



CONSIDERATIONS WHEN RECOMMENDING TWO OF THE NEWEST IOL TECHNOLOGIES



Base your suggestion on your patient's visual needs and personality for the best outcome.

BY MIRIAM KORIK, OD

Cataract surgery is one of the most common reasons optometrists refer patients to ophthalmologists for surgical intervention.¹ Typically, a referral is warranted when we have to have a conversation with a patient to let them know that we can no longer provide them with better visual acuity using refraction alone because of age-related changes to their natural lens or because they have a congenital or

traumatic cataract. At this point, I always get an instant influx of questions from patients wanting to know what their vision will be like after surgery, if they'll still need glasses afterwards, and what the procedure will entail before they agree to the consultation. Most of the time, I find myself reviewing the patient's IOL implant options to ease their immediate concerns and to gauge which type IOL is best for their visual needs, so I

can refer them to a specific ophthalmologist or office accordingly.

Over the past few years, there has been an increase in IOL options obtaining FDA clearance for use in surgical intervention. I find that staying up to date on the newest IOL technology and advances has benefited my ability to make informed recommendations to my patients, to better comanage them with the ophthalmologists to whom I refer,

and to receive feedback and reviews from the patients I examine after cataract surgery.

NEWCOMERS TO THE IOL SPACE

Learning about new products—in this case, IOLs—as they become available makes it easier to stay current with the latest offerings. Two of the newer FDA-cleared IOLs that provide patients with options in addition to monofocal and multifocal IOLs are the Light Adjustable Lens (LAL; RxSight) and the small-aperture IC-8 Aphthera IOL (AcuFocus).

The LAL

The LAL is a unique option because it is made from an ultraviolet (UV) light-reacting silicone that can change shape. Therefore, it has adjustable refractive power when it is activated with UV light treatments postoperatively.

The LAL is approved for cataract surgery candidates with at least 0.75 D of corneal astigmatism.² In short, a patient with this type of IOL can have their prescription adjusted completely noninvasively by their surgeon weeks after surgery. The LAL procedure is performed in the same manner as a

traditional presbyopia-correcting IOL (PC-IOL) implantation, after which, the eye is allowed to heal for 2 to 3 weeks before the refraction is adjusted. As with a monofocal IOL, the LAL can provide the patient with clear vision at distance, intermediate, and near, but not multiple zones of vision simultaneously. That said, the patient does have the freedom to try out different combinations of lens power (distance prescription in each eye, monovision, etc) and to eliminate any residual refractive error postoperatively.

To customize the patient's vision, the ophthalmologist uses a Light Delivery Device (LDD) in the office that shines UV light for approximately 40 to 150 seconds, starting at 2 to 3 weeks post-surgery. A patient may require two to four additional treatments, each spaced 3 days apart, following initial treatment, to finetune their final prescription.³ During this treatment time period, the patient must consent to wearing UV-protecting glasses both indoors and outdoors during waking hours to avoid their LAL being unintentionally activated by any UV light. (This requires a significant commitment from the patient to comply

with wearing the protective glasses full time for weeks post-surgery and coming in for multiple follow-ups.) Additionally, it is important to keep in mind that some patients may be contraindicated to receive this type of IOL (eg, those with a history of herpes eye infections or nystagmus, or those taking any medication that increases sensitivity to UV light).³ A study by the FDA found that, when compared with standard monofocal IOL patients, LAL patients were 50% more likely to have an unaided VA of 20/20 at 6 months postoperatively.⁴

IC-8 Aphthera

The IC-8 Aphthera IOL was cleared by the FDA in 2022 for patients with up to 1.50 D of corneal astigmatism.⁵ It works like a pinhole by combining a monofocal lens and an opaque ring with a small central aperture to achieve an extended depth of focus,⁶ which allows the patient to achieve clear vision over a range of distances, just like a multifocal IOL. However, there are a few details that make this lens option stand out from its counterparts.

The IC-8 Aphthera IOL is cleared to be implanted in the nondominant eye only, after the patient's dominant eye has undergone successful surgery with a monofocal IOL and has achieved BCVA of at least 20/25.⁷ The estimated refractive outcome of the small aperture lens should be approximately -0.75 D to provide the highest quality near and intermediate vision without compromising distance vision.⁵ The pinhole of the lens allows central focused light to pass through and blocks defocused and scattered peripheral light rays, which can reduce glare, halos, and aberrations.⁶ However, it is important to educate patients that their contrast sensitivity will be reduced in the eye with the IC-8 implant and that they may have trouble with their vision in dimly lit conditions, such as when driving at night.⁵

Poor candidates for this lens include patients with central corneal scarring;

AT A GLANCE

- ▶ The Light Adjustable Lens can provide patients with clear vision at distance, intermediate, and near, but not multiple zones of vision simultaneously, similar to a monofocal IOL.
- ▶ The IC-8 Aphthera IOL allows patients to achieve clear vision over a range of distances, just like a multifocal IOL, but is cleared to be implanted in the nondominant eye only, after the patient's dominant eye has undergone successful surgery with a monofocal IOL.
- ▶ Understanding and keeping up to date with innovations in ocular surgery is crucial to providing the best recommendations to patients and strengthens the referral relationship between ODs and MDs.

those with mesopic pupils > 5 mm to 6 mm, as these patients are more likely to have glare; and patients with a history of retinal diseases that limit their vision and require lasers that can damage the opaque ring.⁶ A 2019 study found that 109 of 126 participants achieved an unaided VA of 20/40 at all three distances (ie, near, intermediate, and distance) in the eye with the IC-8 IOL.⁷

KNOW YOUR “AUDIENCE”

Depending on a patient’s visual needs and personality, it is important to understand which IOL is better suited for them, especially when working with ophthalmology offices that may have more experience with one IOL type versus another. Patients who are more particular and “type A” usually find success with a monofocal lens, such as the LAL, because these IOLs have the least amount of potential side effects and can be tweaked postoperatively to fine tune the patient’s vision.⁸

Furthermore, because it is difficult to predict the exact postoperative outcome of patients who have undergone previous refractive surgery (eg, LASIK or photorefractive keratectomy), they are target candidates for the LAL and will greatly benefit from the light treatments to tweak their vision.⁹ Patients who are anxious about definitively picking their postoperative prescription (ie, deciding between monovision, glasses for near, or glasses for distance), can also benefit from the LAL because they can test drive each option in between UV treatment appointments. It is important to consider the patient’s history of compliance when referring them for an LAL consultation, as the requirement to wear UV-protecting glasses during waking hours for 2 to 3 weeks after surgery is critical to the success of this IOL.

On the other hand, patients who have a desire for spectacle independence, but who have failed

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with traditional monovision with contact lenses in the past, are great candidates for the small-aperture IOL. However, it is important to gauge expectations and occupation with these patients, as they might not be able to achieve 20/20 vision in all distances and will have reduced contrast in the eye with the IC-8 IOL.⁷

SELF EDUCATE AND KEEP PATIENTS IN THE KNOW

As referring eye care practitioners, we must take into consideration all risk factors, such as preexisting ocular pathologies, that may be a contraindication for a specific IOL before discussing a patient’s options with them. It’s also important to ensure that every patient’s ocular surface is optimized, to set proper expectations with the technology chosen, and to have a game plan as far as what to consider postoperatively if positive or negative photopsias are encountered

I have also found that understanding and keeping up to date with innovations in ocular surgery is crucial to

providing the best recommendations to my patients and strengthens the referral relationship between ODs and MDs. ■

1. Pierscionek TJ, Moore JE, Pierscionek BK. Referrals to ophthalmology: optometric and general practice comparison. *Ophthalmic Physiol Opt.* 2009;29(1):32–40.
2. FDA approves first implanted lens that can be adjusted after cataract surgery to improve vision without eyeglasses in some patients. US Food & Drug Administration. November 22, 2017. Accessed July 3, 2023. www.fda.gov/news-events/press-announcements/fda-approves-first-implanted-lens-can-be-adjusted-after-ataract-surgery-improve-vision-without
3. What to expect. RxSight. Accessed July 3, 2023. www.rxsight.com/us/what-to-expect/
4. Summary of safety and effectiveness data (SSED). Accessed July 3, 2023. www.accessdata.fda.gov/cdrh_docs/pdf16/P160055B.pdf
5. Acufocus announces FDA approval for the IC-8 Aphera intraocular lens, the first and only small aperture lens for cataract surgery. Acufocus. July 25, 2022. Accessed July 3, 2023. <https://acufocus.com/press/aptheraiofdaapproval/>
6. The IC-8 IOL: big advantages through small apertures. *The Ophthalmologist.* September 9, 2019. Accessed July 3, 2023. <https://theophthalmologist.com/subspecialties/the-ic-8-iol-big-advantages-through-small-apertures>
7. Hooshmand J, Allen P, Huynh T, et al. Small aperture IC-8 intraocular lens in cataract patients: achieving extended depth of focus through small aperture optics. *Eye (Lond).* 2019;33(7):1096–1103.
8. Leonard CY. Which lens for which patient? *Review of Ophthalmology.* 2023; XXX(1):26–34.
9. Tyson F. Go-to uses for a light adjustable lens. *Cataract & Refractive Surgery Today.* Nov/Dec 2022.

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