

A New Focus on Old Eyes

Cornucopia of Vision Correction Solutions Awaits Presbyopes

PART 1



ANDREW KARP / GROUP EDITOR, LENSES & TECHNOLOGY

This article, the first of two, explores some of the top options in the progressive lens category. The next article in the series, to be published in March, will look at multifocal contact lenses, intraocular lenses and implants, and pharmaceuticals.

NEW YORK—At one time in our history, presbyopia was unknown and unrecognized as a condition. The reason? Life spans were simply too short. Presbyopia is a special case of the lifelong process of gradually reducing accommodative ability. When the accommodative loss begins to interfere with the requirements of our lifestyle, we use the dreaded term, an unmistakable signifier of aging.

In the infancy of the ophthalmic industry, prior to Ben Franklin's day, a simple plus lens, called a quizzer, was worn on a necklace of sorts and was used for near viewing. Then spectacle peddlers sold scratch-resistant quartz lenses in spectacle frames, and Franklin expanded the available solutions with his revolutionary bifocal. The Holy

Grail of presbyopia correction, yearned for by science, industry and sufferers of the condition everywhere, is a return to convenient and clear vision at all distances.

The onset of presbyopia, a clinical term derived from Greek and Latin that means "old eyes," coincides with mid-life, and all that mid-life implies. It makes consumers ever more intent on—or hell-bent-on in some cases—solutions which do not advertise the fact that they have become presbyopic. If you doubt it, simply look at the billions spent on the development and consumption of progressive addition lenses (PALs). According to The Vision Council's VisionWatch survey, 83.1 million pairs of progressive lenses were sold in the U.S. during the 12 months ending September, 2017, totaling \$12.6 billion.

Yet PALs are only one part of the ever-expanding universe of presbyopia solutions. Vision correction options for presbyopes range from over-the-counter reading glasses, bifocals and trifocals at the lower end of the market to more sophisticated and costly solutions such as multifocal contact lenses, intraocular lenses, progressive

lenses and surgical procedures.

An increasing number of suppliers are attracted to the presbyopic vision correction market, not only because of the potential to sell high-end products and services, but also because of the market's enormous size. There are an estimated 130 million presbyopes in the U.S. alone, including 50 million PAL wearers, and 2.1 billion presbyopes worldwide, according to estimates by Essilor and the VisionWatch survey.

The universe of products for correcting presbyopia is vast. The progressive lens and multifocal contact lens categories consist of dozens of brands and hundreds of different designs from big name manufacturers and private label suppliers.

To get a better understanding of the size and scope of the presbyopia correction market and what continues to drive its growth, VM asked suppliers to tell us about their newest and most advanced products. All products described in the article were selected by the suppliers as examples of their leading edge offerings. Then we spoke with eyecare professionals who told us why they prescribe and dispense these products. ■

Progressive Lenses Dominate the Presbyopic Correction Market

The invention of the Varilux lens launched the progressive addition lens (PAL) product category nearly 60 years ago. Since then, the PAL market has grown exponentially, with several hundred progressive designs currently available. The following roundup of the most recent PAL designs from leading suppliers provides an overview of this dynamic and still growing product category.

CARL ZEISS VISION

Latest Presbyopia Solutions: Zeiss Precision, DriveSafe, EnergizeMe, Officelens

Matthew J. Woelbern

Associate Director, ECP Marketing
Vision Care Business Group

Essential Features

- The core Zeiss Precision progressives: all with Digital Inside technology that optimizes the ubiquitous use of devices even among presbyopes.
- Zeiss DriveSafe progressives for presbyopes whose primary visual challenges occur while driving.
- Zeiss EnergizeMe progressive for presbyopes who wear contact lenses all day, and need to be refreshed at the end of the day after contact lenses are removed.
- Zeiss Officelens for presbyopes who spend most of their workday indoors and need wider fields of view in the mid-range and near distances.

“Although we minimize the jargon, all of these solutions are underpinned by sophisticated innovations. All of these lenses are available with Zeiss i.Scription for the most precise prescription available and enhanced vision especially in low light. All solutions are also fully Rx compensated using Zeiss’s patented backside free-form. And finally, all are primary-pair all-day solutions with the exception of Officelens, which doesn’t have distance vision.”

PRACTITIONER’S POINT OF VIEW

David Kaplan, OD

Family Eyecare of Glendale
Glendale, Arizona

Patient Feedback

“The feedback we receive most often from Precision progressive lens wearers is that the lenses provide excellent clarity across all ranges and provide a wider field of view than previous progressives worn. This is true for all the lenses across the Precision family of lenses.”

Recommended For...

“The beauty of the Precision line of lenses is

the flexibility of the progressive designs. They are as effective and adaptable for the emerging presbyope as they are for the more demanding visual requirements of the mature presbyope.”

Product Features, Wearer Benefits

“For our patients, the ease of adaption, the wider fields of view, and the increased clarity across the lens are huge benefits over older lens technology. For us as doctors, the low percentage of non-adapts is a huge benefit plus advanced features such as FaceAdapt Technology. This specific technology allows the patient’s prescription to be adjusted for the fit of the frame that they select. How far the lenses sit from the front of the eye, the wrap or tilt of the frame all effect the patient’s Rx. This technology allows us to adjust the Rx for these parameters thus providing a uniquely accurate Rx.”

What’s New and Improved

“The Precision family of lenses marks a definite improvement over older lens technologies. For our doctors, it is the adaptability of the designs and increased visual comfort that they provide that are the main benefits of these lens designs. Every development in progressive lens technology moves us closer to the Holy Grail of progressive lens designs: seamless transition from distance to near, wider visual zones, little or no distortion as a patient scans from right to left across the lens, customizable visual zones and position of wear technologies. If we consider the entire Zeiss lens family, I would say the search is over.

“We have found the DriveSafe lens provides superior vision behind the wheel. There is less peripheral blur. The lens makes driving in all conditions easier. The lens provides excellent glare reduction and improved depth perception. The patient acceptance of this lens technology has been fantastic.”

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With DriveSafe lenses you’ll enjoy:

1



Better vision in low light conditions or at night.

2



Reduced glare at night from oncoming cars or street lights.

3



Easy refocusing between the road, dashboard and mirrors.

What’s Behind the Design

“The basic Zeiss theme on what we’ve done for presbyopia is to create more lifestyle-relevant solutions for presbyopes, with patient-understandable benefits rather than industry-insider jargon that is so common in the optical world.”

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ESSILOR

Latest Presbyopia Solution: Varilux X

Pete Hanlin

Senior Director

Professional Solutions



What's Behind the Design

"Essilor's approach to progressive design has always centered around the wearer, and employs numerous systems designed to measure the optical and physiological aspects of human vision. Additional research is done to determine the social and even emotional applications of human vision. Over the past decade, this research has increasingly revealed a shift in the fundamental way the currently emerging group of presbyopes (i.e., Generation X) uses their vision.

"Specifically, 'near vision' is no longer a static area centered 16" from the eye. Today, the entire area within arm's reach is functionally used for near vision. Furthermore, this area is increasingly being used for day-to-day social interactions. Where previous generations conversed across a dining room table or in an office, modern presbyopes converse using devices located anywhere from 16" to 28" from the eye.

"Essilor addresses this changing definition of near vision with our new Xtend Technology, which greatly extends the area of clear vision within arm's reach. Specifically, Xtend Technology allows the wearer to view various devices and objects within this area with minimal, if any, head movement and without having to search for 'just

the right spot' too sharply at any distance—similar to their pre-presbyopic visual habits."

Essential Features

Varilux X Series progressive lenses feature Xtend Technology, as well as other technologies previously developed, to improve the wearer's experience.

- Nanoptix technology reduces the off-balance feeling experienced when viewing through the bottom of the lens.
- SynchronEyes Technology provides smoother transitions between distance and near zones.
- W.A.V.E. Technology 2 (Wavefront Advanced Vision Enhancement) provides sharper vision at all distances, even in low light.
- Smart Blue Filter, a clear feature which reduces exposure to Harmful Blue Light by at least 20 percent.

PRACTITIONER'S POINT OF VIEW

David Moore, OD

Owner, Moore Eye Center
Stephenville, Texas

Patient Feedback

"We have received all five-star reviews for this lens. Since we started prescribing the Varilux X Series lens, we have had no non-adapts. With traditional PALs—even premium lenses—patients told me they had to move their head around to be able to focus clearly, and some felt off balance when shifting focus. The fact that none of our patients are experiencing that is truly remarkable."

Recommended For...

"We're finding that the Varilux X Series lens is great for both new wearers and high prescriptions. Patients can be hesitant to try a progressive, especially if they've never had one before. The new technology in this lens gives wearers sharp vision and smooth transitions at any distance, making it perfect for first-time PAL wearers. And for patients with high prescriptions, the extended vision at arm's length is a big plus."

Product Features and Wearer Benefits

"For me, the technology makes the difference with this lens. I like that I can prescribe a PAL that addresses all the needs of progressive lens wearers: reduced head movement, reduced off-balance feeling, smoother transitions, and sharper vision. And while patients don't always praise the Varilux X Series lens by name, the lack of patients returning to the office for non-adapts, remakes and adjustments as compared to other products reinforces the quality and wearability of the lenses."

What's New and Improved

"With other Varilux lenses, patients still weren't totally satisfied with their vision. The fact that we've had no non-adapts in our practice says it all. I know I'm offering a best-in-class product with great confidence that the product will meet even the most discerning patients' needs."

HOYA VISION CARE

Latest Presbyopia Solutions: iD Screen, iD Space and iD Zoom; iD LifeStyle2, iD MyStyle 2

Anne-Marie Lahr, OD

Director of Education



What's Behind the Design

"Hoya has developed a three-option, indoor progressive for today's presbyopes. At Hoya, we believe that it's time to discuss the indoor pro-

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gressive as the wearer's primary pair. Our iD Screen, iD Space and iD Zoom indoor PALs are optimized for the wearer's daily indoor activities and are personalized for the distances at which the patient works in their daily activities. Screen, Space and Zoom lenses are free-formed on both sides and incorporate two patented technologies; Integrated Double Surface (iDs) Technology and Binocular Harmonization Technology (BHT.)

"Sync III is a single vision lens with a choice of 'boost zones' of .5, .9 or 1.3 diopters across the bottom of the lens. Hoya creates the increased plus power by optimizing the vertical aspherization on the back surface of the lens, resulting in seamless adaptation for the wearer."

Essential Features

"The iD category of lenses utilizes the full potential of Hoya free-form technology where the finished product allows users to gain increased optical performance via our patented Integrated Double Surface (iDs) Technology for a revolutionary progressive design. In short, we split the vertical and horizontal components of the add between the front and back surfaces, respectively.

"On the front, we have integrated the vertical component, which affects magnification and distance and allows for more natural eye rotation. On the back, we have integrated the horizontal component, which impacts power changes from side to side and provides a wider field of view for the wearer.

"Finally, since we are using both sides of the lens to create the add power, we are able to significantly reduce the amount of induced sphere and cylinder by offsetting the distortion created on the front surface by applying equal and opposite optics on the back surface. This widens the field of view along the corridor and translates to easy adaptation for the wearer.

"Just like our fingerprints, every eye is dif-

ferent and unique. The iD MyStyle 2 design incorporates a total analysis of a patient's lifestyle and visual requirements, creating the most personalized lenses available to independent ECPs today. We can do this because free-form technology allows us start with a completely blank lens, or blank slate if you will, and every aspect of the patient questionnaire and Rx are incorporated into the finished lens.

"iD MyStyle 2 is the only lens on the market today that is personalized for the patient's specific Rx, the selected frame as it is worn, the patient's visual demands and needs and considers the previous lens design satisfaction. In short, it is the world's most personalized progressive lens.

"Every lens in Hoya's comprehensive line of progressives that has iD in the name incorporates this revolutionary technology: iD LifeStyle2, iD MyStyle 2, and iD Screen, iD Space and iD Zoom.

"The latest technology Hoya has developed for presbyopes is Binocular Harmonization Technology (BHT), which considers the right and left prescription as individual components, calculating the necessary corridor length and progressive power distribution to create the required binocular lens design. Seven out of 10 individuals have a difference of 0.25D or greater between their two eyes. When there are differing refractive powers between the two eyes, the patient experiences differing amounts of induced prism in the vertical meridian when looking down into the corridor.

"This is the reason that patients are often 'underwhelmed' with their first PAL or observe that their vision is acceptable monocularly, but uncomfortable when viewing through the lens with both eyes open. Hoya's Binocular Harmonization Technology ensures that both eyes receive equal accommodative support and equal prismatic deviation to achieve ultimate binocularity. BHT is currently a unique feature of iD Space, iD Screen and iD Zoom."

PRACTITIONER'S POINT OF VIEW

Thomas Murphy, OD

Eye Designs

Sacramento, California

Patient Feedback

"The most dramatic patient is a patient who has a high amount of anisometropia. He's a 48-year-old man who is a +1.00 in one eye and +5.00 in the other eye. He's tried multiple progressive lenses and has never been able to see out of both eyes together and has never been binocular. We fit him in the iD Mystyle 2. When he was dispensed the glasses... He looked around the room, walked outside and came in with tears in his eyes. He has never seen so well in his life.

"The binocular harmonization that is in the iD Mystle 2 really worked! And it is absolutely amazing when you see a grown, tough adult man see well for the first time in his life. I've had many other patients who have had amazing responses to this lens as well."

Recommended For...

"I think anyone can benefit from this design. The first time presbyope who is virtually emmetropic in the distance. The patient who is super sensitive about peripheral distortions, your engineer-type patient. To your mature presbyope who has never been happy with progressives. Your active adult who have very specific visual needs."

Product Features, Wearer Benefits

"The personalization that happens in this lens is key. The double-sided digital decreases peripheral distortions and optimizes vision, the binocular harmonization. Those aren't just marketing words. They are descriptions of the engineering technology that is developed into the lenses.

"Each lens is a snowflake, personally designed for how that patient wears the lens, how they move through the world, what their areas of focus are, how the frame fits on their face. It's important to recognize that each per-



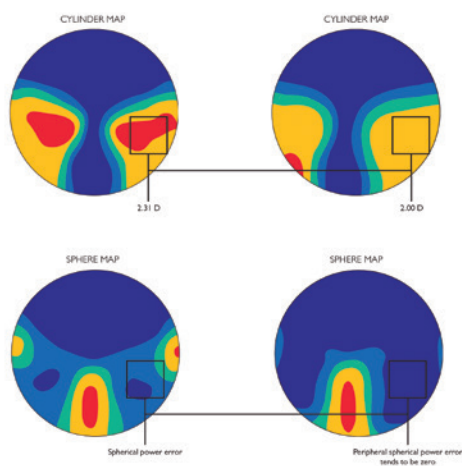
son's eyes, their face, how they wear the frame, what they do, how they perceive the world is very individual, and to have a lens that meets that individuality, to customize and personalize is the absolute best selling point."

What's New and Improved

"I think there are two key improvements that iDMyStyle2 has over the MyStyle. First, the binocular harmonization, how the lenses take into account how both our eyes work together and enhances is, amazing (especially for my patient Bill). The simplification of the questionnaire that patients have to answer is also helpful. It makes it more comfortable for patients as they have to answer the questions that will generate the personalized layout of the prescription for the patient."

IOT

Latest Presbyopia Solution: Camber Steady
Daniel Crespo
President
IOT



What's Behind the Design

"At IOT, we not only review the latest research into the visual needs of presbyopes, we drive it. Our scientists regularly write and publish original research with the aim of moving the industry

forward in its collective understanding of ophthalmic optics. We find wearer trials to be the key to determining the ultimate success of any lens solution.

"In recent years, our scientists have made considerable progress in turning subjective concepts into objective tests with verifiable outcomes. IOT's wearer trial departments in Spain and the U.S. fully execute, under strict control, more than 15 wearer trials each year. Most are double blind, with concise methodology and strict participant criteria. This is critical for obtaining reliable information. Our robust R&D capabilities allow us to move from an innovative concept, to a design ready for commercial launch, in a matter of months."

Essential Features

"IOT's most advanced technology for correcting presbyopia is incorporated in our Camber Steady design, which was created in partnership with Younger Optics. Prior to Camber Steady, cylinder error could be addressed very precisely in advanced digital lenses, but it couldn't be reduced by a significant amount. For Camber Steady we took an original approach applying Steady methodology. This innovative method corrects lateral unwanted sphere power errors to improve peripheral optics, and therefore dynamic vision, delivering superior image stability.

"This approach resulted in a significant reduction in the total amount of unwanted astigmatism, well beyond what could be done with previous design techniques. For example, a Camber Steady lens, with a +2.50 add may only have 2 diopters of total lateral distortion as opposed to around 2.3 diopters in an advanced design without Steady methodology. That, along with near total elimination of unwanted spherical power, makes for a great wearing experience. We have applied for a patent on this very unique lens design methodology."

PRACTITIONER'S POINT OF VIEW

Lynn Engle, OD
Greenbrier Vision Center
Charleston, West Virginia

Patient Feedback

"Patients have had a very easy transition from their previous progressive lens into Camber with no adaptation time. Patients have been impressed with the wide field of view for both their distance and near visual needs and often respond with 'Wow, it feels like I'm not even wearing a progressive!' or 'the lenses feel like single vision!'"

Recommended For...

"So far, we have only utilized Camber with our mature presbyopic patients, however, we are going to begin prescribing to all presbyopic age groups since Camber is available in a wide range of add powers, beginning with a +0.75 add."

Product Features, Wearer Benefits

"For our practice, having a lens that is available in many base curve options for our patients is valuable. Additionally, with the easy adaptation to Camber and the extensive field of view for both distance and near, patients are extremely happy with the vision their lenses provide."

SHAMIR

Latest Presbyopia Solutions: Autograph III and Duo
Mark Becker

Vice President, Marketing and Strategic Partnerships



What's Behind the Design

"The Autograph III is Shamir's most premium progressive lens, holistically adapted to every patient's unique prescription. While many traditional lenses

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provide a magnified view of the world, Shamir Autograph III ensures a clear, comfortable visual experience that is customized to a patient's individual needs. Autograph III incorporates four key technologies to ensure each patient receives the best visual experience:

- EyePoint Technology III, which simulates real world images and supports the design of progressive lenses that enable hyperopes to experience similar, wider fields of view like myopes.
- IntelliCorridor, which allows for a unique power profile in the transitional zone; for Autograph III it ensures enhanced visual comfort when using digital devices.
- Natural Posture, which controls the location of the near viewing zone based on the patients Rx, whether plus or minus, to influence the patients posture and head position for a more ergonomic experience while reading.
- As-Worn Quadro, which utilizes additional patient measurements (Back Vertex Distance, Pantoscopic Tilt and Panoramic Angle) to ensure that both the Rx and the design are compensated to each patient based on their selected frame.

"The Shamir Duo provides an aesthetically appealing solution for bifocal wearers by eliminating the distinct line typically found on traditional bifocal lenses. The elimination of this line also allows for optical continuity from one visual zone to another. It maintains a natural, distortion-free visual path that creates clear, smooth vision for the patient.

"This lens does not force a patient to compromise appearance or visual comfort, and is the ideal solution for a patient who may have difficulty adapting to a progressive lens. Because Shamir Duo is a Freeform lens, it opens up further enhancements for the 'bifocal' wearer; they can now enjoy anti-reflective coating and a wider range of treatments that include Transitions and polarized."

Essential Features

"Shamir's R&D department is constantly working to improve our lens designs to better meet the

needs of today's presbyopes. This is apparent with the development and implementation of IntelliCorridor technology. IntelliCorridor allows Shamir's designers to control the power profile of the lens.

"By understanding how consumers today are utilizing and holding smartphones, we recognized the need of redesigning the transitional zone to ensure that patients received the right amount of power early enough in the lens to support a 'new reading area.' This is due to handheld devices being held higher and closer (between 15" to 27") than a book would be.

"Utilizing IntelliCorridor we have implemented this visual enhancement within our InTouch, Autograph III and Attitude III fashion lens designs. Whether it's researching trends through surveys, clinical studies or visually observing the population, we are continuously improving the visual experience for patients based on today's lifestyle habits/needs."

PRACTITIONER'S POINT OF VIEW

Mark Roark, OD, FAAO

Allisonville Eye Care Center
Fishers, Indiana

Patient Feedback

"We've used the whole Shamir line for several years, and InTouch and Autograph III are especially good designs. Autograph III is our lens of choice. We've had a high rate of success with it. Patients adapt more easily to it than other designs."

Recommended For...

"Autograph III is good for all presbyopes, especially in the higher powers. Also, it minimizes binocular vision difficulties if the patient has a different power lens for each eye. If patients have difficulty with progressives, we offer them Shamir Duo. We've found an off-label use for it with children if we find that they have myopia that's progressing rapidly. Standard bifocals may not address myopia control, and progressives haven't been as effective in clinical studies. Duo is a good alternative. It's a digital lens that has more plus power than a progressive would have."

Product Features, Wearer Benefits

"Autograph III has a soft focus in the edge and a nice wide area for reading. Plus, it can be customized to the frame using 'as worn' measurements. We commonly shorten the corridor and increase the size of reading zone. Patients don't have to look as far into the reading area to utilize it. Another benefit is that the plus accelerates as you move from the distance into the near area."

SIGNET ARMORLITE

Latest Presbyopia Solutions: Kodak DSII and Kodak Total Blue

Prashant Santan

Product Innovation Director
Signet Armorlite and Kodak Lens

Trevor Steele

Managing Director
Crossbows Optical



What's Behind the Design

"Signet Armorlite, through various Kodak Lens designs, delivers advanced technology to patients while providing educational tools that are both engaging and informative. The Kodak Lens tagline of 'See the Colors of Life' is also our mission when it comes to the patient. We want every wearer of Kodak Lenses to truly see all the wonderful moments in life. We strive to understand all the issues that presbyopes experience and then go about solving it through a lens design, a material or a lens

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coating. Or as an example with our latest product, Kodak Total Blue Lens, we incorporated all three to provide a premium vision experience.”

Essential Features

“Signet Armorlite has incorporated a number of advanced technologies into Kodak progressive lens designs to provide the best possible viewing experience for wearers. Kodak DSII Progressive Lens incorporates the most advanced design features in the Kodak Lens Professional Series for correcting presbyopia. This design is dual-sided, incorporating a lens blank with a specific add, allowing the distortions in the progressive design to be spread over the front and back surfaces. This provides advantages in both design and thickness optimization.

“Kodak DSII Progressive Lens also incorporates the following proprietary technologies:

- Vision First DS Technology incorporates both sides of the lens to provide a smooth, continuous power increase across the entire lens, top to bottom. This allows for fast adaptation and the minimizing of swim effects.
- i-Sync Technology uses advanced ray-tracing techniques to optimize the optical properties of the lens in the as-worn condition.
- Prescription Compensation recognizes that lenses which are tilted relative to the wearer’s eyes will require a different prescription to that specified by the optometrist
- Variable Inset takes into account lens power, pupillary distance, near working distance and back vertex distance. This optimizes the reading area for the individual patient.

“The Kodak Lens Education Center provides hands-on demonstration of multiple lens options including progressive versus bifocal, anti-reflective lens coating, standard versus high-index material, photochromic, polarized, blue light filtering option. Using Kodak Lens IDS (Intelligent Dispensing Software), the ECP is able to demonstrate the benefits of all Kodak progressive lens designs. It also offers the option of acquiring the patient’s measurements in order to custom fit the Kodak DSII Lens.”

PRACTITIONER’S POINT OF VIEW

David R. Heitmeier, OD

Heitmeier Eyecare

New Orleans and Marrero, Louisiana

Patient Feedback

“The Kodak DSII is a premium, high performance lens. It has a wider reading area, and patients tell us their vision seems a little bit crisper, especially when you combine it with Kodak Clean and Clear AR coating. When used together, it allows more light to come in, which enhances patients’ vision and gives them better quality of life. That’s the ‘wow factor.’ The AR coating lets about 9 percent more light into the eye. At nighttime, that makes a significant difference. Patients who are forming early cataracts say their vision is much better.”

New and Improved

“Patients that have been in progressives before notice the DSII has a little bit better reading area, and better overall performance than other Kodak lenses they’ve worn.”

VSP OPTICS GROUP

Latest Presbyopia Solution: Unity Via

Randy Dannewitz

Senior Vice President of Strategic Development
VSP Optics Group



What’s Behind the Design

“VSP Optics is focused on more than just updating lens designs. We’re about taking the latest technology and determining how these advancements can be used in an innovative way to improve the quality of life for patients and simplify fitting and dispensing for providers.

“During the design process for Unity Via Progressive Lenses, we listened carefully to detailed feedback from wearers about their visual experiences, as well as input from our providers on what is important to them when dispensing a progressive. Those insights were combined with the latest design engineering to create the Unity Via portfolio. We believe technology should make your life easier and the intelligent technology of Unity Via Progressive Lenses does exactly that, making them easy-to-fit and ensuring patients see their best at every distance.

“To confirm design success, as measured by wearer satisfaction, we used a double-blind comparative wearer trial to obtain detailed feedback. The result is a design that rates two to one over the leading progressive. In fact, three out of four wearers agree Unity Via Progressives provide the best experience they’ve ever had in a progressive lens.”

Essential Features

“Unity Via Progressive Lenses simplify the dispensing process through sophisticated algorithms that automatically calculate the ideal corridor, inset and frame fit for each wearer. And while the degree of personalization increases from one Unity Via design to the next, a common technology foundation ensures consistent performance for all wearers. The technologies used in the product development to achieve this are:

- Automatic Reading Height Optimization (all Unity Via progressives), which automatically calculates corridor lengths using an internal algorithm, providing a continuous range of progression lengths. This ensures proper accommodation of many different PDs, facial structures and frame styles while maintaining a generous amount of reading area that always fits inside the frame. This is also what makes the lenses so easy-to-fit and guaran-



tees consistent lens performance.

- Digital Viewpoint Technology (all Unity Via progressives), which maps vertical and horizontal eye rotations in every direction to specific object viewing distances, to provide full compensation for the sphere, cylinder and axis errors resulting from each wearer's lens configuration. This provides a better match between add power and the most likely viewing distance for each point on the lens.
- Advanced Fit Technology (Unity Via Elite only), which uses a point-by-point calculation to determine the appropriate degree of inset at every point in the progressive corridor, to improve clarity at each viewing distance and maximize binocularity.

"These technologies use complex calculations based on a total model of the eye-lens environment for each wearer, incorporating a variety of individual wearer, frame and lens factors. But the

result is simple—greater clarity at every distance and angle of gaze, with trouble-free dispensing."

PRACTITIONER'S POINT OF VIEW

Palmer Lee, OD

EYecenter Optometric

Four Locations in Sacramento, Calif. Metro Area

Patient Feedback

"We've received very positive feedback; the wow factor. Patient responses are along the lines of 'really nice, less distortion in the periphery than with other progressives.' Patients seem to adapt pretty quickly to the lens. And although some like their computer lenses, they wear Unity Via at their computers pretty effectively."

Recommended For...

"Everyone benefits; mature presbyopes notice an improvement over previous progressives they've worn and new presbyopes while they may not real-

ize it having nothing to compare with, are adapting faster to Unity Via."

Product Features, Wearer Benefits

"Unity Via is very easy to both fit and wear. We've spent years trying to explain progressives to patients when first fitting them and providing careful instructions about how to use their new progressive lenses when we dispensed them; now those conversations are minimized. They are straightforward in both fit and adaptation."

What's New and Improved

"Unity Via absolutely does represent an improvement over the previous Unity designs. The older Unity designs were very good, but not having the complexity for the staff of choosing corridor lengths and other variables has made fitting Unity Via much easier. The advanced technology built into the algorithms of these designs does the hard work so we don't have to." ■

Kryptok, the Better Bifocal, Circa 1900

Joseph L. Bruneni's "Looking Back, An Illustrated History of the American Ophthalmic Industry," is an invaluable source of optical history. Among the events chronicled in Bruneni's book is the development of multifocals, including the invention of the Kryptok, a new type of bifocal that was introduced 120 years ago.

As Bruneni explained, "Grinding the segment of a bifocal lens involved a delicate procedure. One side of the segment was matched to the curve of the depression and the opposite curve selected to match the front curve of the distance lens. The glass segment was then cemented into the concave depression. The cemented segment was exposed and this was the chief drawback of the lens.

"Segments were easily dislodged, dirt accumulated in the junction and their visual performance was poor. This suggested a need for improvement by John Borsch. His answer was the three-part



Kryptok lens. In this new form, a carrier lens would be cemented over the entire front surface, covering both the distance and near portions of the lens. This three-piece improved bifocal was covered by a new patent issued to Borsch in 1899."

Kryptok lenses quickly became popular with eyeglass wearers, who preferred them over the ugly split and cement bifocals that had been their only alternative. The Columbian Optical company purchased the marketing rights for four states from the Kryptok Company. Columbian made sure local eyeglass wearers knew where to order "invisible" bifocals, as advertised. The accompanying photo shows how their store at 624 15th Street in Denver looked in 1904. ■

Source: "Looking Back, An Illustrated History of the American Ophthalmic Industry" by Joseph L. Bruneni.