



Bringing Outdoor Eyewear Into the Exam Room:

Spectacle Solutions for Enhancing and Protecting Vision

*Report of a **Roundtable Discussion** held at the
SECO Annual Meeting on March 3rd, 2012*



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INTRODUCTION

The optometric profession has changed dramatically over the last 10 to 15 years. Today, we focus on medical conditions and implement technologies that we rarely thought about a decade ago. Cataract, glaucoma, retinal disease, pre- and postoperative care, ocular surface disease, infection, and even the genetics of eye disease have all come under our purview. But even with all these new considerations, most of us remain primary care optometrists, serving our patients by giving them the best vision possible.

We now have technologies to help us prevent or minimize the effects of certain eye diseases, particularly those for which ultraviolet (UV) radiation is a contributing factor. When we think about strategies for helping patients see the best they can, we must consider a wealth of information about their ocular and overall health, their vocations, and their avocations. In the end, the majority of our patients will still need spectacles from us, in addition to the medical therapy we provide—but they will also need us to educate and guide them toward steps they can take to protect their eye health.

In March 2012, I moderated an Essilor-sponsored roundtable that focused on defining those medical situations in which specific spectacle solutions can significantly benefit patients—with special reference to outdoor eyewear and the role of Essilor's Xperio UV™ superior polarized sun lenses with E-SPF 50+ in protecting eye health. A panel of seven optometrists shared insights on the utility of outdoor eyewear solutions for improving and protecting the vision of patients with a host of ocular and systemic conditions that can impact sight.

A key component of this discussion was the role of spectacles in providing protection from UV radiation and how a new lens process from Essilor can both eliminate glare and reduce the amount of damaging UV radiation that reaches the eye.

Finally, we enumerated strategies for using current research and educational tools to help our patients understand their conditions. It was agreed that protecting all our patients—young and old—from the dangers of chronic UV radiation exposure should be an essential component of any comprehensive eyecare plan. And, in many cases, that is best implemented with high-quality polarized sunwear like Essilor's Xperio UV™ superior polarized sun lenses.

— Kirk Smick, OD

SECTION I

OUTDOOR EYEWEAR FOR VISION ENHANCEMENT & EYE PROTECTION

///Dr. Kirk Smick: Our goal today is to look at the eyewear we prescribe in the light of patients' ocular and overall health. The central question we ask is: How can knowing a patient's physical condition help us prescribe eyewear that will both maximize vision and optimize the health of their eyes?

With this in mind, let me ask each of our panelists to describe the patient population you serve and the conditions you encounter for which there are outdoor eyewear solutions. Dr. Craig Thomas, what conditions do you see in practice for which good outdoor protective lenses are indicated? What, for example, prompts you to prescribe polarized lenses?

Dr. Craig Thomas: In my Dallas, TX practice, I encounter a considerable number of patients with pterygium. This isn't surprising, as pterygium is a common consequence of long-term exposure to solar ultraviolet (UV) radiation, and many of my patients are fishermen, construction workers, or gardeners—people who work full-time outdoors.¹ About one in five of these patients presents with a significant pterygium.

Epidemiological research has determined a clear dose-response relationship between exposure to broad-band (UV-A and UV-B) radiation and pterygium development.¹ It is therefore critical to protect patients at high risk for pterygium with spectacle lenses that will minimize their total ocular UV radiation exposure. Not only do polarized lenses provide excellent protection from UV radiation—helping patients avoid long-term risks—they also enhance these patients' vision while outdoors, making their work easier and more comfortable. I recommend polarized lenses for these patients for the same reasons I wear them myself: because they offer excellent protection from UV radiation and provide the best vision outdoors.

After pterygium, ocular surface disease and cataract are the conditions I see most. Forty percent of our patients are on Medicare, so pre- and postoperative cataract and dry eye workups are common in our practice. I think patients with any of these conditions would benefit from high-quality polarized lenses to decrease overall UV radiation exposure and the pathologies associated with it.

///Dr. Smick: Dr. Autry, you work in a medically oriented practice, so you get to see and prescribe

medications for many different types of conditions. How does ocular disease impact the selection of eyewear in your practice?

Dr. Autry: I work in a referral center, and while I do not prescribe glasses myself, I do refer patients to primary care optometrists. And when I do, I often suggest that a certain patient see a particular optometrist, someone I know will carry the specific brand or type of lens that I think would be best for the patient's condition.

I concur with Dr. Thomas' comments about pterygium. I also practice in Texas, and I too see pterygium patients. For these patients, good outdoor lenses are vital—to keep them comfortable and seeing well, as well as to prevent the development of another pterygium. While many factors may influence the recurrence of pterygium, it is clear that limiting UV radiation exposure is an essential protective step.^{2,3}

These patients may also have refractive issues to consider, as pterygium removal can induce

KEY TAKEAWAYS

Outdoor eyewear can add significant value and improved vision for patients with:

- Pterygium
- Cataract
- Postoperative aberrations
- Dry eye
- Drug-induced photosensitivity and mydriasis

Ocular UV radiation exposure:

- Cumulative damage leads to pterygium, cortical cataract
- Xperio UV™ superior polarized sun lenses with E-SPF 50+ offer maximum protection

Communicating to patients:

- Ask about hobbies and time spent outdoors
- Discuss optical solutions and explain reasons for prescribing
- Use visual aids to convey differences in visual quality

irregular astigmatism and bothersome dryness, which is further impacted by time spent outdoors in a dry environment. I have dry eye myself, and I notice it nearly every time I go outside.

CRAIG THOMAS, OD



After pterygium, ocular surface disease and cataract are the conditions I see most. Forty percent of our patients are on Medicare, so pre- and postoperative cataract and dry eye workups are common in our practice. I think patients with any of these conditions would benefit from high-quality polarized lenses to decrease overall UV radiation exposure and the pathologies associated with it

In addition, we sometimes have patients with both dry eye and cataract. Sometimes, simply treating the dry eye stabilizes their tear film and improves their visual acuity and comfort enough to allow them delay surgery until the cataract worsens. For patients in this state, the cataract may still affect vision; and, if it does, careful preoperative spectacle lens selection may be the best thing we can offer them.

Post-cataract spectacle correction is becoming less common where I work because of the relatively high percentage of presbyopia-correcting intraocular lenses (IOLs) we implant. While this may cut down on the need for reading glasses, it certainly doesn't reduce the need for outdoor eyewear. And as cataract patients come to us with increasingly high expectations for their postoperative vision, the added sharpness and clarity achievable with polarized lenses can be of noticeable benefit. Where I practice, in Texas, our patient base includes a great many hunters, fishermen, and others who are active outdoors, and I counsel all these patients about the importance of spectacles—especially polarized eyewear—to protect their eyes and sharpen their vision.

Dr. Randall Thomas: What Dr. Autry has said certainly mirrors my experience. I practice in North Carolina, and I see patients every day for routine eye exams during which we uncover ocular surface disease and symptoms of glare, light sensitivity, and blurred vision. Age and chronic UV radiation exposure can lead to ocular surface conditions like pterygium, exacerbation of dryness, and superficial keratitis. Lenses that offer sharper and safer vision in bright conditions, like Xperio UV™ superior polarized sun lenses with E-SPF 50+, are essential for these patients.

Patients with ocular surface conditions need not only lenses that are UV-protective, but frames that are designed to wrap the face and minimize exposure to drafts and dust, which can exacerbate ocular surface irritation.

Although we have medical and surgical therapies for some UV-related conditions, we would much prefer to prevent these conditions than treat them. We have the means to delay or prevent many of them with protective lenses and well-designed frames. I think greater public and practitioner awareness of these dangers is needed, and I believe that reducing overall ocular UV radiation exposure can decrease morbidity and improve the lives of our patients.

Dr. Kading: Perhaps the most common patient complaint we see in clinical practice is ocular dryness. With an aging population and with more patients wearing contact lenses for more years, dry eye has become a problem for the whole spectrum of patients we see; and many dry eye patients have concomitant photosensitivity.

RANDALL THOMAS, OD, MPH



Lenses that offer sharper and safer vision in bright conditions, like Xperio UV™ superior polarized sun lenses, are essential for these patients

When we encounter dry eye, we prescribe artificial tears, cyclosporine, and punctal plugs; but I think we need to more proactively talk to these patients about what they wear on their eyes when they're outdoors. High-quality polarized sunglasses can help combat the issues of photosensitivity, visual fluctuation, and glare that are associated with

dry eye. This not only improves visual comfort, but it can also protect the ocular surface from wind—something very important for patients with dry eyes.

////Dr. Smick: Dry eye has an important place in our practices and our continuing education; and, as our panelists have noted, there is a role for spectacle prescribing in dry eye therapy. High-quality polarized lenses in frames that wrap the face can provide increased comfort, reduced photosensitivity, and reduced visual fluctuation for patients with dry eye. Proactively prescribing these lenses for dry eye patients can help keep these patients comfortable and seeing well outdoors.

Contact lenses also present ocular surface issues that we should discuss. Dr. Craig Thomas, you have a very active contact lens practice. With respect to outdoor wear, what do you think is important for your patients to know? How do you discuss outdoor spectacles with your contact lens patients?

Dr. Craig Thomas: Only a few contact lenses have incorporated UV protection, but even UV-blocking contact lenses do not protect the lids and periocular tissue from damaging UV radiation; so patients in UV-blocking contact lenses should still wear a wide-brimmed hat and sunglasses.

In addition, contact lens patients often experience dryness and resulting visual fluctuation; and we all know that lens deposits, lipids, and disinfecting solution interactions have the potential to exacerbate dry eye. To me, the contact lens patient may be at higher risk and need more protection than the patient in glasses alone.

The contact lens wearer (or emmetrope) who buys cheap, nonpolarized sunglasses from the convenience store may also be at increased risk, especially if the UV protection is inadequate. If a pair of cheap sunglasses cuts down visible light transmission without blocking UV radiation, it reduces the natural tendency for the pupil to constrict and the lids to squint, and so may actually increase the eye's exposure to UV radiation.

Dr. Kading: Other patients who are especially in need of protection are those with corneal ectasias from keratoconus or previous refractive surgeries. These patients may be at elevated risk of damage due to UV radiation exposure, because their thinner corneas have less mass with which absorb UV radiation from sunlight. I believe this

reduction in stromal mass is important even though the epithelium and Bowmans membrane have been demonstrated to have significantly higher UV radiation absorption coefficients than the deeper stroma.⁴ Patients going in for LASIK or other ablative refractive surgeries must be firmly instructed to protect their eyes from UV radiation postoperatively. I believe that for these patients UV protection is mandatory—not optional.

RANDALL THOMAS, OD, MPH



I see patients every day for routine eye exams during which we uncover ocular surface disease and symptoms of glare, light sensitivity, and blurred vision. Age and chronic UV radiation exposure can lead to ocular surface conditions like pterygium, exacerbation of dryness, and superficial keratitis. Lenses that offer sharper and safer vision in bright conditions, like Xperio UV™ polarized sun lenses, are essential for these patients

Dr. Randall Thomas: On the subject of spectacle solutions for younger patients, many of those I see are active in outdoor sports like softball and baseball, that are often played in dry and windy conditions. Some of these patients cannot wear their contact lenses comfortably, but a good pair of prescription sunglasses with the proper fit to their face would greatly enhance their ability to enjoy the sport and maybe even perform better.

Moreover, a disproportionate fraction of our total retinal UV radiation exposure may occur before age 18—not only do children spend more time outdoors, but their crystalline lenses also transmit significantly more UV radiation than adult lenses do.⁵ So being more aggressive in getting younger people into protective sunwear should give them better vision in both the short and long term.

SECTION II

POSTOP EYES AND EYES AFFECTED BY MEDICATION

////Dr. Smick: Dr. Autry, do postop cataract patients, especially those who are happy with their multifocal or accommodating IOLs, need any kind of protection or vision enhancement following surgery? After all, these patients chose their premium IOLs in order to reduce their dependence on glasses.

DAVID KADING, OD



High-quality polarized sunglasses can help combat photosensitivity, visual fluctuation, and glare that are associated with dry eye. This not only improves visual comfort, but it can also protect the ocular surface from wind—something very important for patients with dry eyes

Dr. Autry: I have post-cataract patients who certainly need better outdoor protection, especially when the IOL we have implanted does not offer UV protection. In addition, even a little residual astigmatism in a patient with a multifocal IOL will result in some decreased contrast sensitivity. Polarized lenses in an appropriate tint not only protect, they help to improve both comfort and vision for post-cataract patients.

////Dr. Smick: I find that even when these patients are generally pleased with their near and distance acuity, they may experience more glare or halos than other patients. What do you give them for driving, or to improve their vision?

Dr. Kading: These patients have already invested a good deal in their vision, and they tend to be pretty demanding. I find them highly responsive to the benefits of polarized and antireflective lenses. While these patients may not need the darkest tint, they do benefit from UV protection and the boost in contrast sensitivity they get from high-quality polarized lenses, like Xperio UV™ with E-SPF 50+. Likewise, post-LASIK patients will find their vision optimized by good polarized lenses.

To maximize light transmission and further decrease glare, I insist on antireflective treatment—indeed, our practice has instituted a policy of not dispensing any glasses without it.

Dr. Melton: I second the comment about antireflective treatments for these patients to address the glare that may be contributing to their postoperative visual complaints. I have had the opportunity to work with quite a few patients with multifocal IOLs and find them a difficult group to pigeonhole—there's no single solution that works best for the entire class.

Spectacles are an important option for those of them who may not quite have reached their refractive targets but, for whatever reason, cannot or do not want to undergo enhancement surgery. Progressive or bifocal lenses are generally to be avoided in these patients—even if they need some additional correction for both near and distance, one or the other will usually be more prominent; so I try to concentrate on that one.

Dr. Kading: Multiple pairs of glasses can also work well—one polarized pair for the car, and maybe one for reading or other near activities.

Dr. Steinhäuser: My practice is mostly geriatric and pre- and postoperative care, so I see quite a few patients with glare and dry eye that is either caused or exacerbated by surgery. These issues are so much a part of my practice that I have a speech that, while I didn't script it, comes out automatically with many of these patients.

I usually say something like: "You don't have your original equipment anymore, so your vision is going to be different. We'll want to address any glare and dryness you may experience." I follow this by recommending polarized sunglass lenses and artificial tears. I believe these are both absolutely necessary, and patients appreciate this proactive approach to limit postsurgical issues.

////Dr. Smick: I would now like to shift the focus of our discussion a bit. Dr. Autry, with your pharmaceutical experience, could you lead us in a discussion of common medications whose ocular side effects might be helped by specific lenses or lens treatments?

Dr. Autry: We can start by considering ocular surface issues, which can be brought on by the use

TABLE. Drugs and Their Visual Side Effects 

CATEGORY	CLASS	EXAMPLES	ADVERSE OCULAR EFFECT
Allergy ^{9,11,12}	Antihistamines	Nonselective H1 receptor inhibitors Benadryl® (diphenhydramine) Chlor-Trimeton® (chlorpheniramine)	Pupillary changes; Decreased vision; Dry eyes
		Selective H1 receptor inhibitors Claritin® (loratadine) Zyrtec® (cetirizine)	Lacrimation, dry eyes, contact lens discomfort
	Corticosteroids	Cortisone Hydrocortisone	Cataracts; Elevated IOP; Photophobia; Mydriasis; Decreased vision
Cardiovascular agents ^{9,11}	Angiotensin converting enzyme inhibitors	Capoten® (captopril) Vasotec® (enalapril)	Decreased vision; Conjunctivitis; Blepharoconjunctivitis; Photosensitivity; Angioedema of the eye and orbit
	Antiarrhythmics	Cordarone® (amiodarone)	Photosensitivity; Photophobia; Keratopathy; Optic neuropathy
	Beta-receptor blockers	Tenormin® (atenolol) Lopressor® (metoprolol) Inderal® (propranolol) Coreg® (carvedilol) Norvasc® (amlodipine)	Reduced tear secretion; Visual disturbances; Erythema of the eyelids or conjunctiva; Photophobia; Nonspecific conjunctivitis; Diplopia; Urticaria
	Calcium channel blockers	Adalat®, Procardia® (nifedipine) Calan® (verapamil)	Photosensitivity; Decreased vision; Periorbital edema; Chemosis
	Digitalis glycosides	Lanoxin® (digoxin) Digitoxin	Changes in color vision; Entopic phenomena; Glare phenomenon
	Diuretics	HydroDiuril® (hydrochlorothiazide) Lasix® (furosemide)	Photosensitivity; Myopia; Reduced tear production; Changes in color vision
Central nervous system agents ^{9,11}	Antianxiety agents	Xanax® (alprazolam) Ativan® (lorazepam) Valium® (diazepam)	Diplopia; Abnormal extra-ocular muscle movements; Decreases in corneal reflex; Conjunctivitis–nonspecific
	Antidepressants	Selective serotonin reuptake inhibitors Prozac® (fluoxetine)	Mydriasis; Photophobia
		Tricyclic antidepressants Amitriptyline Imipramine	Mydriasis; Cycloplegia; Dry eyes; Photophobia; Photosensitivity
	Central nervous system stimulants	Amphetamines such as Dexedrine® Ritalin® (methylphenidate) Methamphetamine	Mydriasis; Pupils: decreased reaction to light
	Antipsychotic agents	Thorazine® (chlorpromazine) Mellaril® (thioridazine)	Mydriasis; Increased incidence of cataract; Corneal endothelial pigmentary changes
	Anticonvulsants	Neurontin® (gabapentin) Lamictal® (lamotrigine) Topamax® (topiramate)	Diplopia; Blurred vision; Nystagmus
		Hydantoins such as Dilantin® (phenytoin)	External ophthalmoplegia; Diplopia; Nystagmus
Dermatologic agents ^{9,11}	Retinoids	Accutane® (isotretinoin)	Reduced vision; Keratitis; Corneal opacities; Blepharoconjunctivitis; Conjunctivitis; Optic neuritis; Dry eyes; Photosensitivity; Night blindness (permanent)
Hormones and agents affecting hormonal mechanisms ^{11,12}	Bisphosphonates	Fosamax® (alendronate) Didronel® (etidronate) Aredia® (pamidronate) Actonel® (risedronate)	Uveitis; Nonspecific conjunctivitis; Ocular pain; Blurred vision; Scleritis
	Erectile dysfunction agents	Viagra® (sildenafil) Levitra® (vardenafil) Cialis® (tadalafil)	Color vision effects; Increased light sensitivity; Blurred vision; Conjunctival hyperemia; Ocular pain
Analgesic agents ^{9,10,11}	Nonsteroidal anti-inflammatory drugs	Aspirin Ibuprofen	Transient blurred vision; Refractive error changes; Diplopia; Photophobia; Dry eyes; Color vision problems
	Anticholinergics	Atropine	Mydriasis; Absence of reaction to light
		Transderm Scop® (scopolamine)	Mydriasis

* This is not a comprehensive list. Adapted from Reference 6.

of estrogens in menopausal and perimenopausal women or Accutane (isotretinoin) in patients with acne. Oral antihistamines and decongestants can affect mydriasis and accommodation. H1 and H2 blockers like Zantac® (ranitidine) and Tagamet® (cimetidine) are commonly taken and can also affect the ocular surface.⁶

The antiarrhythmic amiodarone can have significant ocular side effects—rarely involving optic neuropathies; but more commonly involving subepithelial deposits that can result in glare.

JILL AUTRY, OD



Even a little residual astigmatism in a patient with a multifocal IOL will result in some decreased contrast sensitivity. Polarized lenses in an appropriate tint not only protect, they help to improve both comfort and vision for post-cataract patients

Other drugs that can cause photosensitivity include tetracyclines, sulfa drugs, and certain psychiatric medications. Intensified reactions to UV radiation in unprotected eyes can result in lenticular and corneal opacities, not to mention retinal damage.

Long-term therapy with tamoxifen has resulted in subepithelial deposits, granular crystalline retinopathy and, in extreme cases, optic neuritis. Retinal toxicity is an adverse event associated with Planequil (hydroxychloroquine). Careful patient medication history is critical for us to mitigate the visual effects of these drugs and/or prevent the sometimes irreversible damage to which they leave the eye vulnerable [See Table. Drugs and Their Visual Side Effects on page 7].

Dr. Melton: I've also seen dryness issues in patients on beta blockers, and I've found that drugs prescribed for attention deficit hyperactivity disorder (ADHD) (eg, Ritalin®) or for depression (trazodone, Wellbutrin [bupropion]) can induce photosensitivity. Many of these patients do very well with polarized lenses.

For young patients on ADHD medications, I also prescribe a small reading add (+0.50 or +0.75) to offset the change in accommodation they experience.

Dr. Smick: When prescribing lenses for UV protection, we should keep in mind some very important recent findings about antireflective lenses. While all antireflective treatments increase visible light transmission, most of them actually reflect a considerable amount of short-wavelength UV radiation.

This is particularly important with respect to UV radiation that strikes the AR-treated backside of a No-Glare lens. A significant fraction of this UV radiation will be reflected back to the eye.

Essilor has developed an antireflective formulation that greatly reduces UV reflection (see *The Danger of Backside UV Reflection* on page 9, and *E-SPF™—The Eye-Sun Protection Factor™* on page 11). Xperio UV™ superior polarized sun lenses with E-SPF 50+ greatly reduce bothersome backside reflections of visible light and significantly minimize backside UV reflection into the eye.

Dr. Melton, what value would this have for patients?

Dr. Melton: We all want to minimize our patients' ocular UV radiation exposure. This job is made more difficult by the fact that patients don't really grasp that long-term sun exposure poses a hazard to their eyes. Dermatologists have done a great job of raising public awareness of the seriousness of UV radiation skin damage. But the eyecare industry has lagged behind the skincare industry in disseminating messages about UV protection.

A key component of skin-care industry's success has been the SPF (sun protection factor), a simple, straightforward quantification of skin protection provided by creams, lotions, and clothing. Essilor has now developed the Eye-Sun Protection Factor™ (E-SPF™) which measures the amount of UV radiation incident on the eye with a lens in place compared to the amount incident with no lens at all. So an Xperio UV™ lens with an E-SPF of 50+ means the eyes of patients who are wearing these lenses are 50 times more protected than they would be without lenses in place.



ANSI Z-80 standards of tolerance for UV protection from spectacle lenses currently only take UV *transmission* into account. In contrast, the E-SPF incorporates both transmission and back surface reflection into the calculation—giving patients and practitioners the most complete measure of UV protection available.

SECTION III

COMMUNICATING WITH PATIENTS ABOUT THE IMPORTANCE OF OUTDOOR EYEWEAR

////Dr. Smick: I believe the E-SPF™ will indeed prove a useful communication tool for us. And because patients must ultimately choose to purchase and use the interventions we have been discussing, the burden is on us to teach them *why* we have prescribed specific eyewear options for them. Dr. Craig Thomas, when you consult with a patient towards the end of your examination, do you take time to really explain your reasons for prescribing a particular lens application?

Dr. Craig Thomas: I am fortunate enough to have a wonderful technical staff—they gather nearly all the data—and that gives me the privilege of 10 or 15 minutes to talk with each patient. So we talk about things like prevention of unnecessary sun exposure and the proper design of a frame for their face. I always take the time to personally recommend options that will provide the best vision and the best protection.

////Dr. Smick: And how much time does it really add to take this extra step?

Dr. Steinhäuser: I think it adds no more than a minute or two to include those comments. And once that is incorporated into a practitioner's habitual post-exam discussion, it's not even a noticeable time addition.

Dr. Kading: I live and practice in Seattle, which is not usually thought of as a bright, sunny place. But it is our belief that 100% of people need eye protection from UV radiation. I tell patients that unless it is raining or nighttime, they need to have sun protection on if they are going to be outside for longer than 20 minutes. So if a patient is at her son's soccer game, and it's raining for half of the game, she needs sun protection for the rest of the game. Lenses that are permanently polarized offer an advantage in this scenario, as lenses that become polarized only in response to ambient UV radiation may not polarize adequately in low-moderate UV conditions—such as a very cloudy day.

Even though we are located rather far from the equator, UV radiation damage is still a concern; and the need to educate patients is greater for us since many people in the Pacific Northwest do not believe they need UV protection at all.

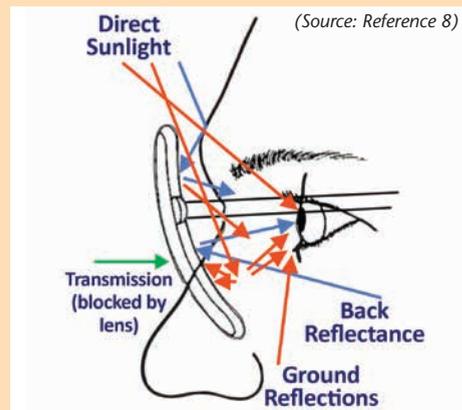
So we recommend UV-protective eyewear to 100% of our patients. We found, however,

that when we left this recommendation to the optician, it often failed to happen. Patients did not understand the importance of the recommendation, or it sounded too much like a sales pitch. So now, my recommendation takes place during my slit-lamp examination.

I try to use that exam time to educate patients

THE DANGER OF BACKSIDE UV REFLECTION

Even when the sun is directly overhead and the eye shielded by the brow from its direct rays, scattered and reflected sunlight remain a significant source of visually disturbing glare and dangerous UV radiation exposure. While high-quality spectacle lenses typically provide at least some protection from UV transmission (light incident from the front of the wearer), most lenses do nothing to address UV radiation that strikes from the sides or is reflected by the backside of lenses.



Recent research has found that while lenses with No-Glare treatments successfully block the reflection of visible light, many actually increase the reflection of short-wavelength UV radiation.⁸ And when No-Glare treatment is applied to the backside of lenses, UV radiation can be reflected directly into the eye. Thus, even with a lens that is capable of blocking 100% of UV transmission, eyes can receive a substantial dose of scattered and reflected UV radiation due to side and back exposure.

Xperio UV™ superior polarized sun lenses with E-SPF 50+ extend the antireflective efficacy from the visible light spectrum into the ultraviolet spectrum, providing maximum visual clarity while protecting eyes from UV radiation.

and to ask about and discuss any problems or issues they may be having. And if I do see cataracts, pterygium, or dry eye, I may say: “You’re not wearing your sunglasses very often, are you?”

DAVID KADING, OD



Patients did not understand the importance of the recommendation, or it sounded too much like a sales pitch. So now, my recommendation takes place during my slit-lamp examination. I try to use that exam time to educate patients and to ask about and discuss any problems or issues they may be having. And if I do see cataracts, pterygium, or dry eye, I may say: “You’re not wearing your sunglasses very often, are you?” Patients are astonished that I could have made that determination by looking at their eyes, and it begins a fruitful conversation about why UV radiation protection is important for their short- and long-term ocular health

Patients are astonished that I could have made that determination by looking at their eyes, and it begins a fruitful conversation about why UV protection is important for their short- and long-term ocular health. Making note of visible, potentially UV-related changes to patients’ eyes helps me communicate the seriousness of ocular UV radiation damage and can help make the case for UV-protective eyewear.

After making a recommendation and discussing why I believe it is important, I take patients into the optical with two or sometimes three prescriptions

and say, “This is our optician. She’s going to give you some specific optical options based on the discussion we just had.” This level of doctor participation in the recommendation process makes a dramatic difference to patients and, ultimately, to a practice’s bottom line.

Dr. Craig Thomas: I agree that it can be helpful to make multiple recommendations, but I think it’s key to always start off by recommending the best options and working down from there if necessary. When my prescription includes sunwear, I start with the top-of-the-line product and say: “This is going to give you the best possible vision outdoors. If it is out of your price range, we have other good options.”

Dr. Autry: When I recommend something that I myself use or have experience with, I notice a profound difference in patients’ interest and willingness to try it. I have dry eye, as I said, and I rarely have a problem starting patients on Restasis, because I use it myself, and I can easily tell them that.

As a referral center, we see and treat a lot of dry eye prior to cataract or refractive surgery. I think even people in my situation—who do not prescribe glasses—are in an optimal place for counseling pre- and post-LASIK patients about UV protection. And, of course, good outdoor eyewear is a key element in keeping dry eye patients comfortable, especially in bright or windy conditions.

Dr. Smick: I think it is always of benefit to share personal experiences with patients when describing the benefits of lens types and treatments. Dr. Melton, I know you have had some recent personal experience with Xperio UV™ superior polarized sun lenses. Could you share that with the group?

Dr. Melton: I recently received a pair of the Xperio UV™ lenses at a CE meeting on a Saturday morning. I drove home wearing them, and that was the sharpest I’ve ever seen. I went back and forth at stoplights, comparing my vision, and the clarity I achieved with the polarized lens was outstanding. The experience has absolutely spurred me to share my enthusiasm with my patients—to let them know that there is a simple way to markedly improve their contrast and acuity. Contrast sensitivity has been demonstrated to correlate with ability to see targets (like traffic signs and signals).⁷ And, as I noted driving home that day, an improvement in acuity of



one line is quite significant when piloting a car at 60 or 70 miles an hour. I think stories like this can really help reinforce a recommendation.

////Dr. Smick: I agree, but would make one additional point. I have heard the word “recommend” several times in this discussion. And Dr. Kading previously mentioned that he tells certain patients that outdoor UV protection is not an option, it’s a necessity. In my practice, I use the word “prescribe,” rather than “recommend,” universally when I talk to patients about lenses. This raises the level of importance of what I am telling patients to do.

Dr. Melton: Yes—I do think using “prescribed” can help drive home a recommendation. Patients really are confused in the marketplace, and they look to us for direction and guidance—for an artificial tear or for a polarized lens. In our clinic, we go one step further and specify the precise No-Glare treatment or brand of polarized lens we prescribe. We do it right on the prescription pad.

KIRK SMICK, OD



Dr. Kading previously mentioned that he tells certain patients that outdoor UV protection is not an option, it’s a necessity. In my practice, I use the word “prescribe,” rather than “recommend,” universally when I talk to patients about lenses. This raises the level of importance of what I am telling patients to do

Dr. Steinhäuser: Before I became an optometrist, I was a licensed optician. It was always clearly evident to me when the doctor had recommended something specific for the patient and talked about it in the exam room. If the doctor didn’t write the recommendation on the prescription and I brought it up as the optician, I would often get comments like: “If this is important, why didn’t the doctor talk to me about it?”

So in my practice, we make sure to write things

like “polarized—Xperio UV™” on a prescription pad and talk about them with patients. I think, even with a sophisticated and smoothly running EHR system, a handwritten prescription emphasizes the importance of a recommendation. It says, “I really want you to have this.”

RON MELTON, OD



I recently received a pair of the Xperio UV™ lenses at a CE meeting on a Saturday morning. I drove home wearing them, and that was the sharpest I’ve ever seen. I went back and forth at stoplights, comparing my vision, and the clarity I achieved with the polarized lens was outstanding. The experience has absolutely spurred me to share my enthusiasm with my patients—to let them know that there is a simple way to markedly improve their contrast and acuity

////Dr. Smick: I’m curious about your experiences with opticians, particularly when patients take their prescriptions to other optical dispensaries. If we write “polarized” on the Rx, do outside opticians follow through?

Dr. Steinhäuser: I have found that when I see those patients at follow-up visits, they purchased polarized sunwear. I’ve often had opticians call me to say, “The patient can’t afford this. Is it okay if we do UV protection only?” So the outside opticians I get callbacks from are taking my prescriptions seriously.

Dr. Autry: From the pharmacy side, I would say that when you’re specific and legible about what you want, you get it. And I think the case is the same with lenses: if you specify a certain lens type or manufacturer, you’re more likely to get what you asked for. But it is critical to be specific.

Dr. Melton: To that point, I think we need to be as specific as possible in our recommendations. Even with polarized lenses: Some are better than others, and some tints will be more or less appropriate depending on patients' vision and needs.

Dr. Autry: I always used to say I could do a cataract evaluation in 5 minutes, but now it takes me 30—because, just as with spectacle lenses, it is essential to find out what each patient does and what his or her goals are. The fishermen and hunters are much more likely to take my prescription to heart if I explain why it will enhance their enjoyment of these activities.

Dr. Craig Thomas: We do, of course, have to be cognizant of what patients can afford, and, without prejudging their situations, recommend or prescribe with care. In the case of patients who are financially disadvantaged, discussing a

significant upgrade might sour the relationship. However, I think effective patient education can take place without the impression of selling. Give a recommendation, explain how it relates to the patient's situation (hobbies, conditions, or medications), and allow them to determine whether they have the ability to pay.

Dr. Smick: What tools can a practice develop to:

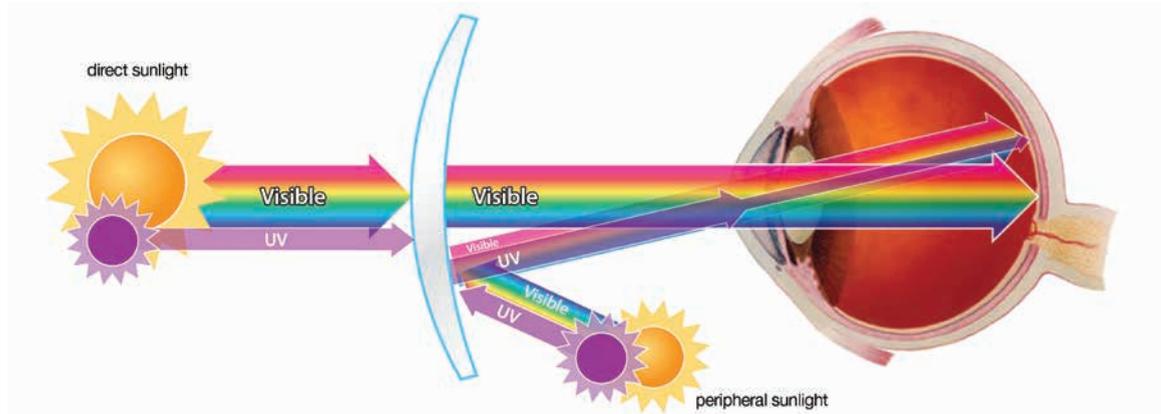
- identify some of these special needs in our patients, and
- communicate the benefits of the solutions we prescribe clearly and efficiently to patients?

Dr. Craig Thomas: I use a couple of perhaps unconventional diagnostic tools to optimize my spectacle lens prescribing. First, I routinely evaluate corneal topography, and I flag any patient with irregular astigmatism for polarized lenses because of the glare they are likely to experience.

E-SPF™—THE EYE-SUN PROTECTION FACTOR™

Though there is no question that UV radiation can cause short- and long-term damage to ocular tissues, the public remains inadequately informed about the dangers of ocular UV radiation exposure and the protective measures they can take. While the sun protection offered by lotions and sun-protective clothing is quantified by the familiar skincare index, the eyecare industry has, until recently, lacked such an index.

Further, the amount of UV protection offered by a given pair of spectacles has not been thoroughly understood or quantified. To address this need, Essilor has developed the E-SPF™ (Eye-Sun Protection Factor™), a carefully weighted ratio of UV radiation incident on the cornea with and without lenses in place.



$$\text{E-SPF} = \frac{\text{Irradiance}_{\text{No Lens}}}{\text{Irradiance}_{\text{Lens}}} \approx \frac{1}{T_{\text{UV}}^{0^\circ} + R_{\text{UV}}^{145^\circ}} *$$

$T_{\text{UV}}^{0^\circ}$ = amount of UV radiation transmitted with UV radiation source perpendicular to lens (0°).

$R_{\text{UV}}^{145^\circ}$ = amount of UV radiation reflected with UV radiation source at 150°

*Direct eye exposure depends on external factors (eg, wearer's morphology, frame shape, position of wear, etc), which are not integrated into the E-SPF formula.

As with the SPF, higher E-SPF values indicate greater UV protection. It is hoped that this means of comparison will help eyecare practitioners and their patients to make better choices about how they protect their eyes from UV radiation.

Second, I use specular microscopy to evaluate the endothelium. Research shows that, while UV radiation has most significant effect on the corneal epithelium, endothelial damage can occur from long-term UV radiation exposure—and the endothelium has limited ability to self-repair. So in patients with no history of contact lens wear, cataract, or trauma and a reduced number of and/or irregular endothelial cells, I suspect some UV radiation damage has been done and talk to these patients about protecting themselves from future exposure.

Dr. Autry: Demonstrations are always helpful. A topography map can pick up irregular astigmatism and ocular surface disease—and it has the added benefit of a relatable image to help patients understand their conditions.

Similarly with lenses: showing patients a polarized view versus a nonpolarized view can help drive home the message about the value of these lenses.

Dr. Melton: Whenever possible, I like to show patients the difference between their previous lenses and the ones I'm recommending. Whether it is demonstrating a small refractive change in a trial frame or a polarized vs a nonpolarized lens, I like to walk patients into the hall and have them look around—to show them the difference and see if they can appreciate it. Telling patients about the benefits of a different lens can be impactful, especially when these messages are first relayed by the doctor and then echoed by the optician. But going one step further and using a demonstration lens to show the difference your recommendation can make ensures that the message is crystal clear.

////Dr. Smick: Do you use questionnaires to identify some of the needs we've been talking about? Do questionnaires help?

Dr. Craig Thomas: I am overwhelmed with questionnaires and with patient data I frequently do not have time to use. We have more information at our fingertips than we are able to access. To me, the minutes of face-to-face conversation with patients are worth more than a questionnaire, and I'm often able to get more relevant lifestyle information by talking to patients than I would get from a form. How are they really going to be using their lenses? In what everyday situations are their vision needs not being met?

Dr. Kading: I agree. I think the most important question is about a patient's hobbies. I want to be able to evaluate their needs and goals—and getting to know them helps inform and reinforce my recommendation.

SHANNON STEINHÄUSER, OD



Before I became an optometrist, I was a licensed optician. It was always evident to me when the doctor had recommended something specific for the patient and talked about it in the exam room. If the doctor didn't write the recommendation on the prescription pad, and I brought it up as the optician, I would often get comments like: "If this is important, why didn't the doctor talk to me about it?" So in my practice, we make sure to write things like "polarized—Xperio UV™" on a prescription pad and talk about them with patients

////Dr. Smick: This has been a wide-ranging and fruitful discussion on a subject that we do not, perhaps, often discuss. But I think it is clear that many of our patients will benefit significantly from the increased visual acuity and comfort available with Xperio UV™ superior polarized sun lenses with E-SPF 50+—and all of them will benefit by being protected from damaging UV radiation.

Our review of conditions and medications that can affect vision (in ways both subtle and dramatic) has highlighted the importance of a careful, personal patient interview and history taking.

Finally, I think we have all contributed valuable strategies for making our spectacle prescriptions strong, specific, and understood by patients. I look forward to returning and implementing these strategies in my practice.

RECOMMENDED MAXIMUM UV PROTECTION

The Eye-Sun Protection Factor™ (E-SPF™) is a new global index developed by Essilor and endorsed by independent third parties, integrating UV protection from light incident on both sides of a spectacle lens.

Xperio UV™ superior polarized sun lenses with E-SPF 50+ means the eyes of patients who are wearing these lenses are 50 times more protected than they would be without these lenses in place.

Xperio UV™ lenses help protect the long-term health of patients' eyes by not only blocking transmitted UV radiation, but also virtually eliminating backside UV reflections.

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