

Seeing beyond visual acuity: rehabilitation, functioning, and the future of ophthalmology

Enxergar além da acuidade visual: reabilitação, funcionalidade e o futuro da oftalmologia

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For a long time, ophthalmology has measured its success in lines of visual acuity. Gaining a line on the Snellen chart, reducing macular edema, controlling intraocular pressure, stabilizing retinal degeneration, or achieving a perfect anatomical image have become natural indicators of quality of care. These advances have transformed the specialty and changed the natural history of numerous eye diseases.

However, one question remains increasingly relevant: do these results necessarily reflect what truly matters to the patient?

This reflection aligns with the growing movement toward patient-reported outcomes (PROs) in ophthalmic research, which seeks to capture—through validated instruments—dimensions of the visual experience not captured by traditional anatomical and functional examinations¹.

An individual may have an excellent anatomical outcome and yet remain unable to read a book, recognize faces, use public transportation, work, study, or move about safely. Conversely, individuals with significantly reduced visual acuity can achieve a high degree of independence when they receive adequate training, use assistive technology, and have access to structured habilitation (for congenital vision loss) or rehabilitation (for acquired vision loss) programs.

This apparent contradiction invites us to reconsider a paradigm deeply rooted in ophthalmologic practice.

Vision is not just sight.

Vision is a complex function that enables social participation, autonomy, learning, communication, productivity, and quality of life. Vision loss compromises far more than the ability to identify optotypes in a doctor's office. It changes the way a person interacts with the environment, performs family and professional roles, and constructs one's identity.

In recent decades, the World Health Organization, through the International

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Classification of Functioning, Disability and Health (ICF)², has consolidated a concept that should occupy a central position in clinical practice: functioning. Rather than merely measuring isolated structures or capacities, functioning seeks to understand what a person can accomplish within their life context, taking into account environmental, personal, and social factors.

This shift in perspective redirects the focus from the disease to the person.

From this perspective, an ophthalmology consultation does not end when a diagnosis is established or when all therapeutic options have been exhausted. It continues in the search for strategies that allow the individual to use their remaining vision as efficiently as possible and to maintain active participation in society.

It is at this point that visual rehabilitation ceases to represent the final stage of care and assumes its true role: an integral part of ophthalmologic care³.

However, this understanding has not yet been fully incorporated into clinical practice. Many patients are told that “there is no more treatment” when, in reality, there are simply no interventions capable of restoring ocular anatomy. Between the absence of a curative treatment and the absence of care lies an immense, often neglected space. Globally, approximately 295 million people live with moderate-to-severe visual impairment and approximately 43 million with blindness—figures expected to rise with population aging^{4,5}—and it is precisely in this space that visual rehabilitation can transform lives.

The prescription of optical and electronic aids, reading-strategy training, environmental adaptation, digital accessibility resources, orientation and mobility training, psychological support, and interdisciplinary care do not restore lost vision. However, as demonstrated by systematic reviews of randomized clinical trials, they often restore something equally important: autonomy and vision-related quality of life⁶.

Perhaps this is why success in ophthalmology needs to be redefined.

True success should not be measured only by a dry retina (i.e., the absence of intraretinal or subretinal fluid), controlled intraocular pressure, or an impeccable tomographic image. It should be measured by the patient's ability to continue living independently, maintain social ties, practice a profession, study, care for family, and fully participate in the community.

This perspective is particularly relevant at a time of extraordinary technological transformation. Artificial intelligence, gene therapies (including genome-editing technologies), visual prostheses, and digital devices are expanding diagnostic and therapeutic possibilities in unprecedented ways. These advances represent historic achievements and deserve to be celebrated.

However, technology does not eliminate the need to understand how each person experiences their visual impairment. Rather, it underscores the importance of integrating innovation with functioning. The question shifts from simply “what can we treat?” to also asking “how can we improve this person's life?”

This paradigm shift also requires a transformation in the training of ophthalmologists. Visual rehabilitation still occupies a modest place in many residency programs, despite population aging, the rise in chronic disease, and the increasing survival of people with hereditary retinal diseases⁴. Training specialists capable of recognizing early indications for rehabilitation, working in interdisciplinary teams, and valuing functional outcomes will be just as important as mastering new diagnostic technologies.

Ophthalmology has always been a specialty that combines scientific precision with technological innovation. Perhaps the next step in this evolution is to fully incorporate a perspective centered on functioning.

Ultimately, our greatest objective is to preserve not only ocular structures but also our patients' plans for life.

When we understand that rehabilitation means expanding possibilities, promoting participation, and restoring autonomy, we recognize that ophthalmology does not end where disease becomes untreatable. It continues wherever a patient's life needs to move forward.

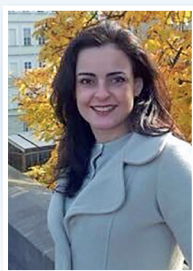
Perhaps this is the greatest challenge—and also the greatest opportunity—of contemporary ophthalmology: to see beyond visual acuity and to recognize that the true success of care is measured by each person's ability to live with dignity, independence, and meaning.

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