

# Electroretinography (ERG)

## DIOPSYS® NOVA-ERG OFFICE BASED PATTERN ELECTRORETINOGRAPHY TESTING

ERG helps doctors gain *objective, functional* information about the performance of the inner retinal cells of the eye. ERG has been recognized as an effective test in helping to diagnose and monitor vision disorders including age-related macular degeneration (AMD), glaucoma and diabetic edema.<sup>1-3</sup>



## Objective

- No verbal response or “button pushing” is required by the patient.
- Quantitative analysis of ERG data minimizes subjective clinician interpretation.
- Reports and documents the results of practitioner intervention and supports medical decision making.

## Functional

- Complements anatomical studies with an analysis of retinal function that is affected by disease or trauma.
- Improves sensitivity and specificity in diagnosing vision disorders when used in conjunction with other diagnostic tests.

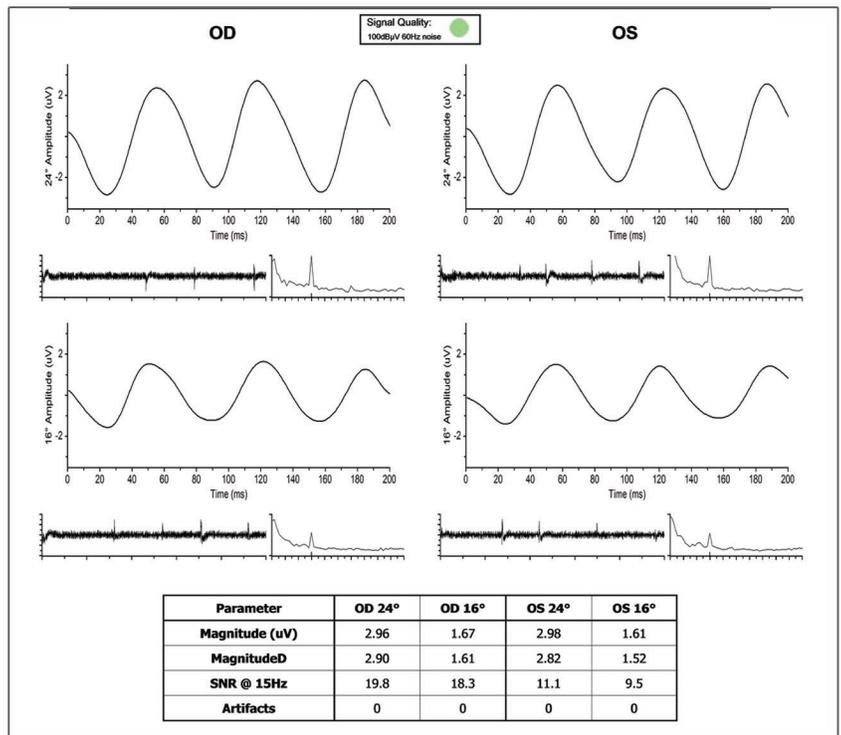
## Vision Testing

- **Contrast Sensitivity Protocol:** Provides data to aid in the detection of diseases that affect the retina in a diffuse pattern like Chronic Open Angle Glaucoma (COAG) and Diabetic Retinopathy (DR). Since there is typically no specific topographic pattern of damage, the information collected using this protocol can help in detecting the depth of the macular dysfunction.
- **Concentric Stimulus Fields Protocol:** Provides data to aid in the detection of diseases affecting the central or paracentral area of the macula in specific topographic patterns like Age Related Macular Degeneration (AMD), Diabetes Macular Edema (CME) and Toxic Maculopathies (e.g. Plaquenil Maculopathy).

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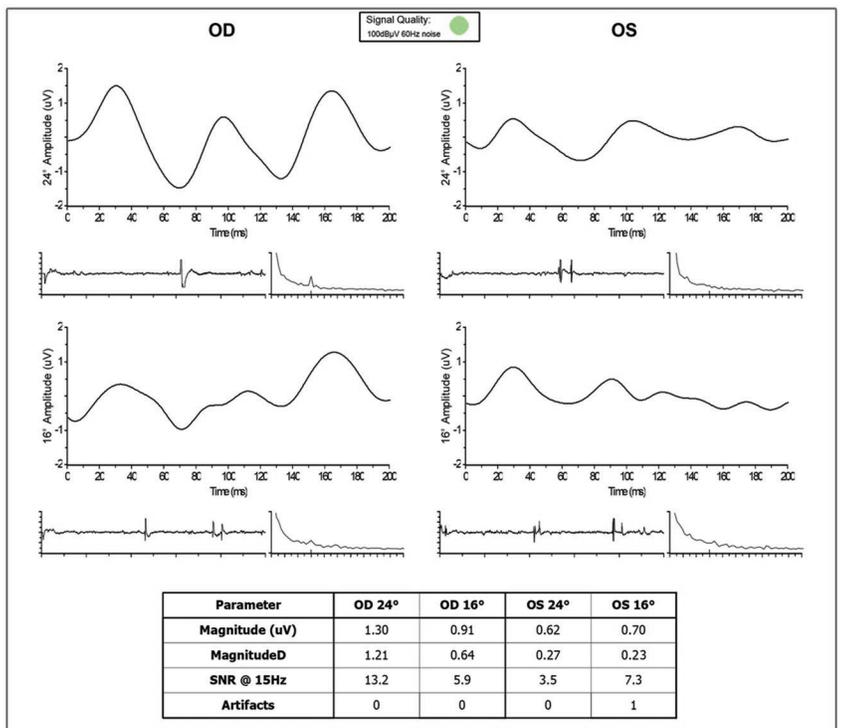
## Example Normal Patient

- Three equally spaced sinusoidal-like peaks
- High Magnitude (uV) values
- MagnitudeD more than 50% of Magnitude



## Example AMD Patient

- Abnormal waveform shapes OS
- Low magnitude (uV) value OS 24°
- Poor MagnitudeD value OS 24°



To learn more, visit [www.diopsys.com/ERG](http://www.diopsys.com/ERG)

<sup>1</sup>Banitt et al. Progressive Loss of Retinal Ganglion Cell Function Precedes Structural Loss by Several Years in Glaucoma Suspects. *IOVS*, March 2013, Vol. 54, No. 3 (From the Bascom Palmer Eye Institute, supported by Grant National Institutes Health–National Eye Institute (NIH-NEI), NIH Center Grant, and Research to Prevent Blindness)

<sup>2</sup>Oner et al. Pattern electroretinographic results after photodynamic therapy alone and photodynamic therapy in combination with intravitreal bevacizumab for choroidal neovascularization in age-related macular degeneration. *Doc Ophthalmol*. 2009 Aug;119(1):37-42. doi: 10.1007/s10633-009-9167-8.

<sup>3</sup>Ozkiris A. Pattern electroretinogram changes after intravitreal bevacizumab injection for diabetic macular edema. *Doc Ophthalmol* 2010;120:243-50.