

Functional Vision & Patient Outcomes Framework

Integrating evidence-based IOL classification with clinically meaningful outcomes

From Optical Design to Functional Vision

Classify IOLs by demonstrated functional vision: different optical technologies may deliver comparable clinical performance. [1]

MONOCULAR DEFOCUS CURVE
Best distance correction; normalize to 0 logMAR

→

DEPTH OF FIELD (DOFi)
From 0 D toward near, at 0.2 / 0.3 logMAR

+

INTERMEDIATE → NEAR
ΔVA: acuity improvement in logMAR

Partial-DOFi
<2.3 D at 0.2 / <2.75 D at 0.3 logMAR



Narrowed
0.2: <1.2 D | 0.3: <1.61 D



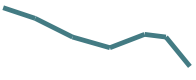
Enhanced
0.2: ≥1.2 to <1.58 D | 0.3: ≥1.61 to <1.98 D



Extended
0.2: ≥1.58 to <2.3 D | 0.3: ≥1.98 to <2.75 D



Steep
ΔVA ≥0.14 logMAR
Larger near acuity rebound



Smooth
ΔVA ≥0.05 to <0.14 logMAR
Smaller near acuity rebound



Continuous
ΔVA <0.05 logMAR
Little or no near acuity rebound

DOFi intervals; Partial-DOFi ΔVA = 0. Adapted from consensus [1].

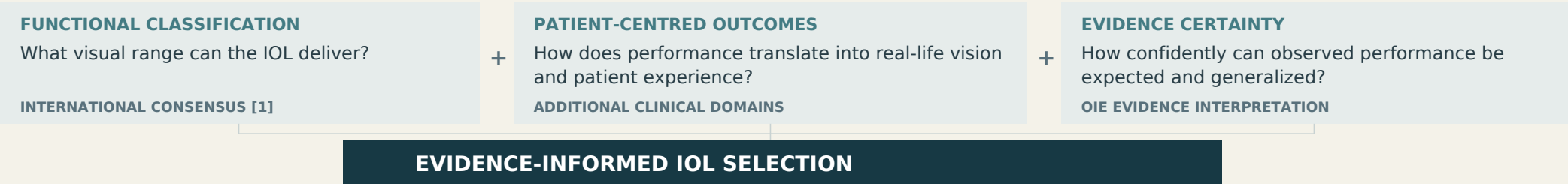
Illustrative curve shapes only; not measured clinical data. [1]

OIE / Evidence, interpreted.

13 OCTOBER 2026 / 01

Beyond Depth of Field: What Matters to Patients?

INDEPENDENT OIE INTERPRETATION / Functional vision, lived experience and confidence in the evidence



PATIENT-CENTRED OUTCOMES MATRIX

CLINICAL ENDPOINTS / IOL SELECTION

 A Functional visual performance Distance / intermediate / near VA; binocular vision; defocus shape and functional range. SELECT Match visual range to daily tasks.	 B Spectacle independence Distance / intermediate / near / complete independence; task-specific spectacle use. SELECT Clarify when glasses are needed.	 C Visual quality Contrast sensitivity; photopic / mesopic and glare conditions; objective / subjective quality. SELECT Assess vision in demanding conditions.
 D Dysphotopsia & disturbances Halos / glare / starbursts: frequency, severity and functional burden. SELECT Explain symptom trade-offs.	 E Patient-reported outcomes Satisfaction, quality of life, daily visual function; domain-valid PROMs / AIOLIS. [4,5] SELECT Connect measurements to lived vision.	 F Evidence quality & interpretation Design, sample size, follow-up; consistency and certainty. SELECT Judge reliability for this patient.

Scientific References & Interpretation Notes

Verify the evidence. Read the methods. Interpret in context.

A / REFERENCES

[1] Fernández J, Koch DD, Barrett GD, Andrade N Jr, Ribeiro F; Functional Vision Working Group. Global consensus on the evidence-based functional classification of simultaneous vision IOLs. J Cataract Refract Surg. 2026;52(3):219–222. doi:10.1097/j.jcrs.0000000000001880.

[2] Ribeiro F, Dick HB, Kohnen T, Findl O, Nuijts R, Cochener B, Fernández J. Evidence-based functional classification of simultaneous vision intraocular lenses: seeking a global consensus by the ESCRS Functional Vision Working Group. J Cataract Refract Surg. 2024;50(8):794–798. doi:10.1097/j.jcrs.0000000000001502.

[3] 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. 2024;40(2):e108–e116. doi:10.3928/1081597X-20231212-01.

[4] Hays RD, et al. Development of a patient-reported outcome measure to assess symptoms associated with cataract surgery and intraocular lens implants. Ophthalmology. 2023;130(7):715–725. doi:10.1016/j.ophtha.2023.02.026.

[5] Wanten JC, et al. ESCRS guideline for cataract surgery 2024: executive summary. J Cataract Refract Surg. 2026;52(9):e1–e13. doi:10.1097/j.jcrs.0000000000002012.

D / INDEPENDENT OIE FRAMEWORK

Functional classification does not establish satisfaction; greater DOFi does not establish overall superiority. Study heterogeneity, patient characteristics and ocular biometry affect generalizability. The integrated model is an independent OIE evidence-interpretation framework, not a validated composite score. No professional society or manufacturer endorsement is implied.

B / FUNCTIONAL CLASSIFICATION

2024 → 2026 [1,2]
Earlier ESCRS RoF terminology becomes DOFi in the global consensus of ESCRS, ASCRS, APACRS and LATAMSCRS; six categories are retained.

Thresholds & shape [1,3]
Normalize distance-corrected monocular curves to 0 logMAR. DOFi spans 0 D toward near: 0.2 logMAR is the main criterion; report 0.3 too. ΔVA is intermediate-to-near improvement; lower logMAR is better.

Protocol & assignment [1,3]
Record protocol, both DOFi thresholds and ΔVA; qualify borderline or discordant results. If unreliable: “Insufficient evidence for definitive functional classification.”

Distinct classification purposes [1]
Clinical functional performance is distinct from optical technology, regulatory categories and manufacturer marketing labels.

C / PATIENT OUTCOMES — INTERPRETATION

A Functional vision — Specify correction, distances, luminance, pupil and protocol. Separate monocular / binocular outcomes; pooling requires justification.

B Spectacle independence — Check definitions, tasks, frequency and denominator. Defocus curves alone do not establish spectacle independence.

C Visual quality — Match tests, luminance and spatial frequencies. Bench metrics alone do not prove patient benefit.

D Dysphotopsia — Check elicitation, timing and instrument; distinguish frequency, severity and burden. Unreported symptoms are not absent symptoms.

E Patient reports [4,5] — Use validated language / population versions and relevant items. AIOLIS is not a complete quality-of-life assessment.

F Evidence quality — Assess bias, attrition, funding, eye/patient unit and limitations. Check definition comparability before pooling or generalizing.