

Electroretinography (ERG) Aids in Decision to Treat Early Glaucoma

Diopsys® ERG helps tip the scales when alternate testing is inconclusive.

Patient Profile

A 67-year-old female patient made an appointment due to a perceived change in vision, with a chief complaint of her computer screen appearing blurry. She had mild cataracts OU, wore glasses, and had unremarkable family and medical histories. She suffered from allergies, and was taking Pataday 0.2% eye drops in both eyes daily.

Examination

- **BCVA OD:** 20/30
- **BCVA OS:** 20/30+
- **IOP OD:** 14
- **IOP OS:** 13
- **CDR OD:** 0.50
- **CDR OS:** 0.60
- **Lens:** Nuclear sclerosis OU 1.5 (locs III)
- **Gonioscopy:** Angle OU 3+
- **Pachymetry:** Thin OU but greater than 500 microns
- **Dilation:** Widefield imaging done, with findings confirmed by ophthalmoscopy. Disc cupped OU with asymmetry.
- **OCT:** Structural analysis shows all values within normal ranges OU. The profile of cupping shows excavation OS; asymmetry of cupping and rim OS. The right eye is small and central. The temporal margin of the OS cup is irregular and/or indistinct.
- **PanoMap:** All values within normal ranges OU.
- **Visual Fields:** GHT within normal limits OD, outside normal limits OS. Fixation errors 40% OS.

Why Visual Electrophysiology?

This patient had thin corneas, a CDR OS greater than 0.50 and CDR asymmetry between the eyes. However, OCT and visual field test results did not indicate glaucomatous damage. The objective, functional results from the Diopsys® ERG helped tip the scales in favor of starting treatment in this glaucoma suspect.

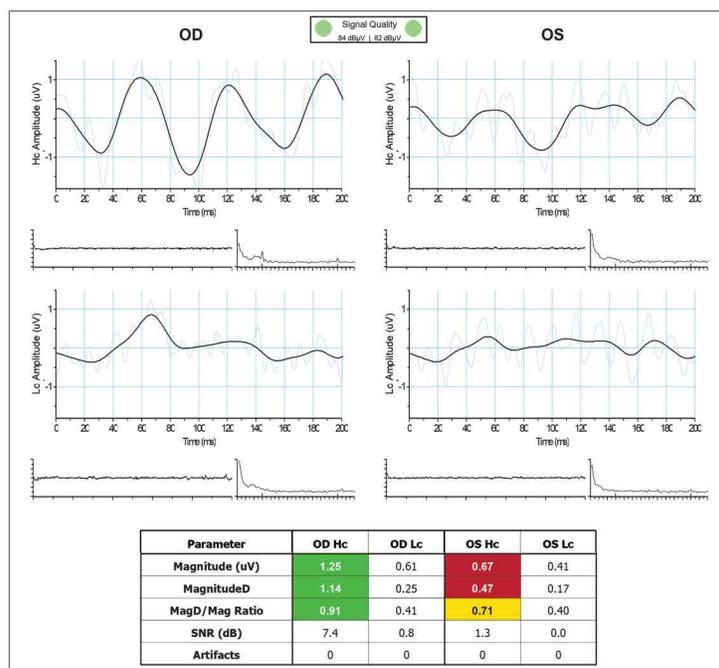
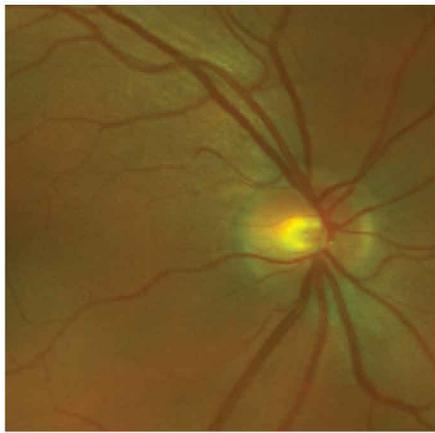


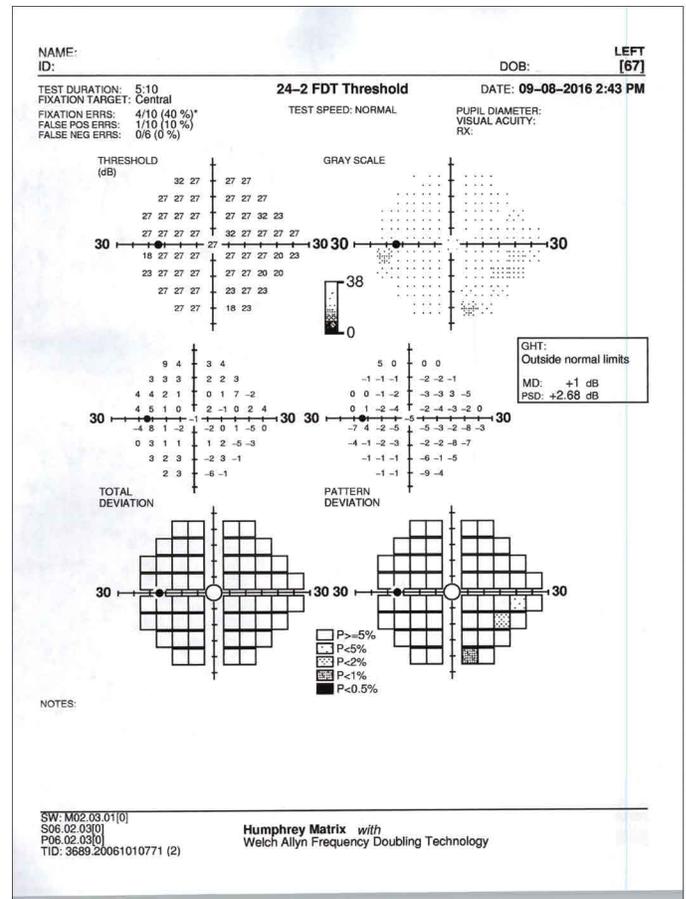
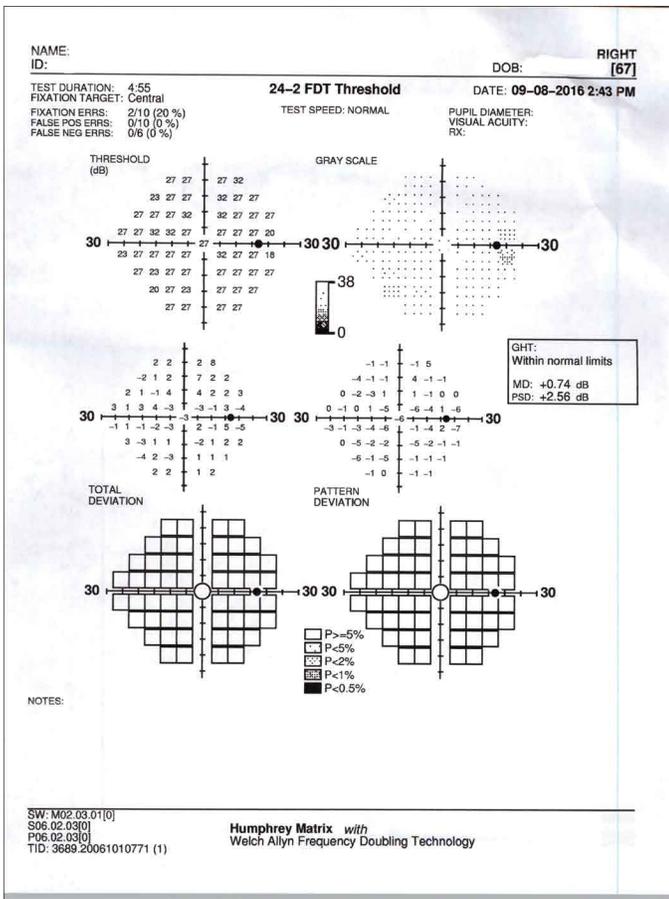
Figure 1. Pattern ERG shows in range parameters OD, borderline/out of range parameters OS.

Impact on Care and Diagnosis

The Diopsys® ERG vision test showed macular dysfunction OS corresponding with the suspicious optic nerve appearance when alternate test results were inconclusive. SLT was ordered for the left eye, and the patient is being monitored for improvement/progression using subsequent Diopsys® ERG vision tests.



Figures 2-3. Fundus photos show asymmetric cupping.



Figures 4-5. Visual fields show no glaucomatous defects. GHT OS is outside normal limits. Fixation losses of 40% indicate a potentially unreliable result.

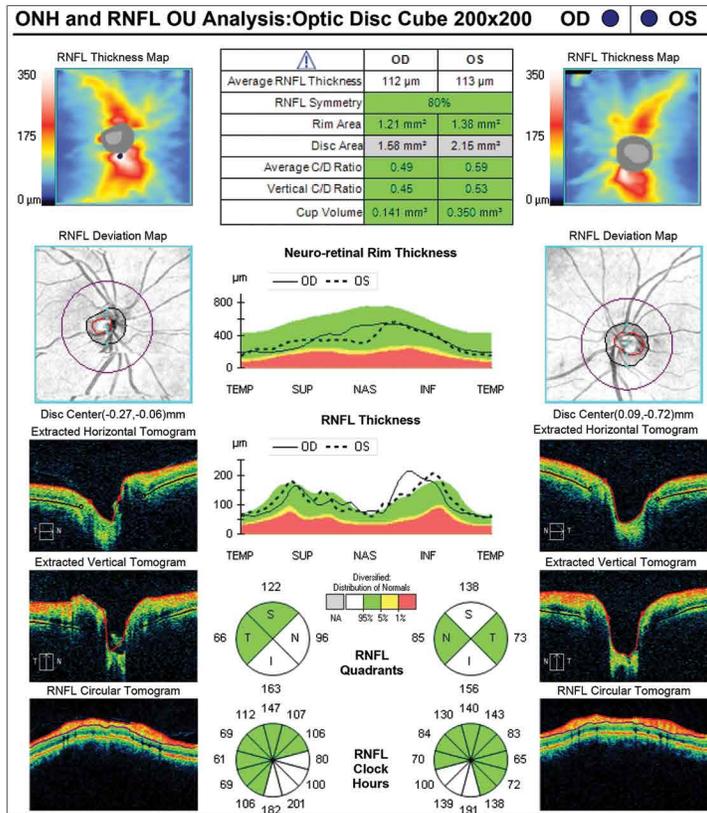
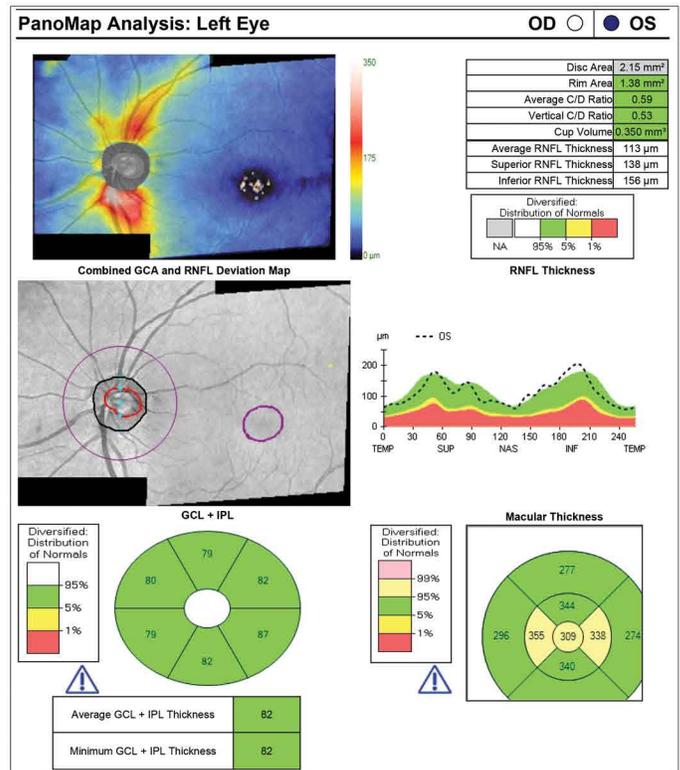
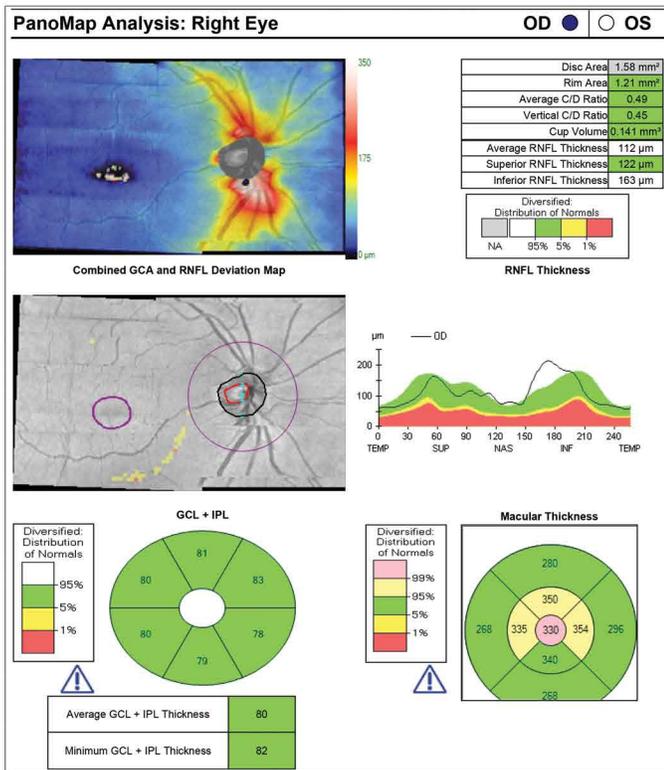


Figure 6. OCT results within normal ranges, excavation OS.



Figures 7-8. PanoMap analysis shows ganglion cell thickness within normal ranges OU.

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