March 2016 | Volume 1 | Issue 1 | www.optMagazine.com

opt
MAGAZINE

and Now for something completely different...

What is OPT magazine?
AND WHY YOU SHOULD BE EXCITED ABOUT IT

Breaking Bad... habits
DISCOVER THE MAGNETIC POWER OF CHEMISTRIE™

Salus University
OPTOMETRIC EDUCATION AND THE STUDENT BEFORE AND AFTER THEIR GRADUATION

ALSO INSIDE: Optiboard: the 'Original Social Media' | "The Power of Glass" | Nerd-Alert! Super-Duper techie-stuff

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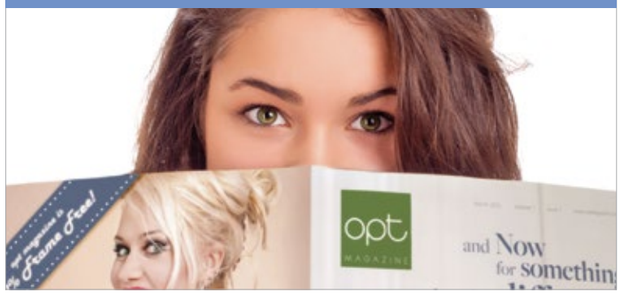
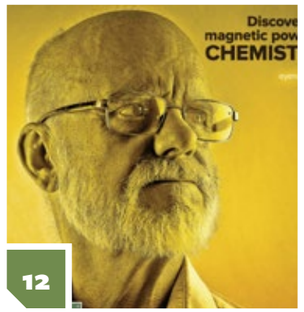
MARCH

On and within the cover





EAGLE™ LENSES

Eagle™ lenses are dedicated to giving you the best, most technologically advanced lenses available. This is why Eagle™ represents not simply ‘a lens’, but rather a whole portfolio of digital free-form lens designs.

Having a good product is about giving you choice. We all know that there’s no such thing as a silver bullet when it comes to lenses. One lens isn’t going to solve all of the visual needs of every person all of the time. This is why Eagle™ lenses have numerous lens designs for everyone, while also including the most expansive range of materials and colors.

Being able to offer this choice is what separates professionals from amateurs. It’s easy for someone to go online and buy a pair of glasses these days, but they aren’t going to get that level of service and recommendation that they deserve for eyewear to match their lifestyles. Eagle™ lenses can help you add more value to your services by better matching lens designs to the needs of your patients.

FASHIONABLE

High technology also means high fashion - if you want to offer the best, they have to look the best. This is why Eagle™ lenses are designed with fashion in mind. When it comes to lenses, ‘fashion’ usually means ‘thin’. Eagle™ lenses have an option to allow you to make the edges thinner. Called ‘feathering’, the lenses are thinned at the edges to allow for a more pleasing lens. This results in a visual area in the center of the lens, with a gradual thinning that takes place closer to the edges of the lens. Feathering is especially ideal when dealing with higher minus prescriptions in higher wrap sunwear. The thinning not only makes the lenses look better, but fit more easily in frames. This means we have an expanded range of prescriptions we can produce when using Eagle™ lenses.

The other important thing to keep in mind about lenses is your audience. You want to be sure that you aren’t just focusing your efforts on those that need progressive lenses when you are offering advanced lens technology. Eagle™ lenses have a number of lenses designed especially for pre-presbyopes, making this the perfect portfolio of lenses to offer.

EXPANSIVE

With over a dozen different progressive lens designs available, Eagle™ lenses are one of the largest families of lens designs available. A wide selection is especially useful when you want to be able to offer your customers the best lenses for their lifestyles. Being able to make second pair sales is much easier when you have lens designs that match with the lifestyle of your patient. Are they a commercial trucker? Try an Eagle™ Driver. Are they a student at college? Try an Eagle™ Scholar S.V. Do they knit for a hobby? Try an Eagle™ Craft. The combinations are limitless, so that way you can offer a higher level of service and choice to your customers.

In addition to lens designs, Eagle™ lenses have the widest material availability of any free-form lens on the market. This means you can choose exactly what you want for the needs of your patients, such as plastic for lower prescriptions, Trivex for drilling, and an array of high index options for higher prescriptions. Color options include popular brands like Transitions®, NuPolar®, and DriveWear®, with many more to choose from.

Not only are Eagle™ lenses available in the standard selection of materials, they also have a wide selection of glass materials as well. Glass is the material for high-end eyewear. Its very nature allows lenses to have a higher perceived value, and its performance gives better optics and scratch resistance than other materials available. A glass polarized Eagle™ lens at the beach offers unparalleled vision, while eliminating the worries of scratching due to sand and dirt. Eagle™ lenses are the only digital lens designs in the U.S. that have full availability in glass, showing just another way in which Eagle™ lenses are the most cutting-edge lens portfolio available.

For more information, please visit **eagleLenses.com**

3 Steps to Creating

EFFECTIVE SEASONAL MARKETING CAMPAIGNS

Renee Jacobs O.D., M.A.

You've survived another Thanksgiving, Halloween, Christmas, and New Year's Day! Another silly season is past. Pat yourself on the back and take a few minutes to evaluate the success of your 2015 holiday marketing campaigns.

Did you stand out from your competition? Did you capture the attention of loyal patients and potential patients too? Did you leverage fun, relevant and personalized marketing campaigns – toward growing connections and followers, while increasing 2015 revenue? Were your marketing campaigns more profitable than 2014, and do you have ideas for making this New Year even better?

Buckle up because 2016 is here! Realize that Valentine's Day has arrived and Mother's Day is around the corner. Ready or not, today is the perfect time to plan your annual calendar of upcoming seasonal celebrations. You can think outside the box toward engaging your patient base throughout the entire year.

WHAT IS SEASONAL MARKETING?

Seasonal marketing is an extension of your business, focusing on campaigns, programs, and resources specific to holidays.

As your eye care business evolves, holidays represent an opportunity to connect with your patients beyond the annual routine eye examination. You can give patients something to talk about, make them smile, and solve their eye care dilemmas throughout the year.

Done right- a series of holiday campaigns can deliver offers, prizes, and collateral that are emotionally powerful. You can win hearts and minds with the best eye care solutions and incentives. You can bridge gaps between providing a service and becoming a trusted friend.

Perhaps even more important, holidays can be used to build your personal brand. Likability matters. This is because people desire to connect with, and make purchases from, businesses that have engaging promotions. Effective seasonal marketing can influence purchasing behaviors, set trends, and create fascinating conversations. Imagine your patients talking about your promotions face-to-face, or through social media. You can be entertaining, plus informative while always keeping the big picture objective in mind. Ideally, every patient will smile when they think of you.

WHY IS SEASONAL MARKETING IMPORTANT?

Most businesses do experience some level of seasonality – meaning that purchasing patterns are interrelated with timing around seasons or dates. Think through your past months in 2015. Did you see a larger number of school age children in August or September, because great vision is important for success in the classroom? Did you see patients returning for sunglasses or computer glasses when their tax refunds arrived in the mail? If your patients understand that eyewear and eye care make great gifts, then you may have seen a spike in gift certificate purchases toward year end. You may also experience spikes around Valentine's Day, Mother's Day, and Father's Day.

Furthermore, if you continually grow your number of followers, and consistently give patients great promotions to talk about, then patients will ramp up their interactions with you. AND, you can snowball the effectiveness of your seasonal marketing from one year to the next.

Start early with a solid holiday plan. Whether it's for New Year's Day or National Ice Cream Day, follow 3 steps to plan and run your effective holiday marketing campaign.

1 START EARLY

Advanced planning allows time to get all of your promotion elements into place. These might include staff talking points plus the mediums you will use for communication. Consider patient email, text messaging, Facebook, your website, and campaigns on television or radio.

Start by answering some key questions. For each holiday, can you make your offer attractive, interesting, memorable, and worthy of active participation? Will you promote through use of discounts or simple product awareness? How will you snowball involvement from one year to the next?

As you consider each holiday, and the year in totality, decide upon the best offer for each occasion. During a Back-To-School promotion, you can share about vision and learning. During tax season, you can share about the benefits of computer lenses. Once you've identified your serial education themes with appropriate offers, then you can decide upon who will own each project. For each occasion, who will develop messaging, the marketing strategies, and then lead implementation including measures? Leadership is necessary to drive a successful campaign.

Next, weigh your internal and external marketing options. For each holiday campaign, decide upon the best ways to engage targeted patients. Will you use individual email addresses, your website, text messaging, or social media like Facebook? Can you gather testimonials and images of smiling patients? Will you incorporate television, radio, and mailers too? Can you include a tie-in with your window displays? Will staff incorporate targeted messaging during telephone conversations with patients?

Before you pull the trigger on any endeavor, identify some relevant indicators of success, such as click through count, or coupons used. Plan the date of your launch and perhaps trial a test run or two prior to takeoff.

Finally, track results from your efforts, and review the entire experience. What was your return on investment? From involvement and feedback, do you have ideas to make the promotion even more fun engaging, and relevant next year? Reflecting upon the experience, did you learn anything you can repeat for other occasions?

2 PROMOTE THE RIGHT HOLIDAYS

When you decide which holidays to celebrate as a business – with promotional offers and good will messages – consider traditional merriment's like Christmas and Valentine's Day. Similarly, if you desire to stand out from your competition, create your own brand, and revel year around, then consider the wackier holiday options too. For ideas, visit sites like www.brownielocks.com.

Each Month this website features, with graphic fun + informative style, a few of the unknown, unobserved, un-traditional, silly, strange, crazy, odd, sometimes bizarre, goofy, crazy, dumb, wacky, weird, and wild holidays or observances specific to the United States.

Imagine the fun that you can have in February. Yes, there is Valentine's Day, when you can offer a prize for the best Facebook post of a patient wearing red frames. At the same time, imagine what you can do with additional observances. If February is Love The Bus Month,then you can encourage patients to share pictures and conversations about their favorite bus drivers who wear glasses. February also has National Secondhand Wardrobe Week: 7-13.Imagine offering a prize for the best images of vintage sunglasses. When you run a promotion, always request copyright permission to include the winning pictures. You can use them for the same occasion next year, or when sending appointment reminder text messages.

Wacky observances can be fun. Use them to inspire a sense of community - among loyal patients and potential patients -with pictures worth sharing. Give patients multiple reasons to talk about you. Differentiate your business from your competition. Develop the personality of your brand. Celebrate year around!

3 REWARD LOYALTY

When you plan your holiday offers, always build in rewards for your most loyal customers. With each promotion, think through the ways to provide additional savings for patients who have already purchased 2 pair of eyewear within the calendar year. You can include incentives for patients who have large families - who have purchased more than 5 pair of eyewear during the calendar year. You might even include a token gift when loyal customers forward your entertaining and informative messages to their friends. Carefully consider your enticements to increase your loyal fan base and keep existing customers happy. Again, ALWAYS REMEMBER the BIG PICTURE OBJECTIVE. Ideally, every fan and follower will smile when they think of you.

3 STEPS TO SUCCESS

If you desire to grow your business, by steadily increasing the number of patients who become ambassadors, then activate a combination of traditional and wacky seasonal promotions to keep patients engaged throughout the year. Today is the perfect time to plan upcoming holiday celebrations. Take 3 steps: start early, promote the right holidays, and consistently reward patient loyalty. Done right, your marketing campaign will cultivate fans while growing revenue in 2016. Plus your campaign can win-win-win because You and Your Staff and Your Patients will share merriment throughout the process!

Waiter ! There's some cylinder in my sphere !

One of the most frequent 'problems' that I hear about when talking about compensated lenses is when we're dealing with spheres. All too frequent are exchanges like this:

DOCTOR: *I ordered this lens as a sphere, but there's cylinder in it - it's wrong!*

LAB: *Yes, I understand you ordered it as a sphere, but the lens is compensated, so...*

DOCTOR: *I know how compensation works, I've been doing this for thirty years. But I ordered a sphere, so it shouldn't have any cylinder.*

Well, here's what's up, Doc: using conventional lenses, you'd be right. We're not using conventional lenses, these lenses are compensated. This hasn't really been "a thing" until recent years. Up until recently, "prescription changes due to the position of wear, particularly those associated with lens tilt, have been largely ignored in the past." (Meister, 2013[1]) In the past, technology just wasn't at a level to be able to do the computations necessary to create a lens, and then actually make it. Now, of course, we can build them...we have the technology.

Now that we can compensate, of course, it's important to understand why it is we are doing the compensation. We do this because we are trying to make the best lens for the patient - not the best lens for the lensometer. When you check the power in the lensometer, you're replicating the exact same conditions of the phoropter in the exam. You are checking one specific point at a 90 degree angle to the lens. While that makes checking the lens easy, it doesn't result in the best possible lens for the patient. We need to account for how light works and bends when it hits the lens. This means accounting for the differences between refraction and the actual frame the patient picks out. When we refract, the lenses in the phoropter are completely straight - no wrap, tilt, or curves. The distance between the eye and the lenses is also different when we compare refraction to real frames. When the patient picks out a frame, there's always going to be some degree of tilt and wrap. So that means we have to make a lens to bend the light so that what actually enters the eye is the correct prescription, even if that means the lens prescription is different.

Now, actual lens compensation is fairly complex and take a lot of things into account, such as lens thickness, prism, cylinder, and basically anything else you can think of. However, to understand the basic idea, we can use Coddington's equations (Keating, 2002[2]) as an example. What these equations will do is account for the prescription compensation along a single axis of tilt. It doesn't take into account all of the other factors used in lens compensation, since this is a magazine, not a textbook.

Coddington's Equations

$$Sph_{new} = Sph_{RX}(1 + (\sin^2 \Theta / 2n))$$
$$Cyl_{new} = -Sph_{new} * \tan^2 \Theta$$

Where n is the refractive index, and Θ is the angle of lens tilt.

So, as an example let's say we have done a refraction of a -5.00 sphere. If we do the above calculation, we should come out with the exact same numbers, since our compensation is effectively nothing. I'll use 1.523 for the refractive index, assuming the lenses in the phoropter are glass.

$$Sph_{comp} = (-5.00) * ((1 + (\sin^2 0) / (2 * 1.523)))$$
$$= -5.00 * (1 + 0)$$
$$= -5.00$$

And our cylinder should also be non-existent:

$$Cyl_{comp} = 5.00 * \tan^2 0$$
$$= 0$$

So this is exactly what we'd expect - we don't have to compensate since there's no difference between the position of the starting lens and the ending lens. So now that we have the basic idea down, let's try the same lens, but this time in a different frame. This time we'll assume it's going to be a wrap sunglass frame, having an angle of 20 degrees. We'll assume it's still glass, just to keep our number consistent.

$$Sph_{comp} = (-5.00) * ((1 + (\sin^2 20) / (2 * 1.523)))$$
$$= -5.00 * (1 + ((0.117) / (3.046)))$$
$$= -5.00 * 1.038$$
$$= -5.19$$

And we also end up with some cylinder:

$$Cyl_{comp} = -5.19 * \tan^2 20$$
$$= -5.19 * (0.132)$$
$$= -0.69$$

With this much of an angle, we get a sphere of -5.19 and a cylinder of -0.69. To find the axis, we go off of the way in which the lens was tilted. 90 degrees for a frame-wrap type tilt, and 180 degrees for a pantoscopic type tilt (Keating, 1995[3]) . Obviously, this is a simple calculation. Real-life lenses have multiple type of tilt to them, so would have more complex equations to take all of the factors in to account.

Another thing to keep in mind is that the higher the prescription, the larger the amount of compensation is going to be. To take a look at that, we can use a much higher prescription (-12.00) with the same angle, still in glass for the sake of consistency:

$$Sph_{comp} = (-12.00) * ((1 + (\sin^2 20) / (2 * 1.523)))$$
$$= -12.00 * (1 + ((0.117) / (3.046)))$$
$$= -12.00 * 1.038$$
$$= -12.46$$

And we also end up with quite a bit more cylinder:

$$Cylcomp = -12.46 * \tan^2 20$$
$$= -12.46 * (0.132)$$
$$= -1.64$$

So now, our prescription not only has almost a half diopter of additional power in the sphere, but also over a diopter and a half of cylinder. By turning the lens at this 20 degree angle, we end up inducing a lot of cylinder that we need to basically undo before the light gets to the patient's eye. Again, if these lenses were straight, they'd perfectly match the refracted prescription.

Obviously, this isn't something that you are ever going to need to calculate yourself. When it comes to real-world compensation, there's far too many things to make a calculation by hand. What this does do, however, is give you an idea of exactly how much the prescription can be influenced by the position of the lens. The larger the tilt or wrap, the more cylinder that gets induced and the more different from the refracted prescription you will be.

Try it out:

Take any stock lens - even a plano. Hold it in front of your eye and focus on something in the distance. Slowly turn it to simulate a high wrap frame - one edge turns towards you and the other away from you. As you turn it, you can notice the power change as the image you are looking at will blur.

1 – *Meister, D. Memorandum to the Vision Council Technical Committee, Understanding the Position of Wear. January 11, 2013.*

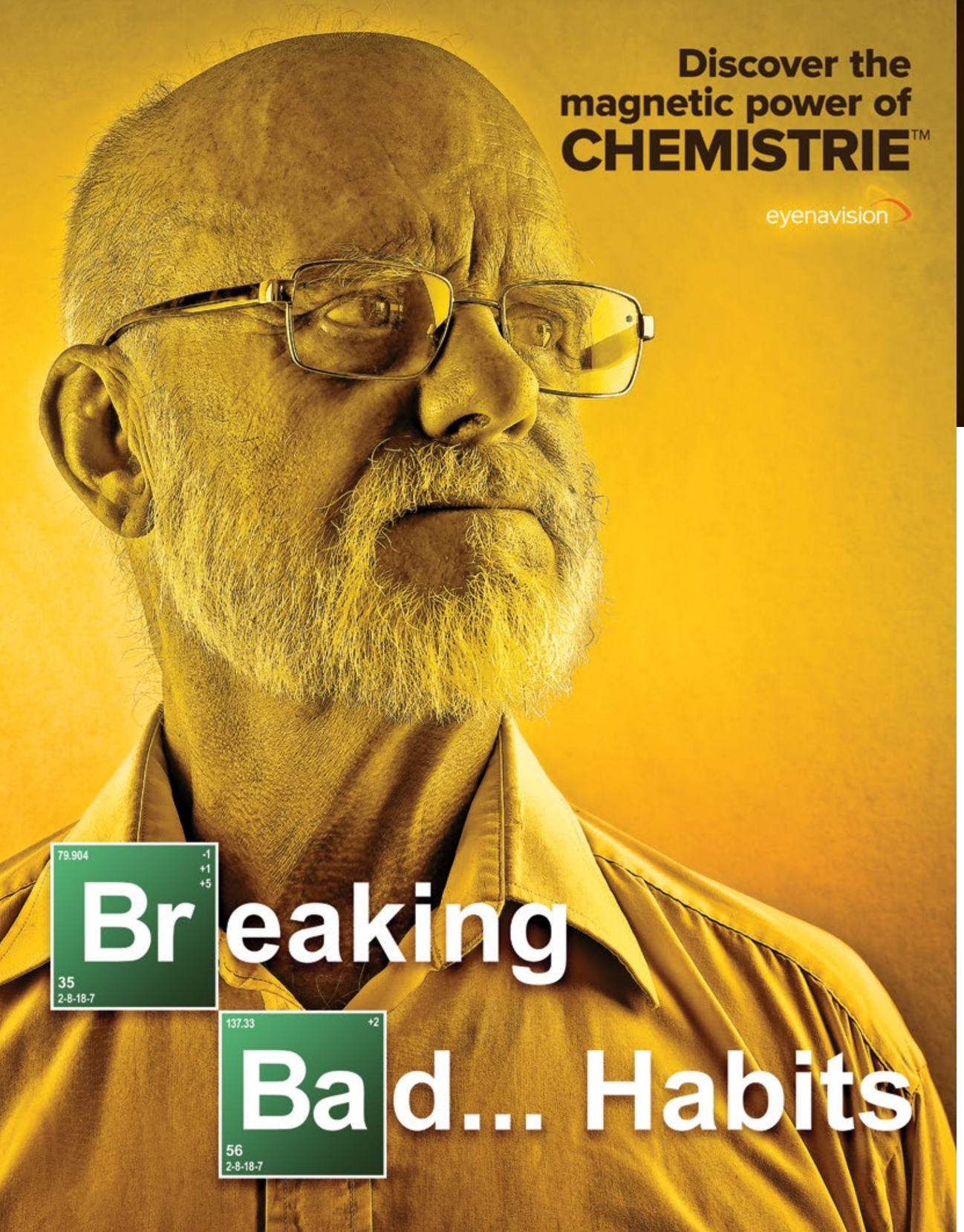
2 – *Keating, M. Oblique central refraction in spherocylindrical corrections with both faceform and pantoscopic tilt. Optometry & Vision Science 1995;72:258-265.*

3 – *Keating M. Geometric, Physical, and Visual Optics. 2nd edition. Boston: Butterworth-Heinemann; 2002:457-460.*

WARNING WAARSCHUWING VARNING ADVERTENCIA AVISO OSTRZEŻENIE ADVARSEL AVVERTIMENTO WARNUNG VAROITUS

Mandatory Frame Advertisement

Due to some National ‘something-or-other’ Regulatory Committee for optical magazines, we are here-by required to have at least one frame ad. They were, however, non-specific on what type of “frame”.



I'M NOT IN THE LENS BUSINESS, I'M IN THE EMPIRE BUSINESS

- Bill Heffner, IV

YOU'RE NOT THE ONLY GAME IN TOWN.

People can get what you're selling from any one of a number of dealers. They could head over to the guy on the corner just up the street. Heck, they could just order it online - direct from Mexico, or maybe somewhere in Asia, and have it in a few days for a fraction of the price of your stuff.

Online sales. Insurance. Chain stores. With all of these guys muscling in on your turf, what can you do about it? They make it easy for people to get their fix, even though it might not be the best quality stuff out there. That weakness is what you want to exploit - you want to give them the best product that you can. Your frames might not have a signature blue color, but you want it to be something that is so good people don't want to go anywhere else. This means that you have to excel not only in service, but technology as well.

Technology is where it's at today. Being able to offer your customers something that's new and easy is a great way to generate interest, and get them talking to their friends. Something that they can't really get online is even better, since more and more online sales are becoming the bane of optical stores. In order to see what technology we want, of course, might require a little "Chemistrie" of our own. Let's cook.

YEAH, SCIENCE!

As we all know, science is cool. Using it to do cool things to impress customers - that's even cooler. Now we can use it to make selling second pairs really, really easy. This is where we're going to use our Chemistrie. If you haven't guess by this point, Chemistrie isn't just a cute misspelling, but rather is a magnet-based lens system designed to work with any frame. That means you don't have to carry a special frame inventory, or have styles that nobody wants. You just use your normal frame inventory, and add on to it.

Chemistrie works by embedding two small magnets in each lens, making for a firm anchor point. The lenses are drilled so that the magnets sit flush with the surface, so there's no bulge or bumps. These magnets are about 3mm across, so they are noticeable, but sleek enough that they don't detract from the aesthetics of the frames. They are also placed at the edges of the lens, so they won't interfere with the wearer's field of vision. After the magnets are fixed in place, the lenses can be assembled into the frame as normal. At this point, they are ready to go and can be used with any one of a number of click-on options.

Image shown here is larger than the actual magnet size

That are a variety of click-ons (they're magnets, they click, hence, 'click-on') that we'll look at shortly, but right now you should know that these aren't standard one-size-fits-all type clip ons. They are edged to be the exact dimensions of the ordered frame. This is what makes it possible to use any frame, as the add-ons are edged to the correct proportions. You don't need to worry about them being sized differently, or not fitting. Since these are also custom-made for each frame, you can be sure that they're correct. (continued on next page)

THE UNCERTAINTY PRINCIPLE

Having one pair of lenses that does everything well is never going to be possible. There are always compromises, since we never know what situations life is going to put us in. This is why the idea of second pairs is so enticing - it makes it easier to offer specialized eyewear to give your patients the best vision in different visual situations. These include things like computer lenses and polarized sunwear.

Having to carry around a second pair, however, can be a big negative point for a lot of people. They can take up a lot of room, and it can be too easy to break them, or forget them. This is where Chemistrie shines. Since they attach to the front of existing frames, they take up much less space when carrying them around. That means you can have one case with several clips, making it a lot more portable than a standard 'second pair'. Oh, they can also stack on top of each other. What does that mean? Well, here's an example:

Walt - a professional cook - has a mild astigmatism and usually just wears clear plastic single vision lenses. Walt's just received a very large order for some of his signature dishes, so has quite a lot of cooking to do. Of course, as Walt is getting up there in age, he needs a little help reading his cookbook, so he just snaps on his pair of Chemistrie+ reading lenses on top of the pair he's already wearing - instant reading glasses. He's almost ready to cook, but needs to text his friend Jessie to come give him a hand (it's a big order). Being very health-conscious Walt want to protect his eyes from the blue light his phone emits, but he also needs his reading power to be able to see the screen. Not a problem. Since he already has his Chemistrie+ on top of his normal prescription, he just has to toss his Chemistrie Blue on top of those. Now he can both read his phone AND protect his eyes from blue light! Now he'll have no problems when he cooks.

THE BLUE STUFF IS PREMIUM

As I mentioned, Chemistrie Blue is something that you can offer to help your patients protect their eyes from blue light. As this becomes more and more popular in the industry, it becomes more necessary for us to offer this as a product. However, often times people don't want to wear these lenses around all the time. Some people don't like their color, so choose not to wear them for that reason. Other people assume they'll end up losing them, or forgetting to put them on. These are all reason why an additional click-on magnetic solution is a great choice. You don't have to worry about another pair, and the click-on is stored in the same place as all of your other click-ons. This helps bridge the gap between medical device and fashion, so we can more precisely control when we are helping our eyes (in this case, by blocking blue light), and looking good (by taking the click-on off when we're done).

DOS LENTES HERMOSAS

Being fashionable is also high priority among frames - and anything that makes it easier to style them on-the-fly adds immensely to their value as accessories. This is especially true in sunwear, as it's highly fashion-centric. Usually if customers buy sunwear, it's going to be one pair. They aren't going to see it as necessary to get more than one pair of polarized sun lenses. If they aren't a separate pair, but rather an add-on to what they already wear, then they might see it as making more sense. Since they aren't really carrying two extra pair around with them, it becomes very easy for them to swap into the colors to match whatever they are currently wearing. The sheer selection of colors to choose from is impressive - two dozen colors including polarized, mirrors, and gradients. It's almost too easy to find something for everyone.

In addition to sunwear, bling is another great fashion accessory. Instead of simply blinging out your frame, you can now add it directly to the lenses. Swarovski crystals can now adorn the tops of the magnets, making them great additions to any fashion statement. How would this work in the real world? Probably something like this:

Skylar works at a carwash, so she finds herself running inside and outside a lot of the time. She thinks photochromic lenses take too long to change, and she doesn't want to have to keep swapping a whole pair of glasses, so she finds the magnetic polarized click-ons work great for her. She's also very fashion-conscious, so refuses to wear polarized lenses that clash with her outfits. Being able to swap colors easily on a day-to-day basis makes it easy for her to pick the best color for her. After work, Skylar goes out with her boyfriend Ted. Since she wants to look her best and bling things up a bit, she replaces her polarized lenses with swarovski crystals to help accentuate her fashion statement.

I DID IT FOR ME

Ultimately, you need to decide what's worthwhile to sell. Chemistrie offers some interesting ways to try and overcome a lot of bad habits we have when it comes to second pair sales. They quickly address the inevitable: I don't want to carry two pairs of glasses. Good news: you aren't. But you still get the benefits as if you were. You can now also mix and match both function and fashion. So now you have all manner of recipes that you can put together to help your customers achieve the best vision possible in the easiest way possible. **Now get out there and cook!**

“will i go blind?”

DON’T FORGET THE ANGLES

Jason Smith, OD, MS

According to the authors of the “Atlas of Glaucoma” by Dr. Paul Henkind and Dr. Richard Starita, “the simplest definition of glaucoma is that condition of the eye where the intraocular pressure is elevated beyond the limit that will permit normal function of the optic nerve.”

This definition implies the presence of an abnormal intraocular pressure, generally above 21 mm Hg, which is somehow due to an abnormality in aqueous drainage from the eye or an impediment to aqueous outflow from the posterior to the anterior chamber of the eye. This definition also suggests that the intraocular pressure elevation affects the nerve fibers of the ganglion cells, the final neural pathway from the eye to the brain. The fact that this definition is simplistic is easily demonstrated by the patient with the so-called “normal” intraocular pressure, generally below 21 mm Hg who has typical glaucomatous cupping of the optic nerve head and characteristic visual field defects. Then there is the patient with marked elevation in ocular pressure, usually from an inflammatory condition, who sustains no optic nerve alterations even after a protracted period of time.

Thus, glaucoma defies a simple explanation. As ECP’s, we must remember that a diagnosis of glaucoma can be a scary ordeal for a patient who is now encountering new fears, anxiety, medical uncertainties, new financial concerns with doctor bills, surgical bills, and the increasing costs of medications. It is our responsibility to educate and to calm our patients’ fears. This may also involve other family members especially when a patient may be elderly or unable to understand the severity of the problem. If these patients are in an assisted living facility or in a nursing home, direct communication with the medical staff and nursing staff concerning all aspects of the patient/residents’ eye care will be necessary.

The human eye has a very important anatomical structure called the angle of the eye that plays a significant role in the health of our visual system. The angles of each eye need to be viewed under a bio-microscope and a gonioscopic lens in order to determine if the angle is open, closed, narrow, or if the angle can potentially close in the future. Gonioscopy allows the anatomical structures of the angle to be seen directly including Schwalbe’s line, the trabecular meshwork, the scleral spur, the ciliary body band, and the iris processes. I have heard of cases in offices where patients have been dilated before their angles have been evaluated. The angles should always be evaluated first before any dilating drops are used for fear that the iris can close off the angle and create an attack of closed angle glaucoma which has the potential to become an immediate emergency.

Patients who are at risk for narrow angle glaucoma include people with sudden eye pain, patients who develop headaches and red eyes, elderly patients, the Asian population, patients with a family history of glaucoma, and women. Angle closure glaucoma occurs three times more frequently in women. Among African-Americans, men and women appear to be affected equally. Due to the fact that there are many different types of glaucoma, many factors must be evaluated before a diagnosis is made and/or treatment is considered. Medical problems including diabetes and hypertension can affect the intraocular pressure. Corneal thickness, angle evaluation, visual field testing, gonioscopy, cataract evaluation, refractive conditions, intraocular pressures with diurnal variations, fundus photos, and dilation when appropriate must all be done for every patient, especially for the at-risk population.

When I have discussions with my patients concerning the aqueous fluid that flows in the posterior and anterior chambers, some think that this fluid is actually the tear film which forms above the cornea. They are surprised to learn that the aqueous fluid created by the ciliary body is within the eye. Most patients have never heard of the angles of the eye. The pressure created by the aqueous fluid can potentially create a higher-than-acceptable pressure causing damage to the optic nerve resulting in glaucoma. According to Adler’s Physiology of the Eye, “the aqueous fills the anterior and posterior chambers of the eye. The aqueous is a slowly flowing stream into which surrounding tissues can discharge waste products of metabolism. By means of a steady aqueous formation and drainage, the intraocular pressure is maintained and the globe is preserved in an optical form with the position of the refractive surfaces relative to one another.” Aqueous humor forms at a rate of 2 microliters per minute, and this volume changes completely every 100 minutes. Aqueous humor flows into the posterior chamber of the eye then flows through the pupil into the anterior chamber. Aqueous humor then escapes from the anterior chamber and returns to the bloodstream by two routes, the uveoscleral outflow route and by leaking through the trabecular meshwork into Schlemm’s canal.

> **Due to the fact that there are many different types of glaucoma, many factors must be evaluated before a diagnosis is made and/or treatment is considered.**

If the angles are narrow, a patient can have narrow angle glaucoma (NAG) or possibly be at risk for this type of glaucoma. Sometimes we classify these patients as “glaucoma suspects” until enough risk factors or problems develop to identify them as having glaucoma. The suspicious patients need to be seen more frequently and need to be advised with proper education, counseling, and viewing appropriate medical websites. These patients need to be aware of the costs, risks, and benefits as to their current status and what may lie ahead in the future. Medications and surgical options can be discussed with the knowledge that research and new innovations are constantly changing in the area of treatment options.

Before the determination of NAG can be reached, many variables must be evaluated. The optic nerve and retina must be evaluated and the cup to disc ratio must be analyzed. Before any patient is dilated, the angles must be graded from 1-4; 1 being narrow and 4 being wide open. If the angle is closed or very narrow, extreme caution must be exercised and I never dilate a patient with these types of narrow angles. Dilating these patients can possibly create an attack of NAG as the iris widens and closes down the flow of aqueous fluid. If there is a complete angle closure, the continued formation of aqueous humor can cause the intraocular pressure to rise.

A partial angle closure may produce a moderate ocular high pressure (ocular hypertension) and can result in a slow vision loss. Patients at risk for angle closure glaucoma include those people who have a family history of this type of glaucoma, people who are farsighted, people whose cataracts are “crowding” the angle or those people who have a large lens, patients who experience pupillary block which can develop from using antihistamine eye drops, the development of posterior synechiae from ocular inflammation or an iritis or uveitis, choroidal detachments, ciliary body melanomas, or malignant glaucoma where the aqueous is misdirected. Labels on over-the-counter cold and allergy medications sometimes have warning labels that say “do not use if you have glaucoma”. Antihistamines usually have no effect on open angle glaucoma. But people with narrow or closed angles should be advised that these medications can cause pupil dilation and can cause an attack of angle closure glaucoma.

The surgical treatment of angle closure glaucoma is to increase the passage of aqueous from the posterior chamber to the anterior chamber. A laser peripheral iridectomy (PI) or a peripheral iridotomy will allow the movement of aqueous through a laser-induced, new hole and will help to reduce the intraocular pressure. Only one eye is lasered at a time. If a laser PI is not possible to do, then another option is a surgical iridectomy. Other more serious options are a trabeculectomy when the IOP remains high despite previous treatments including a PI and maximum medical treatments. These options are usually considered when there is significant optic nerve cupping. There is a new device called an I-stent that is being used to treat glaucoma patients, but it is being used for open angle glaucoma patients, not narrow or closed angle glaucoma patients.

Depending upon state laws, optometrists can treat and manage glaucoma patients. When treatment is needed for NAG and lasers are used for a PI, opticians and optometrists must refer these patients to an ophthalmologist who is a glaucoma expert. There are some states where optometrists are seeking the right and privilege to use lasers. These standards of care may change in the future depending upon the laws of each state. Every office should have a plan as to how to manage referrals of any kind especially for complicated patient problems or emergencies. ECPs are fortunate that there are specialists at every level and in many different locations to provide the highest quality of eye care possible with the hope that some difficult problems will have a positive outcome.

Why Patients Purchase Ugly Frames

Americans are individualistic...

We celebrate the distinctions of uniqueness. This theme is ever present in the pervading eyewear fashions of modern society. An industry that had a genesis in functionality is now marked as an industry of fashion. In a day where comfort and fit play second fiddle to style and hue there are many reasons why one might choose a particular frame over another. Usually the patient knows exactly how they would like their new spectacles to look even before they step foot into your optical. Now, more than ever, it seems that eyecare professionals must dissuade the ill-informed patient of an improper frame selection – even when it's the "perfect frame."

More so than any other factor related to frame selection, patients want to find eyewear that meets their friends, spouse's (etc.) seal of approval. The eyewear industry is not immune to peer pressure and societal norms. Who cares about comfort and function as long as I impress my friends? This is why so many of our patients will bring along a comrade during the frame selection process. Purchasing new eyewear is a big deal, so it is never a good idea to go in alone on the frame decision. Though you can work hard and gain the respect of your patients as their trusted eyecare professional there are few things as comforting as knowing that your friend is alongside you and not allowing you to make the biggest mistake of your life (i.e. choosing the wrong pair of eyeglasses). Interestingly, one can note that the friend is usually the one to find the right frame and not the patient. This phenomenon occurs because the friend will generally "shoot down" every pair of glasses that is selected by the patient because the "friend" wants to be the one to find the perfect frame. Even so, patients are more than willing to allow these acquaintances choose their new look because there is strength in numbers and peer approval is a safe territory for many.

Even though you may find a question such as, "What frame design should a patient use with a rectangular face shape?" on the national optician certification examination, many would argue that patients do not like to limit their frame style selection based upon their God-given features. In fact I do not recommend telling patients that they have diamond shaped faces with unusually small chins and wide temples. No good can come of this. Let your patients tell you how they envision their new look, and then help them make that a reality. Yes, some face shapes such as oval do look exceptionally well in most anything, but this should not be our main focal point (pun intended). Our patient bases are caught up in pop culture and the subconscious styling's of the world around them. They notice that the weatherman has on a substantial, black, acetate, square frame with frame-front embellishments. They have seen the newsstand where every other cover has a celebrity in vintage eyewear. Consider the fact that a vast majority of your patients are style experts (or think they are). They know what color, shape and style they are going for and only want you to assure them that when they find the perfect frame it will fit their prescription and perform its function, suspending corrective lenses approximately twelve millimeters away from their eyes.

Is there anything more maddening than finding the perfect frame for a patient - the one that looks amazing – like it was made exactly for them and to have the patient remark something like, "These are nice, but I don't think they look good on me."? It is a serious let down to find an absolute gem and to be told that it is not what they are looking for. This is when you need to step back and realize that eyewear is a very individual and complicated decision. The same patient that rejected your perfect frame might also think that a flannel shirt with basketball shorts is a respectable outfit. Clearly, even though you are the professional, not all patients will have the same fashion sense. They may even ridicule your frame selections as absurd. Do not allow your feelings to become offended as this is about as subjective a decision as "which is better, one or two?" Respect your patients desire to maintain their own sense of style; even when it is less than impressive.

What about the occasions where the patients give you full reign of the dispensary and say, "You are the professional. I don't know what is in style. Find me the perfect pair."? This can be both a fun and rewarding experience as you consider the latest and most complimentary fashions. This is where the skilled eyecare professional considers a multiplicity of factors ranging from occupation to pupillary centration and skin complexion to find the faultless pair. After all, your patients are a walking representation of your product. Improving both ones fashion and function is a satisfying practice. Having a contest to see which optician can be first to sell the ugliest frame on the board, however, is not.

What dictates frame sales at your practice? Do you have a diverse selection to accommodate a wide array of fashion gurus? While patients may have preconceived notions of what their new look should be, do not forget that you are the eyecare professional and that your primary goal is to improve the quality of their life through improved vision. This does not mean that we have to compromise on style. Our patients should be able to find the look that they want and also have their refractive needs met. Satisfying fashion, fit and functional goals during frame selection is an important part of the eyecare professional's job.

Sometimes the hardest part of being a frame stylist is allowing our subjective opinions to take a back seat to what our patients want. This is where we must consider the individuality of the person selecting their new look. The world would be far less interesting if everyone had identical tastes. Embrace the unusual and allow patients to express themselves through their frame selection. After all, if they love it and can see great while wearing it, who are we to interrupt such a match?

– Sam Winnegrad

Just what I needed... another magazine

Yes, that's right, it's another optical magazine with a three-letter title. I'm sure you've been waiting for another one to come out, so here we are.

When looking at all of the magazines currently available, none of them really fit what I wanted to see, so I went ahead and decided to do it myself. Thus, we have opt magazine. That's 'opt', not oh-pee-tee. As in, "The **opt**imistic **opt**ician **opt**s to **opt**imize **opt**ics". And yes, it's supposed to be lower case. That alone makes this magazine twice as cool as anything else available.

BUT WHY?

Now with that said, we come to the question of 'Why?'. Simply saying "Because" is insufficient for my daughter, so I'm going to assume that I won't get away with that here, either. The real answer to why this magazine was created is to bring more useful information to the hands of the industry. With a large number of publications being offered today, there are a number of issues that I want to fix. Specifically, the sheer number of advertisements, and the content that's available.

'ADS OF STEAL'

Ads do nothing more than steal your time, forcing you to look at products that you really don't otherwise care about. I know after binge-watching *Orange is the New Black* on Netflix, trying to watch anything on normal, commercial-laden television is like a slap in the face. Why should a magazine be any different? Now, don't get me wrong, I don't have a problem with advertising, but there really needs to be a line between what is acceptable and what is not. If I see more than a half dozen ads before I get to the table of contents of your magazine, you're doing it wrong. That's what happens when the main focus of your magazine isn't your readers, but your advertisers. I want to change that.

As you look through this magazine, you'll see some ads. I am keeping control over both the quantity and quality of these to make sure there's not an unreasonable amount of them. When I was catching up with *The Expanse*, it was through 'on-demand' television, since I had forgotten to DVR it. This had commercials, yes. But each 'commercial break' was only a single commercial. If the ad break is so short that it's not even worth it for me to get my phone out to check email, then that I can live with.

I also mentioned about ad quality. I know I've seen plenty of ads that just look, quite honestly, bad. I can only assume that the ads were made by the boss's kid, and nobody would stand up and tell them how much it sucked. Much like the train-wreck TV with the auditions for talent based shows, you can tell which people have always been told how great they are, only to embarrass themselves on national television with an absolutely terrible performance. Anything that we do needs to be of a certain level, or it doesn't get printed. It's about standards.

CONTENT TO SERVE

The other thing that I have a problem with is magazine content. It seems like the vast majority of people that do the writing aren't really that familiar with what they are writing about. It's not their fault, as many writers simply get an assignment to write about some "new thing", and go ask people what it is. They aren't optical people, they are writers. They don't really know or care about fitting patients, or what the latest trends are, they just want to get their article written.

I feel this leads to a lot of magazine content that tends to be high level, and not terribly useful. I really don't want to read another article about how awesome freeform is. I want to know, specifically, why it's better and in what cases it might not be useful. I want the nitty gritty details of how lenses work, because I want to make myself a better professional. We need to go deeper. I want to be able to bring the details of how stuff works, and what's useful to my readers. I want to make it so that not only do you understand how this stuff works, but also make it so that you can explain it so that your customers can understand it. Education is paramount, as the more you can impart to your customers, the greater the perceived value of your practice. This helps make it less likely that they decide to go buy online, as they feel that you can give them something more than just 'a pair of glasses'.

MUCH TO LEARN YOU STILL HAVE

At the rate technology changes in the industry, we are all still learning. New lenses, coatings, materials, and whatever else seem like they arrive on an almost monthly basis. These incremental news bits might be manageable for those of us already in the industry, but how does someone new catch up with all of the latest technology? Schools aren't usually able to adapt their curriculum to incorporate the latest technologies, so how can students keep up with everything? This is one reason that I also want to have a focus on current and recently graduated students and schools. I want to see what they want to learn about, and make it easier for them to get comfortable with the industry as a whole. The optical industry is fairly small, and I'm sure that whoever our Kevin Bacon is, you'd get to him in fewer than six degrees of separation.

That said, I want to give everyone else in the industry a better idea of what new students are learning about and experiencing in the various universities across the country. Since most magazines are focused on keeping their advertisers happy, they don't need to bother with students. They aren't spending money on frames, equipment, and lenses while they're in school, so why bother with them?

So anyway, that's the plan. Rule the world. Or,at least, to give you useful information that doesn't suck. I should probably start with that, then focus on the world domination after I've perfected my evil laugh.

- Bill Heffner, IV

Remember kids... That's 'opt', not oh-pee-tee.

What is one of the best ways to improve your bottom line this year? You can add more patients or more hours, but these options will cost more in payroll and marketing.

The best way to improve your bottom line is to increase revenue per patient. This can be done in a number of ways, such as raising prices on frames, lenses, contacts, and services. In spite of that, insurance reimbursement may limit what you receive from eye examinations, medical services, and products, regardless of how these are priced. In addition, today's competitive market, especially in the contact lens realm, means there are some practical caps on the prices that patients will accept before buying elsewhere.

By using add-ons such as tints, coatings, or second pairs of glasses, you increase revenue per patient without adding extra marketing costs or payroll. Not only will this benefit your bottom line, but it will also provide each patient with more individualized care. Patients appreciate it when doctors and opticians listen carefully to their needs and then meet them with the best solutions.

Are You Using Eyewear Add-ons?

If you do not believe in add-ons, you'll have a tough time offering it to clients. Make sure your personal eyeglasses have an anti-reflective coating (AR) and an aspheric design for the best vision possible. If you wear contact lenses, make sure to wear sunglasses and have an up-to-date pair of glasses that you can wear when you are not wearing contacts. Wear safety or sports eyewear when participating in activities that could result in eye injuries. Not only will you be a better example to family, friends, and patients, but you'll also be protecting your own eyes from possible damage.

Ask Lifestyle Questions and Listen

How do you know if your patient works on a computer, fishes on weekends, or has early cataracts? You have to ask questions. A patient who has early cataracts can benefit tremendously from AR to decrease nighttime glare. Clients who work on computers all day may need a second pair of occupational lenses for mid-range work despite what insurance allows. People who spend a lot of time on the water or who have glare from the sun will often find polarized lenses to be far more comfortable than a regular tint.

Many practices and optical stores use lifestyle questionnaires to help identify patients' needs and wants. These questions can be asked verbally as well. During an exam, I often ask a patient what work they perform and hobbies they pursue. This helps me prescribe a lens that is best for their specific needs. I share that information with the opticians when I transfer the patient to them so that they can continue to educate patients on the best lens features available for their specific needs.

Here are a few of the questions you might ask your clients:

- $ What kind of work do you perform?
- $ What hobbies do you enjoy?
- $ Do you play sports?
- $ Does glare bother you?
- $ Do you wear or want to wear contact lenses?
- $ Do you have a back-up pair of eyewear?
- $ Do reflections or bright light bother you?
- $ Do you need safety glasses?
- $ Do you have any eye conditions?
- $ Are there any specific visual needs that you have at work or in your hobbies?

You might have a patient who wears glasses but is also considering contact lenses, but you will not know if you do not ask. A client may not know that glasses designed specifically for the computer distance can help reduce eyestrain and headaches. People who suffer from dry eye syndrome might find specific artificial tears or supplements beneficial. If you do not ask your patients how they use their eyes, you are missing a prime opportunity to offer custom treatments and add-ons that can really help improve their vision and eye comfort.

Overcoming Objections

How often have we all heard "I just want what my insurance pays for"? Many of us hear this on a daily basis. However, what insurance pays for and what the patient actually needs may be very different. By educating patients why lens treatments and add-ons contribute to vision comfort and help prevent eye disease or injury, we can often overcome monetary concerns.

We know that ultraviolet (UV) light contributes to the development of cataracts, macular degeneration, and eyelid skin cancers. Anti-reflective coatings reduce night glare and allow people to see better when performing distance activities such as driving. This, in turn, enhances safety. Sports and occupational eyewear protect eyes from injuries. Even if insurance companies do not pay for these items, it does not mean we should avoid talking about these options. We should always educate patients on what lens treatments are best for them, regardless of what insurance providers pay. Even if the patient chooses not to purchase beneficial add-ons at that visit, you have taught that person about the advantages for his or her eyes. This patient might decide to purchase the additional lens treatments and eyewear at a future visit, and this will increase revenue down the road.

Many of us hear contact lens patients say "I always wear my contacts, so I do not need glasses," or "I have my 10-year-old pair of eyeglasses that still work." What happens if a patient tears a lens or develops a corneal ulcer and can't wear contacts? That person might lose work days because he or she does not have current, back-up eyewear and thus can't see well enough to drive. Always offer back-up glasses to every contact lens wearer at every exam. Both your patient and your bottom line benefit when you offer what's best for him or her.

Most patients are receptive to considering a second or back-up pair of eyewear if it is offered at a discount. Many stores provide a 50% discount on multiple pairs. While you may not earn as much profit per pair of eyeglasses by offering this discount, your revenue per patient will be higher.

Add-Ons at Checkout

If you've ever been to a fast food restaurant, you've been asked, "would you like fries or a drink with your sandwich?" The side items are add-ons that increase the restaurant's revenue per customer. You can put the same principle into play in your office or store and improve your profit while benefiting the patient.

When a patient comes to the store for an adjustment, ask her if she needs another cleaning kit to care for her glasses correctly. If a contact lens client is picking up a yearly supply of new lenses, don't hesitate to inquire if he needs a new supply of contact lens solution or another case. Remind him to use his sunglasses to protect his eyes from UV damage. Offer to show him several styles if he does not already have a pair.

"By using add-ons such as tints, coatings, or second pairs of glasses, you increase revenue per patient without adding extra marketing costs or payroll. Not only will this benefit your bottom line, but it will also provide each patient with more individualized care."

Keep a display of small 'impulse items' near the checkout station. An attractive basket filled with microfiber cloths, decorative contact lens cases, and travel-size bottles of cleaner can be kept near the cash register.

Learning more about our patients' needs can help us determine which add-ons would best help them. By helping our patients understand the benefits of additional eyewear or lens treatments and demonstrating that we care about their individual needs, we overcome potential objections and improve sales of these important items. This allows us to provide excellent eye care while improving revenue per patient.

When you offer a product in your store - especially AR coatings - you want to be sure of the product you're selling. You don't want to find out later that what you sold wasn't any good, since you're the one that it's going to come back and bite.

When it comes to a quality coating, I like to look at the warranties. Usually the longer the warranty, the safer you are, especially when it comes to lens coatings. The 'no warranty' coatings always make me nervous. Sure, they're 'probably' okay, but you never can be too sure. I don't think I'd be too happy with a no-warranty paint job if my walls starting peeling two days after it was done. But that's just me, some people like to live high-risk lives. For the rest of us, there's Independence® Coatings...

they can get on their lenses. This is where Independence® Coatings have an edge, as they are being marketed towards the technology-savvy younger generation. When they sit in the waiting room and google "Independence Coatings", they're going to find a real, high-quality product that they aren't going to get buying their glasses online. Being able to offer that kind of brand name is what some customers want. No matter what you tell some people, they insist that brand name products work better than generic products.

LIFETIME WARRANTY
The product performs, and this proves it.

SELECTION
Includes mirror coatings and blue light protection.

COLOR CHOICE
You can pick what color it is - green, blue, or gold.

Independence® Coatings includes all of the high end features that are popular in AR coating today - scratch resistant, anti-smudge, no slip, easy clean, anti-dust, anti-water, and I think they make coffee as well, though I have to check about that last one. Unlike most of the others on the market, though, I've noticed a few key features that Independence® has that I haven't really seen in other coatings.

These features are great to have, but it's also important to have enough product support to help you present the product to your customers as well. You should be able to have product brochures sitting out in the waiting room that customers want to read. By the time the customer gets to you, you want them to be the ones asking about the coating

Lens coating brands tend to fall in one of two categories: large manufacturer or 'house brand'. If you're looking for a product with marketing support, you end up having to go with a manufacturer brand. Which makes it more likely you're going to go with their lenses, even if you really don't want to. If you go with 'house brand', you usually end up with something less costly, but without the marketing support. Independence® Coatings are intended to be the middle ground - high quality, good support and customer interaction, and without the need to compromise the lenses that you offer.

For more information, visit
independenceAR.com

INDEPENDENCE® COATINGS

Do you have protection?

"You don't want to accidentally catch any textually transmitted blue light."

IDEAL FOR:

- Tablets & Smart Phones
- Laptops
- Computers & Displays

INDEPENDENCE® TECH

- ▶ *Reduces Blue Light*
- ▶ *Water Repellent*
- ▶ *Smudge Resistant*
- ▶ *Easy Clean*
- ▶ *Lifetime Warranty*
- ▶ *Anti-Glare*

INDEPENDENCE® COATINGS

This song is becoming more and more familiar these days. Protection from the ever-present blue light is everywhere, and there's more products now than ever that offer some form of protection from it. But as more and more products come out on the market, how can we tell them apart? Products range from lenses that use a built-in ocular lens pigment - such as BluTech® Lenses, to anti-reflective coatings that deflect blue light, such as Independence Tech®.

There's also a debate between 'clear lenses' or 'colored lenses' when it comes to blocking blue light. Since every product that gets released is the 'best product available' (so the manufacturers tell me), how do we figure out what these things actually do? Are they all the same?

Invisible Sun

I'm not sure about anyone else, but I like to see what's going on with the products that I buy. When I go shopping for sunscreen, it's easy to know what I'm getting. Every bottle - regardless of manufacturer - is going to be labeled in a clear and consistent manner. Thanks to government regulations, I can choose how much protection I want, based on the SPF rating of the sunscreen. After I buy the product, it's also really easy to tell whether or not it's working correctly. If I put on sunscreen, sit out in the sun, and get burned, then I know that maybe I didn't have enough protection. When it comes to our eyes, however, there's no way to compare products easily and no way to know how much the protection is actually working. Since there's no government regulations on a protection scale for blue light eyewear, it comes down to the eyecare professional (that's you) to determine what protection each product actually offers. You also need to keep in mind that any ratings you do see on products are going to be made by the product manufacturer. These are, of course, going to put their own products in a favorable light. I don't know about you, but when I see a 'protection rating scale' that's a registered trademark of the company telling me how great their product is, I get skeptical.

My point here is not to say there's anything wrong with these products or that they don't work, but rather to illustrate the fact that simply saying 'blue light protection' is no longer sufficient. We actually need to break down the entire spectrum of light and look at each band independently. There tends to be three major 'zones' of high-energy visible light when it comes to eye health: the 400-440nm range focuses on both blue light and glare, as well as age-related macular degeneration (AMD), while the 459-484nm range has sleep and other health impacts.

Can't Stand Seeing Blue

The first segment of 'blue light' at 400-420nm is where we find the highest energy light in our range, which means it has a higher tendency to scatter when it contacts other molecules (air, dust, etc.). This scattering also causes these wavelengths to not to be focused the same as other colors when they enter the eye. Since it scatters more, we perceive extra glare and chromatic aberration in our vision. As it's also more difficult for the eye to focus on this light, it works harder trying to adjust your vision to get it into focus. That can lead to fatigue and eyestrain. This tends to be the area of 'blue light' that most lenses and coatings focus on. It's the easiest to block, and the most immediately noticeable to the patient. By visibly reducing glare, different products can seem similar to each other.

(continued on next page)

The vast majority of blue light lenses on the market don't address ranges above the 440nm wavelength

Every Little Thing She Does...

might contribute to Age-Related Macular Degeneration

Age-Related Macular Degeneration (AMD) is one of the big issues that we still can't do a whole lot about. The treatment options are limited, and it can happen with little to no warning. As such, it's become important to try and do everything that we can to prevent it, as it is the leading cause of blindness in those over 50. There are a number of factors that contribute to AMD, especially genetics and lifestyle. Studies have indicated, however, that high-energy blue-violet light can damage or destroy cells in the retina. This cell death can potentially lead to AMD, demonstrating the harm that this type of light can do to a patient. It should therefore be strongly encouraged that patients with high risk factors for AMD protect their eyes from the potential risks of AMD.

Bring On The Night

The vast majority of blue light lenses on the market don't address ranges above the 440nm wavelength. Exposure to light in the wavelengths from 459-484nm can cause large disruptions to our sleep cycles. Thanks to the prevalence of technology today, however, this is one of the most important areas that we need to protect against. All of our gadgets - TVs, laptops, phones, tablets, etc - emit light in this wavelength. That might not be bad in and of itself, but this light is what tells our brain that it's time to wake up. Light in this range triggers the brain to suppress melatonin production, which throws off our sleep cycles. Regulation of sleep cycles can be especially important for children, as the prevalence of technology these days is exposing them to this light at earlier ages than ever before. This can be especially important for children, as making sure their sleep cycles remain uninterrupted is extremely important. When I walk into my six-year-olds room at 5:30 in the morning and she says "Finally, you're up!", I know her sleep cycle might be a little off.

One option is, of course, to just go 'technology free' at night. I don't see that happening, however, as I know I have to check my email at least a half dozen times before going to sleep at night. Since that's not going to change any time soon, having some protection is probably a good idea. That's where lenses like BluTech come in handy, as they are one of the few lens options that blocks this range of light in addition to the other ones I've already discussed.

Every Lens You Make

When it comes to lenses, there are a few different options to control blue light, namely: blocking, deflecting, and filtering. The concept of blocking blue light became popular in the 80's, but in general, new products don't tend to simply block blue light. This can affect color perception and compromise vision, which can can be especially dangerous when driving.

Deflecting blue light is what most of the 'blue light' anti-reflective coatings do. These coatings usually deflect 20% of the blue light in the shorter wavelengths (usually 415-455nm). This deflection is what gives this type of anti-reflective coating its signature 'blue' color. Since the light is being deflected away from the eyes of the person wearing the lenses, everyone else perceives this extra light being bounced back, hence the color.

Filtering is something that some lenses do naturally, such as UV protection being inherent in a number of different materials. The materials themselves, however, don't address the high-energy visible light unless they are specially created for that purpose. One of the more popular lenses uses ocular lens pigment (OLP) to help protect the eye between 400-500nm, allowing more light the closer to 500nm you get, which helps preserve color perception, while still giving maximum protection.

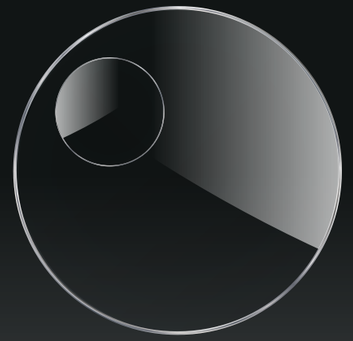
Don't Get Stung

The most important thing that you need to do when you're looking for blue light protection is doing your own research. You want to make sure you get all of the information on the product that you're going to use, as you don't want to find out later that you weren't getting the protection that you thought you were. If someone brings you a new blue-light solution, make sure you get a chart detailing what specific wavelengths of light it affects, and by how much. You also want to know if the products blocks, deflects, or filters light, and by how much. Many of the newer products tout that they are 'clear' or the protection doesn't 'affect the color' - but you have to make sure that it's protecting against the same things as other blue-light products. In the mean time, until you get your own pair of BluTech lenses, be sure you don't stand so close to your digital devices.

- Bill Heffner, IV

On the Right: The Real Wavelength Impact Scale

LENS WARS



When 700 years old you reach... Look as good you will not. For the majority of their history, eyeglasses have been made of just that - glass.

These Are the Lenses You Are Looking For

Glass has, believe it or not, changed over the past few decades. There's been plenty of advancements in making it thinner and stronger than ever before. The best example of this is probably sitting in your pocket right now. Cell phones use glass as their screen protection, as is the case with many different pieces of technology. This type of need for a strong, scratch resistant material is what has spurred on the development of new glass technologies. In our little corner of the optical galaxy, however, it seems like glass has taken more of a backseat to other materials.

I've heard people say they didn't even know glass was still available, or hear that they tell their patients they can't get it. That's really the last thing that I want to hear, so *Waves hand* This is the material you are looking for.

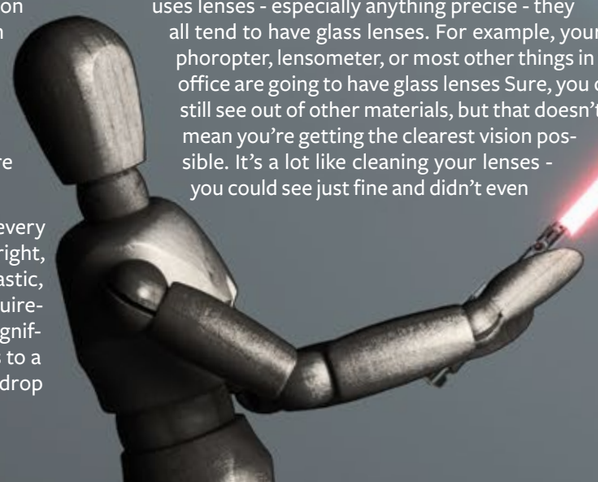
I've Got a Bad Feeling About This

Some of the negative perceptions about glass stem from this idea that it's somehow 'less safe' than other materials. There seems to be this stigma of a fearsome litigation beast lurking around the corner if you use glass. I'm not really sure where this idea came from, maybe it was a message from the Empire to progress their plans of market domination with plastic lenses? The fact is, glass lenses are required to be more rigorously tested than plastic lenses, which should give you more confidence in glass, not less.

With the current FDA drop ball testing requirements, every single glass lens produced has to be tested. That's right, we test them - test them all. Non-glass materials (plastic, polycarbonate, etc.) don't have that stringent of a requirement. They only require that you test a "statistically significant" sample. So when you give a pair of glass lenses to a patient, you know that each of those actually passed drop ball. When you dispense a pair of non-glass, you can only assume they'd probably pass the test, since their friends did. Man, if only colleges had that kind of a rule.

Glass also has the distinct advantage of the quality of vision that it gives to wearers. I've even see it myself where people will be skeptical about glass, but try it anyway so I stop bothering about it. They then tell me how it's the clearest lens that they've ever had. Just getting them past their preconceptions is the hardest part, but after that the product speaks for itself. That's when you know you have a winner, as there's really not a lot of things that we can do to really get that 'wow' moment any more. Especially when we have patients that have been wearing glasses for years - what can we give them to impress them? We want to keep the engagement with them, and keep them interested. Most of all, we want to make sure that our customers know we're still adding new technology and options for them. Otherwise, what good are we? It's our job to be able to recommend them the best possible eyewear options, so we need to give them the options at our disposal.

When we look at anything else in the world that uses lenses - especially anything precise - they all tend to have glass lenses. For example, your phoropter, lensometer, or most other things in the office are going to have glass lenses Sure, you can still see out of other materials, but that doesn't mean you're getting the clearest vision possible. It's a lot like cleaning your lenses - you could see just fine and didn't even know they were dirty, but now that you've cleaned them you can see clearly and understand just how blurry everything was before.



We Can't Repel Scratches of that Magnitude

Scratches are inevitable in lenses. No matter how careful you are with them, a stray piece of dirt is always going to get somewhere and scratch it at least a little bit. Fortunately, the eye can put up with a lot of junk in the way of vision, so all of the tiny scratches tend to 'blend in' when we're wearing the lenses. It's usually when we go to clean them that we notice "Wow, these are really scratched up". Of course, all of those scratches compromise our vision and make our eyes work harder. We don't necessarily notice it, since we're used to it, but it's there.

Since glass is so scratch resistant, it doesn't face this kind of an issue. It takes a lot to scratch glass, and this is one reason why it's used in so many commercial applications. I do sometimes wonder how long a cell phone would last with a polycarbonate screen, but I think we can all guess how well that would go over. If a piece of glass less than a millimeter thick is good enough for use in a cell phone, I think it might be a useful thing to make lenses out of. This is where the newer glass comes into play. Eagle Thin & Clear with Corning Plus is the newest generation of glass, giving you all of the benefits of glass while making it thinner than ever before.

This new glass can be more than **25% thinner than plastic** for the same Rx. This is because standard CR39 has a minimum thickness of 2.0mm, while this glass can be surfaced to a **1.5mm thickness.** This material still, of course, passes drop ball testing with flying colors. Since plastic needs to be 2.0mm thick, Corning Plus glass now becomes ideal for certain lower prescriptions. Since it can be thinner than plastic, it gives you better cosmetics with a negligible difference in weight. As glass being 'too heavy' has been the main complaint, that's now been addressed, making it possible to get all of the benefits of glass without one of the major negatives.

I Find Your Lack Of Glass Disturbing

You don't want to have to deal with glass, I get it. However, this isn't some sad devotion to an ancient material - it's about making the best lens we can. If nothing else, glass fits the perfect niche of an ultra-premium product. It's very nature makes it easy for you to find a place at the top of your lens offerings. Apart from the superior optics and scratch resistance, it feels like it's a premium product. When it comes to eyewear, there's a lot that your customers have to take on faith. Comparing different progressive lenses, for example. It's really hard to show them how design A and design B are different, and why they should pay more for design B. With glass, you have something that's real. They can feel it, touch it, hug it, and call it George. Or something like that.

By giving the customer this tactile benefit, it helps them justify why they would pay more for the product. That's good for you, as you can charge more and make more money for it. This is especially good for things like sunwear, as that's the realm where fashion tends to dictate more than anywhere else. Having glass lenses is one of those retro-cool trendy things, and there's no reason you shouldn't give your customers that option.

I'm not saying that every lens you sell should be glass - every material has its own pros and cons. What I am saying is that glass still has a number of areas where it should be considered, and that there's no reason to not offer it for you high-end eyewear options.

- Dr. O.D. Wan

DOES EVERYBODY KNOW WHAT TIME IT IS?

I'm not sure about you, but day-to-day I tend to carry around a multi-tool. It's incredibly useful at getting the job done most of the time. Need to cut something? Bam, here's a knife. Need a screwdriver? Bam, here it is. It's pretty awesome. Need a hammer? Well....I can smack it with the side of... nevermind.

Maybe it's not the solution to every problem, but the majority of the time it can get the job done with little to no complaint. Obviously - in an ideal world - it would be better to carry around a complete toolbox everywhere I go. Then I could get the right size tool, or something that's easier to handle than a multitool. But a full toolbox isn't exactly portable - or cheap.

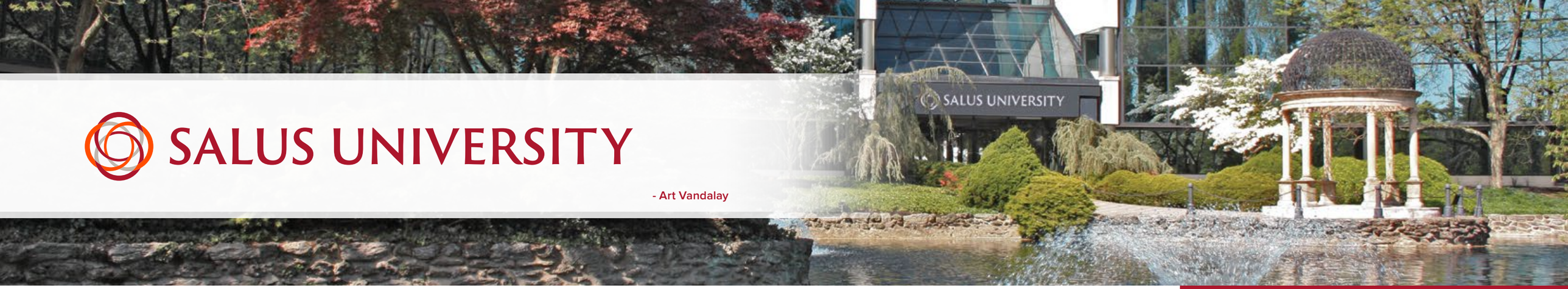
I've found that this idea of a do-all wonder tool is the same philosophy that many use when it comes to a progressive lens. It's decided that one design is going to be used, and that's it. Sometimes there's a good/better/best option, but usually the choices are fairly limited. This makes sense, to an extent. Exactly how many different progressive lenses do you need to know about in order to just sell one? Getting information about all of these different lenses can be nigh-on impossible, especially when you then have to communicate to your staff about what each lens does, the pros, the cons, price, availability, etc. It's like lugging around a tool box - great idea, but not something that's going to happen any time soon.

With the rising popularity of free-form, however, the toolbox is becoming more and more manageable. Higher-end lens brands are starting to carry a wide selection of lens designs, each geared for different purposes. This makes it possible for you to just carry one lens family, while still getting the benefit of choice. This means your pricing and availability will be consistent across the lens designs, and the only thing you have to worry about is what designs are best for each individual patient. This kind of lens choice gives you a leg up on competition - especially on line competition. You can actually talk to your patient and find out what it is that they spend their time doing. With that information, you can select lens designs that give them better vision where they need it. There's no point in giving someone a lens with great distance viewing if they're in a cubicle for nine hours a day - they're almost never going to use it. Informed decisions about progressive lenses help you show your customer how much you care about their vision, and give them a reason to come back to you instead of trying to get something cheap online.

Most of this idea has been common when we look at something like a 'computer lens', with a focus on intermediate and near zones. With free-form technology, we can not only make these lenses, but a whole host of other 'specialized' designs. One design may, for instance, focus on those that work indoors. This would be ideal for someone like a doctor or retail worker. You can't just give them a 'computer lens', since they need distance viewing to be able to walk down the hallway or see across the room. A standard progressive may not be ideal for their work environment due to the high amount of intermediate (talking to customers and patients) and near (reading and writing) tasks they do. So with those needs determined, we can select a lens design that prioritizes these areas without completely removing the distance portion of the lens. Similarly, we can look at a driving progressive with much the same criteria - you need distance (obviously) with enough intermediate to see the dashboard and your mirrors. You need only a tiny bit of reading, as you certainly shouldn't be reading and driving at the same time. Often times driving lenses (like sunglasses) will be left in the car full-time. That makes it even easier to give them a specialized design, since they're always going to be used for driving.

These are just a few of the reasons why it's important to have a selection of lens designs available. Not only does it give you more, better options to choose from, but it gives you more to offer your customer. Even if the customer doesn't need all of the designs, it's good for them to know what it is you have to offer. They want to feel confident that you have their best vision at heart, and making sure you tailor your products to their lifestyle helps to give you the edge over the competition.

- Bill Heffner, IV



SALUS UNIVERSITY

- Art Vandalay

So, you've decided you want to be an O.D.

That's great! As with any field, one of the things that's always good to know is the perspective of those that have gone before you. Learning first hand what things you can do now do increase your success in the future. There's always a gap between 'educational setting' and 'real world' demands, and finding out first hand is probably the most valuable thing you can do. To that end, I wanted to get an idea from some recent graduates of Salus University Pennsylvania College of Optometry to get their impression on what these differences are.

IS THIS COVERED?

The overwhelming response that I received was, unsurprisingly, insurance, billing, and coding. You are going to probably be dealing with this regardless of where you are - private practice, hospital settings, or wherever else. Most of the people I talked with said they were more than prepared clinically, but listed this as the major thing they had to learn after graduation. It's not surprising, really. With how many different insurances there are, and varying requirements that can change on a yearly basis, it's only something you're going to learn once you're in the thick of it.

Many of those I spoke with were able to find someone to help get them over the initial hump of insurance. Deciphering codes, and ensuring that charts are coded correctly can be a daunting task. Being able to draw from the experience of those that have done it before is going to be invaluable for you, so be sure that it's something you understand, as you'll end up doing it on a daily basis.

You aren't going to be able to count on your patient having any idea of what their insurance covers, medication-wise. While you still need to prescribe what's correct for the patient, you are going to want to do whatever you can to make it easy for them. The last thing you want is the patient calling you from the pharmacy telling you the medication is going to cost them $400 and the pharmacist is going to call you to get a pre-authorization.

I was also told that getting on insurance panels can be an extensive process, so it is something that's good to keep on early. One suggestion to make this process easier for new doctors is the Council for Affordable Quality Healthcare (www.caqh.org). This is an organization of many of the major health insurance carriers that has a process for you to self-report your information. The point of this being it can reduce the paperwork and time needed to get you listed on various health insurance carriers.

IT'S OKAY, I KNOW SOMEONE

Like many fields, the other major thing all of these recent graduates placed importance on was starting early when considering the job market. There's a few different options when it comes to your type of work environment, and you need to see how those align with what you, personally, want to get out of it. Are you looking at private practice, a hospital, or maybe working with veterans? Each of these is going to put you into a vastly different type of setting with different priorities and types of patients. If you're able to get any experience that can help you become more diversified, you should definitely consider it. The more first-hand experience you can get, the easier it is to decide how you want to shape your career. Often this can mean using clinical rotations to diversify your experiences.

As with any job, networking is always important. In this case, however, networking isn't just about finding people that can help you get a job. That is, of course, one major reason, but once you find a job - where are you getting new patients from? The easiest way, of course, is if they just walk in the door themselves. Since it isn't always as easy as "if you build it, they will come", you want to do the next best thing, which is getting other doctors to refer patients to you. So be sure to make friends with primary care doctors, cardiologists, rheumatologists, and anyone else you can find that may need to send a patient for a vision examination. As they can often have patients that need vision tests done, it only makes sense that they would need to have a suggestion of someone they can use in the area. This referral also helps to put your patient into a more receptive state of mind, as their doctor has recommended you, meaning you must be the best O.D. in the area. This is something you can use to your advantage when starting out, or as something that adds value in a group practice setting.

Once you get these patients in, of course, you have to remember the setting that you are in. You want to be sure to dress the part, you're a professional and want to make sure that your patients are comfortable, which means dressing like a doctor. It's also important to review their history before seeing them, if possible. Being able to prepare the night before for your patients the next day can at least give you a 'heads up' if there's anything you need to prepare or read up on ahead of time. There's no reason to walk in unprepared, as you want to be sure you're able to give the best medical advice possible.

The thing that these two areas have in common, of course, are a reliance on other people. When you finally get into the wonderful world of insurance, for example, having someone that knows how it works is going to be a great help. Similarly, word of mouth and knowing people is going to land you the best opportunities, whether that be a job or simply more patients coming to see you. Overall, the educational curriculum is going to give you a solid foundation of the clinical skills you need, but it's up to you to motivate yourself to be a successful professional.

Special thanks to Jennifer Turano O.D. and Kelsey Moody, O.D., PCO class of 2015, and James Deom, O.D. and Taylor Babcock, O.D., PCO class of 2014 for their responses.

Salus University

Pennsylvania College of Optometry

For almost a century, Pennsylvania College of Optometry (PCO) has forged a reputation of excellence, leadership and innovation in the world of optometry. Today the founding college of Salus University, that PCO legacy continues in all of the University's fourteen degree programs, none more so than in optometry.

In addition to the traditional four-year Doctor of Optometry program, Salus PCO offers an Accelerated Scholars program, tailored specifically to highly-motivated and well-qualified students. The Accelerated Scholars program recognizes and develops individual student learning styles and leadership skills. Applicants are carefully screened and accepted based on their qualifications, history of academic performance, and career path. This unique program provides the opportunity for Salus PCO Scholars students to complete all of the requirements of the traditional OD degree program in an accredited, year-round, 36-month, on-campus program.

The largest residency program in North America, Salus PCO offers post-graduate training in primary care, ocular disease, vision rehabilitation, pediatrics/vision therapy, cornea/contact lenses and neuro-ophthalmic disease. In addition to twelve "in-house" residents at The Eye Institute of Salus University, there over 20 affiliated residents - many of whom are Salus PCO graduates - at various locations from northern New Jersey to Florida.

Additionally, Salus PCO also has offered a variety of educational programs designed to fit the needs of international students and ophthalmic practitioners for more than twenty years. The only academic institution in the United States to offer the Master of Science (MSc) degree program in clinical optometry, Salus PCO continues to educate eligible candidates who hold a bachelor's degree in optometry and who are licensed/registered to practice optometry in their host countries.

The PCO legacy is a matter of great pride to all members of the Salus University community. A dedicated faculty that continues to create innovative curricula, a focused and mutually-supportive student body, a forward-thinking Board of Trustees and administration, and loyal alumni who mentor and welcome students, all work together to ensure that the legacy begun in 1919 will not only continue but flourish.

- OPT Staff

There is an impressive number of social media outlets available today, and sometimes it can be hard to tell which one is good for what. Especially when you look at them from a professional point of view. The one thing that many of these outlets have is that they were all in some way derived from a common ancestor - the internet forum.

This was one of the first popular methods of asynchronous communication on the internet, and made it easy for groups to get together to discuss all manner of special-interest topics. The optical industry is no different, with the most popular internet forum being OptiBoard.

Started in 1995 by Steve Machol, OptiBoard is a place that is designed for express use by optical professionals. It's not intended for the end-consumer, and they are actively discouraged from posting. That means you're not likely to come across the question of "How do I take my own PD?". This makes it a useful professional tool, as you can use it as a resource to not only connect with other eye care professionals, but also to learn more about things going on in the industry.

With over a half million posts, the board is full of topics that you might not otherwise be able to get an answer on. For example, you can get real reviews from peers about what practice management software they use, their opinions on vision insurance plans, or comments about the latest progressive lens that's on the market. OptiBoard has over 26,000 registered members, making it a great way to get the opinions from a number of other professionals.

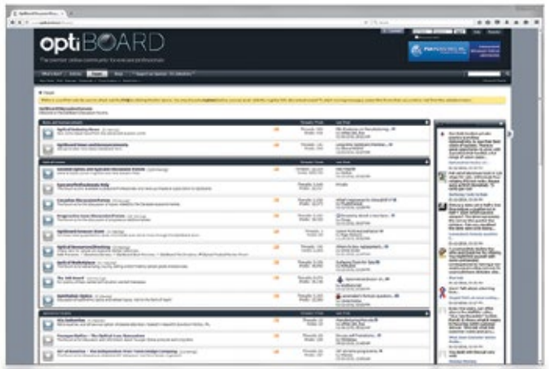
The topics on the board range from discussions on lenses and materials, to job postings and used equipment sales. The great part about it is the ease with which you can search through and look back at older discussions. This makes it different from most modern social media tools, as they tend to only focus on the most current discussions.

There is also a benefit that you don't have to link your personal profile to the discussion at hand. A lot of social media revolves around telling everyone all of your personal details about everything. With a forum-based approach, there's no requirement to link personal information to anything. That can make it a little more approachable than normal social media. It also makes it easier to separate your personal from your professional presence.

The reason that OptiBoard works so well is that it's run by someone with quite a bit of optical experience. Steve Machol, who now runs the site full-time, began his career in 1973 with an optical service chain, eventually moving on to work for SOLA Optical. He has a technical background in anti-reflective coating development, which means he was enough of a geek to start OptiBoard back in 1995, and continue to watch it grow for two decades.

Even though it's been around for so long, OptiBoard is a valuable resource for the optical industry. The amassed knowledge that it has can be a benefit for both those new to the industry, as well as veterans that want to find out what other people think of new products. In the end, that's what you really want out of online professional communities - communication and honest feedback that you can use to enhance your knowledge and give yourself a wide view of the optical world.

optiBOARD
optiboard.com



it's free, it's fun & it's informational!

(and it's got a spiffy new logo too)

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OPT Magazine
Published whenever we get around to it.

Content/Accuracy
Everything in the magazine should be accurate, but there's always the possibility we got something wrong. If you find something that's not right, please let us know. That being said - I'm a magazine, not a doctor. Nothing here should be construed as medical advice, or assumed to be completely, 100%, definitely correct.

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Unlike most magazines, we definitely endorse everything we run. All of the products you find in this magazine are awesome, and you should definitely buy and/or use them. If we don't agree with something, we don't print it.

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A true renaissance man and hero of the people, Bill has a background in business management and software development. He ended up working in an optical lab at a young, impressionable age, and hasn't managed to break free. He's now involved with creating this magazine, for some reason.

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Renee Jacobs O.D., M.A is an Optometrist/Writer/Consultant/Speaker who helps businesses increase profit plus patient loyalty. She combines product knowledge, and sales content, with business management strategies. And, her presentation style is always engaging – because Renee believes that *we learn most during times of enjoyment*.

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OPT - The Spectacles

OPT - Cryptogram

A	B	C	D	E	F	G	H	I	J	K	L	M

N	O	P	Q	R	S	T	U	V	W	X	Y	Z

12 1 9 8 5 1 11 16

21 5 13 18 24 23 16 8 5

16 17 15 3 11 13 18

Hint: 'secret' from Radio Orphan Annie's Secret Society

OPT - Fun Facts

- *The human eye can distinguish about 10 million different colors.*
- *We spend about 10% of our waking hours with our eyes closed, blinking*
- *Humans and dogs are the only two species known to seek visual clues from another's eyes. And dogs only do it with humans.*

Source: http://www.factslides.com/s-Eyes

OPT - Crossword

Theme- "It's in the mag"

ACROSS
1 Emitted by electronic devices (4, 5)

7 What frames patients sometimes purchase look like (4)

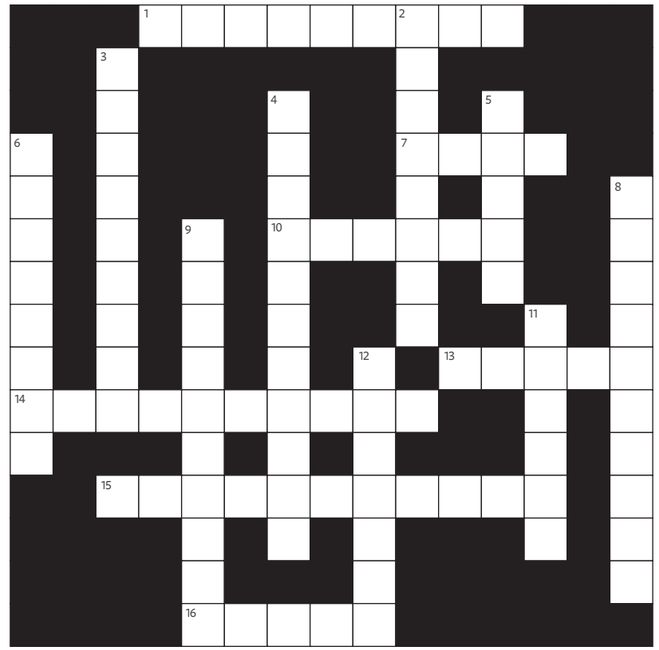
10 Best way to increase revenue per customer (6)

13 99.9% _____ Free Magazine (4)

14 Equations for power compensation (10)

15 Best industry publication ever (11)

15 Brand name free form lenses (5)



DOWN
2 Eye condition where intraocular pressure is elevated (8)

3 Original 'social media' of the optical world (9)

4 Television series starring Bryan Cranston (8, 3)

5 Best material for optical clarity (5)

6 _____is strong with this one (8)

8 What your eyes need, especially in the bed room (10)

11 Lens with a reward program for equipment (3)

12 Hit song of "The Police" (7)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