

WHY INCONSISTENT IOL NOMENCLATURE MATTERS

An interview with Douglas D. Koch, MD, on how clearer classification could improve patient counseling, research comparability, and the adoption of new optics.



CRST: Where does inconsistent IOL nomenclature do the most damage today?

Douglas D. Koch, MD: Imprecise IOL nomenclature can impair physician understanding of IOL performance, altering physician expectations—which in turn shape what we as physicians communicate to our patients. The goal is straightforward: better patient care through a clearer understanding of what a given lens can—and cannot—deliver.

Inevitably, there will be jargon in this space, and it can be misleading. If we define IOL performance more precisely—particularly optical quality, depth of field, and dysphotopsia profile—we can counsel patients more accurately and select technology more responsibly.

CRST: When a lens category is labeled vaguely, what can go wrong in outcomes research?

Dr. Koch: The literature includes everything from rigorous studies to smaller case series and cohort studies with variable testing standards. When terminology is inconsistent and testing standards vary, it becomes easier to draw misleading conclusions—especially when people make comparisons across studies that are not truly comparable.

One goal of a functional classification system is to establish clearer expectations for what studies should measure and how. It also enables a higher-level view—a kind of supraanalysis—across multiple studies so we can understand what these lenses actually provide for patients in the real world. That clarity helps physicians, helps patients, and can also matter in countries where marketing or reimbursement is influenced by measured optical performance. I do want to acknowledge the role of colleagues at ESCRS for their extraordinary work in this area.

CRST: How do standards and regulatory bodies fit into this discussion?

Dr. Koch: International standards organizations, including the International Organization for Standardization, have their own criteria. In the United States, marketing claims are constrained by the US FDA, which is often helpful because it establishes guardrails around what can be said. Even within these frameworks, however, terminology can remain inconsistent—especially when labels are applied loosely across manufacturers, markets, and publications.

CRST: What is the real-world practical impact of inconsistent nomenclature?

Dr. Koch: It shows up most clearly in patient counseling. Surgeons need a clear understanding of what a lens can and cannot do. If physicians find the terminology unclear—or overly influenced by marketing language—they and the patient can end up misaligned.

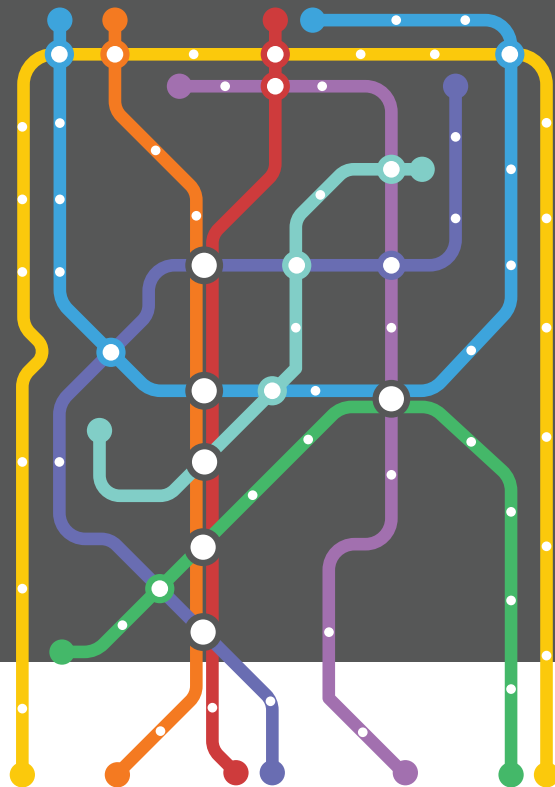
Surgeons tailor how they describe lenses to their patients, and that flexibility is appropriate. The goal is not to standardize counseling scripts. The goal is to provide functional guardrails so surgeons can counsel patients with confidence, for example as follows:

- This lens extends range of vision but not to the same degree as this other lens.
- This design increases the likelihood of glare or halos.
- This optic offers greater depth of field but carries a different dysphotopsia profile.

The better we define these trade-offs, the better we can set patients' expectations and improve their level of satisfaction.

CRST: What kind of evidence should anchor a functional classification—bench testing, clinical studies, or both?

Dr. Koch: Both. Bench testing is an



important starting point because it is objective and standardized, but functional classification ultimately must reflect real-world performance. It should not rely on one study; it should be informed by many studies over time. The goal is a cumulative body of knowledge for each implant that helps surgeons understand what to expect and how to counsel patients.

CRST: Why is this problem more acute in some markets than others?

Dr. Koch: In the United States, available options are more limited, so the landscape is somewhat less complex. In Europe, for example, the number of extended depth of field IOLs has expanded rapidly, and the terminology can be genuinely confusing. A clearer functional framework might be especially useful there, but it is relevant in the United States as well—particularly as the category continues to evolve.

CRST: If you could standardize only a few data points to make comparisons more meaningful, which would you prioritize?

Dr. Koch: Three domains are fundamental, and I credit Daniel H. Chang, MD, for the work he has done on this. The first is depth of field, the functional range of vision the lens provides. The second is contrast sensitivity because image quality matters, not just visual acuity on a chart. The third is dysphotopsias. Ideally, we would have a consistent way to characterize glare, halos, and related phenomena.

Developing standardized, widely adopted methods to measure and report depth of field, contrast sensitivity, and dysphotopsias is a substantial undertaking, which is precisely why guidelines matter. With clearer standards, surgeons could more reliably interpret what a new lens is likely to deliver and what trade-offs might come with it.

That understanding would improve patient counseling and support better matching of technologies to the individual eye and patient.

CRST: Are professional societies aligning around this work internationally?

Dr. Koch: Yes. ASCRS and ESCRS are working together with colleagues in the Asia-Pacific region and Latin America. The goal is to develop a shared framework that improves consistency across markets and helps unify how we describe and evaluate these technologies. ■

DOUGLAS D. KOCH, MD

- Professor and the Allen, Mosbacher, and Law Chair in Ophthalmology, Cullen Eye Institute, Baylor College of Medicine, Houston
- dkoch@bcm.edu
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