MAXIMIZING THE POTENTIAL OF LIGHT ADJUSTABLE LENSES

Exploring the integration, candidate selection, and ethical marketing of this technology.

BY CATHLEEN M. MCCABE, MD; KATHERINE G. CHEN, MD, MS; MARJAN FARID, MD; VANCE THOMPSON, MD; AND MATTHEW P. JENSEN

LOGISTICAL INTEGRATION INTO CLINICAL PRACTICE

BY CATHLEEN M. MCCABE, MD

Integrating the Light Adjustable Lens (LAL; RxSight) into clinical practice requires a comprehensive approach to ensure smooth adoption and maximize patient outcomes. At The Eye Associates, where I practice, we prioritized clear communication and education for all stakeholders to establish a solid foundation for success.

STAKEHOLDER EDUCATION AND PREPARATION

Our first step was to ensure everyone understood the rationale for offering the LAL. We communicated its importance and benefits to all relevant stakeholders, including staff who might field questions about the technology, patient counselors, and billing personnel. By addressing these aspects collectively, either in a single session or across multiple meetings, we taught everyone the value and advantages of this new technology for our patients.

LOGISTICAL CONSIDERATIONS

Next, we addressed the logistical aspects of integrating the light delivery device into our existing workflow. This included finding a suitable space for the device and educating our patient counselors about the process for and postoperative requirements of LAL patients. We specifically addressed the use of UV-blocking glasses, where these glasses would be stored, when patients would receive them, and who would be responsible for their distribution. Managing these details was crucial for a smooth transition and seamless patient flow.

PATIENT EVALUATION AND EDUCATION

When evaluating a cataract patient, if the LAL is a suitable option, I describe the technology and explain its benefits. My scribe then discusses the cost, postoperative requirements, and how the follow-up schedule for the LAL differs from that of traditional cataract surgery.

An essential aspect we addressed with staff was the documentation of the dilated pupil size during cataract evaluations. Initially, there were instances when this information was not documented. The oversight required pupillary dilation on the day of biometry, which is not standard practice. We have since integrated the documentation of dilated pupil size into our protocol for all cataract evaluations. The minimum requirement is 6.5 mm. This step ensures we can see the entire 6-mm optic necessary for the light delivery device to function properly.

To optimize the ocular surface, treatment with preservative-free tears or more complex interventions is administered as needed. When patients return for biometry, our patient care coordinator provides details on the LAL, the use of UV-blocking glasses, and the visual changes expected in the early postoperative period.

SETTING REALISTIC EXPECTATIONS

Other premium lenses address astigmatism immediately upon implantation. We learned the importance of setting realistic expectations about postoperative vision clarity with the LAL. Now, we clearly explain that, although the lens is a premium option, the early postoperative period may not deliver the immediate "wow" effect in terms of distance vision.

SCHEDULING AND POSTOPERATIVE CARE

On the day of surgery, patients receive their UV-blocking glasses and specific postoperative instructions tailored to the LAL experience. They return for a postoperative checkup 1 day after surgery. Eyes are typically scheduled for surgery 1 week apart to synchronize adjustments and lock-ins, though not simultaneously.

In our seasonal community in Florida, many patients are snowbirds. It is crucial they understand the postoperative commitment. They must be available for at least three postoperative treatments. Typically, both eyes are adjusted 3 weeks after the second eye surgery, followed by two lock-in treatments approximately 1 week apart. This schedule promotes optimal outcomes and a smooth adjustment process.

OPTIMIZING CLINIC FLOW

Postoperative visits are typically longer than those for standard cataract surgery because optimal pupillary dilation is required. Initially, we did not schedule these visits appropriately, which disrupted clinic flow. Now, we see these patients just before lunch, and the dilation process starts before the break. Adjustments are performed right after lunch, allowing adequate time for dilation without disrupting clinic flow.


CRITERIA FOR CANDIDATE SELECTION

BY KATHERINE G. CHEN, MD, MS, AND MARJAN FARID, MD

Cataract surgery is one of the most common surgeries worldwide, and IOL technology has advanced significantly over the years. One of the latest innovations is the LAL, the only US FDA-approved IOL that allows residual refractive error to be adjusted after cataract surgery. This technology has demonstrated exceptional refractive accuracy owing to its capability for postoperative adjustment.[1] Although the LAL can benefit any patient, it is particularly advantageous for certain groups.

CHALLENGES IN IOL CALCULATIONS

Advances in IOL calculations include the use of AI to improve the accuracy of refractive results. Certain patients, however, remain at increased risk of refractive surprises, such as those with a history of refractive surgery. Intraoperative aberrometry is frequently used for these individuals, but studies have not demonstrated a benefit compared with the use of the Barrett True-K formula.[2]

CANDIDACY FOR THE LAL

Prior Laser Vision Correction

Some of the best candidates for the LAL are patients who have a history of laser vision correction, regular and central ablation zones on topography, minimal higher-order aberrations (HOAs), and good BCVA. Multiple studies have demonstrated good visual outcomes with the LAL in this population.[3-5] In our practice, this is the only IOL technology that we highly recommend for such individuals.

Prior Monovision

Patients with a history of successful monovision are great candidates for the LAL. In our experience, patients can achieve a good range of vision with less difference between the refractions of the two eyes thanks to

the IOL's inherent extended depth of focus properties.

Indecisive Patients

The LAL is well suited to patients who are unsure about their desired refractive outcome. Its flexibility allows them to trial their postoperative vision and decide on their final refractive outcome based on their life experience. These are some of our happiest patients after cataract surgery.

Irregular Corneas

The LAL does not correct HOAs. Patients with highly irregular corneas after laser refractive correction, corneal scarring, or radial keratotomy may therefore not achieve high-quality vision even with the up to 3.00 D of spherocylindrical correction the LAL can provide. We therefore generally avoid using the implant in these patients and consider alternatives such as a small-aperture lens instead.

Patients with a history of radial keratotomy exhibit varying degrees of corneal irregularity and HOAs. Those whose central corneas are sufficiently regular and who have achieved satisfactory BSCVA can be excellent candidates for the LAL. Light adjustments can be delayed until refractive stability is confirmed. If, however, HOAs require the individual to wear a rigid contact lens to obtain quality vision, then a small-aperture IOL may be a better choice.

THE LATEST INNOVATION

The LAL+ (RxSight) has a modified anterior surface with a small, continuous increase in the central lens power that provides greater extended depth of focus. The aim of this design is to provide better visual outcomes than with the original LAL. An extended range of focus, moreover, may reduce the number of postoperative adjustments required to achieve a patient's desired visual outcome.

We recently began using the LAL+ in our practice, and our initial results have been excellent. Continued experience with this IOL will expand our understanding of patient selection and improve outcomes.

ETHICAL MARKETING AND PATIENT EDUCATION

BY VANCE THOMPSON, MD, AND MATTHEW P. JENSEN

LALs offer surgeons the unique ability to change a lens implant's power after it is inside the eye and thus customize the refractive endpoint to suit each patient's unique desires. The lens has been a wonderful addition to refractive cataract surgery,[6] but with powerful technology comes a responsibility for ophthalmologists and their staff to deliver fair and balanced information. Marketing an eye care practice represents the beginning of patient education and informed consent. Ethical marketing deserves careful and thoughtful surgeon input.

ETHICAL MARKETING

Surgeons' and manufacturers' claims must reflect the true capabilities of LALs. The goals of marketing and patient education are to provide a clear understanding and set realistic expectations.

The differences between the LAL and other available technologies require a multifaceted approach to ensuring patients who choose the former are well-informed and confident about their decision. Following are some strategies that prioritize patient education and informed consent.

No. 1: Build a Referral Network

Strong relationships with local optometrists and ophthalmologists are crucial to success with the LAL. Educating these professionals about the technology's benefits and functionality empowers them to refer the patients who would benefit from it the most. Regular workshops, informational sessions, and detailed literature can help community and regional doctors become knowledgeable about the advantages of the LAL.

No. 2: Use Digital Media

Leveraging digital media platforms is key to reaching a broader audience. Creating engaging content such as informative videos, patient testimonials, and educational articles can help demystify the technology and highlight its benefits. Utilizing social media channels, targeted online advertising, and a user-friendly website can effectively communicate the advantages of the LAL to potential patients. Search engine optimization helps content reach individuals actively searching for cataract solutions.

No. 3: Empower Satisfied Patients

Happy patients are powerful advocates. Encouraging them to share their positive experiences through online reviews, testimonials, and social media posts can boost a practice's credibility. Providing easy-to-use tools for patients to leave reviews on

platforms such as Google, Yelp, and health care–specific sites and creating shareable content for social media can amplify their voices and attract new patients.

No. 4: Educate Patients

Before surgery, patients should understand that no technology guarantees perfect vision without glasses. Upon learning that the power of the LAL can be adjusted after implantation and healing to match their goals and desires, patients may start to expect perfection. This expectation simply is not realistic. Based on our experience in clinical trials for the device, we expect 96% of patients to achieve a result within ±0.50 D of their refractive goal. Patients should therefore be informed that, in some situations, they may prefer a plano refraction, which may require them to wear glasses.

Moreover, although a significant percentage of patients achieve spectacle independence with the LAL, some do not. Postoperative patient satisfaction can still be high if marketing efforts and preoperative education emphasize reduced dependence on rather than complete independence from spectacles and contact lenses.

A COMPREHENSIVE GUIDE TO THE LAL JOURNEY

The LAL journey requires several steps, including the initial surgery, a follow-up period to document quality healing and final refractive stability, and the postoperative light treatments (typically two to three adjustments and two lock-ins). Until the final refraction is locked in, patients must wear UV-blocking glasses.[7] They should be aware of this requirement.

Contraindications to LAL implantation include a small pupil and the use of medications that theoretically could cause retinal phototoxicity, as described in the product labeling. ■

1. Villegas EA, Alcon E, Rubio E, Marín JM, Artal P. Refractive accuracy with light-adjustable intraocular lenses. *J Cataract Refract Surg*. 2014;40(7):1075-84.e2.
2. Kane JX, Chang DF. Intraocular lens power formulas, biometry, and intraoperative aberrometry: a review. *Ophthalmology*. 2021;128(11):e94-e114.
3. Brierley L. Refractive results after implantation of a light-adjustable intraocular lens in postrefractive surgery cataract patients. *Ophthalmology*. 2013;120(10):1968-1972.
4. Wong JR, Folden DV, Wandling GR, et al. Visual outcomes of a second-generation, enhanced UV protected light adjustable lens in cataract patients with previous LASIK and/or PRK. *Clin Ophthalmol*. 2023;17:3379-3387.
5. Moshirfar M, Henrie MK, Payne CJ, Hansen AM, Ronquillo YC, Hoopes PC. Comparing visual outcomes of light adjustable intraocular lenses in patients with and without prior history of corneal refractive surgery. *J Refract Surg*. 2023;39(5):311-318.
6. Jun JH, Lieu A, Afshari NA. Light adjustable intraocular lenses in cataract surgery: considerations. *Curr Opin Ophthalmol*. 2024;35(1):44-49.
7. RxSight. Patients | The Light Adjustable Lens from RxSight. Accessed July 2, 2024. https://rxsight.com/patients

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