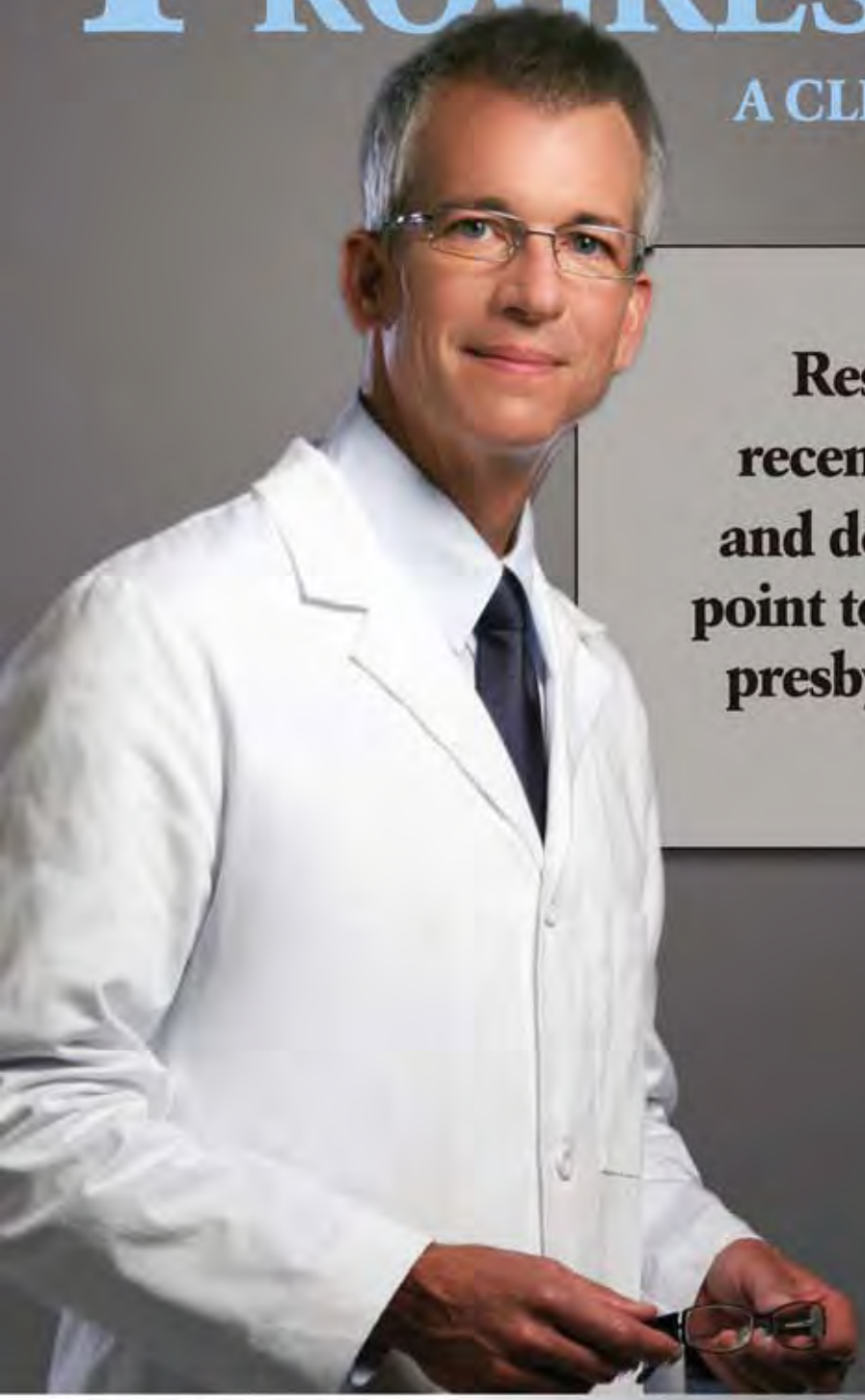
Personalized Progressives:

A Clinical Review



Results from a recent clinical trial and doctor feedback point to more satisfied presbyopic patients.

Part 3 of 3
Review of Optometry
July 2010

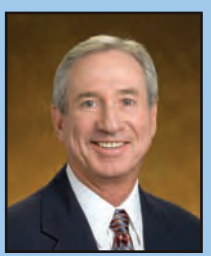
Personalized Progressives: A Clinical Review

Results from a recent clinical trial and doctor feedback point to more satisfied presbyopic patients.

DOCTOR PANEL

Catherine S. Amos, OD, is in private practice in Birmingham, AL, and serves as Vice President of the American Optometric Foundation Board and is a member of the IPRC committee for SECO as well as committee chair of the AOA Disaster Task Force.

Douglas C. Clark, OD, has been in practice for 27 years and currently has offices in Pelham, Calera and Clanton, AL. He employs four other optometrists and is a member of the American Optometric Association. Dr. Clark is a past president of the Alabama Optometric Association, Birmingham Optometric Society and the Southeastern Congress of Optometrists.



Denis M. Humphreys, OD, is in private practice in Sparks, NV, where he provides comprehensive optometric care with an emphasis in medical eyecare and laser vision correction management. He is in practice with his son, Troy Humphreys, OD, and his daughter-in-law, Becky Humphreys, OD. He is a member of the American Optometric Association Sports Vision Section and the Nevada Optometric Association.

Moes Nasser, OD, is in private practice in Houston, TX and serves as an Administrator for Vision Source, Houston. He is Honorary Chairman of Optometry Giving Sight — USA's Texas to Tanzania Resource Development with the "YEStoday" campaign for the state of Texas. He has three practices and five FTE ODs in full service optometric practices.

Progressive lens wear can be a tricky subject for patients and practitioners alike. Traditional progressive lenses are produced from semi-finished lens blanks that are factory-molded in mass quantity and are designed for a few average prescription powers using average fitting parameters for standard frame sizes. In contrast, Zeiss Individual™ from Carl Zeiss Vision delivers ideal progressive lens performance for each wearer by employing the company's proprietary optical design engine and patented free-form technology.

A recent unpublished clinical trial conducted by the Clinical Research Center of The University of California, Berkeley School of Optometry, by Han, Graham and Lin, of experienced progressive addition lens (PAL) wearers wearing customized free-form PAL spectacles and traditional semi-finished PAL spectacles revealed that there

were statistically significant preferences for the optically customized free-form lenses over the traditional semi-finished progressive lenses. The four optometrists interviewed for this article are no strangers to presbyopes or to progressive lenses. Here, they share their experiences, insights and opinions on progressive lenses–in particular the Zeiss Individual personalized lens–and we will see how they relate to the U.C. Berkeley trial findings.

A Scientific Comparison of Progressive Lens Designs

Catherine S. Amos, OD; Douglas C. Clark, OD; Denis M. Humphreys, OD; and Moes Nasser, OD, all had an opportunity to review the study referenced above. Following is a brief synopsis of the findings.

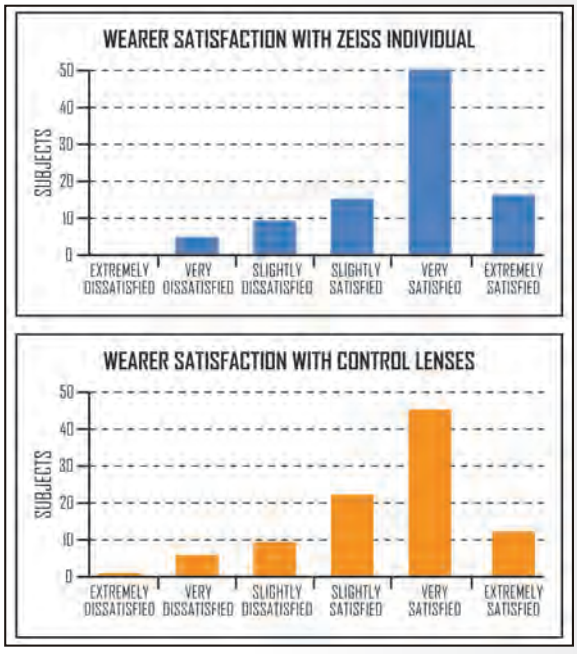
In late 2009 and early 2010, the Clinical Research Center at the University of California, Berkeley School of Optometry conducted a clinical trial comparing the performance of Zeiss Individual to standard non-free-form progressive lenses. The control lenses included a variety of popular semi-finished progressive lenses. In this randomized, double-blind clinical study using a cross-over design, 95 experienced progressive wearers wore Zeiss Individual and a control lens, each for one week. Wearers were tested for distance and near visual acuity at the time of dispense and after one week of wear. Using novel instruments developed by the researchers, they were also tested for off-axis visual acuity and the horizontal extent of clear reading vision.

The study found that Zeiss Individual was preferred over the traditional lenses, both overall and in the specific areas of distance, mid-range, transitional and active vision. Wearers found the horizontal extent of clear near vision to be significantly greater than the test lenses. Zeiss Individual also rated higher in overall satisfaction.

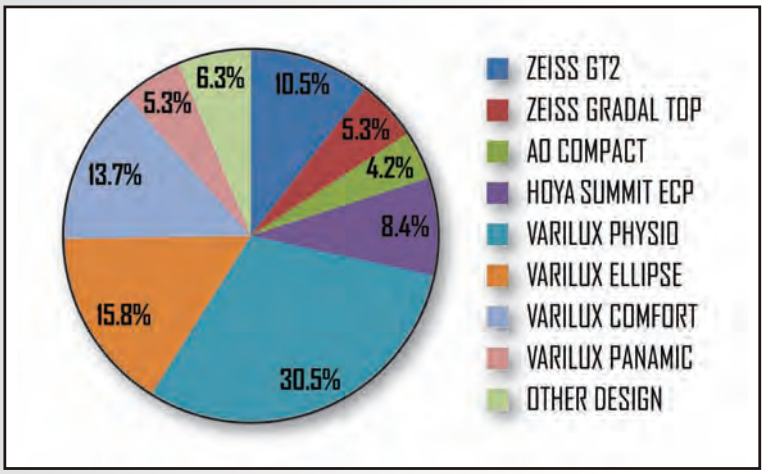
The authors of the study concluded that the approach to progressive lens customization used by Zeiss Individual, including optical design refinements for frame fitting height, back vertex distance, pantoscopic tilt and frame wrap angle, can create a superior subjective wearing experience.

Says Dr. Amos, "It is a quality done paper with the double-blind study and everything randomized." She says it was smart that the study authors went through and ruled out patients who were first-time progressive lens wearers because "it is a different adaptation and you will have some different issues with that group of patients." She was impressed with the detail and organization of the study.

In reviewing the study, Dr. Humphreys says it looks as though the authors had very good controls in place. "And when I review any study," he says, "that is the first thing I always look at–did they have proper controls and was it an unbiased study. And it certainly appeared as though it was in fact a very well controlled, unbiased study." He also felt that the way the study authors went through the study



Patients' overall satisfaction with progressive lenses.



Distribution of progressive lens usage.

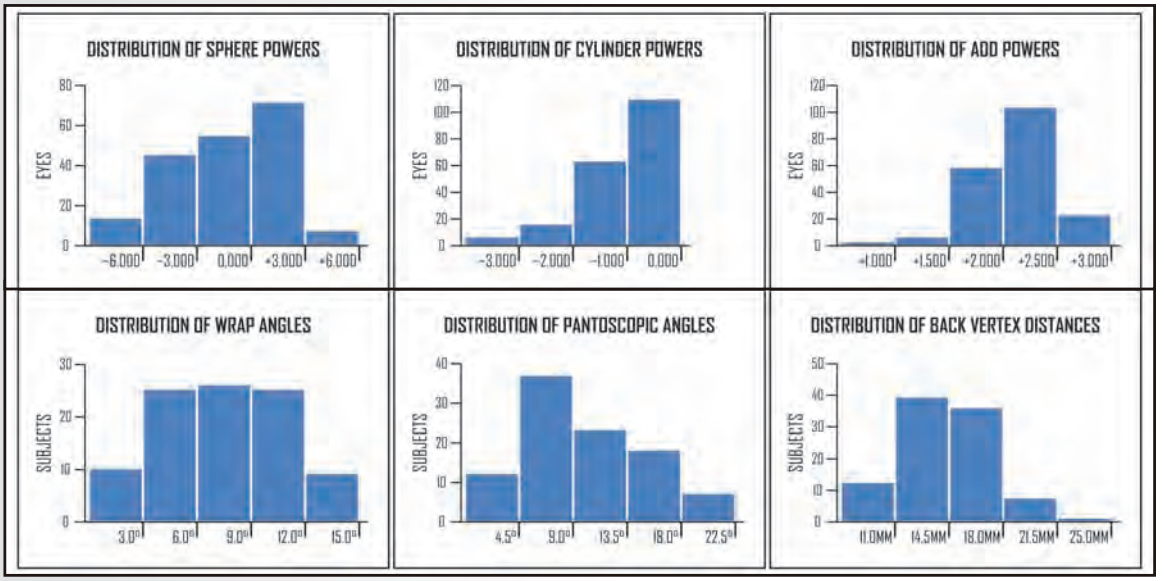
itself looked very positive and the results they got were right in line with what he has experienced with his patients.

Dr. Nasser was impressed with the reproducibility and repeatability of the fitting parameters used in the study. He says, "Both clinical outcomes and subjective wearing experiences were compared. It seems like a very good study with very clear outcomes that mimic what I have experienced clinically."

Dr. Amos remarks, "I found it interesting that there actually was not much difference (in measured acuity), that they essentially got the same visual acuity, but when it came to the subjective results, everybody wanted the Zeiss lens." She adds that they adapted faster, liked it better and had good comments. "It was a well-balanced paper," she adds.

In Dr. Nasser's opinion, the Zeiss Individual "has the ability to eliminate a lot of distortions that we are seeing in the other progressive lenses." Although there was no significant difference between the customized free-form PAL spectacles and the standard non-free-form PAL spectacles at dispensing, after adapting to the spectacles for 1 week, the majority of subjects found the customized free-form PAL spectacles to have a wider extent of undistorted near vision.

Dr. Humphreys comments that the study authors showed from a scientific basis that patient reactions were very positive with the Zeiss Individual lens. As far as the results influencing the future progressive lens selection of our doctors, Dr. Clark believes that they will, mainly with regard to the improved reading. He explains, "The reading area



Top row: Distribution of wearer prescriptions.
Bottom row: Distribution of position of wear values.

is the hardest thing to adapt to when you are wearing a progressive lens and some are easier to use than others." He continues, "The lens with less distortion and that is more comfortable to wear is the one I'm going to recommend."

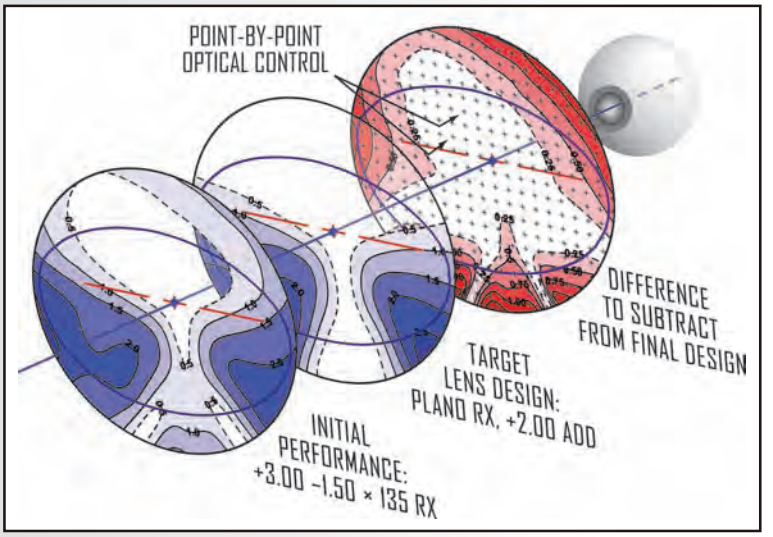
Dr. Amos says that the study gives her more clinical data so that, along with saying that she likes the lens and can personally recommend it, she can also present patients with the numbers that say why it's really that good.

> *"Both clinical outcomes and subjective wearing experiences were compared. It seems like a very good study with very clear outcomes that mimic what I have experienced clinically."*
>
> ***– Moes Nasser, OD***

But before making any lens recommendations, a practitioner must have in his or her mind an idea of what lens would best serve each individual patient. Dr. Clark, for example, tries to find a product that a patient can adapt to easily and use functionally for all of his vision needs.

Progressive Lens Selection

Dr. Humphreys takes an approach similar to Dr. Clark's, considering a patient's visual needs, and also takes into account the patient's history and performance with lenses and success with the different types of lenses. Dr. Amos expands on Dr. Humphreys' approach regarding patient experience with progressives. She wants to know



Using the wearer's exact prescription and fitting requirements, a powerful optical design engine manipulates the optics of each Zeiss Individual lens design by applying complex aspherization algorithms on a point-by-point basis.

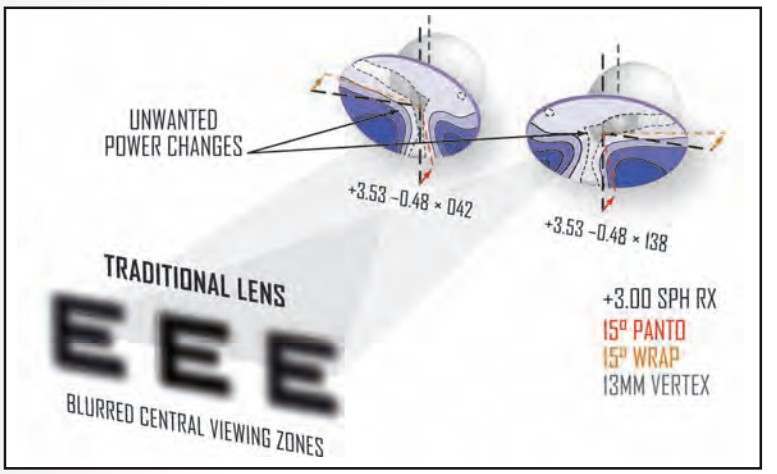
if the patient has worn a progressive before or if they are going to be new to progressive lens wearing. "That always leads me in a certain direction," she explains. "These are two different patient types. For those who have progressive lens experience, you want to see what they have worn before and what they have had success with; for those who have never worn a progressive lens before, you want to give them your best effort to ensure that they like the progressive, are able to use it and don't have adaptation problems."

Typically speaking, Dr. Nasser takes three factors into consideration for progressive patients: the occupation of the patient, their computer use and their past history (what kind of lenses they have worn before).

Another consideration for Dr. Amos when selecting a progressive lens for a patient is the patient's prescription (whether they have a lot of cylinder, how much power they have, etc.). Also, overall, she wants to know what a patient is going to be doing in the lens and how they are going to use it. She inquires as to whether they are going to be on a computer for 8 hours a day or just reading in it and what their activities and job consist of. "[That information] is very important when you are prescribing a progressive," she states.

Dr. Humphreys explains that the main attribute of the Zeiss Individual is that it uses customization technology, which personalizes the lens to the physical characteristics of the individual patient's eyes as well as their individual vision prescription. He says that patients who have more difficulty with glare, night driving and general vision usage are prime candidates for the Zeiss Individual lens. "We have found that use of the Zeiss Individual lens does enhance night vision and glare vision, but in addition to that, other patients who have the need for regular progressive lenses have also shown a benefit because of the expanded range of clear vision that they get with the lens," he says. Learn more about Zeiss Individual in the sidebar "Get to Know Zeiss Individual" on page 5.

Lens selection aside, how does the newest technology progressive lens fare with this panel of doctors?



Vision may be significantly degraded by the position of the fitted lens.

Personal Experience with the Zeiss Individual

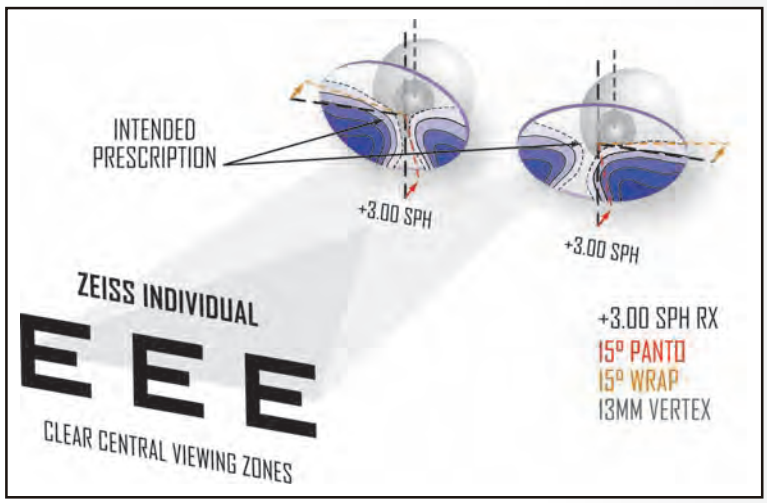
"A few of our opticians wear the Zeiss Individual lens and I personally have Zeiss Individual lenses that I wear," offers Dr. Humphreys. He does not have to wear glasses all of the time because he has had LASIK, but he does have some near vision requirements for which he wears his Zeiss Individual lenses. "I do put them on for night driving because of the enhancement and comforts they provide," he adds. His opticians are also happy with the lenses.

Dr. Humphreys has been using the Zeiss Individual lens in his practice for close to a year now. "We have found patient success to be very high with this lens," he says. "We get reportings from patients that vision clarity tends to be enhanced or improved over other types of progressive lenses that they have worn and also that their area of clear vision through the lenses seems to be greater than what it has been with other progressive lenses."

Although Dr. Amos has only had about 8 months of using the Zeiss Individual, she too has experienced the type of results demonstrated by the study. And, being able to experience it herself is a major plus. "Any time we have a new progressive lens, I get a set of lenses for myself to see how I do with it," she says. "I don't have a high prescription, but I am certainly pretty critical about how they work, how much distortion I have, whether I can function in the exam room, at home on the computer and those kinds of things to determine the difficulties and plusses," she continues. See "The Ultimate Test" on page 11 to read about the very first time Dr. Amos put on a pair of Zeiss Individual lenses.

Dr. Clark has also had a pair made and two of his dispensers who wear progressives have had them made as well. "We have all been satisfied with the product and everyone who has had a pair generated feels as though it is a very good product," he comments. Dr. Clark adds that the reading is probably what most people notice, as the reading function is easier. His experience is in line with the study results, showing that Zeiss Individual wearers experienced a wider area of clear, distortion-free reading vision. And from his own personal use, he says that he could tell some difference in colors and definition–especially at night.

To Dr. Nasser, the Zeiss Individual lens is the finest lens that he himself has experienced on his eyes. And he has had several patients tell him that it is by far the best lens that they have tried. He was the first "patient" in his practice to try the lens. He explains, "I always try a new product, whether it is a contact lens, eyeglasses or whatever, and I have to say–I was amazed at what I saw with the Zeiss Individual. I was so excited." He says he usually changes his glasses every day, but admits that he is now only gravitating to the three frames that have the Zeiss Individual lenses in them because he does not see as well in the other glasses.



Zeiss Individual is precisely customized for the wearer's exact fitting parameters, which ensures clear vision through the central viewing zones.

Dr. Amos's office manager has a pair of Zeiss Individual lenses and according to Dr. Amos, she loves them. "She has some cylinder and was struggling with progressives. She moves around a lot and is looking at the computer and posting checks, etc., but now she loves her Zeiss individual lenses," Dr. Amos says, adding that it also helps that her office manager can also recommend the lenses to patients who come in.

The sentiments are the same for Dr. Nasser's presbyopic staff members as well. "One of my managers said that when he first sat in his car with his new pair of glasses, it seemed as though someone had cleaned both the inside and outside of the windshield," he says. He does not see patients when they come to pick up their glasses, but his opticians tell him that the comments they are getting are good.

The doctors and their staffs all tested Zeiss Individual and had positive personal experiences with it. The following section explains how they brought the lens into their practices and started prescribing them.

Updating the Toolbox

Dr. Clark likes to keep up with the latest technology and offer patients the best refractive choices and the newest products. However, sometimes when attempting to integrate a new product or technology into a practice, there is a little bit of reluctance. "Primarily because it is a technology or material that is not widely known or used," Dr. Humphreys explains. He typically starts with a few patients when working with a new technology such as the Zeiss Individual lens. Then he will make a follow-up phone call with patients within a week or two to find out how they are doing.

Because the Zeiss Individual lens requires more measurement than does a standard progressive lens, Dr. Amos had Zeiss representatives come in to her office for training and she had her staff measure her for the lenses first. She adds that, "The pantoscopic tilt and wrap angle took some training for our opticians to get the hang of it and incorporate it into their routine as well as how to prescribe and order the lens, but they really love it now."

> *"We have found patient success to be very high with this lens."*
>
> *– Denis M. Humphreys, OD*

Dr. Nasser says he was very eager to incorporate the Zeiss Individual lens into his practice. He too had Zeiss reps come in and train his whole office. "We blocked some time to have meaningful training and Zeiss did a great job educating not only me, but my staff as well," he says. Dr. Nasser holds the common belief that it is important for staff to buy into new technology and to see a value in a product so that they can be passionate and knowledgeable about it.

Dr. Humphreys initially integrated the Zeiss Individual lens into his practice on his own, but followed up by having Zeiss representatives come in to do training on the measurements and use of the lenses. "Since they came in for the additional training," he says, "our use has increased every month."

As with any progressive lens, proper measurement by opticians is critical. Dr. Clark is satisfied with Zeiss's training and says that it increased the confidence level of his optical staff. "They were getting positive feedback from patients," he adds, "and that increased their desire to use the lens, so the training really made a difference."

Once these optometrists' offices and office staff did what was necessary to get comfortable and embrace recommending and dispensing the Zeiss Individual, they did just that.

Introducing Zeiss Individual to Patients

The analogy has been used before, but Dr. Clark says that the difference that he can perceive and that he can explain to patients so that they understand is that it's similar to the technology you have with a regular flat screen TV and a high-definition television. "The distinction you get and the color and the contrast are just a little bit better and you can perceive that change there in the design," he says.

Having an office next door to HP and consequently seeing quite a few engineers and IT professionals, Dr. Nasser knows that many of his patients understand and ask questions, "so my opticians need to be well versed in why and how the Zeiss Individual lens is different," he comments.

Dr. Clark says he has a group of patients more like a typical engineer that are very precise and can perceive small changes in their refraction easily. He says it is always good to offer the Zeiss Individual to them, "but we offer the product to anyone wearing a progressive lens because it is better," he adds. "Then we like them to decide if they want to upgrade to that product, but we generally offer it to everyone unless it is not available under some sort of vision plan that they have."

The Zeiss Individual lens is available on most insurance plans, says Dr. Clark, and is a really big benefit because on his VSP patients, for example, it is a very nominal increase to be able to upgrade to the Individual.

> *"... we offer the product to anyone wearing a progressive lens because it is better."*
>
> *– Douglas C. Clark, OD*

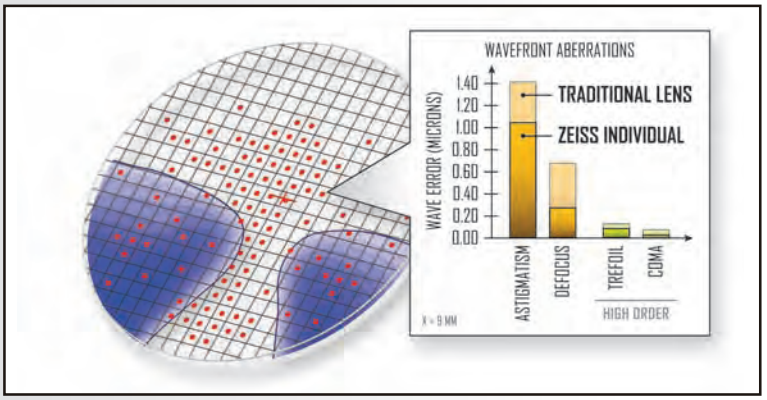
In most cases, patients learn about the Zeiss Individual after they have met with their doctor, who recommends the lens. Dr. Humphreys explains that when he walks his patients to the optical, he shares his recommendation with the optician for the Zeiss Individual lens. "And having all been very well educated and trained on the Zeiss lens, the optician will also discuss it with the patient in addition to presenting them with the printed material," he says.

It starts from the doctors first and goes to the dispensary, says Dr. Amos. "Then the optician gets into what type of frame, which isn't a consideration for the Zeiss Individual lens because we can pretty much put them in any frame," she says. "This is a consideration because people want the trendier, thinner frames and with traditional progressives, we have to tell them we cannot put their lens in those frame types," she explains. The U.C. Berkeley study found that Zeiss Individual had a wider reading area overall, a difference that was even more pronounced in lower fitting heights.

Dr. Nasser explains that in his practice, the doctor recommends a lens during the exam and then passes the baton off to the optician when he walks the patient to the optical shop, where he gives the optician a synopsis of what he explained to the patient. "This reinforces to the patient what was already said," he adds.

Dr. Clark says that Zeiss Individual has been very well accepted and patients have adjusted to it quickly. "They have all been very satisfied with the product."

While the Zeiss Individual lenses are more expensive than traditional progressive lens options, Dr. Amos says that once her patients have been told about them all the way through the office–from the technicians to the doctors to the opticians–they don't seem to be a hard sell. To this point, Dr. Nasser adds, "We owe it to patients to explain why they are paying more and what difference(s) they are going to notice." Dr. Amos is having good success recommending Zeiss Individual.



Wavefront aberrations are minimized with every Zeiss Individual lens by precisely fine-tuning the optics at numerous points across the entire lens.

"And if a patient is on a budget and cannot afford the Zeiss Individual, we will recommend some of Zeiss's other products, which are also good. They are going to do well in those too, but this free-form type of lens is really a cut above Zeiss's other products and those of the competition out there."

The Zeiss Individual lens is indeed an improvement in technology. Dr. Amos put it to the test with some very difficult patients who have been unsuccessful in other brands of progressives. "And that always helps us in the office to have patients happy and no longer complaining when we resolve their distortion and other issues," she says. "The decrease in the amount of peripheral distortion has helped a lot of people—especially when you have high prescriptions and people who do a lot of near tasks—it makes it so much easier for them to wear," she adds.

"The consumer has so many choices," says Dr. Nasser, "it is our job as doctors to tell them what lenses they should get. You have to take the two minutes of time at the end of the eye exam and, besides addressing their reason for coming in (headaches, seeing flashing light, etc), we also need to tell them what we recommend." Then, he says, it is up to the patient to decide.

Patient Feed Results

The U.C. Berkeley study sought to determine whether there are significant differences in standard clinical measures of vision, PAL-specific vision tests or subjective ratings and preferences between customized free-form and standard, non-free-form PALs in an experienced wearing population. Dr. Humphreys says, "Our experience has been that the Zeiss Individual lens has done an excellent job of meeting the visual requirements of our patients."

> *"...this free-form type of lens is really a cut above Zeiss's other products and those of the competition out there."*
>
> *– Catherine S. Amos, OD*

Dr. Clark has gone back and talked to the dispensers and some of the patients and they like the lenses. "It is a perceptual difference and the acuity is generally the same, but they have clearer vision say, in their night driving, and sometimes I do not think that patients can truly appreciate some of those changes until they experience them and wear them instead of just looking at the acuity chart in the office." In the U.C. Berkeley study, there were measurable performance differences between Zeiss Individual and traditional lenses; however, subjective ratings by the wearers showed an even greater difference.

Dr. Clark notes that keeping up with the latest technology is a big factor in patient retention. "When patients come back, we like to tell them about what's different and new and that is our way of keeping everything fresh and current and letting them know why they come to our office—because we offer the latest products."

The Ultimate Test

by Catherine S. Amos, OD

"I wear monovision contact lenses a lot during the day and this past winter, my husband and I were coming home from ballroom dance lessons at around 7 or 8 o'clock in the evening. It was already dark and I didn't think this was the best time to try out new glasses going down a four-lane, free-access highway with lots of lights, but I had been wearing my contact lenses way too long, my eyes were dry and they had to come out. I was worried that I would have so much distortion, I wouldn't be able to wear the lenses, but I took out my contact lenses and slipped on my new Zeiss Individual lenses and held my breath. My response was, 'Oh my gosh! I can see—this is wonderful!' I didn't get distortion off to the side or shimmery lights off of the cars, which is really bad at night sometimes with progressives. And so I thought, wow—is this a test or what? I hadn't intended to put them on then, but it sort of happened that way and I figured, if it's this good at night, it'll be even better during the day time and it in fact was. That's how I knew this was a good lens."

Speaking to the topic of patient retention, Dr. Humphreys says that when you see the type of positive results that he has been getting with the Zeiss Individual lens in his practice, it will have some very definite impact on patient retention–especially when patients know that your office is providing this latest technology. "And again," he adds, "with the success that they have realized, that retention within our practice is certainly going to be enhanced with this lens." Dr. Humphreys has even had some patients come in to his practice saying that a friend or neighbor had been fit with the Zeiss Individual lens and had such a positive experience with it that they wanted the lens too.

What really sold Dr. Amos on Zeiss Individual lenses was trying them out on her toughest cases. In particular, her office had been having issues making six patients happy with their progressives. According to her, these patients were critical observers with high astigmatic prescriptions and high myopia. "It is so easy in the phoropter–you think they are seeing great, but you put them in a progressive and if you are one little millimeter off here or there or you move them from a polycarbonate lens to a high-index lens and they do not like that … these patients take a lot of dotting the i's and crossing the t's to make them happy," she elaborates. "We had previously used good, top-of-the-line progressives on these patients, but they were not free-form lenses, and I think that is what has changed." Dr. Amos comments that the way they can make this lens and reduce the amount of aberrations and distortions for people with prescriptions is evidently pretty phenomenal "because I have watched it happen with our patients and they were the ones having problems and issues." From those results, she figured, "if these patients are happy, then our regular patients with normal prescriptions who are not quite as critical are really going to be happy because this is a good lens."

Dr. Nasser has not had a single remake of the Zeiss Individual lens due to non-adaptation. And in comparing the lens to traditional progressives, he remarks, "This is different. I am very optimistic about the future."

Says Dr. Amos, "I think there is a lot to the free-form progressive lens and obviously Zeiss is doing a good job with its product out there and have really put something on the market that is going to make a difference for a lot of people," she remarks, adding, "And that is great for us in practice who want the best for our patients and want them pleased."

ZEISS CARL ZEISS VISION