in something about an employee or something going on here. I don’t

continued on page 10
think it’s our goal to give people a lot of information on any particular person here or anything personal, but highlighting an employee makes it more real. It’s not just reading an article about cataracts.”

This is a smart strategy, said Dr. Webb, as long as nothing on the blog casts the practice in a negative light.

“You can have as much fun as you want, but you want to be grounded within whatever you’re doing,” he advised. “I wouldn’t post any photos of anything that would compromise the integrity of your practice; I would post things that humanize your website.”

**Hosting options**

There are a number of free, user-friendly blog hosting and social media sites out there that cater specifically to multimedia postings and microblogging. Uploading photos and video to Facebook is extremely simple and only requires a couple of clicks of the mouse.

Other sites such as Tumblr and Posterous Spaces cater to multimedia and microblogging, but Dr. Webb doesn’t recommend either of those for businesses.

“I don’t recommend Tumblr for businesses because I don’t see brands do well,” he said. “I see more teenagers and young 20s [using it]. It’s very similar to what LiveJournal was when it was popular. It’s not as professional.”

In March, Twitter acquired Posterous Spaces, leaving the microblogging site in internet limbo land.

Dr. Webb suggested WordPress.com if a practice is looking for a free, third party site, “but it requires more setup,” he said. “WordPress isn’t going to go anywhere,” he added. “It’s an active community with updated content.”

Despite all the free options out there, though, Dr. Webb encouraged practices to hire a consultant who will create an integrated blog with the same look and feel as the rest of the webpage. That way patients know the content is coming from a trusted source—you.

Above all things, though, Dr. Webb stressed that everyone has something to say.

“Everyone thinks their industry is too boring to do social media,” he said. But “everyone has an audience or else you wouldn’t be in business. There is always a way to post something on social media that connects with the people trying to find you.”

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Digital dilemmas

by Maxine Lipner
Senior Contributing Editor

Avoiding legal peril in computerized offices

Richard G. Davis, M.D., in private practice, Huntington, N.Y., and a managing partner, Island Eye Surgery Center, Carle Place, N.Y., has watched the technology evolve over the past 12 years since he started his own practice. “I wanted to start it as a paperless practice, long before there was EHR,” he said. “So we cobbled together different pieces of technology to help us do it.” While this helped from an efficiency perspective, Dr. Davis quickly became aware of a potential weakness. “During that time we quickly found that some of the programs that we were using were not secure,” he said. “They could be changed so that the notes weren’t written in stone.”

He could see the potential legal liability. “You could have one copy of records and a lawyer could have another copy, and therefore you have a conflict, which is not going to sit well in a court,” he said. Dr. Davis has since sewed up this hole by adopting Allscripts EHR Pro technology (Chicago) about 6 or 7 years ago. He adapted this general EHR software for ophthalmology. Now once a record is closed, it is permanently closed. “You can make an addendum, but you can’t go back and change the original note,” Dr. Davis said.

Automatic additions

Michael F. Chiang, M.D., Knowles Professor of Ophthalmology, Casey Eye Institute, Oregon Health & Science University, Portland, Ore., pointed out that there might be other potential worries. Some EHRs have features that automatically pull in standardized text for “normal” examination, which indicates, for example, that all of the different layers of the epithelium are normal. “The question may be, did the ophthalmologist actually check every single layer?” Dr. Chiang said.

There was a time when a practitioner’s legal concerns with regard to documentation centered on things such as a misplaced or illegible chart. However, electronic health records (EHR) have ushered in a new era for ophthalmic practitioners, which have made such legal worries a thing of the past. Or have they? In this computer age, practitioners may find themselves mulling over a whole new spate of potential legal woes.
However, the same thing is true of paper templates in which the practitioner writes the word “normal,” except that EHR makes this more explicit, he thinks. “It’s possible that could open people up to a little more liability,” he said.

There are also some EHRs that will allow practitioners to copy the most recent examination findings. “Many patients don’t change between two subsequent exams, so you can duplicate those exact findings,” he said. The question again becomes did the practitioner actually check all of those things that were carried over at that visit? “What if something different happened in between and you didn’t document it or didn’t notice it?” Dr. Chiang said.

“Or what if you documented something that you never really checked?” This could potentially put a practitioner in a difficult situation.

Dr. Davis also sees this as a potentially troubling area. “If you have an exam in the chart you tend to pull the last exam forward and change whatever has to be changed,” he said. “But if you pull information over and don’t change things, you can miss things.” This, he warned, is where practitioners can run into liability problems.

However, he pointed out that EHR also has the potential to limit liability. “If you’re doing a good job you should be able to document that on your EHR without any question as to what you’re doing,” Dr. Davis said. “In a properly designed EHR environment, you should be able to defend your potential liability claim much easier than if you have a handwritten chart that is basically illegible with a bunch of check marks next to things.”

To help avoid the situation altogether, Mark Packer, M.D., clinical associate professor of ophthalmology, Casey Eye Institute, Oregon Health & Science University, has set up his Centricity Practice Solutions EHR software (GE Healthcare, Waukesha, Wis.) to load past ocular history only for reference. “You can see the most recent visit in each field in a grey box,” he said. “So, for example, on the slit lamp for cornea, you’ll see the blank field that you need to fill in, and next to that is the most recent finding.” He purposely kept the system from automatically loading the old exam as a safeguard. “The programming allows you to do whatever you want,” he said. “But we intentionally disallowed that in our system because we thought that there was potentially a risk of just clicking the button, loading the previous [exam], and missing something.”

He likewise finds that EHR can be a safeguard against trouble. “It works out helping because I’m dictating as I’m doing the exam, and the scribe is typing it in so if there is an inconsistency between what I’m saying and what’s already there, the scribe will usually say,” he said. The practitioner can then clarify the notes.

**Avoiding inconsistencies**

However, because the notes are shared among all of those in the practice, it may also be necessary to sort between differences of opinion, Dr. Packer finds. “For example, if I see fine drusen in a 45-year-old, I don’t call that macular degeneration, but someone else might,” he said. “So sometimes loading the previous note from another doctor who saw [the patient] most recently could lead to inconsistencies in what I intend to be there.” So it’s important to make sure the notes are correct each time.

Time and date stamps in EHR notes can also present new challenges. One of the problems with EHR is that documentation may be slower than with traditional pen and paper. “We’ve done studies at OHSU showing that it takes physicians about 30-40% longer to document full notes in EHR compared with paper,” Dr. Chiang said. This means that with paper all the documentation can easily be done before the patient walks out the door, but not necessarily so with EHR. Some practitioners may finish notes right after the patient leaves the room or may wait to complete these at home in the evening or on the weekend. “I know physicians who take all of those approaches,” Dr. Chiang said. “There is a potential risk that if you document on patients after the fact, you may not remember everything that you did with them.” Also, unlike with pen and paper, with EHR all of these things are logged when they are done, making it clear if something has been added later.

Overall, Dr. Chiang pointed out that it’s important to remember that paper-based medicine was far from perfect. “One of the ways that it usually works is that doctors, administrators, and office staff have figured out work-arounds to avoid the imperfections,” he said. “But with EHR what we’re dealing with is a new technology, and that new technology can cause new and in some cases unanticipated problems.” It will require some time and thoughtfulness on the part of practitioners. “I personally believe that we’re going to end up with a product that is much better than the paper system that we started with,” he said.

Editors’ note: Drs. Chiang and Davis have no related financial interests. Dr. Packer has financial interests with GE Healthcare.

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Practice innovations

by Michelle Dalton Contributing Editor

Three distinctly different practices describe their most recent innovations

When the word “innovation” is mentioned and the topic is ophthalmic practices, most people think about the latest laser device, implant, or imaging devices available to improve patient care. Ophthalmology Business spoke to three practices that went beyond traditional thinking about product innovations to find they all put a twist on improving patient care at the top of their lists.

For Mark Packer, M.D., in practice at Orsz Fine Hoffman Packer & Sims, Eugene, Ore., the “greatest recent innovation we’ve undertaken is our ‘zero patient wait time,’ where we have actually achieved an average wait time of 0 minutes by restructuring our clinic organization,” he said.

Daniel Durrie, M.D., in practice at Durrie Vision, Overland Park, Kan., said a decision he and partner Jason Stahl, M.D., made about 5-6 years ago to change the business side from a “catch and release” mentality to an “acquire and hold” philosophy has been one of the best decisions his practice made.

“Instead of working off the business model of trying to find patients, treat their refractive errors, and return them to their primary doctor, we moved to a philosophy of want-
ing to be their vision specialists throughout the phases of their life,” Dr. Durrie said. “We are in a private pay business—refractive surgery—and to ensure the health of the business, becoming a lifetime vision partner with and for our patients made sense.”

At Devgan Eye Surgery in Los Angeles, founder Uday Devgan, M.D., acknowledges that keeping up to date on the latest technology is mandatory.

“It’s not always easy to determine which technologies are here to stay and which will not stand the test of time. But there’s one thing that is certain to be the central backbone of our practice: the way in which we deliver the care,” he said.

Zero wait time

As Dr. Packer explained, technicians at the practice are assigned to one of three roles during each half-day session: work-up, scribe, or float.

“In addition, we have a clinic flow manager who constantly observes the outer and inner waiting room situation and redirects technicians as needed to maintain satisfactory flow. As an aside, he used to solely be our refractive surgery coordinator, but with the decline in LASIK volume, we have found other roles for him to fulfill,” Dr. Packer said.

With wait times being “the single most frequent patient complaint about doctors—it’s even in a Seinfeld routine (‘They call it a ‘waiting room,’ so you know right away what you are going to do in there.’),” Dr. Packer said the practice owners evaluated where they could improve the process to maintain the high levels of patient care necessary.

After reworking the front office and technician staff, Dr. Packer said now a common complaint from patients is “they don’t have time to finish their magazines before being seen!” From his perspective, “our approach not only increases our clinic capacity, it also increases patient satisfaction and helps build our practice further—and we know we can accommodate the growth.”

Being a “vision coach”

When new patients come to Durrie Vision, the goal “is to keep them for life,” Dr. Durrie said. “We don’t do routine eye exams, or corneal transplants, or treat glaucoma or retinal disorders, but we will work with the patients to provide suggestions on how to have the best vision possible for their lifetime.”

What this means is talking to the 20-year-old who hates contact lenses about current refractive procedures, “but also what he can expect as he enters his 40s, or about cataracts and how we’ll manage those when the patient is in his 60s,” Dr. Durrie said. It’s taking the overall concept of concierge medicine and applying it to vision care.

“We found we didn’t need to see as many patients and could devote more time to those we did see,” he said, noting on office days the doctors see about three patients an hour (on post-op days, the number of patients seen per hour is more).

“We have 20-minute talks with them about where their vision is now, where it’s heading, and how their lifestyle choices will affect those vision plans,” he said.

The decision to concentrate on becoming more of a “go to” for all vision needs coincided with a practice decision to drop out of Medicare and to market the practice as a lifetime vision partner.

“We do a lot of refractive lens exchange, phakic IOLs, and corneal laser work, and patients know we’re on their side, and we will pick and choose specialists based on their current vision needs,” he said.

In retrospect, while his patients “couldn’t be happier with the practice,” Dr. Durrie admits it was a bold decision, and he was cautiously optimistic about its potential success.

“But partnering with patients for life has been the real key to our success in the past 5 years,” he said.

“Golden rule”

Dr. Devgan said over the course of the past year, he’s evaluated “numerous technologies and incorporated many of them into our practice. These include a new dual Scheimpflug anterior segment analyzer, higher resolution optical coherence tomography platform, intraoperative aberrometry, and even a femtosecond laser for cataract surgery.”

But what sets his practice apart from others and what Dr. Devgan considers his most innovative aspect is implementing what he’s dubbed the “golden rule of ophthalmology.”

“That simply states that I deliver the same high level of care and surgery that I would want for my own family or my own eyes,” he said. It may sound simple, but too often ophthalmologists are pressed for time and may not step back to carefully consider all potential treatments.

“This internal metric allows me to consistently choose the best and most appropriate treatment for all of my patients, both in private practice as well as at the county public hospital in the underserved area of Los Angeles,” he said. OB

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Getting social

by Maxine Lipner Senior Contributing Editor

Ophthalmologists learning to “like” Facebook, Twitter, and more

It’s true: Social media isn’t just for college students anymore. Your neighbor, your friend, and even your ophthalmic colleague are all flocking to the medium. Any way to engage the public in general has become important to ophthalmologists these days, according to Lance J. Kugler, M.D., in private practice, and director of refractive surgery, University of Nebraska Medical Center, Omaha. “I think that marketing used to be in the realm of refractive surgeons only,” Dr. Kugler said. “But what we’re learning is that patients aren’t just going to show up at your doorstep; you need to engage them, and social media is certainly a very important tool to do that.”

Alan N. Carlson, M.D., professor of ophthalmology, and chief of the corneal and refractive surgery service, Duke Eye Center, was surprised to find himself jumping into the social fray. Just 2 years ago he thought that this would have been a waste given the age of his non-refractive patients. He has since come around. “What I’m realizing now is that even patients who are older than age 75, 70% of them have immediate access to email or internet, and a full 90% have access within their sphere of activity,” he said. “So they may not have a computer but their children that live nearby do.” In addition, those with computers may already be on social media.
like Facebook. “It’s surprising how many grandparents are on Facebook because of their grandchildren,” Dr. Carlson said.

Social opportunities
Social media can be an opportunity for cementing a relationship with your patients, said Brian Boxer Wachler, M.D., director, Boxer Wachler Vision Institute, Los Angeles. “I view social media as a way to keep in touch with people and for people to keep in touch with you as a doctor and as a practice,” he said. “When we have things that we want to let everyone know about, we’ll post them on Facebook, and we have our Facebook page connected to our Twitter.” This is also a chance for patients to get to know him better. “It’s an opportunity for patients or even people in the public who want to know more about the doctor and the practice; it’s a very good vehicle for that,” Dr. Boxer Wachler said. “Not everyone cares to hear from their doctor in between visits—those people won’t be fans and won’t be following Facebook.”

Dr. Kugler views things such as Facebook and Twitter as a way to bring a personal touch to his patient interactions. “I think that because refractive surgery has become a commodity in a lot of ways to some people, this is a way to engage them and show them that it’s not a commodity,” he said. Engaging with patients in social media can be a way of acknowledging that this is a life-changing event that people go through.

Genuine interactions
He encourages those who opt to use social media to be genuine in any interactions. “I think that it has to be authentic,” Dr. Kugler said. “I think that is the most effective way.” He warned against hiring a social media company to handle things for you or using staff members to pretend to be patients. “People can sniff out artificial stuff on social media very quickly,” he said. “If Google detects that and knows that you’re being fraudulent, it drops your search results way down,” he said.

Dr. Boxer Wachler suggested approaching social media the way you would speak to others at a cocktail party. “It’s conversational, it’s not pushy, not trying to sell something,” he said. “It’s providing information, providing some interesting things going on in the practice or outside the practice.” For example, if someone in the practice is going to be in the news, this is something that practitioners might like to announce. But the interaction doesn’t have to be limited to the practice or even to ophthalmology. “Even things outside of ophthalmology that are interesting like health facts or tips, people would see value in that too,” Dr. Boxer Wachler said.

Likewise, Dr. Carlson will use social media to alert patients about what those in the practice are up to. “For example, today there is a nice article from Sanjay Asrani, our glaucoma specialist, so I linked that out to everyone and said, ‘Dr. Asrani is in the news and you can read about it,’” Dr. Carlson said. “I’ll also take the article and I’ll credit the author and the source and I’ll put it in my daily blog.”

His interactions are also strongly rooted in education. “I put on surgical videos and I explain in lay terms what people are seeing, and that has been pretty helpful to patients,” Dr. Carlson said. He sees videos as an excellent form of communication. “If a picture is worth 1,000 words and video is worth 1,000 pictures, then you really have a nice opportunity to engage people,” he said.

While social media can work wonders if it is done right, Dr. Carlson stressed the importance of making it clear to patients that this is not the right avenue to reach a practitioner in an emergency. For example, his Twitter account is something that he doesn’t frequently check. “I send a lot out because I have over 6,000 followers, but I don’t check it a lot,” he said. “So I don’t want to hear about an emergency through Twitter.”

Overall, Dr. Carlson acknowledged that while a boon for some, social media is certainly not for everyone. “I have colleagues who want to know how to do this,” he said. “Then I have some who want to avoid ever doing this.”

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The ubiquitous phrase “There’s an app for that,” trademarked by Apple, now sounds cliché, but it reflects a certain reality in a digitized world. In ophthalmology, smartphone apps have become part and parcel of daily practice for many physicians.

A survey conducted by EyeWorld asked ASCRS members to list their favorite medical or ophthalmology apps. The ones mentioned most frequently were Eye Handbook, Epocrates, Medscape, Dragon Dictation, and Sight Selector.

Helpful apps
The Eye Handbook, a specialized resource for ophthalmologists, with its testing tools, eye atlas, physician reference area, calculators, coding help, and more, covers the widest range of functions and had the most mentions in the survey.

“It’s kind of like a one-stop shop,” said Vinay A. Shah, M.D., Kresge Eye Institute, Detroit, and co-founder, Cloud Nine Development, maker of the Eye Handbook.

The functionality that is used the most is the testing tools section, which includes everything from visual acuity testing to color vision testing to the Amsler grid, he said.

While its popularity is mostly among the younger ophthalmologists, namely residents and fellows, it’s becoming more widely used by specialists and general ophthalmologists, Dr. Shah said.
Not strictly an ophthalmology app, Epocrates was also very popular among participants in the survey. The app provides quick access to drug, disease, and diagnostic information at the point of care.

Rahul T. Pandit, M.D., medical director, Methodist Hospital Ophthalmology OR, Houston, said Epocrates is very well organized. A quick search can be done immediately from the homepage, and underneath all the drugs is the potential information you might want for it, he said.

Yannis M. Paulus, M.D., Byers Eye Institute at Stanford, Stanford University, Palo Alto, Calif., said he finds Epocrates useful when he’s thinking of giving a patient an oral medicine or systemic medicines and wants to find out about dosing for those that he doesn’t use that frequently in ophthalmology. He uses it especially if he’s interested in drug-drug interactions. A similar app that he also uses for looking up drug information is Lexicomp, he said.

Another app that’s not strictly for ophthalmology but is well liked by survey participants is the Medscape app from WebMD. Among the many features it includes are medical news, clinical references, and continuing medical education. Users can also listen to podcasts while on the go.

The general use Dragon Dictation app is also popular among participants. It’s a voice recognition application that instantly transcribes whatever you say into text or email messages. According to its description on iTunes, it’s up to five times faster than typing on the keyboard.

The Sight Selector app is popular for its ability to demonstrate various eye diseases, conditions, and treatments to patients. Dr. Shah said, “I have used Sight Selector videos on my personalized app, and my patients love it.”

Room for more

While many apps are useful to ophthalmologists, Dr. Pandit said he hasn’t found any apps specific to ophthalmology that are useful right now. The only app he’s downloaded for specialty is the Eye Handbook, which he sees as useful for his practice’s residents, but he finds it is not organized as well as he would like it to be, he said.

“An app similar to [Epocrates] would be great for ophthalmology whereby you could search for anything from the homepage, whether it’s a CPT code, a diagnosis, and/or treatment,” he said.

He explained: “If you have someone who comes in with a red eye, what’s the differential? What are the CPT codes associated with it? The ICD-9s? That kind of interlinked integrated information would be much more helpful than the way it is in the Eye Handbook, which is broken down into codes, AAO pre-

Keeping up with the latest in EyeWorld educational coverage

Leading experts in ophthalmology are constantly working on the best tools and techniques in surgery to obtain optimum outcomes with the highest safety standards. Finding the best ways to navigate complicated cases is part and parcel of their everyday practice.

As dedicated ophthalmologists everywhere endeavor to keep up with these constant developments, despite their busy schedules, EyeWorld is committed to providing comprehensive coverage of new techniques, tools, and complicated case management in a convenient way.

Through EyeWorld rePlay, an online library of videos, physicians can easily access monthly videos from EyeWorld’s monthly “Complicated cataract cases” and “Tools & techniques” columns, as well as videos from various EyeWorld educational events.

The videos cover a wide variety of surgical challenges. For example, surgeons can learn techniques such as “Scleral Fixation Without Conjunctival Dissection” demonstrated by Richard S. Hoffman, M.D., in a video that was submitted to the 2008 ASCRS Film Festival competition and won first place in the New Techniques category.

Another Film Festival winner that’s available for viewing at any time is the video demonstrating options for treating a partially subluxed one-piece IOL that was causing recurrent vitreous hemorrhages, submitted by Dr. Hoffman. This won first place at the 2010 ASCRS Film Festival competition in the In-House Production category.

Surgeons dealing with glaucoma patients might be interested in a video where Dr. Hoffman demonstrates his technique for minimally invasive EX-PRESS Glaucome Filtration Device (Alcon, Fort Worth, Texas) implantation without conjunctival dissection.

Corneal surgeons may be interested in a video where Massimo Busin, M.D., demonstrates his ultra-thin DSAEK technique.

Anterior segment surgeons may find a video useful where Lisa Arbisser, M.D., demonstrates an incredibly valuable systematic approach for successfully conquering vitreous.

Those dealing with patients who’ve had radial keratotomy may like to watch the video where Mark Packer, M.D., describes his technique for performing phacoemulsification after radial keratotomy.
See every presentation you want, when you want

With the ASCRS•ASOA Symposium & Congress growing ever larger, attending every session of interest to the ophthalmologist has become difficult. Enter the ASCRS MediaCenter.

Essentially an online library of extensive educational content that is constantly being updated throughout the course of the year, the ASCRS MediaCenter allows physicians to catch up on presentations they missed at ASCRS meetings, revisit those that were of significant interest, or even take a peak at what’s in store at upcoming meetings. This includes not only the Annual Meeting but also Winter Update and many of the EyeWorld educational events that take place in conjunction with these meetings. Practice management information provided by ASOA will also be available.

Accessed through the ASCRS website, members only need to log in and click on the MediaCenter tab at the top of the page before easily searching for papers, symposia, podcasts, films, webinars, posters, and more by clinical topic, speaker, meeting, media type, and/or key word.

While watching videos, members can bookmark and take notes that will be saved in their personal profile. The MediaCenter also includes a social media aspect, offering members the ability to share content they find particularly helpful on Facebook, LinkedIn, and Twitter.

The MediaCenter is but one aspect of ASCRS’ growing portfolio of digital services. ASCRS’ Journal of Cataract & Refractive Surgery and EyeWorld magazine are fully available online, along with EyeConnect’s live question and answer discussion forums.

By digitizing ASCRS’ multitude of educational offerings, the ASCRS MediaCenter enhances members’ learning experiences with the convenience of online access, anytime, anywhere.

Redacted practice patterns … it would be nice if it was all coordinated together.”

As far as other types of apps that haven’t been developed that physicians are interested in, Dr. Paulus said, “From a research perspective, a lot of people are saying how smartphones could be useful for doing [virtual] glaucoma screening, vision screening, and things like that.”

He explained that he often gets calls from patients at home with various complaints, and if they could take a picture of their eye and send it over their phone so that he can take a look when he’s talking to them, it would be incredibly helpful.

“Ophthalmology is obviously a very visual field, and I think [it would be helpful] if I could see exactly what they’re talking about when they have post-op redness—is it subconjunctival hemorrhage, which isn’t urgent, or is it endophthalmitis? If they took a picture, I could probably tell pretty readily,” he said.

Along the same lines, Dr. Shah said, once apps are monitored and secure enough, they could even allow telemedicine and patient consultation or consultation with other physicians.

With the iPad 3 and its high-resolution screen, faster processor, and ability to connect to the internet faster using the 4G LTE, Dr. Shah said one area he feels apps will see a development in is the ability to connect more efficiently with electronic health records. At present, there is at least one app that allows access to EHR, the drchrono EHR app.

He also sees companies developing apps that have the ability to access image management software.

“I think technology is transforming the way we practice ophthalmology. I think smartphones are something that everyone has on them all the time, and I feel like there’s a lot more that people can do to bring clinical utility to the market, so hopefully we’ll be seeing [ophthalmology apps] more and more,” Dr. Paulus said. OB

Editors’ note: Dr. Shah has financial interests with Cloud Nine. Drs. Pandit and Paulus have no financial interests related to their comments.

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What app do you find most useful?

Mag Light by Groove Systems Inc.

(iTunes.apple/us/app/mag-light/id424219141?mt=8)

What is it? An adjustable magnifier and light in one

Benefits: It’s great to read menus in a restaurant and do a quick ocular inspection when there is no slit lamp available.

Cary M. Silverman, M.D., medical director, EyeCare 20/20, East Hanover, N.J.
Section 529 plans: The best way for doctors to save for college

by W. Ben Utley, C.F.P.

It’s unlikely that your kids will qualify for substantial student aid and impossible for them to earn that much, so you’ll need to do some financial planning to help them matriculate.

You went to college, and your kids are going to college, too. But their education will cost far more when they attend than when you did. The College Board’s recently released Trends in College Pricing report shows that the total average cost at in-state public colleges rose to an average $21,447 per year, while the average annual cost for private colleges rose to $42,224. Given that costs increased at a rate of 5.6% per year over the last decade, a young physician family with three children might expect college to cost about $1.2 million in the future.

It’s unlikely that your kids will qualify for substantial student aid and impossible for them to earn that much, so you’ll need to do some financial planning to help them matriculate. When saving for college, a Section 529 college savings plan is the best vehicle for most physician families.

Three reasons to consider 529s

The tax benefits are a good fit for doctors. In many states, you get a tax deduction for making a contribution, including Colorado, Georgia, Idaho, Iowa, Kansas, Louisiana, Maryland, Michigan, Mississippi, Missouri, Montana, Nebraska, New Mexico, New York, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, Utah, Virginia, West Virginia, and Wisconsin. No matter where you live, your account grows tax-deferred until you withdraw the money. Then, when you use the money to pay qualified higher edu-
cation expenses (QHEE), the money can be withdrawn tax-free. Qualified higher education expenses include tuition, fees, books, supplies, equipment, and—for students pursuing a degree on at least a half-time basis—a limited amount of room and board. The cost of a computer is not QHEE unless it's required by the school.

Section 529 plans yield one other valuable break: estate taxes. Contributions to the plan are seen as a completed gift by the estate tax code, so your contribution qualifies for the $13,000 annual gift tax exclusion amount. In fact, you can contribute up to $65,000 per child and then elect to treat the contribution as if it were made over a 5-year period. So a physician family with two children could move as much as $260,000 into the plan—and out of their estate—in a single year.

Worried about getting sued? You might want to move a chunk of cash into a 529 plan to get some creditor protection. Under Section 541(a)(6) of the federal Bankruptcy Code, certain contributions may be exempted from bankruptcy, depending on how much you contributed, when you contributed, and the relationship between you and the beneficiary (student). Some states also protect 529 plan accounts from creditors. Consult with your estate planning attorney before relying on a 529 to shield your assets.

One form of protection for 529s is certain: The account is protected from your kids. When you open an account, your name goes on the account application and your child/student’s name goes on the blank labeled “beneficiary.” In this case, the word beneficiary doesn’t mean “the person who gets your money if you die” (that’s the “successor account owner”). The beneficiary is the child who’s going to college. Unless you crack open the account and give the money directly to your child, he cannot spend it himself. Unlike other arrangements—including the Uniform Transfers to Minors Account and the Coverdell Education Savings Account—the money is beyond his reach. This means your college money goes to college, not the local sports car dealer.

Saver beware
Section 529 plans are right for most doctors, but not all. For example, I’ve seen one case where a physician was intent on sending his children to a religious-based school that did not qualify for accreditation. As a result, tuition paid to that school does not meet the test for qualified higher education expense, so a 529 plan would not have been the best savings vehicle.

There is also a chance that you might end up with too much money in your account. For example, if you saved enough in your 529 for your daughter to attend Brown but she decides to go to Michigan State instead, you’ll probably have two times as much money in the account as she needs. To get the excess balance out, you could either use the balance to pay for a family member’s college expense or make a non-qualified withdrawal, incurring taxes and a 10% penalty.

Steps toward saving
1. Calculate how much you will need to save. A number of online calculators help you get the right answer. Be sure to include money you’ve already saved and money that grandparents have promised.

2. See if your state offers the best option. Compare the investment performance of your state’s plan with options available from other states. Weigh the benefits of the tax break that may be available in your state at www.savingforcollege.com.

3. Open an account and decide how to invest. Caution: The year-to-college option is easy to use but it may bring more risk than you’re prepared to bear. Investment options geared for younger children are front-loaded with exposure to the stock market. Ask your registered investment advisor to help you choose the option that’s right for your family.

4. Start saving. Most plans allow you to open an account with as little as $100 per month. A married couple can easily contribute up to $26,000 per child each year without running afoul of estate tax issues.

Joe Hurley, the leading expert on saving for college, calls the 529 plan “the best way to save for college.” Even though the tax benefits, creditor protection, and kid-friendly usability were intended for everyone’s benefit, these features make 529 plans the best way for physician families to save for college, too. OB
Jay Noreika, M.D., is one of the most thoughtful and well-read ophthalmologists that I know. He has been an active ASCRS member since finishing his residency in the late 1970s and has been in private practice in Medina, Ohio since 1983. Jay is a quintessential Renaissance man. Besides doing an oculoplastic fellowship at University of California, San Francisco, he was one of the first ophthalmologists in private practice to earn an M.B.A., which he completed at Case Western Reserve University, Cleveland, in 1988. This relates to Jay’s continuing interest in practice management. He is a voracious reader and a gifted writer, who incredibly continues to make daily entries in a personal journal that he started at age 13.

Jay has agreed to write a column for EyeWorld/Ophthalmology Business on non-clinical topics of interest or importance to our readers. He may offer commentary on practice or administrative issues, bring relevant healthcare articles to our attention, or even review a non-ophthalmic book that he would recommend. He’s the kind of friend that you are always grateful to have—one who is well-read, well-informed, always “in the know,” and willing to summarize the highlights for you.

As you will discover, Jay writes with a fresh and eloquent style that reinforces my conclusion that I should have taken more literature courses as a pre-med student. I hope that you will enjoy Jay’s inaugural column.

David F. Chang, M.D.,
EyeWorld chief medical editor

Femtosecond:
The billion dollar bet

by J.C. Noreika, M.D.

Technology can change an industry overnight. Think iPhone. In his seminal work Capitalism, Socialism and Democracy, Joseph Schumpeter resurrected the Marxist concept of “creative destruction.” The construct was co-opted by American business to describe the game-changing power that a new technology could project on an industry, a culture, and a society.

All technologies are not created equally. To be a change agent, a technology must be transformative. Ophthalmology has been witness to several of these. I would posit that Dr. L’Esperance’s argon laser, Dr. Kelman’s phacoemulsification, Dr. Tom Mazzocco’s foldable intraocular lens implant, and on a lesser scale, the YAG laser iridotomy destroyed what had come before.

The femtosecond laser is an appealing technology. It promises utility for the cataract surgeon and benefit for the patient. It is significant because it may offer safety, efficiency, and enhanced quality of outcome while leveling technical acumen among practitioners. Still in the formative stages of its development cycle, other benefits of transformative technology, e.g., reduced cost in terms of time, labor, and use, are not yet defined.

I see the femtosecond laser as a metaphor for the state of American medicine. Our system is a disjointed mosaic that embraces socialism, viz., increasingly regulated, government-sponsored healthcare, while permitting a modicum of rough and tumble capitalism, e.g., the LASIK surgery marketplace. Herein lies the problem. Biomedical advances and
society's appetite for them are constrained only by the creativity and imagination of the visionary, the American entrepreneur. The capacity to pay is distressingly constrained by the payers’ ability to absorb the advance’s cost amid a myriad of competing societal wants. In this quasi-socialistic system, the payer and beneficiary are not the same entity. This is a fatal flaw when ascribing market-driven, patient-centric principles to insurance-sponsored healthcare provision. The recipient, i.e., the end user, of the technology is oblivious to its true cost.

Five femtosecond laser producers have wagered that cataract surgeons will buy their systems. Surgeons will then sell a system’s advantages to the cataract surgery patient. Each party hopes to benefit from a return on their investment. Of course, benefit is relative.

It is reasonable to anticipate that health insurance companies and the government will not rush to embrace payment for these benefits. If—and this is a very meaningful if—the Federal government allows its client, the Medicare patient, to pay for this upgrade out of pocket, the payer and recipient of the benefit become more closely aligned. However, the recipient must be convinced prior to experiencing the benefit that it will have utility beyond what is “free,” and its value at the margin will justify the premium price. Expectations are certain to be increased. An airline passenger paying full boat for a first class fare has much different expectations than the poor souls lost in steerage.

Eye surgeons are self-selected perfectionists. Any advance toward the superlatives—the best, safest, fastest, or, indeed, perfect—is seriously appraised. Those promulgating efficiency and cost savings had been relegated to the outer isopters. No longer.

Swarthmore College professor Barry Schwartz wrote in his book The Paradox of Choice that choices need not be endless and results need not be perfect. Good enough is, well, good enough. Thus, the multi-billion dollar question: If, at some point down the road, they are not prescribed from doing so by federal regulation, will fixed-income cataract patients—read, Medicare patients—write a substantial personal check to achieve a post-op result of modestly less cylindrical power, a healthier tranche of endothelial cells, and possibly a better chance of foregoing the need for glasses? Curiously, the patient has the least skin in the game. The costs of R&D, regulation, sales, and marketing to the five companies and the initial and ongoing costs of the femtosecond laser to the ophthalmic surgeon guarantee serious economic risk. At most, the ultimate beneficiary will be out a few thousand dollars.

In its current state, the femtosecond laser is not a transformative technology. It is an important iterative technology that is exciting and promising. As the excimer laser did for myopes, it may offer some cataract surgery patients meaningful benefit. How many will represent this universe is, at best, a guess. More importantly, will our society based on egalitarian principle ignore a blatantly two-tiered system with some Medicare patients receiving “better” than most? (I am aware of the example of premium lenses. Their accommodation by the Centers for Medicare and Medicaid Services was and is a regulatory aberration. And, yes, patients do pay for cosmetic plastic surgery. A face-lift is elective; cataract surgery for vision loss is not.) Will bureaucrats soon be discussing cataract surgery’s very own 1%? Can the reality of surgical outcome match the patient’s perception and heightened expectation? Ultimately, will the femtosecond laser benefit justify a premium exceeding the “good enough” price?

The encouraging news for industry and cataract surgeons is that Americans do pay for perceived value at the margin. Prada and Jimmy Choo shoppers must pay a significant premium for the “wow” factor. How much will Americans be willing to pay for what inevitably will be promoted as laser cataract surgery?

The presentations at the ASCRS Annual Meeting did generate a femtosecond laser buzz. The technology has the potential to be the new, new thing. Will it be a game changer like the argon laser, phacoemulsification, and the “Mazzocco taco”? Or will it join blepharopigmentation and cataract demonstration projects in the forgotten graveyard of buzzes past?

Skeptics may argue that the femtosecond laser is on the wrong side of history. But I believe in the genius of ophthalmologists and that of the ophthalmic industry. I believe femtosecond laser technology can be made available at a price society can afford—the socialistic model—and provide a reasonable capitalistic return on investment. To the doubters among you, I suggest that Dr. S.N. Fyodorov taught us that lesson a long time ago. OB

Editors’ note: Dr. Noreika has no financial interests related to this article.

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Envisioning Calhoun Vision
and the Light Adjustable Lens
by Vanessa Caceres Contributing Editor

Looking at the story behind the LAL

You could make some corny play on words about the initial development of the Light Adjustable Lens (LAL) and its developing company, Calhoun Vision (Pasadena, Calif.).

You could joke that founder and retinal surgeon Daniel Schwartz, M.D., associate professor of ophthalmology, University of California San Francisco, was just trying to provide better vision for IOL patients with his ideas to create a lens that could be adjusted after IOL implantation.

Or you could say that Dr. Schwartz had a “Calhoun Vision” with his ideas—he named the company after the street he had been living on at the time, Calhoun Terrace, and he happened to look out the window and see the street sign at some point during his creative process.

Ultimately, the story behind the LAL centers around determination among scientists and patience in helping the lens reach the market, said Verne Sharma, CEO, Calhoun Vision.

The LAL has been available in Europe since 2008 and has been implanted in more than 3,000 patients in six European countries, Mr. Sharma said. The lens entered the early stages of Phase III FDA trials in the U.S. in January after promising Phase I and II trials. While hard to predict when the lens will reach the U.S. market, Mr. Sharma said company executives hope it will be available in the U.S. within 3 years. The lens is also undergoing clinical trials in Canada.

The lens is well known within anterior segment surgery for its concept of standard cataract surgery and IOL implantation followed by refractive adjustment 2-3 weeks later with the help of a special device that applies ultraviolet (UV) light to the IOL.

Dr. Sharma shared with Ophthalmology Business the story behind the LAL’s innovation.

At the beginning

In the 1990s, Dr. Schwartz began to consider ideas to implant an IOL and then adjust it with an external stimulus to change the power. “If you can do that, you can overcome some of the issues we have with an accurate refraction after surgery,” Mr. Sharma said. Although he is a retinal surgeon, Dr. Schwartz had witnessed the struggles anterior segment surgeons have with proper IOL fit, be it from improper biometry, astigmatism, or unpredictable wound healing. However, his ideas were forming before premium IOLs had reached the market.

“He sensed the problems of uncertainty would be helped by customizing the outcomes,” Mr. Sharma said.

Dr. Schwartz began to contact San Francisco area scientists to help develop his idea. In 1998, he connected with Robert H. Grubbs, Ph.D., Victor and Elizabeth Atkins Professor of Chemistry, and Julia A. Kornfield, Ph.D., professor of chemical engineering, both from the California Institute of Technology, Pasadena. “Both said it was a very interesting idea and that the way to handle [this concept] would be with chemistry and optical physics,” Mr. Sharma said. Dr. Kornfield and post-doctorate students began to examine the use of silicone material and ways to adjust power with UV light, which helped to establish proof of concept for the LAL.

“They eventually hit upon curvature change as opposed to refractive index change to bring about a
predictable change in power,” Mr. Sharma said.

Growing the company

Although Calhoun Vision was incorporated in March 1997, the company received its first funding from angel investors in 2000, which is when the company became operational. The first two post-doctoral students who had been working with the LAL at the California Institute of Technology became the company’s first employees, Mr. Sharma said.

“In 2000, the company gathered momentum, had some money, and began to do the hard work of taking a clever idea and making it into a product,” Mr. Sharma said. “It always takes a lot longer and is more complex and more demanding scientifically and in terms of clinical work than you thought it would be.”

Many of those initially involved with the company are still active. Dr. Grubbs, who went on to win a Nobel Prize in chemistry in 2005 for work related to organic synthesis, still remains on the board, as does Dr. Schwartz. Mr. Sharma was CEO from 2001 to 2003. At that time, the management decided the company needed a chemist to further guide Calhoun Vision to the market. However, they asked Mr. Sharma, whose background is in management and operations, to return in 2008. He has been the CEO since then. Mr. Sharma was also a CEO for Summit Technology in the 1990s, so he has long been familiar with the anterior segment surgery business.

The concept behind the LAL is appealing to many surgeons because it helps to eliminate the challenging factors with determining post-op refraction, Mr. Sharma said.

“We said, ‘Let’s get the patient as close as we can by measuring the eye anatomy, using one of the refractive formulas, and bring the patient back 2-3 weeks later. With every other lens, you hope it’s the right lens. We tell our doctors to relax and let the eye heal from the wound, let any astigmatism manifest itself, and let the lens settle. Ultimately, it’s a huge insurance policy,’” Mr. Sharma said.

At the 2- to 3-week mark, the surgeon can painlessly apply UV light via the LAL’s Light Delivery Device (LDD) to help adjust the lens and provide the proper refraction.

It also makes it easier that only one lens is required with the LAL versus an array of different lenses, such as toric, aspheric, monofocal, and other types, Mr. Sharma said.

As with any innovation, the developers behind the LAL have faced their challenges, the biggest of which is making a safe product and procedure, Mr. Sharma said. For example, to protect the retina from UV light, inventors added a UV-blocking back layer to the LAL that took some time to develop. It also took time to develop the LDD. “The lens itself cannot work without the LDD. The essence of our technology is what pattern of light we’re going to shine on the implanted lens,” Mr. Sharma said.

A final challenge is obtaining regulatory approval and the time that requires, Mr. Sharma added.

Advice for innovators

For others looking to add new inventions to the medical field, Mr. Sharma encouraged them to find smart, reliable, and determined colleagues. “Nothing can be accomplished without smart people who have a passion to succeed. You cannot retreat at the first sign of trouble,” he said.

He also said that innovators need resources. “You need people who are supportive of your work and willing to fund it,” he said. However, that support may come from sources you do not initially anticipate, such as government grants.

Lastly, be patient. “Innovation has so many dimensions, but it boils down to a good idea with smart people who don’t panic or lose heart in periods of difficulty. It always takes longer and is much more expensive than you think,” he said.

Editors’ note: Mr. Sharma has financial interests with Calhoun Vision.

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It’s not about ‘if’, and all about ‘what’ and ‘how’

If you’ll need to find ways to become more efficient or better integrate your office equipment isn’t the question. The real issues are about what technologies you’ll need and how to find the services that will help you achieve your goals in these very challenging times. Let Marco help you thrive amidst change.

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