Sportes of the game JUNE 2008

Gear Up

Eyewear Joins Ranks of Performance Equipment

An Advertising and Editorial Partnership Presented by $2O\!/\!2O$ and ${f Vision}$

GAME ON.

Get the insider's view as industry experts discuss the challenges of performance, technology and style on sport sun eyewear and its impact on optical retailing.

View Part I of the Sport Sun Eyewear Panel Discussion online now at 2020mag.com and VisionMonday.com!



Panelists

Optical Retailing Executive

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Hosted by 20/20 Editor-in-Chief, James J. Spina

Look for Part II of the Panel Discussion Coming in July! Sponsored by: 20/20 and VisionMonday

Co-sponsored by: Marchon Eyewear, Oakley, Specialty Lens, The Vision Council, Wiley X



Majority Rules

Every year around my birthday I have a conversation with myself about the importance of exercising and how this year will be the year I get myself in shape. My birthday is in July so it's just about time for me to start waging my internal battle once again.

You see I have never been one who particularly enjoys athletic activity. All the sweating and heavy breathing and possible injury just never appealed to me. I don't even think I've bought a new pair of sneakers in nearly a decade.

But as the years have started piling on and the numbers on the scale continue to creep up I look around at the people who really enjoy physical activity and I envy them their passion and enthusiasm... and their ability to walk up two flights of subway stairs without wheezing.

While researching for **Vision Monday** and *20/20's* first ever joint SportSun supplement I learned that more than three-quarters of the U.S. population participates in outdoor activities. Given a statistic like that it is clear that I am in the minority every time I lose the inner struggle over physical activity. And as much as I enjoy bucking the odd trend here and there, this isn't really a badge of honor I like carrying.

So this year, I am going to win the war against myself and start really working on getting in shape and I am not going to let facts like this one from the American Academy of Ophthalmology (AAO), that says every year about 40,000 people suffer sports-related eye injuries in the U.S., stop me because I know that part of being successful in your chosen activity is having the right gear and being properly prepared.

We put this supplement together to help inform ECPs about the huge, and largely still untapped, performance eyewear market and how they can grow their business by educating their customers that proper vision protection and correction is just as important as the rest of the gear used during any sports activity.

So for my birthday this year I am going to buy some new sneakers, load up my iPod with songs that make me want to move and use all the new things I've learned in putting together this year's SportSun supplement. And that includes picking up a good pair of performance sunglasses and hitting the pavement with the millions of people who already know why the majority rules.

—Deirdre Carroll

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The New Rules of the Game:

By Deirdre Carroll

Sport Performance Eyewear Gets It in 'Gear'

NEW YORK—Many people participate in athletic activities as a way to enjoy their leisure time and stay in shape but it is also seriously big business.

According to the Outdoor Industry Foundation (OIF), a non-

profit organization dedicated to encouraging participation in outdoor activities, the outdoor recreation industry contributes over \$730 billion dollars annually to the U.S. economy, as cited in the OIF's Active Outdoor Recreation Economy study from the fall of 2006.

The OIF study also reported that more than three out of every four Americans participates in active outdoor recreation each year.

That means that in 2008 it is likely that more than three-quarters of the U.S. population will enjoy some form of biking, camping, fishing, hunting, hiking, wildlife-watching and water and snow sports in the great outdoors. And that number doesn't even take into account the millions of additional Americans who will hit one of the country's countless baseball diamonds, tennis courts and high school tracks, or want to at least look like they do.

But the best news of all is that most of them will be looking for eyewear that protects their vision and enhances their performance.

Calling All Sports Fans

Americans like their sports. According to the OIF's 2006 Outdoor Recreation Participation Study, Americans ages 16 and older participated in a total of 3.6 different types of outdoor activities in 2005.

In fact, the Sporting Goods manufacturer Association's (SGMA), a trade organization representing the manufacturers of sporting goods, Insight07 Sports Participation in America study found that 77 percent of the U.S. popu-





lation over the age of six, 212 million people, participated in at least one sporting event in 2007.

"The growth of fitness has changed a lot in the last few years," said T.J Kelly, vice president of marketing for Sportgenic, a San Francisco-based media and technology company that connects marketers to sport enthusiasts via more than 250 sports specific Web sites with over 20 million unique users per month. "More Americans are involved in fitness related activities than they were in the 90's. They're more aware of the benefits of exercise and much of the growth is coming from middle-aged and older participants," continued Kelly. And it is more than the weekend warriors and daily runners jumping on the bandwagon.

"The consumer in this market is everyone," explained Larry Weindruch, director of communications for the National Sporting Goods Association (NSGA).





"Children who play youth sports; teens who tend to set casual fashion trends by the sport-influenced clothing and shoes they wear; young adults and older teens who no longer play organized team sports but continue to stay active; adults who play in adult sport leagues and join health clubs; more mature adults who play golf, tennis and other lifetime sports; Baby Boomers, who are more into lower-impact fitness activities like exercise walking or cycling; and women, who in the last couple of decades have become much more active, especially in outdoor activities."

As a matter of fact, Sportgenic segments their audience into as many as six specific categories that cover a broad spectrum of consumers. Adrenaline Junkies, ages 18 to 30 who participate in action sports like surfing and snowboarding; Country Clubbers, big spenders who play sports like golf and tennis and may be interested in yachts and equestrian sports; Endurance Athletes, who are passionate about longdistance sports; General Fitness Enthusiasts, social people concerned with general health and overall fitness; Outdoor Enthusiasts, environmentally conscious participants who enjoy activities such as kayaking trips or mountain bike rides; and Team Players, which includes families, league, team, club, junior and high school athletes, as well as mainstream sports fans.

Actually, according to Sportgenic's own audience survey of 1,040 individuals in August 2007, specialized eyewear is the most likely league or team sports gear to be purchased in the next year with 24 percent of the respondents saying they would purchase it at least once.

Keeping an 'Eye' on the Prize

What's more, Sportgenic's survey found that 75 percent of respondents plan to buy specialized eyewear as part of their endurance sport gear purchases over the next year. "As sports participants move up the ladder in terms of skills and amount of participation days, they also tend to look for products that help them improve their performance in that sport," said Weindruch.

"Consumers definitely recognize a connection between their performance and their eyewear," agreed Kelly. "The right eyewear is very important not only to your vision, but your safety."

"The casual sports participant may look more for the 'cool look' as opposed to high performance from their eyewear, but as you go farther up the performance ladder eyewear becomes more important," continued Weindruch. "Skiing, cycling, running, hunting, fishing, hiking and canoeing/rafting are but a few of the sports where quality eye protection is important."

And the NSGA, an organization that represent the interests of retailers and dealers who sell sporting goods products, has the sales figures to back up that claim. In their 2007 statistical study of retail sales in the sporting goods market, 19.3 million non-prescription sunglasses retailing for more than \$10 were sold in 2006, raking in more than \$750 million.

Performance Eyewear's MVPs

And since they're spending that kind of money, consumers definitely know what they want. "Product availability, price and staff expertise are all important to the consumer when shopping for performance eyewear," stated Kelly.

"It's both function and fashion to most of our consumers," added Clint Wall, research manager for the Outdoor Industry Association (OIA), the parent organization to the OIF.

"People who participate in different types of activities have different needs. A fisherman, for example, would want polarized eyewear to reduce the reflection off the water," added Weindruch. "Customers, in general, are looking for selection, quality and value. They don't always go for the least expensive product, especially if it is from a specialty store that offers the kind of customer service that helps find the right product for the customer."

In fact, price has less to do with a consumer's decision than would be expected. The NSGA study determined the average price of non-prescription sunglasses retailing for more than \$10 in 2006 to be \$38.86, nearly \$20 more than the national average of \$19.60 for all plano sunglasses sold in the optical market in the same year, according to VisionWatch, a joint study of Jobson Optical Group and The Vision Council.

Other factors rank as much more important than price to consumers looking to enhance their performance.

"Fit, weight, coverage of face and color of the lens to name a few," explained Kelly. "One of the big things is finding eyewear that won't fog up," added Weindruch. "Also important are durability, comfort and variety of lens shades and colors. A serious skier, golfer or outdoorsman won't hesitate to spend what it takes on a pair of quality eyewear."

The great news for the optical industry is that Rx-ability is also a deciding factor for many. "Another important consideration would be the possibility of getting eyewear lenses that can be ground to prescription specifications," confirmed Weindruch.

The Ball Is in Retailers' Court

Few people can give a more accurate view of a category than the retailers who deal directly with the needs and wants of the consumer in a particular market.

"Over the last decade or longer, the trend in the sporting goods industry has been to more large-format retail stores, which have put pressure on locally owned full-line sporting goods stores," added Weindruch. "Most locally owned stores have had to adapt by becoming specialty sport shops for soccer, ski, golf, etc. In the outdoor specialty segment, this trend to large format stores is very much in evidence with the growth of chains like Gander Mountain, Eastern Mountain Sports, and REI. Among full-line sporting goods retailers, Dick's Sporting Goods has shown itself to be an excellent company. Among specialty retailers, REI has a reputation as being very good at what it does."

"National chains and specialty retailers all cater well to this group depending on the needs and level of participation," added Kelly. "Whether it is the local specialty bike shop, or REI, they cater well to the active consumer audience based on their needs. And, this audience will seek out the right retailer for their chosen sport to get the best selection."

SportSun spoke

with three leading retailers in the sports performance market to find out what the customer is really looking for in terms of sports eyewear. (See story, Page 6) We concluded there is a huge void among sport specialty retailers who are set up to provide Rx options to the performance eyewear consumers—which is a major opportunity for optical retailers and ECPs.

Straight From the Retailer Playbook

By Deirdre Carroll

Eastern Mountain Sports Brandon Koger

Tech Sport Product Manager HQ: Peterborough, New Hampshire Locations: 70 stores east of the Mississippi Smith Interlock line has done well. I think photochromic polarization is evolving and is the next step up in polarization. We are also seeing more hydrophobic treatments for water sports.

"We carry Smith, Native, Spy, Julbo, Electric and on the less expensive side for that entry level customer,

Mountain Shades. We carry the best brands for what our customer needs and do business with the best partners to work with. We are always meeting with new companies or looking for better performing brands and we're always ready to swap in a hot new brand.

"I'd say we have about three core brands that we carry deep. Smith, by far, is certainly one that the customer responds to and has a long standing reputation. More than any other brand it has excellent function matched with the cool factor. Native Eyewear is newer and not as recognizable but they are coming up. Their styling is dark and traditional and they have a very good quality story. Their product carries a lifetime guarantee, which is unheard of, and they don't produce one non-polarized product.

"For our customer, price is the lowest criteria they consider when making their decision. They look for function, fit and fashion, in that order, then options like interchangeable lenses, rubber nose pieces and ventilation. Nobody buys a sunglass without considering the fashion component and manufacturers have definitely started to notice. They want the customers to fall in love with their choice. We are seeing great growth from Internet sales but eyewear is still a personalized purchase. Customers want to engage the

The New Rules of the Game

product before committing.

"Much of our in-store associate training on the product is done by the vendor reps. Unfortunately, we don't have a good referral system in place for customer's seeking an Rx option, even though most vendors have their own lens programs."

Sunglass Hut Michael Minadeo

Associate VP of Product and Merchandising **HQ:** Mason, Ohio **Locations:** 1,600 stores in the U.S, Canada and the Caribbean



"We consider Sunglass Hut to be the destination for premium sun in the U.S attracting all segments of the market. Our stores are separated into three categories: fashion, classic and sport.

"In the sport segment, we're seeing a shift to more lifestyle looks as opposed to the hardcore sport look of previous years. Our sport customer is someone who is somewhat athletic or aspires to be, they have brands they know and trust, [ones] that they gravitate toward.

"There has definitely been an increase in the customer's awareness and desire for polarization. Women especially are



"Our consumer absolutely recognizes a connection between their performance and their eyewear. Some 80 percent to 90 percent of our eyewear consumers are looking for product that will enhance their performance and very few will make impulse purchases.

"Because we are a functional sport dealer, folks look for the best piece of eyewear for their chosen sport, but it definitely has to have a combination of fashion and function.

"In general, people have become more fashion savvy and a lot of brands born in sport and active wear, like Spy and Smith, are starting to broaden and see mainstream visibility.

"Without question, polarization has driven a vast change in our performance eyewear business as it has caused the average unit retail price to climb. Replaceable lenses have been growing in popularity and we are carrying more pieces that offer that option. The technology there is still developing, but the embracing polarized styles. Lens technology as a whole keeps getting better and better, but more importantly the eyewear companies themselves are getting better at educating the consumers on the advantages of high performance lenses.

"At Sunglass Hut, we are very good at explaining the eyewear and its benefits. Many of our sport customers are 'weekend warriors' who strive to be active on the weekends but want to look good doing it. For them it is all about the brands they know and the brands they trust. Brands they know are high quality, like Oakley and Maui Jim.

"They are our most popular brands, but we also carry Revo, Arnette and Bolle. We

are always looking at other brands to see what's new and to understand what is going on in the market but we feel that we have really edited our selection to offer the best options for our customers."

"Customers get trained on all the sunwear when they walk through our doors and there are definitely those who will spend money for the types of features that will improve their performance. Price is an issue for some customers but for them we have quality entry point options under the \$100 price point. They often just like the look of the sport performance brands and they may not want to spend the money on polarized lenses and other enhancements.

"Customers who purchase performance eyewear from Sunglass Hut who ask about Rx-sun options are referred to their local LensCrafters, which also participates in the Oakley and Maui Jim lens programs."

Gandor Mountain Rick Rusch

VP of Apparel Merchandising and Product Development **HQ:** St. Paul, Minn. **Locations:** 113 stores in 23 states



"There have been a couple of significant changes to our eyewear business. For one thing, the average price point is increasing as people become more willing to spend higher ticket prices to get the better performance that comes from custom features. Polarization is critical for outdoor enthusiasts, especially in water sports, for enhanced vision and vision [while out] on the water.

"Secondly, better frame and lens durability has changed the market. Whether someone is biking or fishing, they often take their glasses off and put them down and they run the risk of scratching or breaking them, so scratch resistance and durability have become important components of performance eyewear. The hallmark of the average sunglass is that it is disposable and though there is still a market for low-end frames, most people have begun to look at the purchase of performance eyewear as an investment.

"Most of our customers are looking for

comfort and overall sun protection regardless of the activity they participate in. I think price is always a point of focus. At the end of the day, we have to deal with the fact that sunglasses have a finite lifespan, they can be lost or broken, especially if a pair is

not polarized, it is little more than an inexpensive throw-away.

"We see a huge seasonality in our eyewear. There is a year-round business, especially when in comes to goggles and evewear for the winter season, but our peak [time] is May through August. We put eyewear outposts and displays in each department. In the fishing department, we carry styles designed for fishing and water sports, our motor sport department has sport goggles, wraps and more protective evewear and the hunting department features camo-dipped sunglasses or those with non-glare lenses. We try to customize our mix to reflect the needs of each specific customer. We even carry our own line of Gandor Mountain eyewear and are launching a whole new sunglass line in the Spring.

"There is a natural tendency to gravitate toward a brand but with the launch of Gandor Mountain sunwear we have included a small hang tag on each style that lists the features and benefits of the frame so the customers can make an educated decision. For us, Oakley is quite popular, as is Costa Del Mar for fishing. For them, their reputations precede them, but in general for our customer it is price, features, then brand name.

"We have no direct Rx program set up for our customers but we will be entering into Internet and direct marketing in the near future. Most of our competitors have been doing it for years and we see it as a big opportunity to grow."

Gear Up

Eyewear Joins Ranks of Performance Equipment

By Deirdre Carroll

The Lure of the Sport

Whether hitting the high seas or the local creek, those who fish know there are some essential tools they'll need if they don't want to come home empty handed. Serious anglers know that the proper eyewear is just as important as the reel and the bait, and the brand new Wiley X Jake in brown fade with Polarized bronze/brown lenses (above) and a removable foam gasket fits the bill.

Wiley X has a full line of high-performance sunglasses for outdoor adventure seekers in their Active and Climate Control Series to cover the gamut of sport activities.

The Active Series is suited to a wide variety of outdoor activities from mountain biking to windsurfing and helps recreational enthusiasts see and look better in action. The same technology and materials Wiley X has developed to provide High Velocity Protection (HVP) to American soldiers and law enforcement is applied to protect eyes from harmful UV rays, distracting glare, wind, dust, pollen and other harmful irritants.

The Climate Control Series goes even further, saving eyes from being buffeted by the wind and spray that whips through the sides of conventional sunglasses. These frames include a removable, durable, symmetrically vented foam gasket that locks securely into place on the lightweight TR90 frames to create a special Facial Cavity Seal, keeping eyes safe and free from irritation in their own climatically controlled cocoon.

Ultra-light, secure-fit performance eyewear





The Need for Speed

Few sports are as cathartic as running. All the day's stresses seem to melt away until it is just the runner and the road. But it is difficult to get in the zone without the proper equipment; a good pair of sneakers, some high octane tunes and the brand new Nike Vision Impel in Iron with Max Speed Tint lenses (above) from Marchon is all it takes.

"Nike approaches sports eyewear from a 'solving the problem' point of view," said Brent Costner, marketing director of global equipment for Nike. "Athletes expect sports specific components in their products, so we work with athletes to solve their problems and really look at eyewear as a means of improving performance."

Made for runners, Nike Vision has released two new sport performance sunwear pieces, the Impel and the Tailwind, the streamlined, durable and lightweight styles, with the Nike Max Speed Tint, reduce squinting by diminishing the glare off asphalt.

WITT

"Nike has an amazing program setup with Zeiss in the U.S.," added Stephen Tripi, Marchon's marketing manager for Nike Vision. "The program allows Nike's patented distortion eliminating Max Lens technology to be cut into Rx lenses and offers Nike proprietary engineered lens tints. It also allows most of Nike's Suns, including Interchange frames, to be Rx'd and every set of lenses is laser engraved with the Nike Swoosh."



"PAIN IS TEMPORARY. IT MAY LAST A MINUTE, OR AN HOUR, OR A DAY, OR A YEAR, BUT EVENTUALLY IT WILL SUBSIDE AND SOMETHING ELSE WILL TAKE ITS PLACE. IF I QUIT, HOWEVER, IT LASTS FOREVER."

-LANCE ARMSTRONG





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Gear Up

Fit to a 'Tee'

Golf is a game of the accuracy of one's aim and the accuracy of one's swing. In a game where miscalculating a few centimeters means the difference between a hole-in-one and a bogey, it stands to reason that avid golfers would expect a high degree of accuracy from their gear as well. That's why Oakley's Enduring in Pearl White with G30 Black Iridium lenses (above) is the perfect choice for female golfers.

After releasing the Radar and Flak Jacket last year, the first sport performance products launched by the company in over six years, Oakley follows up in 2008 with the Enduring, the first sport performance eyewear designed specifically for women.

Believing fit and style were two key issues not being addressed in women's sport designs, Oakley collaborated with top female athletes, including Lolo Jones, a world champion hurdler and Hall of Fame golfer Annika Sorenstam, to create a sport performance sunglass designed for women, by women.

After analyzing every aspect of female cranial anatomy and creating a woman specific fit, Oakley optimized the Enduring for sports with features like interchangeable nosepieces and lenses; anti-slip Unobtainium components; hydrophobic lens coatings and Oakley High Definition Optics.



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Choosing the right frame for a given sport is only half the equation. To get the best optics and performance out of their eyewear athletes need to know what kind of lens is best suited to their activity of choice. Specialty Lens Corp. makes their iRx Polaroid brand lenses (above) in 12 different colors to meet the optics needs of any and all sport enthusiasts.

"The interest in sport specific colors, especially for polarized lenses, has grown over the past few years," said Jon Schmitt, marketing manager for Specialty Lens Corporation (SLC). "Five years ago, almost all lenses dispensed were gray or brown but now there's a demand from sport participants for more options, like yellow, green, blue, orange, copper, violet and red, which all have specific uses for sports not met by brown and gray. "So Specialty Lens continues to expand it's selection of polarized lenses in the iRx Polaroid brand and is committed to having the largest selection of polarized colors, materials and lens styles to meet any consumer need. We currently have 12 colors in the line and we added a new one at Vision Expo East. Our spectrum allows for ECPs to address virtually any sports specific need in any polarized lens sports application.

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20/20 and VM Panel Explores Potential of Sport Sunwear

NEW YORK—20/20 Magazine and **Vision Monday** got into the sports sun game during April's International Vision Expo East by hosting a panel discussion, titled "The New Rules of the Game," cosponsored by Marchon's Nike Vision, Oakley, Specialty Lens, The Vision Council and Wiley X.

The panel provided a forum for retailers and ECPs to discuss the potential of the sport sun and sport performance eyewear business and was moderated by 20/20 editor-in-chief, James Spina. Panelists included Barry Santini, optician and owner of Long Island Opticians and a 20/20 continuing education educator; Dave Speranza, creative director of *Bicycling* and *Mountain Bike* magazines from Rodale Press; Dr. Al Reichow, global



(I-r) Speranza, Santini, Spina and Reichow converse at the draw of the panel.

research director of vision sciences and director of research and development for Nike SST; and Michael Minadeo, associate vice president of product and merchandising for Sunglass Hut and Illori.

"Vision is the guiding sense to most of human performance," began Reichow. "At Nike, we are trying to provide athletes with the tools to 'see sport better.' What defines the best eyewear for us is when the 'best of the best' athletes wear it in



SportSun panelists, left to right are, Barry Santini of Long Island Opticians, Dave Speranza of *Bicycling* and *Mountain Bike* magazines, Dr. Al Reichow for Nike research and development, and Michael Minadeo of Sunglass Hut and Ilori, discuss the sport performance business with James Spina of 20/20 magazine, at Vision Expo East.

competition. At Nike, we believe that if you have a body then you are an athlete but without innovative product meeting the demands of athletes at all levels of play consumers won't wear it."

"Even the not so best of the best are very particular about their eyewear," added Speranza. "The science is fascinating but I think the thing that the people I ride with, the people who are interested in wearing it, are most concerned with is that it is absolutely critical to make sure that they can see."

Educating retailers to the importance of this market and the potential for a successful sport eyewear business was a big topic of conversation.

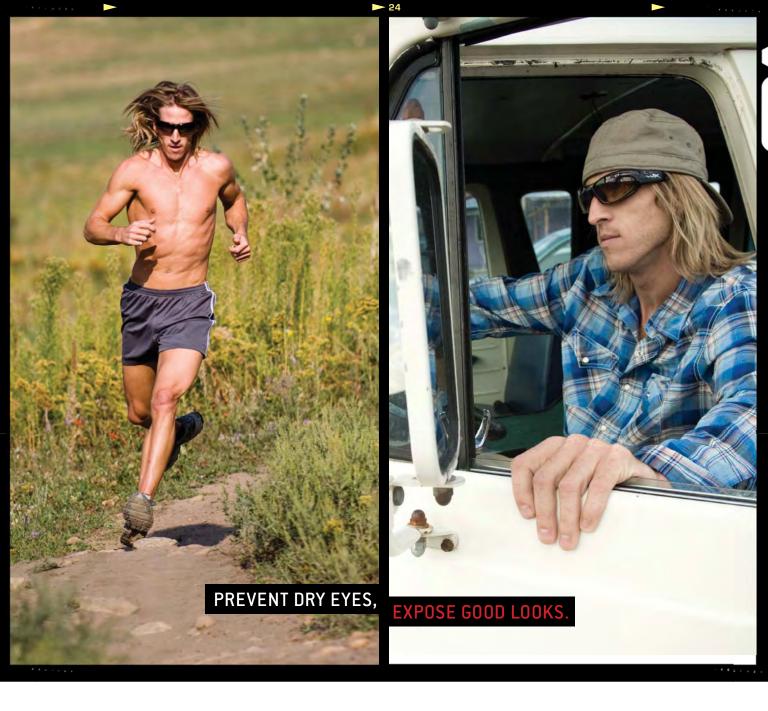
"In order for a retailer to cater to and convert customers to the importance of performance eyewear they need to have a separate merchandising section for it," said Santini. "So the layout of dispensaries needs to be re-thought and they need to have a plan to create awareness that you are an expert in providing this type of eyewear. Consumers want authorities because they are besieged by the number of providers out there and are looking for experts."

"Continuing education and having vendor reps going into stores and teaching associates to sell that product to the customers is important," agreed Minadeo. "There is the customer who wants it for the look and those who want it for the performance, so I see the category just continuing to grow."

"People seem more protective of their eyes than anything else so if we put more information out there I think we'll see more and more athletes going to the eye doctor to improve their performance," added Speranza.

Spina concluded, "It promotes better vision, helps performance and improves business because it includes every demographic in every age. Everyone needs protective eyewear for better vision and better performance."













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Eye Protective Sunwear: Why It Should Be ANSI Z87 Safety Certified

By Barry Santini, ABOM

Release Date: June 2008

Learning Objectives:

 Why Should Your Sunwear Be ANSI Z87 Safety Certified?
 What Constitutes a Sunglass Meeting ANSI Z87 Safety?
 How To Make Sun And Safety Work For You?

Faculty/Editorial Board:

Barry Santini graduated from New York Technical College in 1975 with an AAS in Ophthalmic Dispensing. He is a New York State licensed optician with contact lens certification, is ABO Certified and was awarded an ABO Master in 1994. As sales manager for Tele Vue Optics from 1987 to 2003, Santini developed his knowledge of precision optics and has been an owner of Long Island Opticians in Seaford N.Y. from 1996 to present. In addition, Santini is an amatuer astronomer and lecturer and plays bass trombone in the Brooklyn Symphony.

Credit Statement:

This course is one (1) hour of CE credit by the American Board of Opticianry (ABO).

Pending ABO Approval.

This CE is also available online at www.2020mag.com by clicking on the Continuing Education button. They're stylish, edgy, virtually shatterproof and ANSI safety certified. Sounds like an unusual combination, especially when describing a fashionable sunglass. Yet it's probably the best way to think about them since it's likely that your sunglasses will be required to deliver some special functionality at some time in its life on behalf of you. What do I mean?

Fashion drives so much of the development and design of eyewear. Yet when thinking about functionality combined with fashionable sunwear, those sunglasses must be able to tackle any activity you will, and still elicit plenty of "nice shades" comments. So, what are the attributes required for this, how can you identify them and what must you know about 'safety'?

Think Safety

Most manufacturing companies have OSHA-specified eye safety programs, safety officers and/or pay for the workplace eyewear that employees use on the job every day. As a result, workplace eye injuries have decreased by nearly twothirds since 1989. So why should you make sunwear Safety Sunwear?

More than 40 percent of disabling eye injuries occur at home, during sports and while pursuing that outdoor passion. This high rate of injury is because most people are unaware of the potential hazards that surround them. It is best to have comprehensive protection for whatever comes your way. So, if a pair of sunglasses is designed for the worst, it's ready for any situation.

High speed—Racing comes to mind. That may be in a car, on a bicycle, skydiving, hang-gliding, parasailing, skiing, boarding, running or flying to name a few. Speed exposes your eyes to anything that might be in the way. One wouldn't think about skydiving without goggles but might ride a bicycle at over 30 or 40 miles an hour (downhill) without glasses.

Flying debris—Debris could come flying at your eyes instead, rocks will hit your windshield while driving. When on a bicycle, motorcycle or lawnmower, the force of the rock thrown up at your face and eyes can be traveling at more than 60 miles an hour. It will break the frame and the lenses so look out.

Wind and humidity—Do your eyes tear in the wind when downhill skiing, is that the time when clear vision is critical? Do you need to keep the moisture out from behind the lens; will sweat cloud vision at the wrong time?

From bright to shadow—Light intensity changes all around you and seeing crisply is regulated by your pupil. It always adjusts to allow the right amount of light—yet it's easy to have too much light. Think of the reflections off the pavement on a sunny day. It causes squinting and obscures vision. A light-adjusting lens is safer. Surface reflections – Reflected light off a horizontal surface becomes polarized and is intensified until the reflection is blinding. Is there a hole in the road coming up or will there be an animal or child in the way? Consider polarized lenses to ensure that you and the people around you are always safe.

Ballistic—Lastly, if a pair of glasses can save your life in the most traumatic of situations, then you can feel protected when that windshield shatters and the shrapnel is flying in all directions. Lenses tested with a 15 to 25 caliber projectile can keep your eyes safe.

So how can one make a sunglass safe for almost any situation? The answer is in the way that industry has significantly reduced on-the-job eye accidents. They have had all employees on the job floor wear safety eyewear. That means that safety certified sunwear can be just as effective if everyone wore them. Therefore, only consider sunwear that can also pass the safety test.

What Constitutes a Sunglass Meeting the ANSI Z87 Safety Standard?

To protect for sun and safety, both the frame and the lens must be safety certified. In this case, the frame, unlike dress eyewear, takes on as much importance as the lenses.

The ANSI Z87.1-2003 high impact safety standard

If both the frame and lens require certification, what does that mean? The answers lie in the requirements set forth in an industrywide agreement called ANSI Z87.1-2003.

About every 10 years, the American National Standards Institute (ANSI), a private nonprofit organization, reviews ANSI standards. Z87.1 defines Occupational and Educational Eye and Face Protection.

This standard has testing criteria for both frames and lenses and two levels of performance are defined; Basic Impact and High Impact. For example, in addition to the high mass and high impact tests, the frame must have the ability to retain a 2.0 mm plano lens under high impact (not just a 3.0 mm plano) in order to earn the High Impact label. Also, prescription lenses must meet stringent standards. Here is a short example of Z87 requirements, for more details a complete copy of the standard can be ordered from ANSI directly at www.webstore.ansi.org. Frames that are labeled "safety certified" meet these very stringent requirements.

Frames

High Mass Impact and Retention

Test—Pointed projectiles (500 g) are dropped 50 inches. Four samples must be tested and for all, no piece shall be detached from the inner surface of any frame component, and the test lens shall be retained in the frame.

High Velocity Impact and Retention Test—A steel ball (0.25 in) at 150 ft/sec velocity hits the frame. No contact with the eye of the head form is permitted as a result of impact. 20 samples must be tested of any frame component, and the test lens (2 mm poly plano) shall be retained in the frame.

Flammability—The front, temple, lens and removable side shield (if applicable) shall not burn at a rate greater than 76 mm (3 in) per minute.

Lenses

Prescription and Removable Plano

Lenses-Basic Impact—Spectacle lenses F shall be not less than 3.0 mm thick, s except prescriptions that are +3.00D or greater in the most plus meridian in the distance portion of the lens which shall have a minimum of a thickness no less than 2.5mm. Spectacle lenses shall be capable of resisting impact (drop ball) from a 1 inch diameter steel ball dropped from a height of 50.0 in. The lens shall not fracture as a result of this test.

High Impact—When used in a frame marked Z87-2, the lenses shall not be less than 2.0mm thick, be capable of resisting an impact from a 0.25 in diameter steel ball traveling at a velocity of 150 ft/sec. No piece shall be detached from the inner surface of the lens. In addition, the lens should not fracture. Penetration Test (Plastic Lenses Only)—Plastic spectacle lenses

shall be capable of resisting penetration from a weighted projectile weighing 44.2 gm dropped from a height 50.0 inches. The lens should not fracture or

be pierced through as a result of this test. Optical Quality-Lenses shall be optically correct when measured for Prismatic Power, Refractive Power, Resolving Power, Haze, and Transmittance. The optics need to be precise in order to meet ANSI Z87 optics. (Note: optical characteristics may behave differently in the uncut and glazed versions, be sure to see test results for lens quality when glazed in their respective frames.) Transmittance—Lenses shall comply with standard requirements for clear or general-purpose filters or special purpose lenses. The lens shade marking is determined by the light transmission or type of special purpose lens.

Look for the Markings to Know for Sure

Frames that pass the retention tests are stamped with the manufacturer's mark and "Z87" or "Z87-2". If the frame is intended for plano, it is marked Z87. If

Be High Velocity Protective in frame and lens

> Works hard, plays harder

look great in colors and textures, provide complete eye and brow protection using its size and shape, contain all intended functionality, ANSI

Z87 certified.

mode

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Safety Rx Ready



intended for both plano and prescription lenses, it is marked Z87-2. Therefore, for fames carried in a dispensary, where many customers will want prescription options, it makes sense to look for the Z87-2 marking. It adds flexibility to inventory and increases the opportunity for sales.

Lenses

In a safety certified clear or sunglass, lenses are marked permanently. The different designations help the optician show their customers that lenses fabricated will meet either the Basic or High Impact test.

 For Removable Lenses, the markings are as follows: The mark or logo indicates or identifies the manufacturer and compliance with Impact Testing Requirements. An example of this is WX. The lens was supplied and tested by Wiley X and meets the Basic Impact Lens requirement. If the mark were WX +, then the supplier again is Wiley X and the "+" sign describes the lens as being compliant with High Impact lens requirements.

2) For Non-Removable Lenses, the markings are as follows: Only one marking on the frame front or one of the temples is required. As before, mark or logo indicates or identifies the manufacturer. The Z87 indicates compliance with the ANSI safety standard, there is a letter shade number, and a "+" indicates that it meets the High Impact Testing requirements. An example of a non-removable lens would be: WX Z87 S+ and would translate to Wiley X (WX), ANSI Z87 frame (Z87), special purpose lens (S) or shaded, High impact lens (+). Photochromics are also allowed and designated with the letter "V".

Safety is technical and complicated so relying on the dependability of a sunglass to meet the safety requirements requires that it be properly marked. Wiley X is unique in the marketplace in that it is the only company that supplies all of its sunwear, Safety Certified.

Patients respond to discussions about protection of their eyes especially when combined with a pair of frames that they agree they look good in. After all, fashion and function must both work wonderfully together to make a difference in a new pair of eyewear for a patient to say "wow".

The Safety Certified Sunglass

Either plano or in a prescription, completed eyewear bears the high impact standard. And, when in plano, the more stringent standards for plano lenses are also met. During fabrication, lens and frame testing has been completed (statistical sampling done when allowed) and markings placed on frames and lenses.

The lenses are tested to withstand impact from a .25 inch steel ball shot at 150 ft/sec so look for the manufacturer's mark and "+" sign on the lens that denotes high impact testing. In addition, special tints and photochromics are marked. Colors and their filtering properties are described and all comply with traffic signal recognition requirements. Any special sports related requirements are also defined.

Frames must have the ability to retain a 2 mm lens under high velocity impact (.25 inch steel ball shot at 150 ft/sec). While it may be easier to pass the retention test with a 3mm lens, these lenses would appear too thick for street wear so all frames pass with 2mm lenses. All frame parts marked with Z87-2 say they've been tested at high velocity impact and both prescription and plano lenses glazed into this frame meet the requirements.

Other attributes of the frame provide critical protective properties. Wide temple designs surround the eyes while blocking glare from multiple directions. Wrap styles provide the tightest fit and best coverage.

When a seal is required against wind and moisture, a facial cavity seal provides ventilation behind the lens without maintaining a wide space behind the frame where other wind, dust and debris can attack the eye. Lastly, for patients with dry eye syndrome, a sealed pair of glasses can better manage the patient's condition and make them a lot more comfortable. It may become an important factor in maintaining good eye health.

The insert has been designed for easy in and out by consumers, again adding flexibility of use and performance.

The Safety Prescription

The prescription, prism compensation for wrap, the bevel and Z87 testing are critical components of a safety sunglass. A few labs are set up to test for Z87 compliance. To fabricate Z87-2 Wiley X prescription sunwear and test prescription lenses for Z87-2 compliance, Hoya Lens (Bethel, CT) and Pech Optical (Sioux City, Iowa) provide prescription lab work. Consult with the lab for lens and power range by frame design to ensure that your patient can be fit.

Lens materials and protective properties are assured by the lab's choice of highly impact resistant lens materials like polycarbonate and Trivex. In this case, consult with the lab for approved lens materials and progressive lens brands.

Make Sun & Safety Work For You

When shopping for sunglasses, what are patients really looking for? To best answer the question, you must know where they are really wearing sunwear. Therefore, it's more about what patients can teach you about their eyewear needs.

When patients know what they want and have experienced a need, they can tell you about them. For others, it requires you to take control and ask the right questions. Remember that biker that was in the other day. His need is specific. At high speed, his eyes need to be protected from the wind, rain, road debris, dust and varying sun conditions without requiring frequent stops to change eyewear. Your ability to create the right combination using the best color, a photochromic polycarbonate lens, sealing sunglass means that his exact needs have been met and that's worth more to most patients. Lastly, when describing this pair of glasses as safety certified, you will find that real safety is differentiating. It provides a steady stream of enthusiasts, in both plano and prescription work. It responds to the outdoor needs of all patients, boosts your public and professional identity and meets the "duty to warn" requirement.

Patient Specific Benefits

Often, the hardest part about dispensing is knowing what to say when patients want to know what is the difference between a sunglass they can buy in a sports store or at the car wash. Here are three areas that safety certified sunglasses exceed any customer's expectations.

There's no such thing as an all-purpose lens in sports eyewear. The material, treatment and color must meet the most extreme of conditions the lens will be subjected to.

High Velocity Protection—When a sunglass is good for the most difficult of situations, it's better for all other less difficult ones. By providing high velocity protection, the lenses and frame withstand high-speed impact from rocks, gravel, wind, dust and anything else that life throws at you.

That goes for the visible as well as the invisible. Ultraviolet radiation (UVB and UVA) travels fast and is invisible. The UVB causes burning (sunburn) and UVA ages the skin and when accumulated over a lifetime, can cause skin cancers and cataracts. Look for sunwear that is 100 percent UV absorbing.

In addition to meeting the ANSI Z87.1 and Z80.3 sunglass standard, the tactical series of frames meets the military's MIL-V-43511C fragmentation standard for goggles and MIL-PRF-31013 fragmentation standard for spectacle protection.

Vision Is Crisp and Clear—Lens quality and filtering ability provide the clear vision and the correct amount of light in any critical situation.

Add AR to the back of sunlenses to reduce the brightness and virtually eliminate back surface reflections that can be distracting at a critical moment. Use front surface mirrors to further reduce glare in extreme conditions like high altitude, on a snow field, in extreme sun brightness and when required to look at the sky (think skeet shooting).

Polarized lenses absorb surface reflections of water and the street or track and make vision clear at all times. If you are on a motorcycle, a light activated lens (photochromic) has the best utility, especially when traveling on bright sunlit highways or through more shadowed city streets.

Great At High Speed— At 130 miles per hour, surface reflections that are blinding can be deadly. For that matter, at 50 miles per hour it's the same, so polarized lenses are always recommended.

Be sure that the frame is wrapped enough when there is a wide temple to allow the widest field of clear vision for the job that it has to do. The visibility of your entire world is critical. Also, consider using colors of lenses that match the field's background. In this way, the contrast of objects in the field is enhanced. In the case of track racing, the lens color should be tuned for vision at high velocity.

DRY EYE SYNDROME

The Wiley X Climate Control Series, with its patented Facial Cavity Seal insert, provides the most effective known treatment to eliminate excessive air movement around the eyes. Designed for easy in and out by consumers, the envelope effectively prevents eye irritation caused by dehydration, as well as protecting from dust, pollen, insects and other airborne hazards. These special designs can significantly reduce tear evaporation and can be used by those who wear contacts lenses.

Seeing Through the Fluff

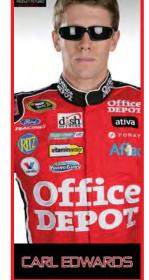
While others may claim that they provide the same protection, you can demonstrate the difference to staff and patients. Make safety certified and authorized sunwear a critical part of every sale. Sell products whose manufacturer is so passionate that the details of design and function are patented and use those features when describing the advantages and benefits to wearers.

Conclusion

Remember, 90 percent of eye injuries can be prevented with the right eye-

wear. Be sure to combine great style and function. When you do that, eyewear or sunwear better meets any patient's needs.

Ballistic Testing with 15, 20 and 25 caliber high velocity barrels



SELF-ASSESSMENT EXAMINATION

1. Safety eyewear has reduced workplace eye injuries _____ since 1989. **a**. 50% **b.** 25% **c.** 33% **d.** 66%*** **2.** More than of disabling eye injuries occur at home, during sports and out-of-doors. **a.** 20% **b.** 40% **c.** 60% **d.** 80% 3. Sunglass wearers are unaware of the advantage of safety certified sunwear because: a. People are unaware of the potential hazards that surround them b. Safety sunwear is not needed c. All sunwear is safety certified d. All of the above **4.** All of the following are characteristics of safety certified sunglasses a. Stylish b. ANSI compliant c. Virtually shatterproof d. All of the above **5.** Which of the following are reasons for safety sunwear? a. Parasailing **b.** Rocks kicked up on the highway c. Wind speed when downhill skiing d. All of the above 6. The brightness of the pavement, in sunshine may be ____ the brightness of light in the shade a. 1-2 times **b.** 5-10 times c. 10-15 times d. 15-20 times 7. When light is reflected off a horizontal surface, the light becomes _ and is _ a. Darker, diminished b. Polarized, diminished c. Polarized, intensified d. Darker, intensified 8. Ballistic testing may use a projectile of a. 65 caliber

c. 15 caliber d. 10 caliber 9. For frames, the High Mass Impact and Retention Test uses a a. Ball of 500 g, dropped 50 inches **b.** Pointed projectile of 500 g, dropped 100 inches c. Ball of 500 g dropped 100 inches d. Pointed projectile of 500 g, dropped 50 inches **10.** When testing frame for High Velocity Impact and Retention, the steel ball is and is shot at _____ft/sec_while ______ piece(s) is/are detached from the frame a. 0.25 in, 150, no b. 0.25 mm, 150, 1 c. 0.25 in, 100, no **d.** 0.25 mm, 100, no **11.** For prescription and plano lenses, the safety impact test requires the use of a _____ inch steel ball dropped inches. a. 5/8", 50 **b.** 1", 50 **c.** 5/8", 100 **d.** 1", 100 **12.** For a high impact designation and the Z87-2 certification, lenses must be not less than mm thick at center or edge **a.** 1.5 **b.** 2.0 **c.** 2.5 **d.** 3.0 **13.** The Z87 marking on frames is used when the lenses are a. Prescription & powers less than 2 diopters **b.** Powers that are greater than +3.00 in the strongest meridian c. Rx's with cylinders less than -1.00 d. Plano 14. A frame that is marked WX+ designates a frame that is

a. Manufactured by Wiley X

b. Capable of withstanding the high

b. 50 caliber

d. a and b only 15. The letter "V" is used to designate lenses. a. Polarized **b.** Photochromic c. Plano d. None of the above **16.** A Facial Cavity[™] seal is effective **a.** As a component for treating dry eye syndrome b. By being close fitting to eliminate air movement c. Because it reduces dehydration d. All of the above **17.** Safety prescriptions for a Wiley X Z87-2 frame are supplied by a. Hoya lens b. Pech Optical

c. For non-removable lenses only

impact test

a. Any tint can be used
b. An all-purpose lens is recommended
c. The material, treatment and color must meet the most extreme of conditions the lens will be subjected to
d. Any of the above

18. For high performance safety ceri-

c. Any Rx lab

fied sunwear

d. a and b only

19. Because UVB causes burning (sunburn) and UVA ages the skin and, when accumulated over a lifetime, can cause skin cancers and cataracts, use

a. Sunwear that is 100 percent UV absorbing

b. Always Choose an ANSI Z87 frame

c. Order CR 39 hard resin lenses

d. None of the above

20. To reduce the glare in bright sun when wearing sunlenses

a. Add AR to the back lens surface to reduce reflections

b. Add AR to the front surface to reduce sunburn reflections

c. Make sure that the lens/frame fits close

d. All of the above



Examination Answer Sheet 1 hour of CE credit by the American Board of Opticianry

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Eye Protective Sunwear: Why It Should Be ANSI Z87 Safety Certified

Directions: Select one answer for each question in the exam and completely darken the appropriate circle. A minimum score of 80% is required to obtain a certificate.

Mail to: Jobson OptSC, PO Box 488, Canal Street Station, New York, NY 10013.

This program is supported by an unrestricted educational grant from Wiley X.

1.	(A)	(B)	(C)	D	11. A)	B	C	D	
2.	A	в	©	D	12. A	B	C	D	1 = Excellent 2 = Very Good 3 = Good 4 = Fair 5 = Poor
3.	A	в	C	\bigcirc	13. A	В	©	D	Rate the effectiveness of how well the activity:
4.	(A)	в	C	D	14. A	B	©	D	21. Met the stated learning objectives: 12345
5.	A	в	©	D	15. A	в	©	D	22. Related to your practice needs: (1 2 3 4 5
6.	A	в	©	D	16. A	₿	©	D	23. Will help you improve patient care: (12345)
7.	A	в	C	D	17. A	B	C	D	24. Avoided commercial bias/influence: (1) (2) (3) (4) (5)
8.	A	₿	©	D	18. A	B	C	D	25. How would you rate the overall quality
9.	A	в	C	D	19. A	в	C	D	
10.	A	в	©	D	20. A	в	C	D	of the material presented? (12345)

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y submitting this answer sheet, I certify that I have read the lesson in its entirety and completed the self-assessment exam ersonally based on the material presented. I have not obtained the answers to this exam by any fraudulent or improper means.								
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X





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