

The clinical value of modern electroretinography in diabetic retinopathy and glaucoma

Herbert L Gould*

New York Medical College, USA

Abstract

Visual acuity remains the gold standard for assessing visual function, but visual acuity is subjective and only reflects the central foveal area, which is not a sensitive measurement considering that even when half the fovea is obscured (or non-functional), a patient may still have 20/20 vision. Standard automated perimetry is also subjective but only maps the posterior pole, and so it does not provide a full picture of functional status. Fundus photography coupled with fluorescein angiography is useful when the media is clear but only shows structure. Optical Coherence Tomography (OCT) only provides information about structure and only in the posterior pole region. None of these tests show evidence of retinal function. By measuring a Light Induced Visual response (LIV). Electroretinography (ERG) provides information of retinal function. Uniquely it can be an indicator of the health of retinal tissue. It measures the aggregate function of the entire retina and different protocols can identify those conditions that affect rods only, cones only or both. Ganglion cell function correlates with glaucoma damage. Moreover, the ability to identify progressive dysfunction (or improvement) related to retinal disease prior to detectable structural alteration is intriguing and it may be the key towards effective interventions that occur before structural pathology becomes manifest. ERG has shown value in the management of diabetic retinopathy and glaucoma.



Downstate Medical Center, NY, where he received a corneal fellowship which included Moorfields Eye Hospital, London. Gould was the founder and first president of the New York Keratorefractive Society. He has been a teaching fellow at State University of New York, was Assistant Clinical Professor in Ophthalmology at State University of New York (Downstate), Associate Clinical Professor at New York Medical College, and served as an Instructor at the American Academy of Ophthalmology.

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Biography:

Herbert Gould graduated from Bowdoin College and received an MD from Columbia's College of Physicians and Surgeons. He served his internship at the 1st Medical Division, Bellevue Hospital and was a resident at the Manhattan Eye, Ear & Throat Hospital, where, as senior resident, he initiated the contact lens clinic. He continued his medical studies at the Institute of Ophthalmology (London), Harvard Medical School, and the