

REFINING PRESBYOPIA TREATMENT



A close look at a novel refractive IOL.

BY FRANCESCO CARONES, MD

The Tecnis PureSee (Johnson & Johnson Vision) introduces a novel concept in presbyopia-correcting IOLs. Unlike lenses that incorporate diffractive steps, the PureSee relies solely on refractive optics.^{1,2}

In my experience, the PureSee significantly enhances patients' depth of focus, thereby reducing their need for spectacles. The IOL also appears to minimize dysphotopsias, which are a common postoperative concern among patients who receive presbyopia-correcting IOLs.

DESIGN

To illustrate the design concept of the Tecnis PureSee lens, let's consider an example where the nominal power is +21.00 D. This means that +21.00 D is the average of regions with higher and lower powers. This variation in power distribution across the lens optic provides patients with an extended depth of focus.^{1,2}

The lens does not manipulate spherical aberration; rather, its spherical aberration profile is similar to that of other Tecnis lenses (Johnson & Johnson Vision) and aimed specifically at reducing preexisting corneal spherical aberration.^{1,2}

Thus, the extended depth of focus can be attributed solely to the differential powers within the lens. Linear but not constant, the change in power is initiated over the first 2.2 mm from the center of the lens and tapers down to the nominal power toward the periphery.

PATIENT SELECTION

In my practice, we approach every patient as a potential candidate for a presbyopia-correcting IOL and then exclude those who do not meet the selection criteria. Each patient is counseled on the possibility of receiving a presbyopia-correcting IOL, although the specific model suitable for the individual may not be determined before the consultation.

The introduction of the PureSee lens has not significantly altered the consultation process at my practice, but it has greatly simplified discussions when the patient desires nearly complete spectacle independence but is averse to experiencing dysphotopsias. For such individuals, the PureSee lens is an attractive option because it offers almost a full range of vision and reduced spectacle dependence.^{1,2} During the consultation, we explain that the PureSee lens can provide high visual quality with minimal compromise. It is crucial to emphasize to patients that they will be nearly but not completely independent of spectacles after surgery. If they are receptive to achieving a wide but not a complete range of vision without glasses, the remainder of the treatment process tends to be smooth. This approach helps set realistic expectations, thereby enhancing patients' satisfaction with their surgical outcome.

MICRO-MONOVISION STRATEGY

Surgically, the PureSee lens is quite similar to other Tecnis lenses.

Outcomes across all distances can be enhanced with a micro-monovision strategy. I have found the PureSee to be a forgiving lens; it effectively minimizes dysphotopsias even when the refractive outcome is not plano.

In my experience, the impact of offsetting the refractive target in one of the two eyes—regardless of whether it is the dominant or nondominant eye—is minimal. For instance, setting a slight offset in one eye to a final target of -0.50 D maintains excellent (often 20/20 or better) distance visual acuity in that eye. This adjustment also improves patients' near visual acuity, thereby increasing their spectacle independence.

ADVICE FOR GETTING STARTED WITH PRESBYOPIA-CORRECTING IOLS

Although I cannot define the ideal first candidates for a PureSee IOL, I recommend starting with someone who has low or no astigmatism. This strategy should allow the practice to become accustomed to the outcomes with and handling of the lens. ■

1. Corbett D, Black D, Roberts TV, et al. Quality of vision clinical outcomes for a new fully-refractive extended depth of focus intraocular lens. *Eye (Lond)*. 2024;38(Suppl 1):9-14.
2. Alarcon A, Del Aguila Carrasco A, Gounou F, Weeber H, Cánovas C, Piers P. Optical and clinical simulated performance of a new refractive extended depth of focus intraocular lens. *Eye (Lond)*. 2024;38(Suppl 1):4-8.

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