

# THE AECOS LENSPEAK FRAMEWORK FOR IOL NOMENCLATURE

## Separating performance from mechanism and making dysphotopsias explicit.



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At the 2019 ESCRS Annual Meeting in Paris, I became aware of how inconsistent premium IOL terminology had become. Colleagues repeatedly stopped me in the corridors to ask, “Which EDOF [extended depth of focus] lens do you prefer?” The question was not surprising. What concerned me was the assumption behind it.

Many surgeons were using EDOF as a catch-all label for any lens that provides useful intermediate vision with fewer halos. That shorthand overlooks an important reality: different optical strategies can produce an intermediate benefit, and each approach carries distinct trade-offs, particularly with respect to photic phenomena.

At the same time, many surgeons did not appreciate how permissive the prevailing performance bar could be. The American National Standards Institute standard for meeting EDOF criteria is relatively low. It requires only 50% of patients to achieve 0.2 logMAR (20/32) visual acuity at 67 cm with distance correction. In real-world counseling, that probability statement often does not align with what patients consider acceptable when they are paying for a high-performance outcome.

Experiences like this one ultimately led the American-European Congress of Ophthalmic Surgery (AECOS) to develop Lenspeak: a practical, patient-facing nomenclature that

separates what a lens delivers (range of focus) from how the lens delivers it (mechanism), while making dysphotopsia expectations explicit rather than implied.

### HOW THE AECOS FRAMEWORK WAS BUILT

A few of us within AECOS recognized that the problem was not simply the term EDOF. The deeper issue was that three different concepts were being combined routinely under the EDOF label: (1) performance, (2) mechanism, and (3) dysphotopsia risk. A working group that included Erik L. Mertens, MD, FEBO, FWCRS; Francesco Carones, MD; David Shahnazaryan, MD, FRCSI (Ophth), FEBO; Joaquín Fernández, MD, PhD; and myself was formed, and we built a framework from first principles.

Our goal was to identify a nomenclature that was simple, stable, governed by uniform rules, and expandable as optics evolve. Most important, it had to be understandable to all stakeholders, particularly patients. We also felt the language should be optimistic because terminology that sounded negative, or confusing, would not promote the adoption of advanced technology lenses.

A key part of the process was testing terms during counseling. That exercise was humbling. Phrases surgeons might view as self-evident—such as *field of vision* and *range of vision*—were often interpreted by patients to mean peripheral vision.

By contrast, *range of focus* was consistently understood as how close and far patients can

see clearly, which is what they are actually trying to learn. Phrases such as *increased range of focus* (IROF) and *full range of focus* (FROF) proved intuitive and constructive in real conversations. These terms allow counseling to remain optimistic without being vague, and they keep the discussion anchored in what patients care about: functional capability.

### CORE STRUCTURE OF THE AECOS FRAMEWORK

The AECOS approach deliberately separates IOL nomenclature into three components: (1) performance (what the patient can do), expressed as *range of focus*; (2) mechanism of action (how the lens creates that performance), which is primarily clinician-facing and (3) dysphotopsias (what the patient may notice, especially at night), which sets expectations and is relevant to consent.

These components interact, but separating them is precisely the point. Much of the clinical confusion arises when we conflate performance with mechanism and then allow dysphotopsia expectations to remain implicit.

#### Performance

If we are going to label something as IROF or FROF, we should be willing to attach meaningful performance expectations to those descriptors.

**IROF.** For an IROF designation, our working group proposed a higher standard than the American National Standards Institute standard for EDOF—80% of patients should achieve 0.2 logMAR (20/32) visual acuity at 67 cm with distance correction.

**FROF.** For a FROF outcome, the expectation is higher still—80% of patients should achieve 0.2 logMAR (20/32) visual acuity at distance, 67 cm, and 40 cm with distance correction.

The reason for putting odds into the framework was simple. Probabilities are what patients are trying to understand during shared decision-making. “Most people do well” is less helpful to them than “eight out of 10 people achieve this.”

### Mechanism

Mechanism matters enormously, but it should not be what we lead with when speaking to patients.

In the AECOS framework, mechanism of action is the lens-selection domain. It is where surgeons do the work of matching optics to the individual eye and the patient’s tolerance. Mechanism interacts with factors such as pupil size, corneal shape and aberrations, visual priorities, and our best judgment about neural adaptation.

### Dysphotopsia

Dysphotopsias should not be an

afterthought, and they should not be smuggled into a category label. In the AECOS framework, dysphotopsia is its own component because it is a major driver of patient satisfaction and IOL exchange discussions when expectations were not set appropriately.

### THE AECOS FRAMEWORK IN THE CLINIC

In practice, I speak primarily in ROF terms, confirm the patient’s priorities, and then add a straightforward dysphotopsia expectation statement with real-world odds. Mechanism stays largely in my head and in my documentation—guiding the choice without dominating the conversation.

In my experience, that combination—simple performance language, mechanism-aware selection, and explicit symptom expectation-setting—has made shared decision-making easier, more consistent, and less prone to misunderstandings than the use of the term EDOF.

### A COMMON LANGUAGE

The term *Lenspeak* was inspired by the *Keratospk* series by George O. Waring III, MD, which offered preferred terminology alongside common alternatives.<sup>1</sup> That framing mattered to us. We were not trying to police language; we were trying to make counseling clearer, support shared decision-making, and create a

system flexible enough to accommodate new optics without collapsing back into umbrella terms.

Multiple classification systems are being proposed globally, and I would welcome broader collaboration across groups to incorporate the best elements of each—particularly when terms are technically correct but confusing in clinic. (The use of the word *field* is confusing and the label *partial* may strike patients as pessimistic.) The AECOS framework prioritizes language that can be used with patients in the clinic, while still giving surgeons a disciplined structure to compare lenses beyond marketing categories.

If *Lenspeak* succeeds, it will be because it helps clinicians (1) describe what the patient gets, (2) choose IOLs based on how they work, and (3) counsel patients honestly about the visual phenomena that most influence their postoperative level of satisfaction in language they understand. ■

1. Waring GO 3rd. Making sense of ‘keratospk’: A classification of refractive corneal surgery. *Arch Ophthalmol*. 1985;103(10):1472-1477.

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