

Cataract & Refractive Surgery **TODAY**

OCTOBER 2010

PATIENT

**How material and
design advantages
translate into
patient-preferred
vision with the
Tecnis Multifocal
1-Piece IOL.**

SATISFACTION

PATIENT

How material and design advantages translate into patient-preferred vision with the Tecnis Multifocal 1-Piece IOL.

All IOL manufacturers can cite study data that support the efficacy of an implant. The real proof of an IOL's performance, however, is in patients' subjective description of their satisfaction with their postoperative vision. Here, respected practitioners describe their clinical results and patients' experience with the Tecnis Multifocal 1-Piece IOL.

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SATISFACTION

Real-World Performance of Multifocal IOLs

Independent comparison data from the DataLink IOL registry.

BY ELIZABETH A. DAVIS, MD



The Tecnis Multifocal 1-Piece IOL (model ZMB00; Abbott Medical Optics Inc, Santa Ana, CA) is an acrylic IOL with an aspheric, diffractive multifocal optic. It is based on the same platform as the Tecnis Multifocal 3-Piece IOL (ZM900). The design of this lens

differs from that of the AcrySof ReSTOR IOLs (Alcon Laboratories, Inc., Fort Worth, TX) in that the Tecnis' diffraction is on the posterior surface of the lens, and its diffractive rings extend to the periphery of the optic.

Patient outcomes in the Tecnis Multifocal 3-Piece IOL's clinical trials were outstanding, and they should be representative of outcomes with the Tecnis Multifocal 1-Piece IOL, which is built on the same platform and has only minor differences. In a subjective 1-year postoperative satisfaction survey, 94.6% of patients implanted bilaterally with the Tecnis Multifocal 3-Piece IOL reported being satisfied with their vision (n=290). Also at 1 year, 92.1% of the subjects saw 20/25 or better distance UCVA and 20/32 or better near UCVA with distance correction (n=290). Just over 86% of the patients reported never wearing glasses, and just under 90% of the patients could function comfortably without glasses at all distances (Figure 1).

INDEPENDENT DATA

My personal experience with the Tecnis Multifocal 3-Piece IOL after the clinical trials was similar to these results, but I was interested in knowing how the lens compared with other implants. The best resource for independent IOL data is the SurgiVision DataLink IOL Edition (<http://svc.surgivision.net/home/SVChome.html>; SurgiVision Consultants, Inc., Scottsdale, AZ), an independent, online IOL registry project underwritten by Bausch+Lomb (Rochester, NY). Surgeons may input data from any IOL and compare the outcomes, and there are more than 70,000 implantations reported to date. Guy Kezirian, MD, who is the administrator of the registry,

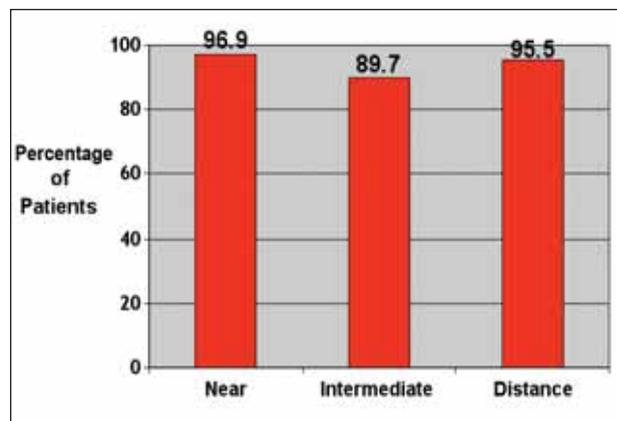


Figure 1. Patients' ability to function comfortably without glasses at 1 year postoperatively (n=290) in the Tecnis Multifocal IOL's US clinical studies.

helped me compile and analyze outcomes data in February 2010 on the Tecnis Multifocal 3-Piece IOL, the Crystalens HD accommodating IOL (Bausch+Lomb), and the AcrySof IQ ReSTOR IOL +3.0 D (Alcon Laboratories, Inc.).

We established certain parameters to ensure we were comparing patient outcomes as closely as possible. None of the eyes in this series underwent prior surgeries. We set mean K readings to be between 41 and 46.5 D, an average axial length (22 to 26.5 mm), and preoperative corneal astigmatism of less than or equal to 1.00 D (none of the patients received LRIs or enhancements after surgery). We included eyes that were within 0.50 D of emmetropia and had less than or equal to 0.75 D of astigmatism postoperatively. All the eyes had between 1 and 3 months follow up, and we only compared visual acuity outcomes; we did not look at contrast, glare, or any other parameters of multifocal IOLs.

There were 2,641 eyes in the Crystalens HD patient group, 391 eyes in the AcrySof IQ ReSTOR IOL +3.0 D group, and 145 eyes in the Tecnis (ZM900 and ZMA00) cohort. Uncor-

Patient Satisfaction

rected distance acuities were excellent in all the groups (20/25 UCVA and showed no statistical difference), but we expected this, based on the parameters we selected (final manifest refraction was within ± 0.50 D of emmetropia).

FINDINGS

For mean intermediate acuity, The Crystalens HD and the Tecnis Multifocal 3-Piece lenses performed the best, with an average intermediate UCVA of 20/24 for both (Figure 2). The AcrySof ReSTOR IOL +3.0 D group had approximately 20/30 UCVA. The Tecnis Multifocal 3-Piece IOL had the best near UCVA at 20/18.9, compared with 20/23 for the AcrySof ReSTOR and 20/34 for the Crystalens HD lenses. These findings were each successively statistically significant.

Then, we looked at cumulative uncorrected acuity. At 20/30 distance UCVA, all the IOLs performed similarly, in the high 80 to 90 percentiles. Approximately 85% to 90% of the Crystalens and Tecnis Multifocal cohorts achieved 20/30 intermediate vision, compared with 70% for the AcrySof ReSTOR IOL +3.0 D. At near, almost 100% of the Tecnis eyes saw 20/20 uncorrected, followed by the AcrySof ReSTOR group at a little over 90%, and slightly less than 70% of the Crystalens group achieved 20/20 UCVA at near (Figure 3).

CONCLUSIONS

Based on these independent DataLink data, the Tecnis Multifocal 3-piece IOL performed well at all distances. Despite differences in the number of patients in each group, the results for the Tecnis Multifocal 3-Piece IOL in this comparison study mirrored those of its clinical trial.

Our findings in this DataLink comparison have corroborated my clinical observations with these premium IOLs. I have experience with all of these lenses—all versions of the Crystalens Accommodating IOL, both the +3.0 D and +4.0 D versions of the AcrySof IQ ReSTOR IOL, as well as the Tecnis Multifocal 3-Piece and 1-Piece lenses. I have had to explant Crystalenses and AcrySof IQ ReSTOR lenses in my patients and referred individuals due to quality-of-vision complaints, but I have never had to explant a Tecnis Multifocal IOL since the 3-Piece model gained FDA approval in January 2009. The complaints with the AcrySof ReSTOR IOLs predominantly regarded visual symptoms such as debilitating glare and halos, waxy vision, or ghosting of images. With the Crystalens IOL, the problem was more the unpredictability—I find it difficult to hit the distance target with that lens. Patients came out of surgery with a refraction of -1.00 D, and my rate of LASIK enhancement with that lens was 20% to 25%.

I feel that I can recommend the Tecnis Multifocal IOL to patients confidently. It is very satisfying to routinely pick up these patients' postoperative charts and see 20/20 distance and 20/20 near UCVA. Also, patient satisfaction—both in my clinic and as reported in DataLink—speaks for itself.

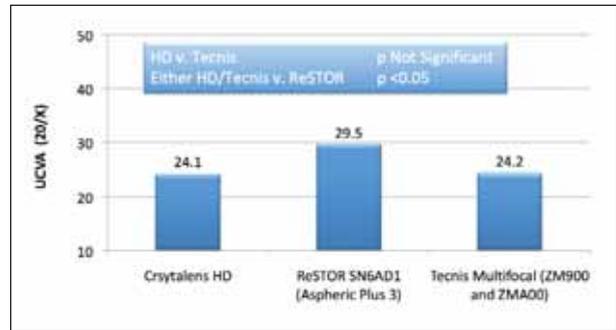


Figure 2. Mean intermediate UCVA. There was no statistically significant difference between the performance of the Crystalens HD and the Tecnis Multifocal 3-Piece IOL, but there was a statistically significant difference between the performance of the AcrySof IQ ReSTOR IOL +3.0 D and the other two lenses ($P < .05$).

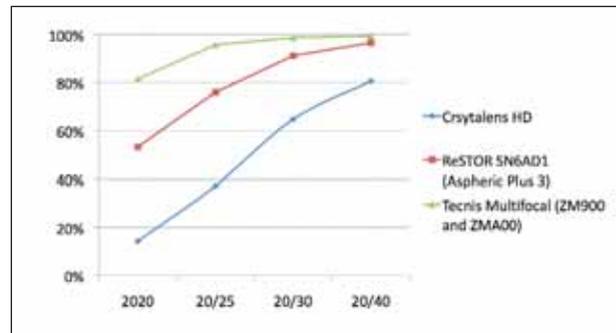


Figure 3. Cumulative near UCVA for the three IOLs showed the best near vision with the Tecnis Multifocal 3-Piece IOL and the AcrySof IQ ReSTOR IOL +3.0 D.

I do not have a single unhappy Tecnis Multifocal IOL recipient, and I do not feel that I need to take an excessive amount of time counseling these patients pre- or postoperatively, which is a credit to the quality of the lens' optics. The Tecnis Multifocal IOL is what I would recommend to my family members if they developed a cataract, and it is what I would have implanted in my own eye if I had not undergone LASIK. ●

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How the Tecnis Multifocal 1-Piece IOL Works

The science behind this lens' full range of vision.

BY KEVIN L. WALTZ, OD, MD



Although surgical outcomes and patients' subjective satisfaction certainly validate an IOL's performance, it is helpful to understand the optical science behind a particular lens so that practitioners can make an informed decision about the implant they will recommend to their patients. This article attempts to describe the design of the Tecnis Multifocal IOLs (Abbott Medical Optics Inc., Santa Ana, CA) in order to provide a scientific explanation for the high-quality performance that Tecnis Multifocal IOL patients enjoy. Additionally, this article discusses the few refinements that the Tecnis Multifocal 1-Piece IOL offers over the 3-Piece version.

THE SCIENCE BEHIND THE OPTICS

Design and Material

Compared to an accommodating IOL, a multifocal optic typically provides a stronger near image, often at the expense of a little bit of distance vision. The Tecnis Multifocal 1-Piece IOL, however, is designed to lessen this compromise, and it therefore offers better distance and intermediate vision compared to other multifocal IOLs while maintaining a strong near image. For example, the two main differences between the Tecnis 1-Piece Multifocal IOL and the AcrySof IQ ReSTOR IOL (Alcon Laboratories, Inc., Fort Worth, TX) are the location of their refractive surfaces and the refractive index of their materials (Figure 1). Because the AcrySof IQ ReSTOR hydrophobic acrylic material has a higher refractive index ($n=1.55$) than that of the acrylic material of the Tecnis 1-Piece Multifocal IOL ($n=1.47$), it causes more reflections inside the eye. Furthermore, the diffractive rings of the AcrySof IQ ReSTOR IOL are located on the anterior side of the optic, which creates two wavefronts off of the front surface of the lens. As a result, when light hits the posterior side of the AcrySof ReSTOR lens, it is reflected in even more directions. The diffractive optics of the

TECNIS MULTIFOCAL ADVANTAGES

- Fewer chromatic aberrations
- No inclusions, vacuoles, or glistenings
- Lower refractive index, therefore fewer reflections from the interface
- Multiple wavelengths more closely focused at the same point

Tecnis Multifocal 1-Piece IOL are located on the posterior side of the lens. When light hits the front surface of the IOL, it stays in one wavefront, passes through the material of a lower refractive index, and hits the back surface of the eye before separating into two wavefronts in the vitreous. Because this double wavefront created by the diffracting surface of the Tecnis Multifocal 1-Piece IOL does not strike a refracting surface in the vitreous, recipients report less scattered light.

Chromatic Aberrations

There is some controversy about the performance of IOL optics in regard to chromatic aberrations. The acrylic material of the Tecnis Multifocal IOL has fewer chromatic

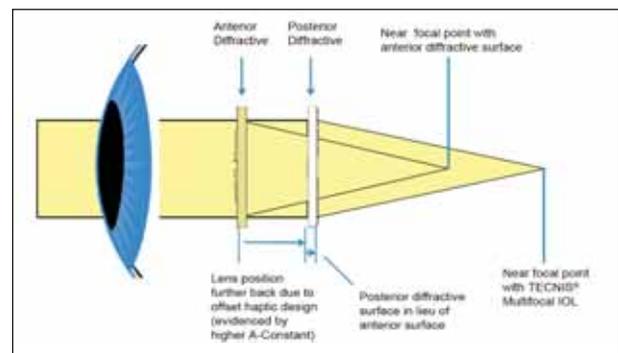


Figure 1. The effect on the position of the near focal point between two designs of +4.00 D near add multifocal IOLs.

aberrations than the proprietary AcrySof material. When clinicians measure the wavefront of the eye, they usually do it with a single wavelength. Wavefront measurements do not usually take into account the effects of chromatic aberration. This can help explain an apparent inconsistency between a patient's reported quality of vision and his or her wavefront measurement. As proof, the Tecnis Multifocal 1-Piece IOL has a better modulation transfer function (MTF) than the AcrySof IQ ReSTOR IOL (Figure 2). Some publications have shown the opposite—that the AcrySof IQ ReSTOR IOL demonstrates better image quality than the Tecnis Multifocal IOL. However, these studies used a modified eye model instead of an industry-standard eye model. Studies using an industry-standard eye model have suggested that there is better quality of vision with the Tecnis Multifocal 1-Piece IOL than with other multifocal implants.

THE DIFFRACTIVE PATTERN IS ALMOST INVISIBLE

One of the most significant differences in the design of the Tecnis Multifocal 1-Piece IOL as compared to other multifocal IOLs is its *eschelets*, or diffractive rings. The eschelets of the Tecnis Multifocal 1-Piece IOL are a sinusoidal wave in cross-section. They do not have a sharp-edged triangular cross-section like all other currently available diffractive multifocal IOLs. The sharp-edged, triangular eschelets of most diffractive multifocal IOLs create a different quality of wavefronts. These sharper eschelets also make the lens optic more easily visible inside the eye during examination at the slit lamp. Instead of the obvious, sharp-edged triangular sections of most multifocal IOLs, the eschelets of the Tecnis Multifocal 1-Piece IOL are almost invisible upon clinical examination. Thus, this lens looks just like a standard monofocal IOL in direct-light examination at the slit lamp. It requires retroillumination

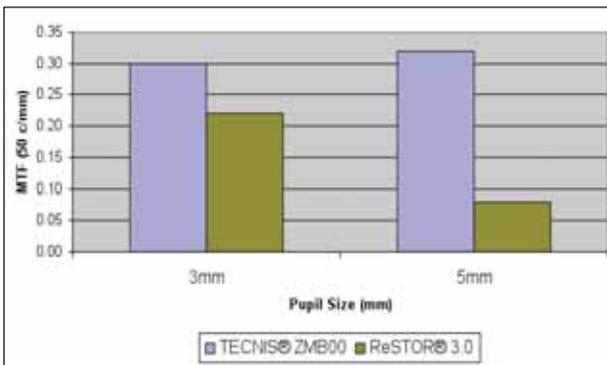


Figure 2. The Tecnis Multifocal IOL showed better modulation transfer function (MTF) at near than the AcrySof IQ ReSTOR IOL +3.0 D. The MTF measurements were based on the ACE cornea model, which is derived from wavefront measurements of actual cataract patients and is validated by numerous studies.

“Studies using an industry-standard eye model have suggested that there is better quality of vision with the Tecnis Multifocal 1-Piece IOL than with other multifocal implants.”

to see the rings of the Tecnis Multifocal 1-Piece IOL, and even then they are subtle. If the examiner sees fewer reflections and irregularities within the eye of a patient implanted with a Tecnis Multifocal 1-Piece IOL as compared to other multifocal IOLs, it makes sense that the patient will see fewer aberrations.

VISUAL SYMPTOMS AND NEUROADAPTATION

Just like any artificial lens, the Tecnis Multifocal 1-Piece IOL creates some glare and halos, especially around lights at night. The amount and strength of these visual symptoms for my patients are minimal compared to the vision the lens provides, however. This is likely due to the lens' combined benefits of sinusoidal eschelets, low chromatic aberration, and its diffractive surface on the back of the lens. Generally, most patients cease to notice these symptoms 6 months to 1 year after implantation. In my experience, unwanted visual symptoms have not been a problem with the Tecnis Multifocal 1-Piece IOL. However, on rare occasions, these visual effects may be significant enough that a patient will request removal of the multifocal IOL.

CLINICAL EVIDENCE OF PERFORMANCE

The DataLink data provided by Dr. Davis clearly show that the Tecnis Multifocal IOL provides the best combination of distance, intermediate, and near vision of the lenses evaluated. The information in this article attempts to explain the clearly demonstrated superiority of the Tecnis Multifocal IOL's optics. Optical performance may be difficult to explain with words, but independent clinical data of patient results, such as Dr. Davis', clearly show the Tecnis Multifocal 1-Piece IOL can “walk the walk” of patient satisfaction. ●

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Premium IOLs in the Practice

How providing the latest IOL technology keeps a practice strong.

BY KERRY K. ASSIL, MD



Facing a weak economy and declining reimbursements, ophthalmologists must find new ways to maintain surgical volumes without sacrificing the quality of their services. This article describes my experience with adopting premium refractive IOLs and the impact on both my patients and my practice.

FINDING A RELIABLE LENS

I initially tried implanting the Tecnis Multifocal IOL (Abbott Medical Optics Inc., Santa Ana, CA) as part of the lens' phase 1 clinical studies, and I found it to be the first multifocal IOL to provide patients with consistently satisfactory results. I had tested the AcrySof IQ ReSTOR IOL (Alcon Laboratories, Inc., Fort Worth, TX), the Crystalens Accommodating IOL (Bausch+Lomb, Rochester, NY), and the ReZoom multifocal lens (Abbott Medical Optics Inc.). Although each of these IOLs proved to be adequate for patients, I felt they each had significant drawbacks. The ReZoom lens does not always provide particularly strong near vision for patients with small pupils, and for some patients it can impart noticeable halos and glare, particularly in eyes with large pupils. The AcrySof IQ ReSTOR IOL did not give my patients sufficiently crisp distance acuity under all lighting conditions, and its near-vision performance was particularly poor in dim lighting. I also tried implanting various models of the Crystalens Accommodating IOL. I matched the Crystalens to patients who had either extremely small pupils or steep corneas to optimize the lens' performance. However, I saw too much variability in my patients' outcomes and insufficient stability of their refractions over time with that lens platform.

Then, I tried shared implantation with the AcrySof ReSTOR and ReZOOM multifocal lenses in the hope that they would compensate for each others' deficits. My patients' satisfaction was fairly high with this approach, so I used these implants in combination for several years until the Tecnis Multifocal 3-Piece IOL became available.

A LOT TO OFFER

The Tecnis Multifocal IOL is the only multifocal lens that offers:

- A pupil-independent, full-diffractive posterior surface
 - High-quality vision in all light conditions
- Correction of spherical aberration to essentially zero
- Better reduction of chromatic aberration
- Clear hydrophobic acrylic
 - Not associated with glistenings
 - Full transmission of healthy blue light
- Now available in a next-generation 1-piece design

EXPERIENCE WITH THE TECNIS MULTIFOCAL IOL

I found the Tecnis Multifocal 3-Piece lens' near and distance acuities to be pupil-independent, just like I had in the clinical studies, so recipients were able to have crisp reading as well as distance viewing under all lighting conditions (Figure 1A and B). Thus, I ceased shared implantation with the ReZoom and AcrySof IQ ReSTOR IOLs and implanted the Tecnis Multifocal 3-Piece lens bilaterally in nearly all my patients. The only exceptions were patients who had undergone prior hyperopic LASIK, those with a highly elevated central cornea (resembling a well-centered keratoconus), and those with maculopathy. Interestingly, my staff's enthusiasm increased after we switched to the Tecnis Multifocal 3-Piece lens, because our patients' satisfaction rose.

We began using the Tecnis Multifocal 1-Piece IOL this year after it received FDA approval. In my opinion, this implant offers several advantages over other premium IOLs in its category. Primarily, the Tecnis Multifocal 1-Piece IOL provides slightly better depth of focus and is more forgiving of residual cylindrical error. As a result,

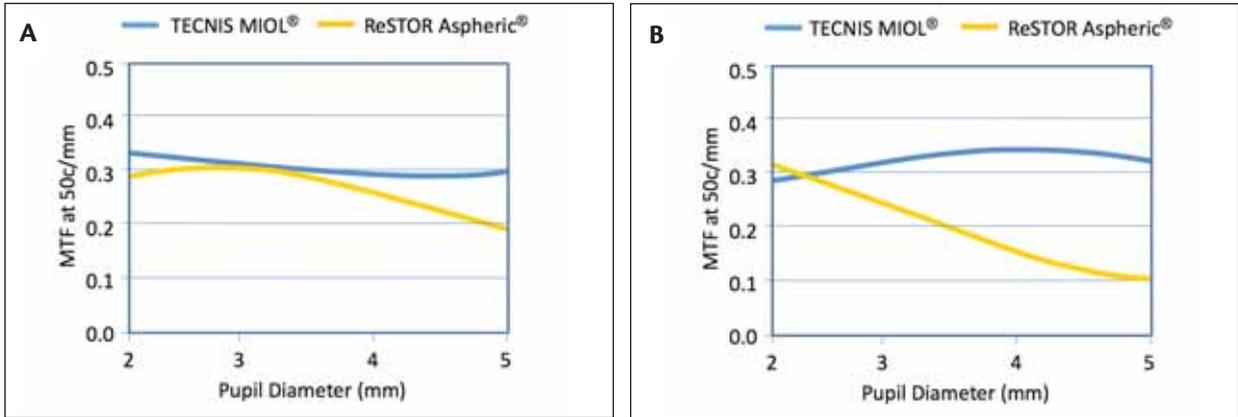


Figure 1. The Tecnis Multifocal IOL's fully diffractive surface gives recipients pupil-independent distance (A) and near (B) visions.

patients who have slight residual refractive errors remain quite happy postoperatively.

Compared with other premium refractive lenses, two other benefits of the Tecnis Multifocal 1-Piece IOL I have noticed are reduced halos and glare (Figure 2) and easier centration intraoperatively. I was able to more readily center the Tecnis Multifocal 1-Piece where I wanted it in the eye and have it remain there. I have not abandoned the Tecnis Multifocal 3-Piece IOL, but the Tecnis Multifocal 1-Piece lens is now my multifocal lens of choice for bilateral implantation.

TALKING TO PATIENTS ABOUT MULTIFOCAL IMPLANTS

When discussing premium refractive lenses with potential patients, there are two topics I make sure to cover. First, I tell patients to expect to see some visual symptoms after the surgery, especially glare and halos around lights at night. No matter which multifocal lens I implant, I have found that most patients experience some degree of these symptoms for about 6 months to 1 year afterward. Patients who choose these implants despite that expectation generally are not concerned by it postoperatively.

Second, I tell multifocal candidates that their intermediate vision will be the last to sharpen and will continue to improve over the following 6 to 12 weeks postoperatively. I tell them that their near and distance visions will be quite good, but for working at a computer, they may have to sit a little closer or a little farther than they are used to. I also explain that a small percentage of patients still need glasses for intermediate-range tasks after the surgery (less than 10% of patients in the Tecnis Multifocal's clinical studies). Even with these caveats, most of my patients who are candidates for premium refractive lenses are quite eager for the

opportunity to have a large degree of freedom from glasses.

DEMAND FOR PREMIUM IOLs

In spite of the economically challenging times and a drop in demand for LASIK, demand for premium IOLs in my practice has not waned whatsoever. I now see a fair number of second- and third-generation referrals who specifically request a premium-channel lens. Of those patients who we deem good candidates for premium IOLs, approximately 75% or more select the refractive IOL option. I attribute these rates to our efforts to educate our patients about the benefits of these lenses and our enthusiasm for their performance.

Although each ophthalmic practice is unique, certain economic facts are universal. It is clear that third-party reimbursements for cataracts will continue to dwindle,

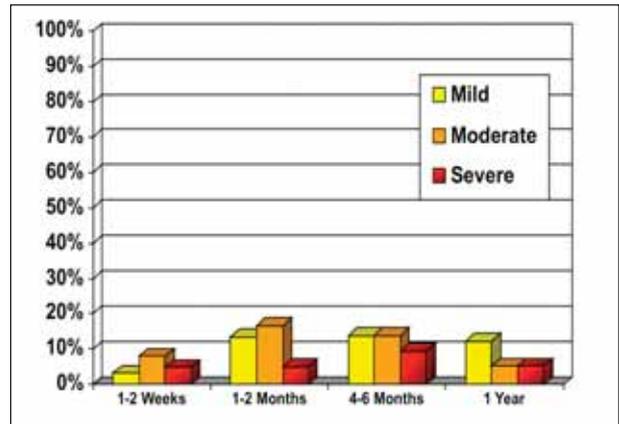


Figure 2. In the Tecnis Multifocal IOL's FDA trial, the total occurrence of patients' perception of halos decreased over the course of a year postoperatively (n=121 bilaterally implanted multifocal patients).

(Continued on page 11)

Information Leads to Adoption of Premium IOLs

Preparation is the key to high conversion rates with premium-channel IOLs.

BY MICHAEL G. WOODCOCK, MD



Amazing technological advances have been made in cataract surgery and IOLs over the past few years, and we surgeons now have incredible options to offer our patients that will allow them to see better than ever before. However, considering that many

individuals do not understand what a cataract is, it takes extensive education and planning to explain the value of these IOLs to cataract patients.

EDUCATION BEGINS BEFORE THE FIRST VISIT

Most people who present to their optometrist or ophthalmologist with a cataract are unaware that IOLs now exist that can enable them to see very well at both distance and near. Therefore, my staff and I begin the patient-education process about premium refractive IOLs before the patient arrives for his consultation. As soon as an individual schedules an appointment, we mail him a packet of information that explains cataract surgery and the various implant options. Often, this information is the patient's first introduction to the possibility of premium lenses. When the patient comes in for the first appointment, our refractive coordinator obtains all his metrics, including biometry, before I see him. During this time, the refractive coordinator may review the IOL options with the individual while assessing his visual needs and expectations post-cataract surgery.

A PICTURE OF THE PATIENT'S VISUAL NEEDS

By the time the patient sees me, I have a condensed report of his current vision as well as a sense of his priorities and daily activities. I know if he is myopic or presbyopic, and I know the degree of astigmatism he possesses. I also have an idea of the patient's level of motivation for being free of glasses. Two of the most important factors in ensuring patient satisfaction after cataract surgery are identifying what range of vision is most important to the

CONVERSION STRATEGY

Dr. Woodcock takes the following steps to convert patients to premium refractive IOLs:

1. Mail the patient information before the first visit.
2. The technician tests the patient's vision and gauges his interest in spectacle freedom before he sees the surgeon.
3. The surgeon determines the patient's desired reading distance and sets postoperative expectations.

patient and setting the appropriate expectations. Desired reading distance varies among individuals, but it is often a determining factor when choosing which lens is best for them. For those who prioritize spectacle-free near and distance vision for reading and other hobbies in variable lighting conditions, I feel the Tecnis Multifocal 1-Piece lens (Abbott Medical Optics Inc., Santa Ana, CA) is the best option to enhance their lifestyle. Customizing the lens to the patient's needs creates happier patients.

In addition, I have found that it saves a lot of time and stress postoperatively when my staff and I take the time preoperatively to adequately explain the halo and glare phenomena. We show patients representative images of halos and glare 2 weeks and 6 months postoperatively to explain the neuroadaptation process. Again, this conversation appropriately sets the patient's expectations for his postoperative visual acuity. Then, the individual can choose for himself if the adaptation period and the potential risk of significant visual effects outweigh the benefits of being able to see without glasses the majority of the time.

SUCCESS BASED ON CLINICAL EXPERIENCE

Much of my ability to understand my patients' needs and advise them appropriately comes from my personal

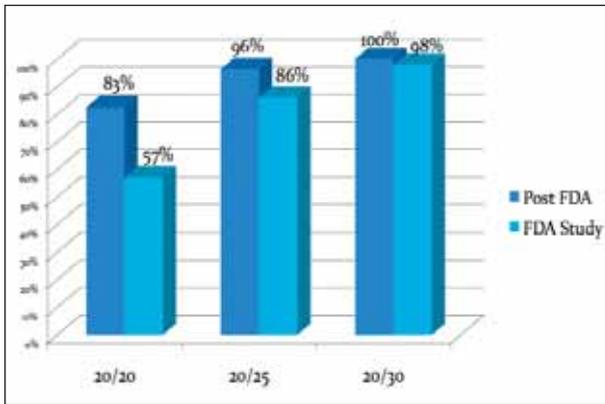


Figure 1. This chart shows binocular distance UCVA of 109 of the author's patients implanted with the Tecnis Multifocal 1-Piece IOL after its FDA approval in March 2010.

experience and success rate with the lenses I offer. Although I give my patients an overview of the relative benefits and risks of all the IOL products on the market, including the Crystalens Accommodating IOL (Bausch+Lomb, Rochester, NY), the majority of my patients who are candidates for a multifocal lens choose the Tecnis Multifocal 1-Piece IOL (Abbott Medical Optics Inc., Santa Ana, CA), primarily because I, as the surgeon, feel it has the most advantages and produces excellent outcomes.

I have found that patients like statistics. They like to know that there is a very high likelihood they will be able to perform most of their daily tasks without glasses. With the Tecnis Multifocal 1-Piece IOL, I am comfortable telling my patients that my team and I can achieve such outcomes. Having used the Tecnis Multifocal 3-Piece IOL since March 2009 and the 1-Piece IOL since March of this year, my results with these lenses have been consistent and outstanding. Because I thoroughly test my patients' postoperative vision at each distance point and diligently track these data, I can state with authority that 99% of my patients who receive the Tecnis Multifocal 1-Piece IOL can read J2 and see between 20/20 and 20/25 at distance without glasses (Figure 1). Furthermore, the Tecnis Multifocal 1-Piece IOL provides excellent visual quality for reading fine print in dim lighting, as its reading distance extends from 33 cm to normal sitting distance from a computer (Figure 2). The lens also provides high-quality intermediate vision, in my experience.

STRATEGIES TO BOOST CONVERSION TO PREMIUM IOLS

Currently, I convert approximately 30% of my cataract patients to premium refractive IOLs. The more premium lenses I implant, the more positive feedback and referrals I receive from former patients. I have found that the most sustainable method for converting patients to premium IOLs is to have an organized method for educating them about their IOL choices. The more comfortable and

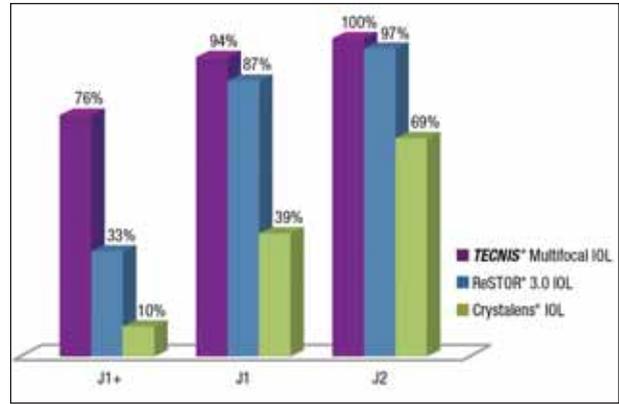


Figure 2. According to the author's clinical results, the Tecnis Multifocal lens provides far superior near vision outcomes with J1+ print size.

knowledgeable a patient feels about a premium lens product, the higher the adoption rate, in my experience. In order to ensure a good workflow, my staff plays a large role in educating our patients. I make sure that all my staff—from the person who answers the telephone to the technician—is knowledgeable and enthusiastic about the outstanding results that premium refractive IOLs, such as the Tecnis Multifocal 1-Piece, can provide. My technicians often shadow me for a month, learning what questions to ask patients, how a patient will fit into the selection process, and the potential benefits of premium lenses and their possible outcomes. Educating my staff ensures that at every step, they reinforce the idea that a premium refractive IOL is high technology, a good choice, and that it adds real value to patients' quality of life.

SUMMARY

Multifocal IOLs can truly enhance the quality of life of our patients. By educating your clinical staff and organizing your practice around education, you will find that there are many opportunities to inform patients about the potential advantages and disadvantages of these premium implants. When we match our patients' needs to the correct product, we can meet and even exceed their expectations and produce happy patients. In the end, our job as physicians is to help people improve their lives. ●

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and that the cost of delivering care will continue to increase over time. Eventually, surgeons must either abandon cataract surgery or subsidize the cost of the procedure. Premium refractive IOLs represent a win-win for the surgeon and for the patient who wants to be less dependent on glasses. High-performance implants such as the Tecnis Multifocal 1-Piece IOL are the best choices for these procedures, because they do not require the surgeon to learn a new skill set, and their excellent outcomes generate more referrals. ●

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Important Safety Information - Tecnis Multifocal IOL

Caution: Federal law restricts this device to sale by or on the order of a physician. (Rx only can be used in place of this text)

Indications: Tecnis® multifocal intraocular lenses are indicated for primary implantation for the visual correction of aphakia in adult patients with and without presbyopia in whom a cataractous lens has been removed by phacemulsification and who desire near, intermediate, and distance vision with increased spectacle independence. The intraocular lenses are intended to be placed in the capsular bag.

Warnings: Physicians considering lens implantation under any of the conditions described in the Directions for Use labeling should weigh the potential risk/benefit ratio prior to implanting a lens. Some visual effects associated with multifocal IOLs may be expected because of the superposition of focused and unfocused images. These may include a perception of halos/glare around lights under nighttime conditions. It is expected that, in a small percentage of patients, the observation of such phenomena will be annoying and may be perceived as a hindrance, particularly in low illumination conditions. On rare occasions these visual effects may be significant enough that the patient will request removal of the multifocal IOL. Under low-contrast conditions, contrast sensitivity is reduced with a multifocal lens compared to a monofocal lens. Therefore, patients with multifocal lenses should exercise caution when driving at night or in poor visibility conditions. Patients with a predicted postoperative astigmatism > 1.0D may not be suitable candidates for multifocal IOL implantation since they may not fully benefit from a multifocal IOL in terms of potential spectacle independence.

Precautions: The central one millimeter area of the lens creates a far image focus, therefore patients with abnormally small pupils (~1mm) should achieve, at a minimum, the prescribed distance vision under photopic conditions; however, because this multifocal design has not been tested in patients with abnormally small pupils, it is unclear whether such patients will derive any near vision benefit. Autorefractors may not provide optimal postoperative refraction of multifocal patients; manual refraction is strongly recommended. In contact lens wearers, surgeons should establish corneal stability without contact lenses prior to determining IOL power. Care should be taken when performing wavefront measurements as two different wavefronts are produced (one will be in focus (either far or near) and the other wavefront will be out of focus); therefore incorrect interpretation of the wavefront measurements is possible. The long-term effects of intraocular lens implantation have not been determined; therefore implant patients should be monitored postoperatively on a regular basis. Secondary glaucoma has been reported occasionally in patients with controlled glaucoma who received lens implants. The intraocular pressure of implant patients with glaucoma should be carefully monitored postoperatively. Do not sterilize or autoclave. Use only sterile irrigating solutions such as balanced salt solution or sterile normal saline. Do not store in direct sunlight or over 45°C. Emmetropia should be targeted as this lens is designed for optimum visual performance when emmetropia is achieved. Care should be taken to achieve centration.

Adverse Events: The most frequently reported adverse event that occurred during the clinical trial of the Tecnis® Multifocal lens was surgical reintervention, which occurred at a rate of 3.7% (lens-related: 0.6%; non-lens related: 3.2%). Surgical reintervention included lens exchange, retinal repair, iris prolapse/wound repair, trabeculectomy, lens repositioning, and lens removal due to patient dissatisfaction. The second most frequent adverse event was macular edema, which occurred at a rate of 2.6%. Other reported reactions were hypopyon and endophthalmitis, each occurring at a rate of 0.3%.

Attention: Reference the Directions for Use for a complete listing of indications, warnings, and precautions.

Important Safety Information - Tecnis Multifocal 1-Piece IOL

Caution: Federal law restricts this device to sale by or on the order of a physician. (Rx only can be used in place of this text)

Indications: Tecnis® multifocal intraocular lenses are indicated for primary implantation for the visual correction of aphakia in adult patients with and without presbyopia in whom a cataractous lens has been removed by phacemulsification and who desire near, intermediate, and distance vision with increased spectacle independence. The intraocular lenses are intended to be placed in the capsular bag.

Warnings: Physicians considering lens implantation under any of the conditions described in the Directions for Use labeling should weigh the potential risk/benefit ratio prior to implanting a lens. Some visual effects associated with multifocal IOLs may be expected because of the superposition of focused and unfocused images. These may include a perception of halos/glare around lights under nighttime conditions. It is expected that, in a small percentage of patients, the observation of such phenomena will be annoying and may be perceived as a hindrance, particularly in low illumination conditions. On rare occasions these visual effects may be significant enough that the patient will request removal of the multifocal IOL. Under low-contrast conditions, contrast sensitivity is reduced with a multifocal lens compared to a monofocal lens. Therefore, patients with multifocal lenses should exercise caution when driving at night or in poor visibility conditions. Patients with a predicted postoperative astigmatism > 1.0D may not be suitable candidates for multifocal IOL implantation since they may not fully benefit from a multifocal IOL in terms of potential spectacle independence. Care should be taken to achieve centration, as lens decentration may result in patients experiencing visual disturbances, particularly in patients with large pupils under mesopic conditions.

Precautions: The central one millimeter area of the lens creates a far image focus, therefore patients with abnormally small pupils (~1mm) should achieve, at a minimum, the prescribed distance vision under photopic conditions; however, because this multifocal design has not been tested in patients with abnormally small pupils, it is unclear whether such patients will derive any near vision benefit. Autorefractors may not provide optimal postoperative refraction of multifocal patients; manual refraction is strongly recommended. In contact lens wearers, surgeons should establish corneal stability without contact lenses prior to determining IOL power. Care should be taken when performing wavefront measurements as two different wavefronts are produced (one will be in focus (either far or near) and the other wavefront will be out of focus); therefore incorrect interpretation of the wavefront measurements is possible. The long-term effects of intraocular lens implantation have not been determined; therefore implant patients should be monitored postoperatively on a regular basis. Secondary glaucoma has been reported occasionally in patients with controlled glaucoma who received lens implants. The intraocular pressure of implant patients with glaucoma should be carefully monitored postoperatively. Do not sterilize or autoclave. Use only sterile irrigating solutions such as balanced salt solution or sterile normal saline. Do not store in direct sunlight or over 45°C. Emmetropia should be targeted as this lens is designed for optimum visual performance when emmetropia is achieved.

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