

IME SUPPLEMENT | JANUARY/FEBRUARY 2026

# EUROTIMES

## Modern Presbyopia Correction

Innovations in IOL Technology and  
Personalized Surgical Planning



Education  
**FORUM**

Independent medical education supported by Alcon,  
Johnson & Johnson Vision, Bausch + Lomb, and Zeiss.

# ESCRS Clinical Trends in Simultaneous Vision Lenses

BY JOAQUÍN FERNÁNDEZ, MD, PhD

## Survey Methodology

For the tenth consecutive year, the ESCRS Clinical Trends Survey has compiled extensive data to monitor evolving clinical practices and identify unmet needs in cataract and refractive surgery. The 2024 survey, conducted both online and onsite during the 42nd Congress of the ESCRS in Barcelona, included 147 questions and received responses from over 3,300 delegates. Key findings are being shared through a series of topic-specific *EuroTimes* reports\* developed in collaboration with ESCRS expert leaders.

Building on these insights, the 2025 Clinical Trends Survey was launched at the 43rd Congress of the ESCRS in Copenhagen to continue monitoring clinical trends and support evidence-based practice.

## Trends in Simultaneous Vision Lens Usage

Analysis of nine years of ESCRS Clinical Survey data showed a clear increase in the use of simultaneous vision intraocular lenses (IOLs) in cataract surgery. Since 2016, implantation of these lenses has risen by 9% (Figure 1), and this trend is expected to continue, with 76% of respondents planning to further increase usage in 2025.

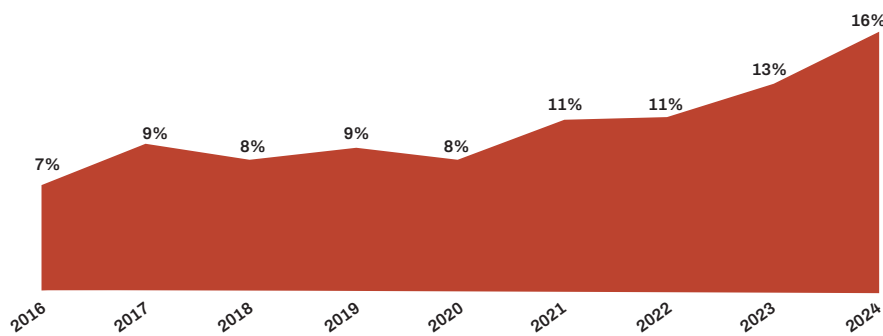


Figure 1. Nine-year trend in simultaneous vision lenses usage in cataract surgery (2024 ESCRS Clinical Trends Survey).

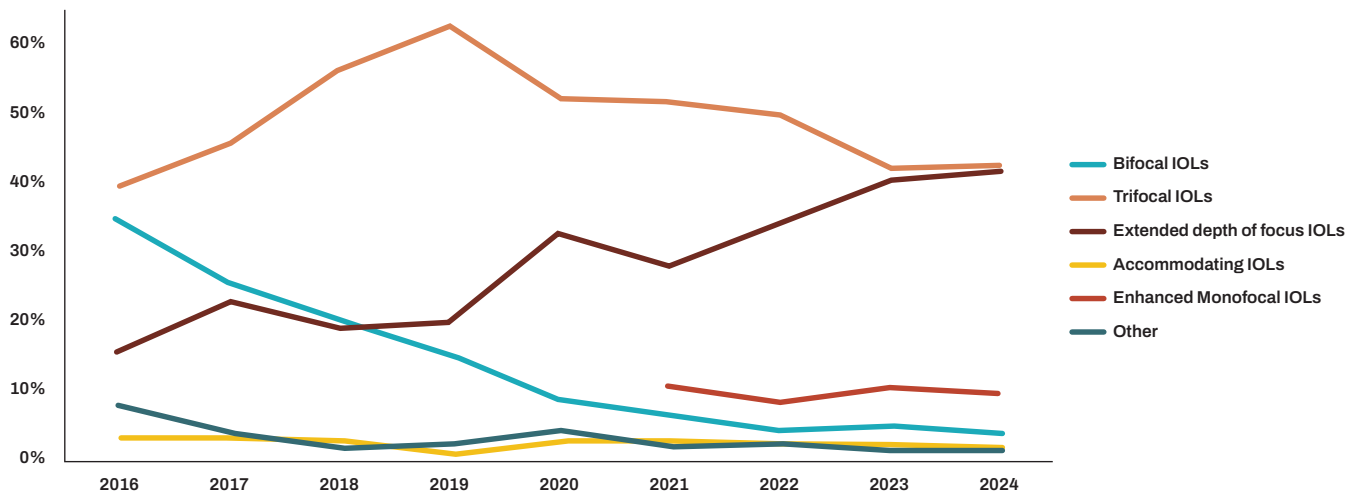


Figure 2. Nine-year trend in simultaneous vision lens subtypes in cataract surgery (2024 ESCRS Clinical Trends Survey).

As overall adoption rises, preferences for lens subtypes are also evolving (Figure 2). Bifocal IOL usage has steadily declined and is now rarely selected. Enhanced monofocal lenses remain minimally used, while trifocal and extended depth of focus lenses show balanced and sustained adoption, reflecting their growing role in contemporary cataract surgery.

## Knowledge Gaps

Despite increasing adoption and a range of lens options, only 39% of 2024 ESCRS Clinical Trends Survey respondents discuss simultaneous vision lenses with all suitable patients, while 36% do so with some patients. Notably, 37% rated their knowledge as very inadequate, somewhat inadequate, or merely adequate, underscoring the need for ongoing education. Such efforts both deepen surgeons' understanding of available IOL technologies and empower patients to make informed choices. Establishing a global consensus on lens classification could further strengthen these educational initiatives.

\* <https://www.es CRS.org/channels/eurotimes-articles/supplement-es CRS-clinical-trends-series-presbyopia>

## I routinely introduce simultaneous vision lenses as a possibility in my decision-making process with my cataract patients.

### Toward a Functional Classification

The ESCRS Functional Vision Working Group<sup>1</sup> has launched a global initiative to standardize the classification of simultaneous vision lenses, currently with the support of ESCRS, ASCRS, APACRS, and LATAMSCRS. Building on a scoping review that applied cluster analysis to two decades of evidence,<sup>2</sup> the emerging framework categorizes lenses according to depth of field - a term now preferred over "range of vision" for its greater scientific precision.<sup>3</sup> Partial depth of field lenses, including narrow, enhanced, and extended subtypes, achieve less than 2.3 diopters of depth of field at a visual acuity of 0.2 logMAR. Full depth of field lenses, including steep, smooth, and continuous subtypes, achieve 2.3 diopters or more at the same visual acuity, and provide improved vision from intermediate to near distances. This functional classification aims to standardize terminology, improve comparability across studies, and offer a practical guide for surgeons when selecting and discussing simultaneous vision IOLs with patients.

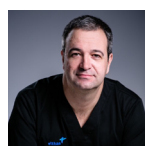
### Conclusion

The ESCRS Clinical Trends Survey highlights the growing adoption of simultaneous vision lenses, shifting preferences

among subtypes, and ongoing knowledge gaps. The emerging functional classification provides a structured framework to guide lens selection, support doctor-patient discussions, and promote standardized, evidence-based practices in cataract surgery.

### REFERENCES

1. Ribeiro, F. et al. Evidence-based functional classification of simultaneous vision intraocular lenses: seeking a global consensus by the ESCRS Functional Vision Working Group. *J Cataract Refract Surg* 50, 794–798 (2024).
2. Fernández, J., Ribeiro, F., Rocha-De-Lossada, C. & Rodríguez-Vallejo, M. Functional Classification of Intraocular Lenses Based on Defocus Curves: A Scoping Review and Cluster Analysis. *J Refract Surg* 40, e108–e116 (2024).
3. Riaz, K. M., Wendelstein, J. A. & Koch, D. D. Depth of field or depth of focus? *J Cataract Refract Surg* 50, 1291 (2024).



Dr. Joaquín Fernández is the CEO of QVision and Medical Director of the Ophthalmology Institute at the Vithas Hospital Group in Andalusia, Spain. He serves as a trustee of the Elena Barraquer Foundation and is an elected member of the ESCRS Council, where he holds the position of Executive Secretary. In addition, he chairs the ESCRS Functional Vision Working Group. Prof. Fernández can be contacted at [joaquinfernandezoft@qvision.es](mailto:joaquinfernandezoft@qvision.es).

### FINANCIAL DISCLOSURE:

Stakeholder: Indaloftal S.L. Grant/Research Support: Carl Zeiss Meditec, Inc.; Johnson & Johnson Vision. Consultant: Medicontur. Speaker Bureau: Carl Zeiss Meditec, Inc.; Oculus, LLC; Staar Surgical; Bausch + Lomb, Inc. Other: SIFI; Thea.

## Optimizing the Ocular Surface for Success in Presbyopia Correction

BY RAMIN KHORAMNIA, MD, PhD, FEBO

### Prevalence of Ocular Surface Disease in Cataract Patients

The 2024 ESCRS Clinical Trends Survey revealed that one in four cataract surgery patients reports ocular surface disease (OSD) symptoms during preoperative consultation. Clinical studies suggest the true prevalence may be higher, with subclinical cases often undetected. Gupta and colleagues reported that 80% of patients exhibited at least one abnormal ocular surface test, including elevated tear osmolarity or matrix metalloproteinase-9 (MMP-9) positivity, rising to 85% among asymptomatic patients.<sup>1</sup> Trattler and colleagues found that 62% of patients had a tear breakup time (TBUT) of 5 seconds or less and 77% had positive corneal staining, despite minimal or no symptoms.<sup>2</sup> These findings underscore the need for proactive screening and management of OSD before cataract surgery, even in asymptomatic patients.

Despite these insights, only 55% of respondents systematically assess the ocular surface during preoperative exam-

inations (Figure 1), leaving a substantial proportion of cases potentially undiagnosed and untreated.

### Comprehensive Assessment and Best Practices

A thorough ocular surface evaluation should combine slit-lamp examination with measurements such as TBUT, tear osmolarity, MMP-9 analysis, meibography, Schirmer's testing, and validated dry eye questionnaires. This assessment is critical given the impact of OSD on keratometry and IOL power calculations. According to the 2024 ESCRS Clinical Trends Survey, 75% of

**It's very important to screen for and diagnose ocular surface disease in all cataract patients.**

**2024 ESCRS Clinical Trends Survey: Are you systematically checking the ocular surface in your preoperative cataract surgery examination?**

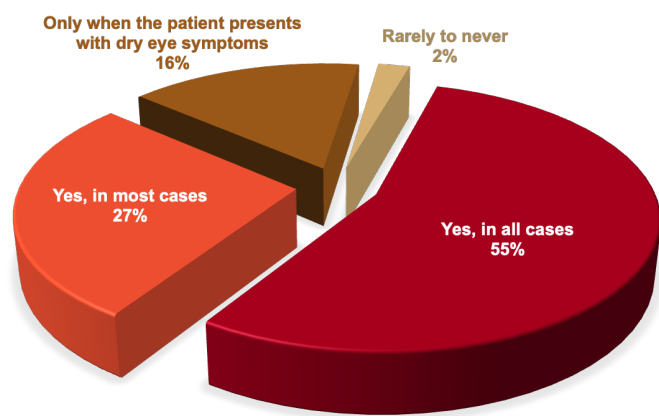


Figure 1. Only 55% of respondents systematically check the ocular surface during their preoperative cataract surgery examinations (2024 ESCRS Clinical Trends Survey).

respondents believe that even mild to moderate dry eye can significantly affect these measurements (Figure 2), and 66% reported being likely or very likely to postpone surgery in such cases. Despite this awareness, approximately one-third of surgeons still proceed with surgery, potentially compromising refractive accuracy and visual outcomes.

Achieving this precise preoperative data depends on a stable ocular surface and consistent measurement practices. Multiple readings should always be obtained to confirm reproducibility, and all staff involved must be trained to recognize inconsistencies or measurement errors. Findings such as an inter-eye keratometry difference greater than 1D, average K values above 47D or below 41D, corneal cylinder greater than 2.5D, extremely shallow or deep anterior chambers, or very short or long axial lengths should prompt closer review, as these outliers often indicate ocular surface instability or measurement error. Both factors can significantly affect IOL power calculations and postoperative visual outcomes.

**Selecting the Right Lens**

Careful patient selection is essential when considering premium IOLs. The process begins with assessing candidacy and continues with choosing the IOL design that best matches the patient’s visual needs, lifestyle, and ocular surface condition.

For patients with dry eye disease seeking presbyopia correction, an extended depth of focus (EDF) lens such as the AcrySof IQ Vivity IOL (Alcon) can offer an effective solution. This lens incorporates wavefront-shaping technology with two smooth surface transition elements that stretch and shift the wavefront without splitting it. The result is greater spectacle independence and a lower incidence of photic phenomena such as glare or halos.

**Real-World Evidence**

Real-world studies provide insights that controlled clinical trials often cannot, capturing authentic patient experiences and expectations in everyday practice. A recent multicenter study evaluated outcomes in 885 patients who received bilateral AcrySof Vivity IOLs (Alcon). The results demonstrated

**2024 ESCRS Clinical Trends Survey: How significantly do you believe that mild to moderate dry eye significantly impacts keratometry and IOL calculations?**

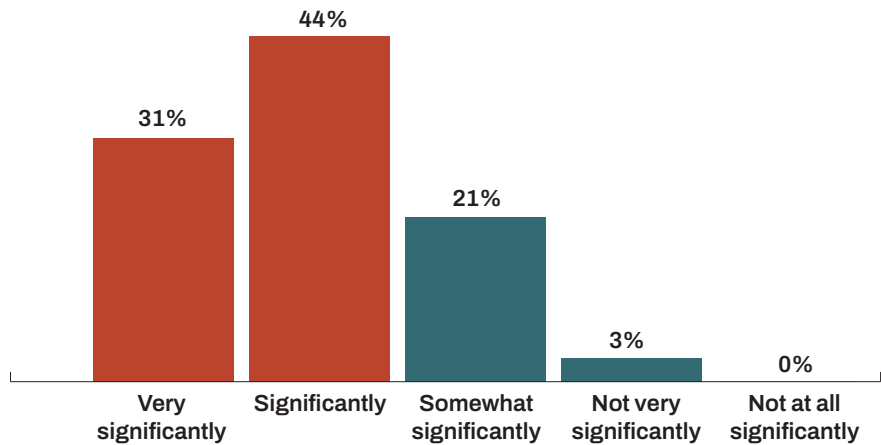


Figure 2. 75% of respondents believe mild to moderate dry eye can significantly affect keratometry and IOL calculations (2024 ESCRS Clinical Trends Survey).

## You will never achieve good outcomes if the data collected prior to surgery is not obtained in an orderly fashion.

excellent distance, intermediate, and functional near vision, high spectacle independence, and strong patient satisfaction, even among those with ocular surface disease.<sup>3</sup>

Among the 80+ patients with dry eye disease, visual outcomes remained impressive: uncorrected distance visual acuity averaged 20/20, intermediate vision 20/25, and near vision 20/32 (Snellen). Most patients reported no need for eyeglasses for distance or arm's length vision under both bright and dim light conditions.

Patient satisfaction was consistently high: 96% of participants with dry eye reported no or only minor difficulties in daily activities, and 81% were satisfied with their overall vision. Importantly, more than 90% reported no visual disturbances, despite the presence of dry eye, underscoring the optical stability and design tolerability of the Vivity IOL.

### Conclusion

Ocular surface screening should be performed in every patient, even those without symptoms. Optimizing the ocular surface prior to cataract surgery is essential. If the ocular surface is unstable or compromised, surgery should be postponed until appropriate treatment has been completed.

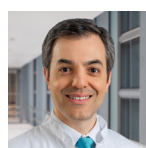
Once optimization is achieved, biometry and topography should be repeated to confirm stable and reproducible keratometry. This step is critical for accurate IOL power calculation.

tions, appropriate lens selection, and better vision outcomes, particularly in patients with dry eye disease.

By prioritizing ocular surface health, surgeons can maximize refractive accuracy, enhance visual quality, and improve overall patient satisfaction.

### REFERENCES

1. Gupta, P. K., Drinkwater, O. J., VanDusen, K. W., Brissette, A. R. & Starr, C. E. Prevalence of ocular surface dysfunction in patients presenting for cataract surgery evaluation. *J Cataract Refract Surg* 44, 1090–1096 (2018).
2. Trattler, W. B. et al. The Prospective Health Assessment of Cataract Patients' Ocular Surface (PHACO) study: the effect of dry eye. *Clin Ophthalmol* 11, 1423 (2017).
3. Howes, F. et al. Visual Performance and Patient Satisfaction of Bilaterally Implanted Extended Depth of Focus Intraocular Lens: Outcomes of a Multicenter Registry. *Journal of Refractive Surgery* 41, e131–e143 (2025).



Professor Ramin Khoramnia is the Medical Director of the Clinic and Polyclinic for Ophthalmology at the University Hospital Carl Gustav Carus Dresden, Germany. Prof. Khoramnia can be contacted at [ramin.khoramnia@ukdd.de](mailto:ramin.khoramnia@ukdd.de).

### FINANCIAL DISCLOSURE:

1stQ<sup>1,2,3</sup>, Alcon<sup>1,2,3,4</sup>, AbbVie<sup>2,3</sup>, Alimera<sup>1,2,3</sup>, AMO/Johnson&Johnson<sup>1,2,3</sup>, Bayer<sup>1,2,3</sup>, BVI<sup>3</sup>, Carl Zeiss Meditec<sup>1,2,3</sup>, Heidelberg Engineering<sup>3</sup>, Hoya<sup>1,2,3</sup>, Teleon<sup>1,2,3</sup>, Novartis<sup>2,3</sup>, Oculus<sup>1,3</sup>, Ophtec<sup>2,3</sup>, Outlook Therapeutics<sup>3</sup>, Rayner<sup>1,2,3</sup>, Roche<sup>1,2,3</sup>, Staar<sup>2</sup>, SIFI<sup>1,2,3</sup>

1 = Research; 2 = Travel Support; 3 = Lecture Fee; 4 = Consulting

## Leveraging Digital Diagnostics for Precise Preoperative Planning with Simultaneous Vision IOLs

BY ANDREA JANEKOVÁ, MD, FEBO, FEBOS-CR

### The Foundation for Success

The ultimate goal of refractive surgery is a satisfied patient - an outcome built on many small but critical steps (Figure 1). Even minor errors in measurements or planning can compromise visual results, making meticulous attention to detail essential. At the same time, efficient patient flow is crucial, as the time surgeons spend with each patient must be used effectively. While integrating new technologies can initially be challenging, these innovations ultimately streamline workflow, save time, and enhance both refractive predictability and overall patient outcomes.

### Digital Imaging for Precision and Efficiency

Modern digital biometry has transformed how surgeons measure and plan refractive procedures. Swept-source optical coherence tomography (OCT) biometers provide precise and reproducible data, even in dense cataracts that previously required labor-intensive manual techniques. Each keratome-

try value represents an average of 10-15 underlying readings, producing highly detailed, consistent data that enhances refractive predictability and workflow efficiency.

Corneal imaging is equally important, particularly when planning presbyopia-correction with a simultaneous vision IOL. It allows assessment of all relevant parameters, including the distribution of astigmatism. Subtle irregularities or early pre-ectatic changes may prevent optimal visual outcomes, and these findings must be carefully considered when determining patient suitability.

### The Value of Thorough Preoperative Planning

Preoperative planning begins even before the patient enters the clinic. Effective communication among patients, reception staff, and nurses can meaningfully enhance patient satisfaction, even before any diagnostic testing. Understanding each patient's occupation, hobbies, and visual demands allows the surgeon to

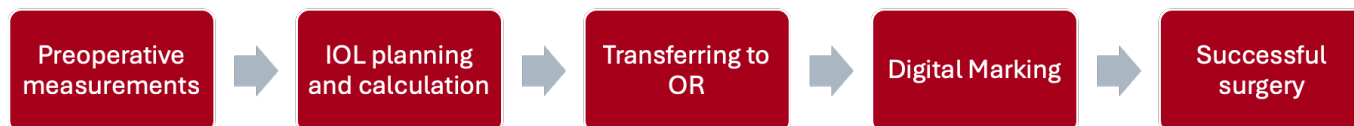


Figure 1. Key steps in a refractive surgery workflow.

tailor the surgical plan, while clear, jargon-free communication ensures realistic expectations and informed consent.

Modern workflows also allow remote access to biometry data, reducing transcription errors and enabling detailed preoperative planning without time pressure. Surgeons can compare multiple IOL power calculation formulas, including those for toric and post-refractive surgery eyes, to create a precise and individualized surgical plan. Current biometers incorporate a wide array of formulas, including AI-based calculations, and online tools such as the ESCRS IOL calculator further support decision-making in complex or atypical cases.

#### Case Example: Patient with Scutellar Posterior Cataract Receiving a Simultaneous Vision IOL

A 48-year-old woman presented with decreased vision due to scutellar posterior cataracts in both eyes, more pronounced in the right. She had no significant medical history or ocular comorbidities, was mildly hypermetropic, and used reading spectacles (Figure 2). She frequently performed intermediate and near tasks, highlighting the growing importance of intermediate vision in today's digital-focused lifestyle. Her primary goal was full spectacle independence.

Given her high visual demands and lifestyle, the AT Elana (Zeiss) trifocal IOL was selected to provide clear vision at near, intermediate, and distance ranges. Clinical studies of this hydrophobic acrylic, C-loop haptic lens found a low incidence of halos and glare, good capsular bag stability, and a reduced risk of posterior capsule opacification. The first peer-reviewed study of the AT Elana trifocal IOL included 262 eyes from 11

## Investing time in preoperative consultations saves significant time postoperatively.

sites across three European countries.<sup>1</sup> Results demonstrated favorable visual acuities at all distances. At three months postoperatively, mean binocular distance-corrected visual acuity was better than 0.1 logMAR across the full defocus range from +0.5 D (distance) to -2.5 D (near). Contrast sensitivity remained within the normal range for a phakic population across all spatial frequencies and lighting conditions, including photopic with glare and mesopic with and without glare.

Several calculation formulas for this patient were reviewed, with the Barrett Universal II formula ultimately chosen.

At one-week follow-up, the patient reported high satisfaction with her distance, intermediate, and near vision (Figure 2). Autorefractometry results were close to emmetropia, confirming the accuracy of the IOL selection and calculation.

#### Conclusion

Digital diagnostics and data integration have revolutionized cataract surgery planning, IOL power calculation, and lens selection, particularly in high-volume practices.

Swept-source biometry offers exceptional accuracy and reproducibility, with seamless integration into advanced IOL formulas. AI-driven calculations further enhance refractive

Preoperative			Postoperative		
	RE	LE		RE	LE *
UCDVA	<b>0.5</b>	<b>0.7</b>	UCDVA	<b>1.0</b>	<b>1.2</b>
CDVA	<b>0.7</b>	<b>0.8</b>	UIVA	<b>0.8</b>	<b>1.0</b>
Manifest refraction	<b>+1.0</b>	<b>+2.0</b>	UNVA	<b>0.8</b>	<b>0.8</b>
UCNVA	< 0,1	< 0,1	Autorefractometry	-0.5=-0.5/84	+0.25=-0.25/78
CNVA	0.8	0.8			
Manifest refraction	<b>+3.5</b>	<b>+4.5</b>			

Figure 2. Pre- and postoperative measurements following trifocal IOL implantation in a 48-year-old patient. [Courtesy of Dr. Janeková].

**Beyond achieving 20/20, maintaining high-quality vision with minimal optical phenomena is essential.**

predictability, including in post-refractive surgery eyes. Nonetheless, achieving successful outcomes and meeting patient expectations ultimately relies on careful patient selection, thorough counseling, and meticulous preoperative evaluation.

**Matching Simultaneous Vision IOLs to Patient Expectations**

BY JONATHAN YU, MA (CANTAB), MB, BCHIR, CERT LRS, FRCOPHTH

**Choosing a Simultaneous Vision IOL**

The range of intraocular lenses available today is broader than ever, each offering distinct advantages and outcomes for patients seeking spectacle independence. While technological advances provide greater choice, they also make patient counseling more complex. Determining the most suitable option for each patient remains challenging, often compounded by a lack of patient education. Many individuals enter the clinic without a clear understanding of available options or their potential visual outcomes.

According to the 2024 ESCRS Clinical Trends Survey, 63% of respondents reported that their patients had little to no knowledge of simultaneous vision IOLs at the initial consultation (Figure 1). Moreover, 41% indicated that their staff lacked confidence in discussing reimbursement for cataract procedures involving simultaneous vision IOLs and toric IOLs - a critical factor in premium IOL decision-making.

**2024 ESCRS Clinical Trends Survey: How educated are your patients on simultaneous vision IOL options when they see you in person at their initial consultation?**

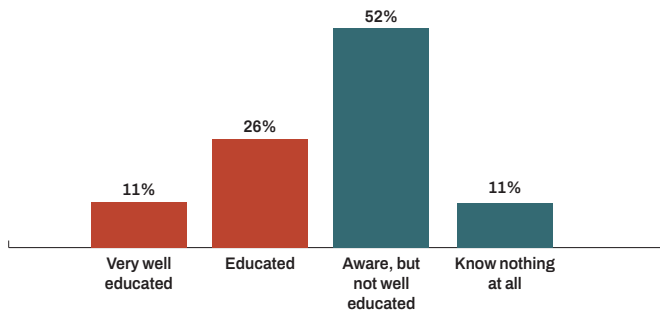


Figure 1. Patient knowledge of simultaneous vision IOLs at initial consultation (2024 ESCRS Clinical Trends Survey).

**REFERENCES**

1. Janeková, A. et al. Visual Outcomes of a New Hydrophobic Trifocal Intraocular Lens in Cataract Treatment: A Prospective Clinical Study. J Ophthalmol 2025, (2025).



Dr. Andrea Janeková is Head Physician of the Cataract, Refractive and Vitreoretinal Surgery Centre and Deputy Chief Physician at the Eye Centre Prague, Czechia. Dr. Janeková can be contacted at [andrea.janekova@ocp.cz](mailto:andrea.janekova@ocp.cz).

**FINANCIAL DISCLOSURE:**

None

These findings highlight the importance of enhancing communication and education for both patients and clinical teams. Nearly half of respondents (44%) reported that direct communication with the surgeon is the most effective method for patient education, surpassing counselors or technicians (19%), printed materials or brochures (9%), social media (9%), and practice websites or online resources (7%).

**Understand your Patient**

When evaluating a patient for a simultaneous vision IOL implantation, understanding their lifestyle and visual priorities is key. This includes discussing daily activities, activity level, and whether their priorities lie in near, intermediate, or distance vision.

Some patients are content wearing glasses – for example, “I quite like my bifocals” or “Reading glasses don’t bother me.” For these individuals, a monofocal lens may be appropriate, minimizing the risk of dysphotopsias or other visual disturbances.

For patients seeking spectacle independence, it is important to explore acceptable compromises, such as potential night-vision symptoms, low-light challenges, or the need for neuroadaptation. Patients should understand that optimal vision at all distances may develop gradually postoperatively. Setting these expectations upfront promotes satisfaction as adaptation occurs.

A thorough ocular assessment, including ocular surface, cornea, glaucoma status, and retina, is essential. Practical discussions regarding cost and insurance coverage also help align expectations early in the decision-making process.

**Best Practices for Patient Communication and Aligning Outcomes**

Effective communication is essential for proper IOL selection. Tailor explanations to each patient’s level of understanding, using clear and consistent language to outline benefits, risks, and trade-offs. Encourage questions - misunderstandings be-

**It's essential to listen carefully to your patient, understand their lifestyle and visual needs, and determine what they hope to achieve.**

tween surgeon and patient are a leading cause of dissatisfaction and additional chair time. Empathy and trust are crucial - patients who feel heard and well-informed are more likely to be satisfied and confident in their choices.

Open, transparent communication also helps align patient expectations with surgical outcomes. While presenting all available options is important for informed consent, providing a clear recommendation based on professional judgement is equally valuable. Patients appreciate expert guidance and realistic expectations, which fosters confidence in their decisions and promotes long-term satisfaction.

**Discussing Cost versus Benefit**

The 2024 ESCRS Clinical Trends Survey identified cost to the patient as the primary factor limiting adoption of simultaneous vision lenses (67%), followed by concerns about nighttime vision quality (55%), and potential loss of contrast visual

acuity (37%) (Figure 2). Only 9% of respondents cited patient unsuitability as a barrier, highlighting that financial considerations and visual trade-offs, rather than clinical contraindications, are the main challenges.

When discussing cost versus benefit, emphasize that vision impacts quality of life daily. While upfront surgical costs may seem high, patients often save long term compared with the ongoing expense of glasses. Framing the discussion as shared decision-making fosters understanding and confidence.

**Case Example: Primary Angle Closure Patient Receiving a Simultaneous Vision IOL**

A patient presented with progressive vision deterioration and a strong desire for spectacle independence. She was active both outdoors and indoors and drove only during daylight, but declining vision was beginning to limit daily activities.

Her ocular history included primary angle closure with progressive angle narrowing secondary to cataract. She had prior YAG peripheral iridotomies. Intraocular pressure was rising despite treatment, although visual fields and OCT remained normal. She was hypermetropic with astigmatism and had unaided visual acuity of 6/48.

Following a comprehensive assessment, the LUXlife lens (Bausch + Lomb) was selected for its favorable dysphotopsia profile and wide range of cylinder options, matching her

**2024 ESCRS Clinical Trends Survey: What do you consider to be your biggest concerns against performing more simultaneous vision IOL procedures in your practice? (select all that apply.)**

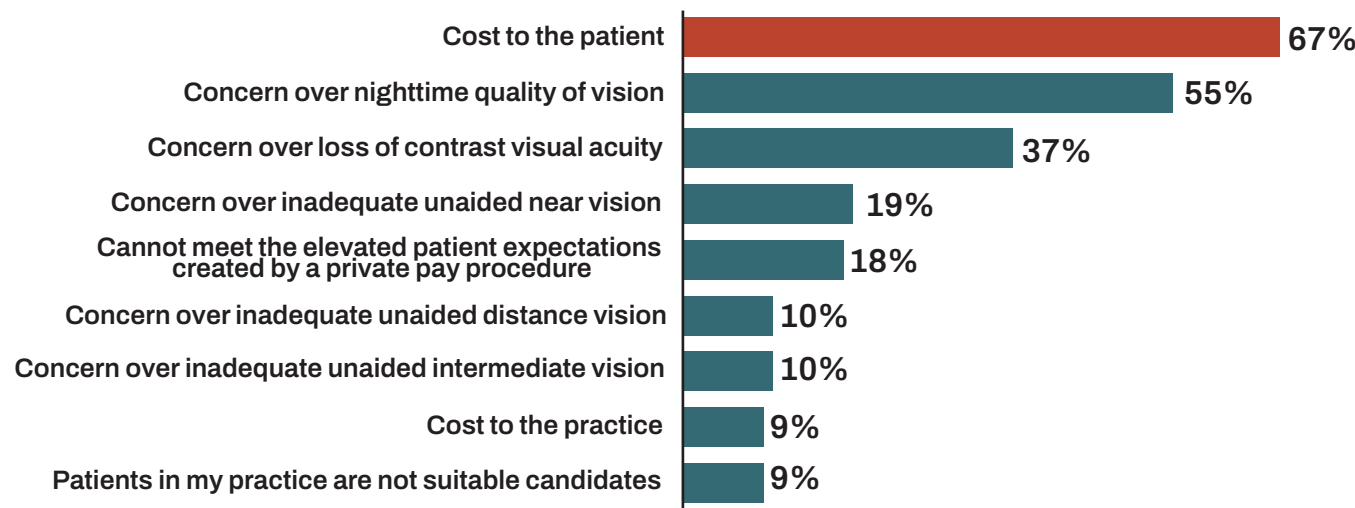


Figure 2. Key concerns limiting simultaneous vision IOLs use (2024 ESCRS Clinical Trends Survey).

## Always underpromise and overdeliver!

visual priorities for distance and near tasks while minimizing night-vision symptoms.

Postoperatively, she achieved 20/20 distance, 20/16 intermediate, and 20/20 near vision, reporting minimal night-vision symptoms and no contrast sensitivity issues. Fully spectacle independent, she was extremely satisfied with the results.

### Conclusion

Successful outcomes begin with a deep understanding of each patient's unique visual needs and personal goals. Establish trust through empathy, open communication, and transparent discussions about costs, benefits, and potential risks. Person-

alized recommendations and realistic expectation-setting are essential for patient satisfaction and long-term confidence.

Engaging patients in a shared decision-making process ensures they feel informed, understood, and confident in their care - an objective every surgeon strives to achieve.



Dr. Jonathan Yu is a consultant ophthalmologist at the Manchester Royal Eye Hospital, United Kingdom. Dr. Yu can be contacted at [jonathan.yu@mft.nhs.uk](mailto:jonathan.yu@mft.nhs.uk).

### FINANCIAL DISCLOSURE:

Alcon, Bausch + Lomb, Cilitech, iStar Medical, Ivantis, Santen, Sight Sciences

# Overcoming the Most Common Barriers to Becoming a Refractive Cataract Surgeon

BY FRANCESCO CARONES, MD PCEO FWCRS

## Cataract vs. Refractive Surgery

Advances in simultaneous vision IOLs are gradually converging cataract and refractive surgery into a single discipline. Yet, this convergence brings unique challenges, as the procedures and patient expectations differ. Cataract surgery addresses a pathological lens to restore clear vision, whereas refractive surgery is elective, aiming for spectacle independence and optimal visual performance.

Transitioning from conventional cataract surgery to refractive cataract surgery requires stepping outside the comfort zone of "pathology-focused" outcomes. Surgeons must strive not only for plano but also to optimize vision across various distances and lighting conditions.

Common barriers include limited access to specialized training programs, surgical challenges, unpredictable refractive outcomes, and insufficient chair time to educate patients. Keeping up with rapidly evolving IOL technologies adds another layer of complexity.

Critically, unmet expectations can lead to patient dissatisfaction. Achieving the intended refractive result is essential, particularly in complex cases such as post-refractive surgery patients. According to the 2024 ESCRS Clinical Trends Survey, only 59% of respondents felt confident managing cataract patients with prior laser vision correction - a clear area requiring attention.

## Optimizing Outcomes: Planning and IOL Selection

Success in refractive cataract surgery begins with meticulous planning. This requires a comprehensive corneal evaluation, use of advanced IOL calculation tools, and careful selection of appropriate lenses. Modern OCT biometers allow high-resolution measurements of corneal curvature and the entire optical system, improving IOL power prediction accuracy. Applying the latest formulas and leveraging resources such as the ESCRS IOL calculator enhances refractive precision. Lenses with flatter

defocus curves and broader landing zones provide greater tolerance and predictability, particularly in challenging cases.

## Managing Limited Chair Time

Time constraints in clinical practice can negatively affect postoperative patient satisfaction. Clear preoperative communication is crucial. Patients should understand the potential need for glasses after surgery, the management of residual refractive errors, and the treatment of ocular surface disorders. Surgeons should also address possible dysphotopsia and other visual phenomena to ensure patients are well informed and prepared for all possible visual outcomes.

Optimizing time without compromising care can be achieved by providing preoperative educational materials, lifestyle questionnaires, and digital resources to clarify expectations. Standardizing consultations with structured protocols ensures that all essential topics are efficiently covered, while delegating routine education and data collection to trained staff allows surgeons to focus on aspects of care that require their expertise.

## Staying Current with IOL Technologies

Maintaining expertise in evolving IOL technologies is essential. Understanding the nuances of lens design enables surgeons to tailor choices to each patient. Strategies for staying current include peer-to-peer discussions, regular review of journals and scientific articles, participation in conferences and workshops, continuing education programs, and leveraging online resources for the latest updates.

## Adopting a Refractive Cataract Surgery Mindset

Success in refractive cataract surgery requires a shift from a conventional non-presbyopia-correcting mindset to one

### Non-Presbyopia-Correcting Mindset

- Patient selection
- Patient inclusion
- Few exams, then consult
- Consult, then conversion to simultaneous vision IOLs
- A few staff members deal with simultaneous vision IOLs
- Focus on pros/cons
- Costs are barriers

### Simultaneous Vision IOL Mindset

- IOL selection
- Patient exclusion
- All exams, then consult
- Consult for simultaneous vision IOLs
- The entire staff deals with simultaneous vision IOLs
- Focus on value
- Costs are opportunities

Figure 1. Differences between a non-presbyopia-correcting mindset and a practice focused on simultaneous vision IOLs.

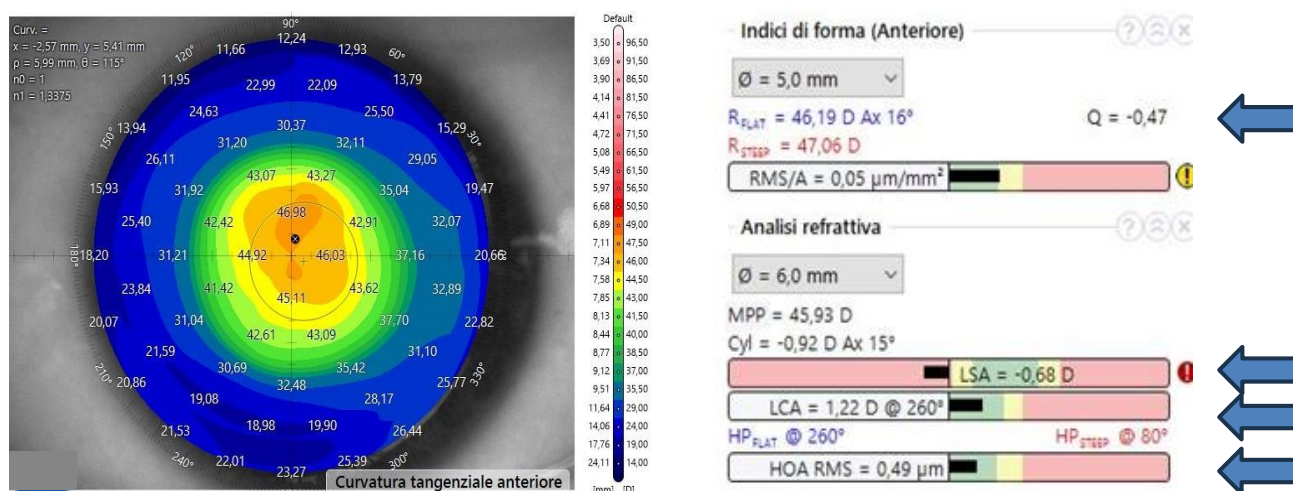
focused on simultaneous vision lenses (Figure 1). This approach ensures the entire practice, including surgeons, staff, and patient flow, is aligned with the requirements of advanced lens technologies, enhancing both patient communication and surgical outcomes.

**Your time is the most precious resource in your patient's journey.**

### Case Example: Post-laser Refractive Surgery Patient Receiving a Simultaneous Vision IOL

A 70-year-old hyperopic male who underwent LASIK in both eyes 20 years ago, achieving plano refraction, presented with a grade 3 nuclear cataract. He was highly active, both professionally and recreationally, and was motivated to regain spectacle independence while maintaining a high quality of life.

Corneal evaluation revealed a slightly negative Q value, minimal spherical aberration, and low levels of coma, indicating a regular and stable corneal surface (Figure 2).



### 6 Months Follow-Up

	OD	OS	OO
Refraction (D)	Plano	Plano	
Uncorrected visual acuity (Snellen (DF))	20/15 (1.25)	20/15 (1.25)	20/15 (1.25)
Uncorrected visual acuity at 40 cm (Jaeger)	J3	J3	J2
Uncorrected visual acuity at 60 cm (Jaeger)	J2	J2	J1
Night-vision problems			Same as LASIK

Figure 2. Top) Corneal topography measurements. Bottom) Six months postoperative results with a PureSee IOL. [Courtesy of Dr. Carones]

## Personalized considerations are what a refractive cataract surgeon must carefully evaluate to select the most suitable IOL.

Considering these findings and the patient's lifestyle and visual goals, an extended depth of focus IOL, the PureSee (Johnson & Johnson Vision), was selected and implanted bilaterally with a plano target. Six months postoperatively, the patient achieved full spectacle independence and reported excellent visual quality, including in low-light conditions, demonstrating a successful refractive outcome tailored to his specific needs.

### Conclusion

Becoming a skilled refractive cataract surgeon requires meticulous preoperative evaluation, mastery of advanced surgical techniques, and structured patient education. Surgeons must manage expectations through clear communication while optimizing workflow by empowering staff and efficiently using chair time. Staying current with evolving IOL technologies is essential for selecting lenses that meet each patient's unique visual requirements. By integrating these strategies into daily practice, surgeons can consistently achieve excellent outcomes, ensuring both visual success and patient satisfaction.



Dr. Francesco Carones is the Chairman and Medical Director at Advalia Vision, Milan, Italy. Dr. Carones can be contacted at [fcarones@carones.com](mailto:fcarones@carones.com).

### FINANCIAL DISCLOSURE:

Allotex<sup>1</sup>, Bausch+Lomb<sup>1</sup>, Hoya Surgical Optics<sup>1,2,3</sup>, Johnson & Johnson Vision<sup>1,2,3</sup>, Offhealth Srl<sup>1</sup>, Percept Corp.<sup>3,4</sup>, Rayner Intraocular Lenses<sup>1</sup>, Slack Incorporated<sup>2</sup>, Tarsus<sup>2,3</sup>, Thea1, Ursapharm<sup>1</sup>, WL Gore and Associates<sup>2,3</sup>.

1 = Lecture Fees, 2 = Consultant, 3 = Advisor, 4 = Stock Owner

