Bridging the Gap in Presbyopia Treatment

with Artiplus

Executive Summary

Presbyopia remains one of the most challenging refractive conditions to manage, particularly in younger patients who retain functional accommodation and high visual demands. Existing treatment options present important limitations in terms of safety, predictability, reversibility, and patient selection.

Artiplus is a multifocal phakic intraocular lens (IOL) that introduces a novel approach to address a long-standing unmet need: the correction of presbyopia in patients approximately 40 to 50 years of age. It provides a compelling alternative, particularly for myopic and emmetropic individuals who are not suitable candidates for refractive lens exchange. Insights from expert panelists featuring Professor **Jorge L. Alió**, Dr. **Sebastian Beckers** and Dr. **Julián Cezón** highlight Artiplus as a safe, reliable, and clinically meaningful solution that finally fills a long-standing gap in presbyopia management.

Prof. Jorge L. Alió MD, PhD, FEBO, FWCRS
Vissum Miranza Alicante
Universidad Miguel Hernández

Globally recognized expert in cataract, corneal, and refractive surgery, with hundreds of publications and numerous international awards. A leading authority in ophthalmic innovation and education.

Dr. Sebastian Beckers, MD
Augenclinic Mallorca

Experienced ophthalmic surgeon specialized in refractive and cataract surgery, known for advanced surgical solutions, innovation, and regular presentations at leading international conferences.

Dr. Julián Cezón
Miranza Cimo

A renowned expert in refractive and cataract surgery, acknowledged for his contributions to research and innovation. He performed the world's first implantation of the Artiplus lens during the clinical trial.

The Unmet Need in Presbyopia Management

Presbyopia correction strategies have expanded over the last decades; however, none have provided a universally satisfactory solution for younger presbyopic patients.

Limitations of Existing Treatment Options

- **Corneal-based procedures** such as PresbyLASIK or corneal inlays show limited long-term efficacy, with variable visual outcomes and inconsistent patient satisfaction.
- **Pharmacological topical therapies** may provide short-term benefits at very early presbyopia stages but fail to effectively address intermediate or advanced stages.
- **Refractive Lens Exchange** (RLE). While multifocal IOLs can correct presbyopia, refractive lens exchange is not an optimal strategy in younger patients. Removing a transparent crystalline lens with remaining accommodation introduces significant ethical, safety, and long-term considerations.

As Professor **Alió** emphasized, refractive lens exchange is contraindicated or ethically questionable in many patients under 50 years of age—leaving a substantial population without an optimal solution.

5% Published clinical evidence demonstrates an increased incidence of retinal detachment over time following RLE, with risks exceeding 5% in younger high myopes[1]. Hyperopic patients, on the other hand, face elevated risks of macular edema and compromised visual quality.

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Artiplus: A New Category in Presbyopia Correction

Artiplus represents a paradigm shift by offering presbyopia correction while keeping the natural structures of the eye and preserving the residual accommodation.

According to Professor **Alió**, Artiplus "*bridges the gap*" left by existing technologies, particularly in young presbyopes who are not candidates for lens extraction.

Dr. **Beckers** described Artiplus as "*hope*"—a long-awaited option for patients who previously had no safe or satisfactory treatment available.

Clinical Rationale and Key Advantages

The clinical rationale for Artiplus is grounded in anatomical preservation, risk mitigation, and optimized optical performance in presbyopic patients:

- **Optical Performance**. The lens design provides full range of vision from distance to near with reliable visual outcomes and minimal dysphotopsias.
- **Preservation of the Crystalline Lens**. Artiplus allows presbyopia correction by maintaining residual accommodation, making it particularly suitable for patients in their 40s and early 50s.
- **Safety Profile**. By avoiding lens extraction, Artiplus significantly reduces the risk of retinal detachment in myopic patients and minimizes macular complications in hyperopes.
- **Reversibility**. One of the most compelling advantages highlighted by both experts is reversibility. Artiplus can be removed if necessary, offering surgeons and patients an "exit strategy" and long-term flexibility as technologies evolve.

Ideal Patient Profiles

Based on expert consensus, Artiplus is particularly indicated for:

- **Myopic presbyopes aged 40–50 years** (primary indication).
- **Presbyopic emmetropes** with transparent crystalline lenses.
- **Selected hyperopic patients** with appropriate anterior segment anatomy.

Key anatomical criteria include:

- Adequate anterior chamber depth.
- Open iridocorneal angle.
- Patient compliance and realistic expectations.

Artiplus in the Clinical Decision-Making Process

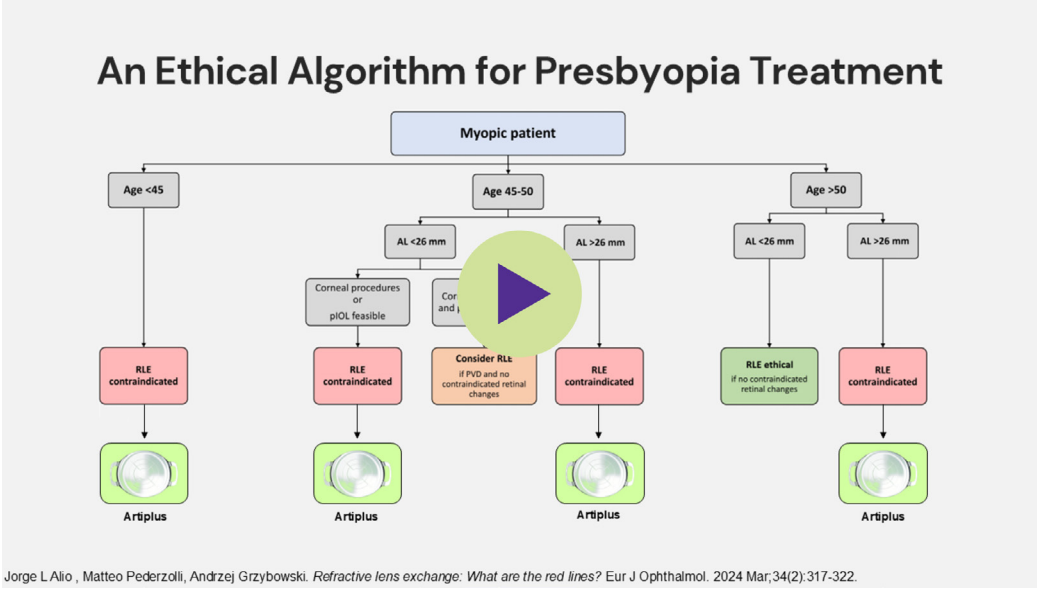
Both experts emphasized the clarity Artiplus brings to presbyopia treatment algorithms.

Dr. **Beckers** described Artiplus as "*the treatment option we were missing*"—particularly for patients with high visual expectations, preserved accommodation, and anatomical or safety limitations that preclude corneal or lens-based refractive surgery.

Professor **Alió** stated that Artiplus will become his first-line treatment option for presbyopic patients between 40 and 50 years of age, especially myopes, followed by emmetropes and selected hyperopes.

According to Professor **Alió**, Artiplus uniquely addresses a transitional phase in presbyopia management: the period between early presbyopia and the onset of lens dysfunction requiring cataract or refractive lens surgery. It offers an effective, safe, and ethically sound solution during a time when no ideal option previously existed.

Figure 1.
Proposed algorithm outlining ethical indications for presbyopia treatment in myopic, hyperopic and emmetropic patients, based on the publication by Professor Alió.RLE:Refractive lens exchange; AL: axial length; pIOL: phakic intraocular lens; PVD: posterior vitreous detachment.[2]



Jorge L Alio , Matteo Pederzolli, Andrzej Grzybowski. *Refractive lens exchange: What are the red lines?* Eur J Ophthalmol. 2024 Mar;34(2):317-322.

Early Clinical Experience and Patient Satisfaction

Initial clinical experience with Artiplus has been highly encouraging, with both objective clinical outcomes and patient-reported satisfaction demonstrating strong performance.

In a prospective multicenter clinical trial led by Güell JL et al[3], the binocular defocus curve demonstrated a visual acuity ≤ 0.10 LogMAR across defocus levels from +0.50 D to −3.00 D. This confirms a broad and continuous range of functional vision extending from distance to near, supporting the lens' ability to provide stable, high-quality visual acuity across multiple working distances.

Subjective outcomes have been equally compelling. At the 2-year follow-up, 100% of patients reported being quite to very satisfied with both the overall outcome of the procedure and their current uncorrected vision[4].

As with many advanced optical technologies, Artiplus requires a postoperative neuroadaptation period. The duration of this adaptation phase can vary between patients, typically ranging from some weeks up to 6–12 weeks, during which the visual system progressively adjusts to the lens optics. Maximum visual performance and overall satisfaction are generally achieved once this adaptation process is complete.

In line with these findings, Dr. **Beckers** highlights patient satisfaction as one of the most remarkable aspects of Artiplus performance, with consistent reports of:

- High-quality distance vision
- Very good near vision
- Good contrast sensitivity
- Minimal visual disturbances

Experts further emphasize the confidence provided by the Artiplus optical design, noting its predictable performance and consistent outcomes in appropriately selected patients.

Conclusions

Artiplus introduces a new standard in presbyopia correction for younger patients. By combining safety, reversibility, optical reliability, and patient satisfaction, it bridges a critical therapeutic gap in current refractive practice.

As outlined by the expert panel:

- **Artiplus offers hope** for a previously underserved patient population.
- **Artiplus is safety, stability, and predictability**.
- **Artiplus is a future-oriented solution** that aligns with responsible, patient-centered refractive care.

References:

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2. *Alio JL, Pederzolli M, Grzybowski A. Refractive lens exchange: What are the red lines? Eur J Ophthalmol. 2024 Mar;34(2):317-322.*
3. *Joukje C Wanten et al. Six-month performance and safety of an iris-fixated multifocal intraocular lens for presbyopia correction in phakic eyes. J Cataract Refract Surg. 2025*
4. *Güell, JL; Cezón, J; Durán de la Colina, JA; Royo, M; Casado, D; Nuijts, R; Chung, SH; Choi, JH; Koh, IH. Prospective multicenter clinical trial with the Artiplus, an irisfixated multifocal intraocular lens for the correction of presbyopia in phakic eyes. Data on file, November 2025.*

Ophtec BV
Schweitzerlaan 15, 9728 NR Groningen, The Netherlands, +31 50 525 1944, info@ophtec.com