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From the publisher

Many ophthalmology practices have patient portals on their radar as they aim to comply with the Centers for Medicare & Medicaid Services (CMS) requirements. With a portal, patients can make or change appointments, request medication refills, access billing details, and see medical information. According to Candace S. Simerson, president and COO of Minnesota Eye Consultants, their patient portal cuts down on printing costs and saves staff members time by avoiding numerous phone calls for medication refills or appointment changes. Turn to page 18 to read 8 steps to improve your patient portal.

That is only one of the articles in this issue of Ophthalmology Business that you will find useful for your practice. Maybe you have been considering whether it is better to outsource or purchase surgical equipment. Turn to page 25 to read about the scenarios in which it is most beneficial to outsource. You will also find a table comparing the costs of purchasing vs. outsourcing one phaco machine. Or perhaps you’ve been thinking that now is a good time to plan a retreat for the employees of your practice. “Make your next retreat your best retreat” on page 8 contains helpful tips for a successful retreat. If you’ve ever left a retreat wondering “What was the point of that?” the event has been a waste of 4 precious resources—time, money, human capital, and opportunity. Read this article to find out how you can do better.

You may have heard that it is never too early to start planning for the future. In “Plan early for retirement” on page 23, one physician shares how he transitioned into retirement and offers advice for others, including thinking about your goals both personally and professionally and periodically reviewing your current happiness.

These are just some of the articles you will find in this issue. We would love to hear from you if you have an idea for a future article. Please don’t hesitate to contact us. Thank you for reading!

Donald R. Long,
Publisher
Contents

6 Smartphones and amblyopia detection
A smartphone app may help pediatric specialists confirm a suspicion of amblyopia
by Michelle Dalton

8 Make your next retreat your best retreat
Part 1 of 3: Behind every successful retreat you'll find a good plan
by William B. Rabourn Jr., and Louis Pennow, MBA, BSHA

12 How mining patient data can increase your quality of care
Using EHRs to generate custom data reports
by David Misch, MD

14 New initiative makes it easier to obtain medical licenses in multiple states
Eleven states have begun the process of streamlining interstate licensure
by Lauren Lipuma

16 Slit lamp photography without a slit lamp
Obtaining ophthalmic photographs with a single or pair of 20-diopter lenses, a smartphone, and an external illumination source
by Bryan Jones, MD

18 If you build it ... Will they come?
Eight steps to improve your patient portal
by Vanessa Caceres

21 Integrating laser-assisted cataract surgery
How one ASC incorporates new technology
by Robert Nelson, PA-C

23 Plan early for retirement
Physician advises others to think of the future early in their practice and periodically review their situation
by Frank J. Weinstock, MD, FACS

25 Is it better to outsource or purchase surgical equipment?
Considering the benefits of outsourcing
by Kevin Francis
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Smartphones and amblyopia

by Michelle Dalton Contributing Writer

Smartphone app may help pediatric specialists confirm a suspicion of amblyopia

Smartphones are being used as cameras, magnifiers, and video cameras. Now, a photoscreening smartphone mobile app is showing promise for the detection of preventable childhood blindness (amblyopia risk factors [ARF]) in preschool children. The “inherent low cost and broad implementation aspect of a smartphone platform make it highly desirable for use in identifying these risk factors,” said Robert W. Arnold, MD, Ophthalmic Associates, Anchorage, Alaska, and David I. Silbert, MD, Family Eye Group, Lancaster, Pa., in a presentation on the topic during the 2015 American Association for Pediatric Ophthalmology and Strabismus (AAPOS) annual meeting.

Photoscreening with manual interpretation has been validated and can be billed using CPT code 99174, the two said, but added it’s not yet a universally reimbursed or adopted technology. In fact, the relative value of the photoscreening code may be reduced in the future when the process is automated, even though interpreted photoscreeners have shown comparable validity, they said.

The GoCheck Kids (Gobiquity, Scottsdale, Ariz.) app was initially designed to work on a Nokia mobile platform; initial results were compared to the 2013 AAPOS amblyopia referral criteria.

“The 2013 (current) AAPOS vision screening guidelines separate preschoolers into 3 age groups, allowing for graded severity of ARF dependent on perceived impact on amblyopia and prevalence,” Dr. Arnold said.

The “most important risk factors” for amblyopia in children are anisometropic hyperopia and insufficiently accommodated high hyperopia, Dr. Arnold said. “Our validation study included all children who had suprathreshold ARF as determined by cycloplegic refraction.”

Dr. Arnold said the Nokia smartphones have a flash near the lens. “If the smartphone is so smart, can it internally interpret these photoscreening images?” he asked. “The Nokia Lumina has a xenon flash that must be masked with tape to improve optics for a quick image for single-axis, eccentric,
visible-light photoscreening.” Gobiquity also has investigated results with other smartphones, including the iPhone.

**Study details**

There were 174 preschool-aged children (between 12 and 72 months old) who underwent photorefraction with the GoCheck Kids screener and a cycloplegic refraction (n=348 eyes). Two images were acquired, at 90 and 180 degrees; manual and automated grading were performed. Ages ranged from 12–30, 31–48, and 49–72 months (n=58, 44, and 72 respectively); only the 49–72 month group was considered for statistical purposes, the authors said.

“Although children from all age groups were recruited, readable images were more numerous in the older group,” Dr. Arnold said. “More children from the younger groups had unreadable images.

“The smartphone has software capable of instant interpretation; in our validation study, the interpretation software was in its infancy and so more of the younger children were determined ‘unreadable,’” he continued.

There were 55 eyes (30 patients) identified with the cycloplegic astigmatism component above the AAPOS guidelines. Of those, 16 had both cycloplegic cylinder and additional refractive comorbidities. There were 14 patients referred for cycloplegic cylinder only; 5 were correctly diagnosed with a single photo.

In the older children, the initial automated interpretation of the acquired images was similar between the automated and manual readings in both sensitivity and specificity.

“Photoscreening often will interpret a suprathreshold ARF child as ‘pass’ if the child can adequately accommodate the hyperopia or astigmatism,” Dr. Arnold said. Dr. Silbert noted that many of these children with good accommodation are unlikely to have actual amblyopia. In this analysis, the optimized overall ARF sensitivity/specificity for the automated mobile photoscreener compared to cycloplegic refraction: 60%/82% (manual grading SN/SP = 60%/89%).

In a second study, the device was used in single photo mode. Sensitivity was slightly decreased but specificity remained high limiting false positives. Finally, the two noted changing the flash to 90 degrees or an oblique angle from 180 degrees “may be more effective in detecting with-the-rule astigmatism.”

Both physicians agree more research is necessary.

“Our study confirmed that a smartphone camera can give reliable images and has software capable of valid interpretation of the ARF factors in preschool children,” Dr. Arnold said. OB

Editors’ note: Dr. Silbert has financial interests with Gobiquity. Dr. Arnold has no financial interests related to his comments.

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Make your next retreat your best retreat

by William B. Rabourn Jr., and Louis Pennow, MBA, BSHA

Part 1 of 3: Behind every successful retreat you’ll find a good plan

Most of us have been to and participated in company or organization retreats during our careers—some great, some merely OK, and at least a few bad ones.

How to tell that you’re at a bad retreat

• If the “facilitator” is reading at length from a prepared text and appears to be unwilling or unable to make eye contact, this event may actually be a conference or seminar masquerading as a retreat.
• If you have been sitting in a metal folding chair for 3 hours without a chance to say anything until you are standing in line for the rest room, you may understandably feel that you are being held captive at a bad retreat. If that rest room break has been your only respite from the meeting space’s numbingly cold air conditioning, it may be that “retreat hell” has actually frozen over.
• If everyone in your department says that this retreat has been a waste of their time, you can add it to your resume as a “team-building experience” because you can all finally agree on something.

Let’s just suppose that the speaker/facilitator was somewhat interesting, the room temp was tolerable, the lunch was surprisingly good, there were ample rest room breaks, and you actually had a chance to get a word or two in edgewise. Even so, if you leave wondering “What was the point of that?” the event has been a waste of 4 precious resources—time, money, human capital, and opportunity—and that’s BAD.

You can do better than that, right? Of course you can, but here are 4 things you should avoid at all costs.

1. Don’t waste time

A well-planned and well-executed retreat can be a valuable tool in bringing about positive change—time well invested—but a “bad” retreat is at best a waste of everyone’s time. Before you do anything else, invest time in setting a goal for your retreat. Once you are able to articulate what you want to accomplish at your event, you can craft a strategy that will make it possible. If your goal is to motivate employees or to launch a recognition and reward program, your strategy will vary significantly from the one you would devise for a leadership building event. Similarly, a retreat to help employees cope with the challenges of a move, a practice merger, or the addition of satellite offices would be approached differently from one to brainstorm ways to improve customer service and patient satisfaction. If you skip these goal and strategy steps at the beginning of the planning process, your other efforts will be unfocused and more than likely a waste of your valuable time.

Keep in mind WHY you have decided to host the event. Is this something you have wanted to do for a while and now seems a good time to finally do it? Or do you face pressing problems that must be addressed? If your practice actually needs a retreat, consider hiring a consultant experienced in leading effective events for your type of practice. Interview a few and ask for references. Taking on this task yourself—particularly if you have no experience in planning and organizing an event of this type—will require more hours than you think. You probably won’t need much, if any, help with goal-setting, but when
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it comes to strategic planning, that’s where an experienced consultant really shines.

If your event is more of a want than a need and you are short on time, consider tapping into the practice’s “human capital” by delegating the planning process to a trusted individual who can select and lead an employee committee charged with brainstorming strategy and handling logistics. If you decide to bring in a consultant, it’s best to do so at the beginning, to help you with the goal-setting and strategy planning.

2. Don’t waste MONEY
As with just about everything else in life, it pays to work out a budget before spending the first dime and take it into consideration during every step of the planning process. When pulling together the budget, consider how much you are willing to spend on the entire event, then break that figure down into components, such as rental of an off-site venue and equipment, meals and snacks, printed materials, and (if your retreat includes an employee recognition component or attendance prizes) certificates and awards, as well as the cost of a consultant. Don’t assume that you will save money by keeping the leadership of the event entirely “in house.” When evaluating a consultant’s fee, keep in mind the value of your time, a very precious and scarce commodity. You may find that the actual cost of bringing in an expert is less—and more affordable—than you would have thought. Consider, too, the real cost of an event that fails to deliver the desired results.

3. Don’t waste HUMAN CAPITAL
Your employees bring a wealth of talents, creativity, problem-solving abilities, and diverse experience to your practice. They are your “boots on the ground”—they see and hear things that you may never see and hear. They are in a position to see what’s working and what’s not working, and many of them are sharp enough to know why. Consider your workforce your practice’s “Force.” If you plan an event in which you tell them how to solve a problem, how to be more productive, how to improve processes, how to weave together the cultures of two practices, you are wasting your human capital. When you allow them to contribute by combining forces to devise possible solutions and plan the strategies needed to implement them, they are more likely to buy into those solutions and strategies. The “Force” can’t be “with you” unless you invite it to do so, and it may go elsewhere if it is overlooked or stifled.

“Brains, like hearts, go where they are appreciated.”

—Robert McNamara

4. Don’t waste this OPPORTUNITY
When you host a dull, poorly organized and/or poorly focused event, you lose credibility. The employees who leave shaking their heads and asking themselves “What was the point of that?” will have bet their enthusiasm on a losing horse and may be unwilling to bring it with them the next time. Funny thing, enthusiasm. It’s not in short supply; in fact, in theory at least, it’s limitless; just look around and you’ll see plenty of it. Or—depending on where you look—perhaps you won’t. Many people dole it out cautiously until assured that it is going to a good cause because they don’t like to waste it. Others share it quite generously unless they perceive that it (and they themselves) are not appreciated, or perhaps others convince them that their enthusiasm is misplaced.

An event perceived to be “pointless” sends a message to both the cautious (“This was not a good use for your enthusiasm”) and to the generous (“My enthusiasm has been wasted”). While some may give you a second chance, you may not be granted a third opportunity to capture their interest and benefit from their creativity, experience, and enthusiasm. At best, they may be generous and not hold it against you; bad retreats are, sadly, not all that uncommon. At worst, you’ve wasted considerable resources, everyone’s time, and their talent, and will have to live with the consequences.

And that’s sad because it doesn’t have to be that way. An effective retreat can be worth its weight in gold. You really shouldn’t waste this opportunity to tap into the best your staff can offer.

“Nothing great was ever accomplished without enthusiasm.”

—Ralph Waldo Emerson

In Part 2 of this series, we will offer practical ideas and examples of activities appropriate for various types of retreats.

“Success” hinges on how well the event starts the ball rolling toward reaching your goal. Part 3 will address post-event evaluation and ways to capitalize on that momentum. OB
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Electronic health records (EHRs) house an incredible amount of patient information, and when that data is retrieved, sorted, filtered, and compared, it provides eyecare professionals with a more in-depth view of many aspects of their practice. My colleagues and I are able to generate custom data reports from our EHR to identify patients who are ideal candidates to participate in clinical trials, to improve surgical procedures, and to refine practice protocols. Our efforts have yielded impactful results that have made us more efficient and improved quality of care.

**Clinical trials**

Using an EHR from ManagementPlus (Salt Lake City) to data mine patient records enables us to identify patients appropriate to take part in our clinical trials. Our clinical research center conducts clinical trials for macular degeneration, diabetic retinopathy, and retinal vein occlusion. We can target those particular diagnoses and correlate data from different testing results such as optical coherence tomography (OCT) or fluorescein angiography to determine which patients are eligible candidates for a specific trial. For example, in dry age-related macular degeneration (AMD), clinical trials are designed to determine which patients have geographic retinal pigment epithelium (RPE) atrophy. We are able to record the area of atrophy calculated by the OCT software. Each clinical trial will have specific inclusion and exclusion criteria in terms of minimum and maximum areas of atrophy along with minimum and maximum visual acuities. A simple Boolean search allows identification of potential candidates.

**Improve surgical technique**

We also data mine patient records to assess our surgical results by comparing preoperative visual acuities to postoperative visual acuities. By doing so, we are able to correlate the results to determine how well patients are responding to a particular surgical procedure and which physicians produce the best outcomes. For example, we have analyzed the results of macular hole surgery. This surgery has a clear endpoint that can be documented with pre- and postoperative OCT. Either the hole...
is open or closed following surgery. We analyzed the pre- and postoperative visual acuities, OCT results, and determined the percentage of patients whose macular hole closed with just one operation. We then studied the variation between the surgeons in our group, and we found that some surgeons’ success rates were as low as 91% to 92% on the initial closure and two had a 98% to 99% success rate.

We have also analyzed whether it was necessary to use a long-acting gas in the closure of macular holes. Traditionally, we perform the surgery using a gas bubble that will last 4–8 weeks. During this time, patients do not see well due to the visual effects of the bubble. Using a bubble that lasts a shorter amount of time will allow patients to recover from the surgery in a shorter amount of time. Unfortunately, when I switched to a bubble that lasts only 10–14 days the rate of successful closure of the holes decreased from 98% to 99% to around 85%.

Managing patient flow
ManagementPlus has a convenient patient flow feature that allows us to track how much time patients spend at various stations during their office visit, and we have conducted internal time studies to analyze how patients move through our clinic. Based on our analysis, we’ve made changes to improve the efficiency of our office layout. The increased number of injections combined with the increased utilization of retina imaging tests, such as OCT, has dramatically altered retinal practices. After analyzing the patient flow data, we redesigned our office and added separate workup rooms, a secondary waiting room for dilation, and we also redesigned the imaging area to decrease the amount of patient movement. We successfully increased the number of patients from 35 per day to 65 per day for each physician.

By mining patient data through the use of an EHR, eyecare professionals can now detect patterns in our patient population that would not have otherwise been detected via paper charts. Data mining can be a keystone for clinical research as well as enhanced surgical skills, techniques, and office efficiency. **OB**
New initiative makes it easier to obtain medical licenses in multiple states

by Lauren Lipuma Staff Writer

Eleven states have begun the process of streamlining interstate licensure

It may soon be easier for physicians to obtain medical licenses in multiple states, expanding patient access to quality healthcare, especially to those in remote or underserved areas of the country.

On July 21, Illinois became the 11th state to enact the Interstate Medical Licensure Compact, an agreement between states that will expedite the licensing process for eligible physicians and reduce barriers to obtaining licensure in multiple states and jurisdictions. In addition to the 11 states that have already entered the compact, 8 others have introduced bills that would allow them to join the compact once passed.

Sponsored by the Federation of State Medical Boards (FSMB), the compact is designed to streamline the process of medical licensure, increasing license portability and patient access to care. Rather than requiring physicians to go to each state and apply individually, participating states can now use a physician’s existing license and records to speed him or her through the licensing process, reducing the time and cost required to obtain a second license.

Proponents of the compact say that it will ease physician shortages in underserved areas and usher in a new era of patient care.

“The interstate compact will benefit rural America, especially in Wyoming,” said U.S. Senator John Barrasso, MD (R-WY), whose state was the first to adopt the compact, in a press release from FSMB. “States like ours, with patients who live in small, remote areas, need access to physicians who do not live here. I’m proud of Wyoming for leading the way to ensure that patients have access to the medical care they need.”

Here are a few things physicians should know about the compact:
• The compact does not create a single national license, but streamlines the process of obtaining licenses in multiple states. It does not otherwise change a state’s medical practice act.
• Participation in the compact is completely voluntary for both physicians and state boards of medicine.
• According to FSMB, up to 80% of licensed physicians in the U.S. are currently eligible to participate in the compact, if they choose to do so.
• Licensees must pay the fees set by each state in order to obtain and maintain a license through the compact, just as with licenses obtained through traditional methods.
• Oversight and regulatory authority remains with state medical boards; the compact does not create an additional regulatory body.

For more information on the compact and to see if your state participates, visit www.licenseportability.org.
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The utility of ophthalmic photography is abundant both in documentation of pathology for comparison on subsequent examination and for telemedicine consultation in the field in which no local ophthalmology clinic exists. A number of technologies have sought to address this need. The idea to incorporate the portable general purpose computers that are our smartphones has produced a number of interesting devices, including slit lamp smartphone mounts. Efforts have been made to use the smartphone as an ophthalmic camera for purposes of telemedicine in underserved areas.

The PEEK fundus camera project (www.peekvision.org) will soon begin to produce smartphone adapters for fundus photography. A similar need exists to document anterior segment pathology, and we propose a simple method to achieve this goal.

Excellent ophthalmic photographs may be obtained using a single or pair of 20-diopter lenses, a smartphone, and an external illumination source. Generally, the optical problems associated with using a smartphone to obtain anterior segment photographs have to do with the limited field that the image subtends when using the camera of a smartphone by itself, and with the absence of a true macro mode in which the smartphone may be held at an appropriately short distance from the eye without losing focus. Both of these issues may be addressed by using 20-diopter lenses. A single 20-diopter lens held less than 5 centimeters from the eye will produce a reduced negative vergence, allowing the smartphone to achieve a shorter effective focal distance. Stacking two 20-diopter lenses together produces both greater magnification and decreased negative vergence. The net effect is to produce a magnified image subtending a larger area of the smartphone’s optical sensor than can be achieved with a smartphone camera alone.
Through experience, we have developed a number of pearls that enhance the quality of the resulting photographs. As in any macro-photographic exercise, depth of field decreases with increasing proximity to the subject. In eye photography as described above, one may encounter situations in which depth of field is less than 1 millimeter. It is thus critical that the camera and lens are held with great precision by the photographer. We recommend bracing oneself against the bridge of the patient’s nose or forehead, as one might during indirect ophthalmoscopy. Subtle movements will substantially alter the plane of focus. Additionally, it is of great importance to allow the camera suitable time to establish stable focus. If it fails to achieve a clear image, the camera may be too close to the eye, the photographer may not be holding the camera still, or the scene may be too dark.

The challenge with this arrangement is to achieve adequate illumination. If the photograph is being taken outside such as may be the case in an underdeveloped area, ambient illumination may be adequate. Indoors, however, additional illumination is usually required, as the close proximity of the camera to the eye blocks most of the room lighting. To achieve best results, the photographer should hold both the lenses and the camera while, if external illumination is required, an assistant holds the illumination source. A white or cobalt blue LED keychain light, muscle light, or indirect ophthalmoscope is typically used to illuminate the scene. Generally, the position of the assistant is not critical, as long as the area of interest is at least modestly well lit. Even with extreme close-ups, there is room for light to pass through or around the 20-diopter lens or lenses. By holding the light source off axis, one can better reveal depth and contour, similar to using a 45-degree slit beam. Typically, only minor adjustments are required to minimize or eliminate reflections and glare.

Although the 20-diopter lens serves as a condensing lens when used with an indirect ophthalmoscope, it is difficult to achieve this effect using the illumination from the smartphone. With both the smartphone and 20-diopter lens held only a few centimeters from the eye as in taking an anterior segment photograph, the light is not emitted at sufficient distance from the lens such that it may enter the lens with a weakly negative vergence and exit with near 20 diopters of positive vergence, as in traditional indirect ophthalmoscopy. Additional challenges include the necessity to use a photographic application that allows constant illumination of the scene, as use of flash will not allow the photographer to negotiate glare and reflections prior to exposure.

An external illumination device can additionally serve to create some degree of scleral scatter that may further enhance the imaging. Scleral scatter is traditionally achieved with the slit lamp by decoupling the focal point of the biomicroscope and that of its light source. A narrow slit beam is aimed at the limbus while the examiner inspects the cornea. Scattered light from the limbus travels into the corneal stroma and will reflect near tangentially off the anterior and posterior surfaces of the cornea—total internal reflection. A halo of light forms around the cornea, and light repeats the circuit between scleral scatter, corneal total internal reflection, and back. Any light reflected at an angle greater than the critical angle of incidence required for total internal reflection will remain invisible, as the observer is perpendicular to the planes of the cornea. However, many corneal pathologies will scatter light forward to the camera sufficiently such that scleral scatter photography may be employed, both to better effect and with greater contrast than with use of direct illumination. We propose placing an outside light source such as a muscle light or keychain light emitting diode near the limbus, while avoiding any direct illumination of the cornea.

Modern smartphone cameras offer excellent resolution, but lack sufficient close-focusing ability to resolve anterior segment pathology as well as a slit lamp exam allows. To augment the camera’s ability to “accommodate,” we suggest placing a 20-diopter lens between the eye and the camera lens. Two 20-diopter lenses can be stacked for even greater effect, the distance between the camera and the eye limited by the physical thickness of the lenses. In bringing the camera closer to the eye, the lids, cornea, and conjunctiva may subtend the full area of the camera’s digital sensor. While there certainly are superior anterior segment imaging techniques, using readily available 20-diopter lenses to improve the macro photography abilities of the ubiquitous smartphone camera offers an excellent balance of efficiency, convenience, versatility, and image quality. OB

Dr. Jones is a second year ophthalmology resident at New York University. He can be contacted at bryanjones@gmail.com.
If you build it ...

by Vanessa Caceres Contributing Writer
8 steps to improve your patient portal and provide a valuable resource for your practice

With a patient portal, patients can conceivably make or change appointments, request medication refills, access billing details, and see medical information. It also gives patients an easy, secure way to communicate with physicians.

Yet the reality of patient portals within ophthalmology is that they are still a work in progress.

Many practices have patient portals on their radar as they aim to comply with the Centers for Medicare and Medicaid Services (CMS) Meaningful Use Stage 2 requirements.

Patient portals can provide easy access to health information, said Candace S. Simerson, president and COO, Minnesota Eye Consultants, Minneapolis, whose practice has an impressive 38% participation with its portal (see sidebar for what the practice’s portal can do). The portal cuts down on printing costs and saves staff members time by avoiding numerous phone calls for medication refills or appointment changes. Plus, patients are not constantly losing pieces of paper with information on appointment times or medication instructions, Ms. Simerson said.

Because patient portals are usually linked with an electronic medical record (EMR), the information within a portal is more accurate and up to date than information in a personal health record, which depends on patients updating it regularly.

Additionally, portals can be particularly useful with chronic disease, according to research led by C. Scott Kruse, PhD, MBA, assistant professor, School of Health Administration, Texas State University, San Marcos. As patients with chronic disease—such as glaucoma or retinal disease—need to be in regular contact with their provider, the portal can become a useful tool in health management.

However …

Although portals can have their advantages, there are challenges as well.

“My young patients seem to appreciate the idea of having a portal to communicate with our office and update their medical information,” said Christine Lee, MD, Eye Institute of North Carolina, Durham, N.C. “However, what I really need is the older patients who are on multiple medications and with complicated medical histories to utilize more of their portal. Frequently, they shy away from using the patient portals for a variety of reasons.”

Jonathan S. Criss, MD, Florida Eye Microsurgical Institute, Boca Raton, Fla., noted that not only are many ophthalmology patients older, but they often need family or caretaker assistance to manage medical information. Health issues like low vision or other maladies common in ophthalmology may make computer use harder, so a clean user interface is essential, Dr. Criss said.

Then there’s the time management aspect for practice staff. “It takes extra time for my staff and me to check, update, and reply to communications [through the portal],” Dr. Lee said.

Health literacy can also be a concern. Patients may be able to use the portal and access lab reports, but they may not understand much of the information on the report—and it’s not uncommon for patients to use “Dr. Google” to help their understanding, sometimes inaccurately.

Some patients and providers also worry about electronic security and privacy for health information in portals, even if the systems are as secure as EMRs.

8 steps to help your patient portal grow

Despite their challenges, patient portals will remain a part of the healthcare system in the foreseeable future. Here are some ways that ophthalmic practices can maximize their use.

1. Share the patient portal with all staff members. Sometimes it’s just the practice administrator who is most aware of it. However, by engaging all staff members and
encouraging them to think of ways to get patients to use it, everyone benefits, Ms. Simerson said.

2. Designate someone who can walk patients through it, Dr. Kruse suggested. Nurses are typically great patient educators, so that could be one point person. Another ideal person would be a technician who can demonstrate it effectively.

3. Plan how you will let patients know about the portal. A survey from KLAS Research (Orem, Utah) found that 47% of providers surveyed had patients sign up at the point of care. Using this as a way to get patients signed up was more effective than marketing efforts (35%), having dedicated full-time employees for the portal (6%), doctor engagement (6%), and other factors.

Beyond getting patients signed up during checkout, think about other ways you can tell patients about the portal. Dr. Criss said a prominent link to the patient portal from a practice website can be helpful. His practice’s EMR vendor, EMA Ophthalmology, offers hyperlinks that can be easily embedded on webpages. Dr. Lee is considering advertising the portal on the practice’s Facebook page.

Portal design and efficiency may also affect how often patients will use it. Research from KLAS found that users of athenahealth, Epic, and Medfusion portals had greater patient engagement with providers. More than half of the customers at these 3 companies reported that at least 20% of patients had accessed the portal. “Most providers running other vendors are also getting over the 5% bar, but by a narrower margin,” according to the research from KLAS.

4. Use the portal to make life easier for practice employees. At Minnesota Eye Consultants, there is a link on the portal to an online store where patients can buy skincare or dry eye products or nutraceuticals. There is also a link online to instructions for using drops, so it’s something staff members can let patients know is available. “We think there’s a huge opportunity to improve patient education by creating more tools and resources that they can access through the portal,” Ms. Simerson said.

5. Discuss with staff how you will handle common portal challenges. At Minnesota Eye Consultants, 2 common challenges include managing security when patients call in for help with access problems and educating patients not to use group emails or a friend’s email address for their membership in the portal.

6. Measure. If you’re not measuring usage of the portal, it’s hard to assess what to do to encourage more patients to use it. Update staff members weekly on progress in getting patients to use the portal. After relaunching the portal and educating staff on it, portal usage increased from 26% to 36% at Ms. Simerson’s practice—and is now at 38%.

7. Try to make the portal easier to use, read, and understand. Although much of your portal may be subject to design features created by your EMR company, see if you can change any of the following: • make the layout any cleaner or easier to follow, • reword any text to accommodate different levels of health literacy, • include a link to a health glossary that’s geared toward the general public, and • remind patients that they can magnify text on their screen so it’s easier to read.

8. Think long term. Getting a practice to adapt to new technology can take up to 2 years, Dr. Kruse said. Stay focused on long-term benefits when your practice faces patient portal challenges.

What’s on the portal?
Here are what patients can do on the patient portal at Minnesota Eye Consultants:
• request an appointment
• submit a billing inquiry
• view future appointments
• contact the optical department
• order contact lenses
• send a message to the doctor
• request medical records
• access visit summaries
• obtain optical and contact lens prescriptions
• renew medications
• access the online store
• view patient education resources

References

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Integrating laser-assisted cataract surgery

by Robert B. Nelson, PA-C

Integrating new technology

We have a system in place to evaluate the cost and return on investment for new technology that has served us well. If the technology is one that we were involved in bringing to market, we critically analyze whether or not the device will meet the needs of the majority of our surgeons before adopting it. However, even devices that we did not have involvement with can be considered for adoption. Any of our physicians on staff can make a request to integrate a new technology.

In that case, the requested new technology will be discussed at one of our quarterly surgery center meetings. If approved, the technology request then goes to our governing board for final approval. In the interim, we analyze the return on investment and the potential for utilization by our 40 surgeons. That is an important component of the analysis and one that can be a challenge as it can be difficult to accurately analyze how much a new technology will be used. We will usually poll the surgeons to gauge their interest. Regarding how to price the procedure, the manufacturers of these new technologies typically have guidelines as to what the market will bear nationally with recommendations on average national and local price points. We assess whether or not that will meet our needs, measure that against our fixed and variable costs, and when needed, adjustments are made.

More importantly, we take into consideration the opinions of our physicians and gauge their enthusiasm to adopt the new technology, working up a conservative prediction of the number of cases for which they might use the technology in question. As a general rule, if a surgeon does 400 cases a year and when asked tells me that he/she will use the new technology in 100 cases, I reduce that further by 50%. The last thing we need in our analysis is an overstatement of use. It is also advisable to take a hard look at where the industry is regarding this technology.

Integrating the femtosecond laser

We had the unique opportunity in 2011 to become the fourth ASC in the U.S. to acquire a femtosecond laser. Not all of our physicians were in total agreement with the purchase of this technology at that time as there were not many peer-reviewed outcomes studies available yet, and the technology was very new. Thus most of our partner surgeons were cautious about entering the arena of laser-assisted cataract surgery (LACS). At that time there was only one manufacturer with a commercially available laser. Nonetheless, we did move forward because there was an excitement about LACS.

Several other manufacturers had invested heavily in the technology and had their lasers in various stages continued on page 22
of FDA approval. National meetings were dominated by talks about the future of LACS, and so the decision was made to adopt the femtosecond laser into our ASC. Training is fairly standard and is offered to physician offices and to the staff who will be counseling the patients so they are comfortable talking to patients about the technology. We worked tirelessly to coordinate the training of our surgeons. Surgeons then went through a comprehensive didactic training, followed by a wet lab and 10+ live cases that were monitored by the manufacturer representatives before the surgeon was certified.

Their enthusiasm, however, did not last. After 3 years, only 9% of our cataract procedures were performed with the laser, primarily because the surgeons lost confidence in the laser, eventually going back to their manual techniques. As with any new and technically complicated device, there were hiccups in the clinical outcomes. Surgeons had more confidence with their manual techniques. The underutilization and loss of surgeon confidence in this first laser became a concern for the governing board and managing partners. Nevertheless, the technology itself was still something in which we believed, and since the time we adopted that first laser, other devices had become available. Several femtosecond lasers are currently FDA approved, including the LenSx (Alcon, Fort Worth, Texas), the Catalys (Abbott Medical Optics, Abbott Park, Ill.), the LENSAR (LENSAR, Orlando, Fla.), and the Victus (Bausch + Lomb, Bridgewater, N.J.). We carefully evaluated what the other manufacturers had to offer and eventually made the decision to move away from the first generation femtosecond laser that we had purchased. The surgeons decided to switch to the Catalys laser.

There was some initial skepticism by our board and managing partners regarding adopting the Catalys laser. After all, would a new laser really improve utilization? But advances in new technology happen quickly, and in the 3 years since our initial femto adoption, there was much more clinical information on outcomes and surgeon experience available, including evidence demonstrating improved outcomes compared to traditional cataract surgery.1–6

In the ensuing 1 year since our integration of the Catalys laser, our utilization rate has increased from 9% after 3 years with the first laser to 37% after 1 year with the new laser. Our surgeons have been impressed and satisfied with the performance and appreciate the shorter treatment times. The staff likes the intuitive user interface and seeing the comfortable patient experience.

**Efficiency of workflow**

Along with determining whether or not a practice has the volume to support purchasing a laser, one of the most important aspects to consider when integrating this technology is where the device will be located. Look at your overall facility, with particular attention paid to your surgical suite design. First and foremost, you must determine where the device will be placed because flow and efficiency in most ophthalmic ASCs is critical. The femtosecond laser is not a small device. Most surgery centers, ours included, did not ever anticipate that we would need to accommodate a laser of this size when our centers were designed.

Our laser is located on the first floor of our facility while our operating rooms are on the second floor. While not ideal, this arrangement has not negatively impacted our workflow and efficiency. Our patients are admitted at the first floor main desk, treated on the first floor with the femtosecond laser, and then escorted upstairs to be treated for the balance of the cataract procedure. Surgeons do several femto procedures at a time on the first floor, and then return to the operating rooms. While that surgeon is doing femto cases, the OR that he/she was using is typically filled by another surgeon until the femto surgeon returns from his/her cases. We have recently begun construction on a new OR facility and have planned femtosecond suites immediately adjacent to the OR for maximum efficiency.

Integrating new technology can be daunting, but with careful research and consideration, it is rewarding for surgeons and patients alike. While our first foray into this technology did not go exactly as desired, we do not regret having been involved from early on. As good as it is now, it will only get better.

**References**


Mr. Nelson is a board-certified physician assistant and executive director of Island Eye Surgicenter, Long Island, N.Y. Mr. Nelson has financial interests with Omeros (Seattle). He can be contacted at mnelson@islandeye.net.
Plan early for retirement

by Frank J. Weinstock, MD, FACS

R
tirement means
to many people. If your health
and practice holds out
and if you desire, you
should have an opportunity to do
something different later in life.

However, it is never too early to
start planning for the future.

Recognize that in the early stages
of practice, the main concerns are
starting your practice (solo, group,
hospital, or other owned practices) in
order to make a living.

Occasionally an illness forces the
issue. As devastating as that might
be, having some idea of what you
could enjoy outside of your current
practice would be very helpful.

At periodic times you should
evaluate your current “happiness”
and decide if there are changes you
could make to improve your personal
happiness. There may be simple
things such as taking more time off
or major things such as changing loca-
tions, selling the practice, or going
into a different type of practice.

For example, I started my own
solo practice that expanded to a large
office with 4 ophthalmologists, an
optometrist, and a large office staff.

A major goal for years was to
spend as much time with family as
possible and to travel. I spent 4 days
a week in the office or doing surgery
and took much time off to spend
lecturing as well as camping and/
or traveling with the family. The
downside was that my income was
not as great as it would have been if
I had spent 50–70+ hours a week in
practice.

I was fortunate to have a strong
academic life—lecturing, consulting,
and writing—that I could count on
for a while after retiring.

We were able to travel in the
U.S. and overseas over the years—for

pleasure and for teaching. This was
important since I still travel with
minimal feelings of “catching up” on
things that I missed.

About age 60 we thought about
the future and purchased a home in
Boca Raton, Fla., where we spent sev-
eral weeks a year getting to know the
area and the country club commu-
nity in which our home was located. I
saw that the club offered the oppor-
tunity to play tennis, attend plays,
lectures, and concerts, as well as
participate in discussion groups and
bridge. When you add in the mul-
tiple opportunities in the local and
adjacent areas, the choices of how to
spend our time rose exponentially.

I phased out surgery (with
no regrets), limiting myself to a
non-medical practice. During the
roughly 5 years before I retired (I did
not pick a date—it just happened), I
started spending most of 7–8 months
in Boca Raton and returning to my
practice 1 Monday a month to see
patients Tuesday, Wednesday, and

Thursday, then returning to Florida
for the rest of the month. Patients
appeared to accept this well. In case
of a problem, they could always be
seen by associates who would pro-
vide the same high quality care that I
felt that I delivered.

When you are retired, it is
important to be able to phase out
of ophthalmology and have some
idea of what might be available and
what you might want to do. This is
much easier to say than to do. If one
is fortunate to arrive at this point, it
is much easier with a plan, especially
in the current medical environment
where you may find your practice
bought out by a hospital or other
entity, leaving you looking for some-
thing to do.

On the other hand, many phy-
sicians say they have no desire to
retire. There is nothing wrong with
this. If you are in solo practice, it is
more difficult to manage it as you get
older. It might be easier to work full

Plan early for retirement
continued on page 24

September 2015 • Ophthalmology Business 23
or part time for a group or a hospital or other healthcare entity.

From the beginning of your career, you should have a financial plan. I strongly advise finding a reputable financial planner. I would have either my bank or an independent financial manager look over my finances and give me guidance every few years. This is the best way for many of us to go. You must investigate and plan on financial independence from the early days in your practice. It is essential to use someone who isn’t selling product, if possible. If there is product involved, be aware and cautious. Financial consultants realize that early on, you have limited resources and are glad to offer advice, hoping that this will establish an ongoing relationship as you progress.

With careful planning, especially with the high cost of education, a house, and children, it is essential to put money aside for emergencies and for the future. This may be very difficult. Many physicians earn a good living and cannot resist spending money on fancy cars, houses, etc. One should plan a budget early and decide on priorities. Hopefully a major priority is saving for the future.

I never picked a date for retirement—it just crept up on me. Decisions must be made. There is no ideal area of the country in which to live. Many physicians like where they live and adjust their lives accordingly. People are people, meaning that we all have different priorities. As in all business, it is location, location, location. Consider cost of living (this may vary considerably), the tax (personal and state) situation, climate, activities, location, etc. Some people feel that the presence of an institution of higher learning is important. If not present, local schools and religious institutions often present activities and courses for seniors.

Of course you are most familiar with your local community and have friends there. However, you can make friends anywhere if you are willing to make the effort.

If you are thinking of moving elsewhere, you should visit the area periodically over the years to get to know it better. Weather should be a consideration.

Regardless of what you do, if you have a spouse, recognize that your spouse is part of the “team” and should be involved in all decision making. If you have good relations with your family, involve children in your decision since the presence of children where you retire is a great plus. Unfortunately, if illness strikes, they might have to help you in critical situations.

Have interests—school, courses, concerts. Be able to be happy at home. Traveling is fun but gets harder as we get older. I was fortunate to be able to do my mountain trekking overseas and visit many countries while I was younger and able to do essentially everything.

In summary, think of the future early in your practice and periodically review your situation if you hope to retire some day. OB

Dr. Weinstock is professor of ophthalmology, Northeast Ohio Medical University, affiliate clinical professor, Charles E. Schmidt College of Biomedical Science, Florida Atlantic University, and volunteer professor of ophthalmology, University of Miami Leonard M. Miller School of Medicine. He can be contacted at fjstock@aol.com.
Is it better to outsource or purchase surgical equipment?

by Kevin Francis

Increasing costs of ophthalmic surgical equipment and supplies, combined with uncertainty about Medicare reimbursement rates under the Affordable Care Act, are driving hospitals and surgery centers to look for ways to cut expenses. The 2014 ASCRS Clinical Survey revealed that 83.7% of eye surgeons are extremely or very concerned about the future of Medicare reimbursement for cataract surgery.

A cost-cutting measure that makes sense for many facilities is outsourcing the surgical equipment, having it delivered, and paying only for the days and times you are using it for patient procedures. But not all facilities or settings will benefit from this approach. Before you rush into a decision, a number of factors should be considered.

First, here are some of the top reasons ophthalmologists, hospitals, and ASCs turn to outsourcing:

• Profits are earned from the very first case because no equipment needs to be purchased
• Access to all the latest equipment and numerous brands (some doctors prefer a certain brand but their partners might prefer another)
• Turn-key services including a certified technician to assist with each case
• Better efficiency and reduced downtime between cases
• No worries about expired disposable products or inventory management
• No equipment maintenance fees or service agreements

In general, we have found that outsourcing is the most beneficial in the following scenarios:

• A group of doctors is starting a new surgical center and wants to avoid the risk of investing in equipment that could become obsolete before it is paid off.
• The facility doesn’t have the budget to upgrade to newer technology.
• You prefer a certain brand of machine but other doctors at a facility prefer another. Multiple doctors have preferences for different phaco platforms.
• A facility doesn’t have adequate space to permanently store the equipment and supplies. Many states have laws that prohibit keeping equipment and supplies in hallways or other unsecured areas when not in use.

continued on page 26
### Cost comparison: Purchasing vs. outsourcing of one phaco machine

Typical costs for a phaco machine, surgical microscope, and 5 instrument sets and supplies, plus the cost of a surgical technician.

<table>
<thead>
<tr>
<th></th>
<th>Purchasing equipment*</th>
<th>Outsourcing equipment*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare reimbursement</td>
<td>$950 at ASC $1,750 at hospital</td>
<td>$950 at ASC $1,750 at hospital</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital costs for medical practice:</td>
<td>$130,000</td>
<td>All covered for approximately $450–$650 per procedure. Can vary depending on volume, cases per visit, type of lens, and surgeon’s equipment preferences.</td>
</tr>
<tr>
<td>Phaco machine and microscope</td>
<td>$13,650</td>
<td></td>
</tr>
<tr>
<td>Finance charges (5 years at 4% interest)</td>
<td>$60,000</td>
<td></td>
</tr>
<tr>
<td>Service contract (5 years)</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>Instruments (for 5 years)</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Technician, training, benefits</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Dedicated space cost</td>
<td>$218,650+</td>
<td></td>
</tr>
<tr>
<td>Per procedure costs:</td>
<td>$350</td>
<td></td>
</tr>
<tr>
<td>— Disposable and implants</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Based on patient volume. May not be profitable for years.</td>
<td>Generates about $300–$500 per procedure at an ASC, $1,100–$1,300 at a hospital.</td>
<td></td>
</tr>
</tbody>
</table>

*Figures are estimated based on average industry costs. The Medicare reimbursement rates reflect an average of 2015 rates, which vary by region.

Source: Surgical Direct Inc.

• A doctor is starting a satellite location and the facility doesn’t have the necessary equipment to perform cataract surgery.
• A multispecialty ASC wants to add ophthalmology to its offerings, but the reimbursements are lower than for other specialty surgeries. To overcome this hurdle, they need eye procedures to be performed efficiently. Certified technicians through an outsourcing company can improve efficiency and room turnover, allowing the surgeon to perform more procedures per hour and be more profitable.

**Consider all costs**

It’s important to consider all costs before making a decision on whether to purchase or outsource. The table breaks down estimated costs for a single phacoemulsification machine and the accompanying equipment and supplies needed for cataract surgery.

As you can see, many factors play into making a decision about outsourcing versus purchasing. A lot will depend on the number of cases you and your partners handle, how long you expect to use a particular machine, and how much flexibility you want in being able to access multiple brands and the newest technology.

The bottom line? Make sure you’ve looked at all the costs and considered the big picture before making a decision. You will feel more confident knowing you’ve taken the time to truly understand your options. OB

Mr. Francis is president of Surgical Direct, a provider of mobile ophthalmic equipment and services. He can be contacted at Kevin@surgicaldirectinc.com.
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