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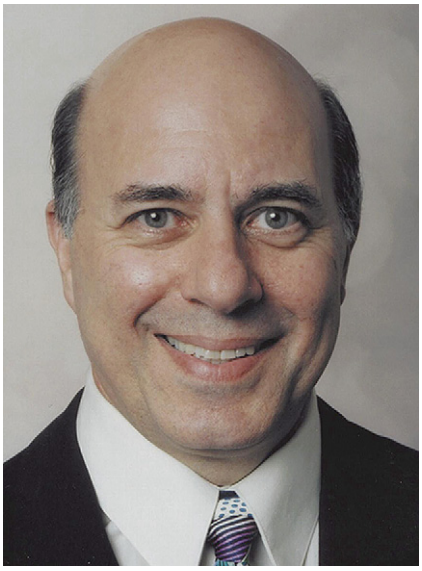
Never underestimate the importance of refraction

Despite detailed and comprehensive guidelines in both optometry and ophthalmology for care of the patient with a visual impairment,[1,2] there are still those who feel that once there is a measured decrease in visual acuity based on a pathology, the only helpful recourse is magnification. Unfortunately, the "best corrected" visual acuity is not always determined or verified. Applying magnification without the benefit of a current refraction is like building a house on sand—it lacks a solid foundation. In some instances, refraction can measurably improve visual acuity (VA), which, at the very least, can modify the magnification needed to enhance VA, and, at best, eliminates the need for magnification devices altogether.

While refraction has been reported to be a major cause of visual impairment throughout the world, especially in developing countries,[3] a recent article (in our own developed country) addressed the refractive issues as seen from the perspective of patients having been referred to a low vision practice.[4] The authors' conclusion, which is most significant, is that "eleven percent of all patients improved by two lines or more of VA with refraction." [4] This phenomenon is something many of us who work with visually impaired patients see, but have not formally documented.

People who have visual impairments and have been told "nothing more can be done" (which unfortunately continues to occur, although less frequently) tend to stop seeking professional help. They do not necessarily stop looking for help in general, rather they either seek magnification resources in stores, or via the Internet, both of which can be "dangerous" choices in some situations. ("Dangerous" in the sense that a treatable pathology might go untreated or that a new vision-threatening pathology might occur that will go undiagnosed, as the patient either simply continues to feel "nothing more can be done" or self-prescribes stronger magnifiers, hoping to improve that failing vision.) It is also possible that they can become depressed due to their decreased ability to do visually related activities of daily living and may stop seeking *any* help. In this scenario, some patients will go as far as to stop seeing their own primary care optometrists or ophthalmologists, as "nothing more can be done," and, in some instances, might even stop taking appropriate medication (e.g., for glaucoma) because of the misinterpretation of the phrase "nothing more to be done." If "nothing more can be done" is actually a true statement, it should be given by someone who emphasizes the care of visually impaired patients, as those providers are generally more well-versed in what options are available and potentially beneficial for a given visual impairment. There are even blind rehabilitation services for patients who cannot be helped with traditional low vision rehabilitation interventions, resources that should also be made available to these patients.

Examinations by vision rehabilitation providers are different than primary care evaluations, typically resulting in, at the very least, one positive visual outcome either by refraction and/or magnification. Equally as important, continued care and monitoring of the pathology that has caused the decrease in vision is reinforced. Because there are now medical methods of slowing, stopping, or, in fact, reversing vision loss due to specific ophthalmic pathologies (most notably wet age-related macular degeneration, although the list is growing), it is critical that those afflicted with potentially medically treatable disease receive timely care, within those windows of opportunity that might exist. Misunderstanding "nothing more can be done" can have devastating consequences medically, and ultimately functionally, particularly if this misunderstanding is never clarified.



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The comprehensive examination of a patient with a visual impairment has 3 major components: 1) the eye health evaluation, to confirm or add to the diagnosis list causing the decrease in vision, and to determine if there are any changes that need to be addressed; 2) a careful refraction, which will yield the true best-corrected visual acuity, either confirming the reported decrease in vision due to the pathology, or improving vision to some degree. In either situation, refraction can

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influence the third component; 3) the low vision intervention (especially magnification), by enabling a more accurate magnification determination, or (in the best case circumstance) possibly rendering magnification unnecessary, as stated before. The glue that can bind this entire process then, is refraction, so I applaud the authors for bringing to the fore a procedure that is basic to any optometric evaluation.

Many of us will surely remember that first young 10-diopter myope who was having difficulty in school due to the inability to see the chalkboard and who might have been accused of anything from malingering to having an attention deficit disorder. When that child was finally refracted and corrected, the entire (visual) world, and outlook, took on a new focus. Not all visually impaired patients will appreciate the impact of that degree of refractive change, but even a relatively small (by a fully sighted person's standards) change can make a marked difference in function. In order to find those who will appreciate even a small improvement in vision, all patients deserve to be carefully refracted, in essence, remembering to examine and treat the patient, not just the disease.

References

1. American Optometric Association Consensus Panel on Care of the Patient with Low Vision. Optometric Clinical Practice Guideline, Care of the patient with visual impairment (low vision rehabilitation). *American Optometric Association* 2007.
2. American Academy of Ophthalmology Vision Rehabilitation Committee. Preferred Practice Pattern® Guidelines, Vision rehabilitation for adults. *American Academy of Ophthalmology* 2007.
3. DiStefano A. World optometry: the challenges of leadership for the new millennium. *Optometry* 2002;73(6):339-50.
4. Sunnes JS, Annan JE. Improvement of visual acuity by refraction in a low-vision population. *Ophthalmology* 2010;117:1442-6.