

# VEP and PERG Case Reviews

## Case Review – VEP Glaucoma Suspect

**Reason for test:  
When standard tests are unreliable**

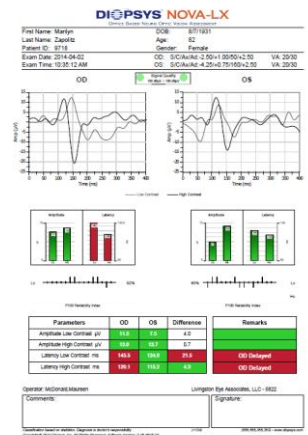
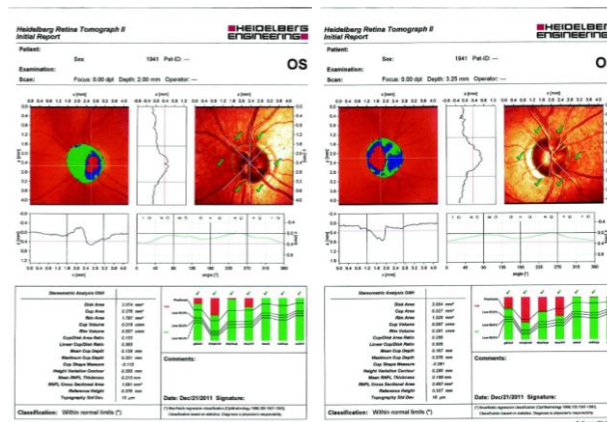
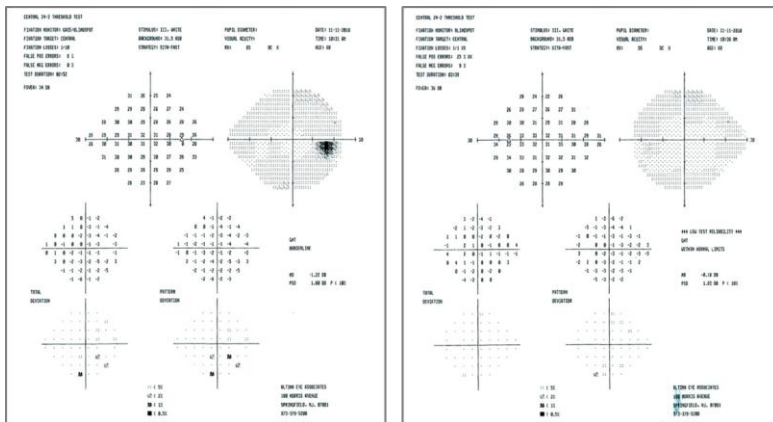
Patient Work-Up	
Gender	Male
Age	70
Ethnicity	White
Complaints/Symptoms	None
Family History	Mother & Grandmother glaucoma
IOP (mmHg) OD	23
IOP (mmHg) OS	21
Pachymetry ( $\mu\text{m}$ ) OD	506
Pachymetry ( $\mu\text{m}$ ) OS	507
Refraction OD	Plano
Refraction OS	Plano
BCVA OD	20/25
BCVA OS	20/25
Preliminary Diagnosis	Glaucoma Suspect

# VEP Aids in Decision To Treat

Humphrey 24-2 shows a slight depression in the inferior Bjerrum area OD, and borderline GHT findings although this field was somewhat unreliable. OS without defect.

Optic nerve cupping was 0.50 OD and 0.35 OS. Results within normal limits, however asymmetry noted.

Shows increased latency in low & high contrast OD, and normal amplitude & latency OS.



## Diagnosis and Treatment:

“Having the ability to obtain a new objective measurement of optic nerve function by performing a VEP has helped significantly in the decision to treat this patient for early POAG.”

Initiated treatment with Lumigan 0.01 % OU

Follow up visit one month later, IOP's were 18 and 16 (acceptable level for patient)

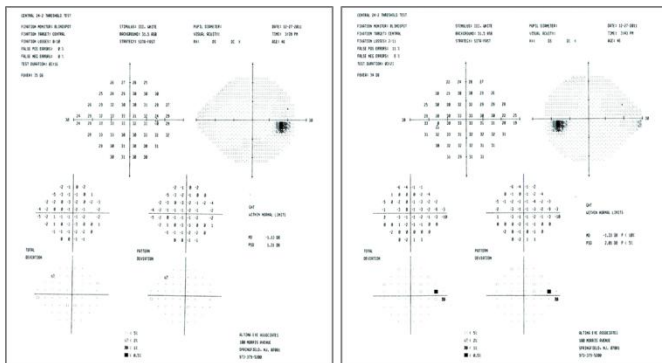
Will follow at quarterly intervals

## Case Review – VEP Asymmetric Cupping

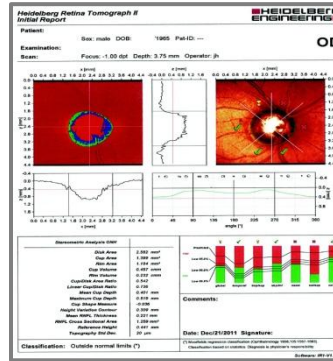
**Reason for Test:  
Subclinical Glaucoma Concerns**

Patient Work-Up	
Gender	Male
Age	45
Ethnicity	White
Complaints/Symptoms	None
Family History	Grandmother, uncle - Glaucoma
IOP (mmHg) OD	18
IOP (mmHg) OS	18
Pachymetry ( $\mu\text{m}$ ) OD	550
Pachymetry ( $\mu\text{m}$ ) OS	550
Refraction OD	Plano
Refraction OS	Plano
BCVA OD	20/20
BCVA OS	20/20
Preliminary Diagnosis	Asymmetric cupping on Fundoscopic exam as determined with a 78 D lens of .65 OD and .40 OS

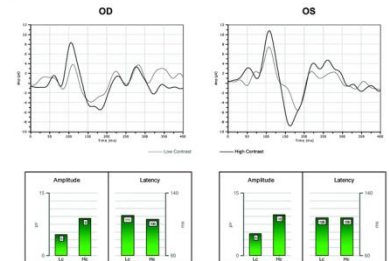
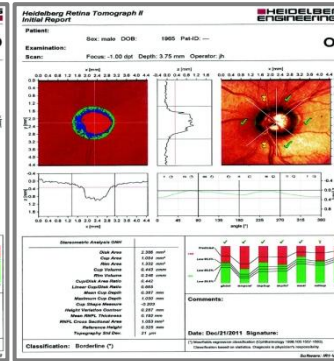
# VEP Aids in Decision Not to Treat a Glaucoma Suspect



Threshold Humphrey 24-2 visual fields full without defects OU



HRT optic nerve scans confirm asymmetric cupping. Findings were abnormal OD and borderline OS



Parameters	OD	OS	Difference	Unit	Remarks
Amplitude Low Contrast	5.04	5.28	0.24	$\mu V$	
Amplitude High Contrast	8.03	9.79	0.88	$\mu V$	
Latency Low Contrast	111.33	108.39	2.93	ms	
Latency High Contrast	106.44	108.39	1.95	ms	

VEP within normal limits OU

## Diagnosis and Treatment:

“In the past this is a patient I would have considered treating. I would have at least discussed the risk vs. benefits of treating this relatively young patient. By performing the VEP I felt I was on firmer ground in telling this patient that he does not have glaucoma and that we should just monitor him closely by repeating the diagnostic glaucoma battery in one year.”

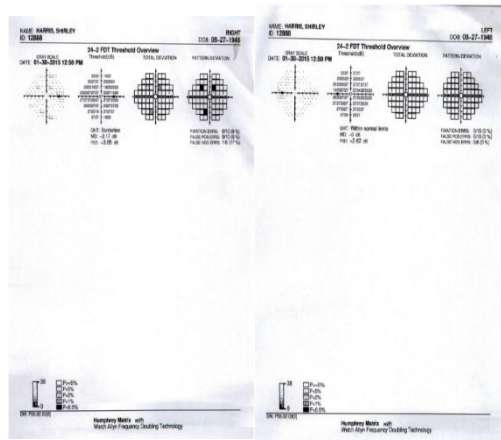
## Progression Case Review – VEP & PERG

### Established Glaucoma Post SLT

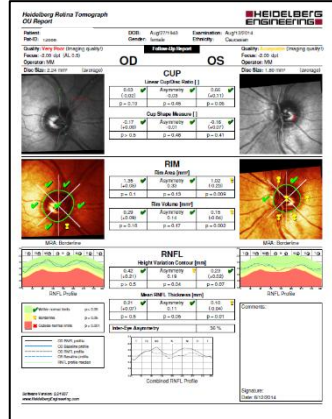
**Reason for Test:  
Monitor Subclinical Disease  
for Functional Changes and  
Alter Treatment**

Patient Work-Up	
Gender	Female
Age	66
Ethnicity	White
Complaints/Symptoms	None
Family History	Grandmother glaucoma
IOP (mmHg) OD	18
IOP (mmHg) OS	19
Refraction OD	-1.25 + 1.00 x 001 = 20/60 +2.25
Refraction OS	-1.75 + 0.75 x 177 = 20/40 +2.25
BCVA OD	20/60
BCVA OS	20/40
Preliminary Diagnosis	Established Glaucoma

# VEP and ERG Aid in Decision to Alter Treatment



January 2015



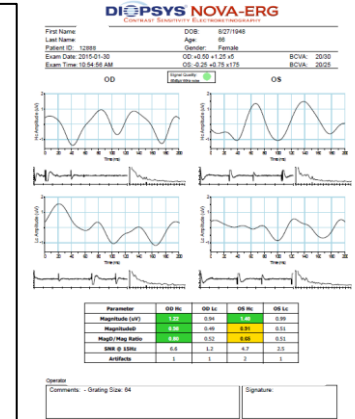
January 2015



VEP post SLT 2014



VEP March, 2015



PERG March, 2015

The visual field test showing borderline OD and within normal limits OS does not correlate with the HRT and is not diagnostic suggestive.

SLT was successful in the past but only short lived. It seems that when the patient's pressure is at 17 or lower her eyes function normally. The left eye being IOP of 19 correlates with abnormal PERG.

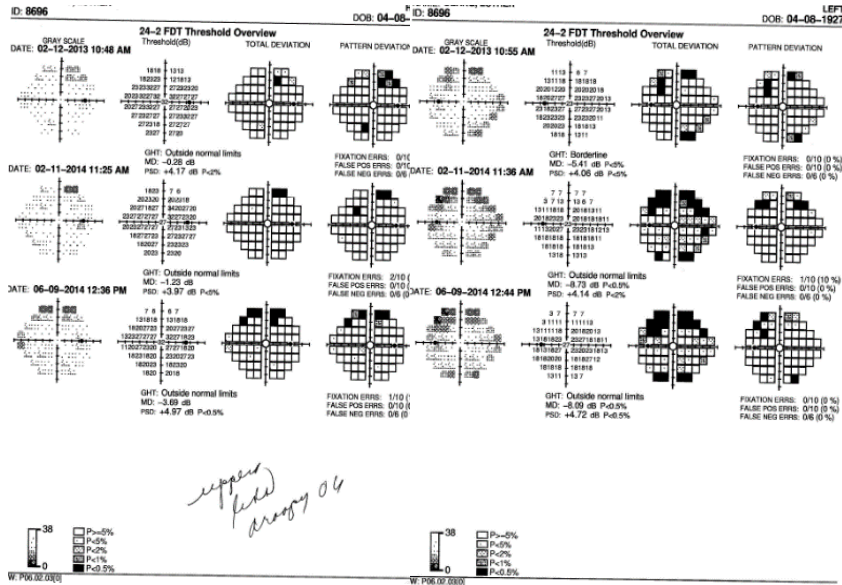
Since last VEP in 2014, there appears to be loss of function in 2015 test. Therefore, Cosopt generic is recommended 2x/day and continue Xalatan generic and have patient return in 6 weeks for pressure check.

# Case Review –PERG Established Glaucoma

**Reason for Test:  
Monitor Subclinical Disease for  
Functional Changes and Alter Treatment**

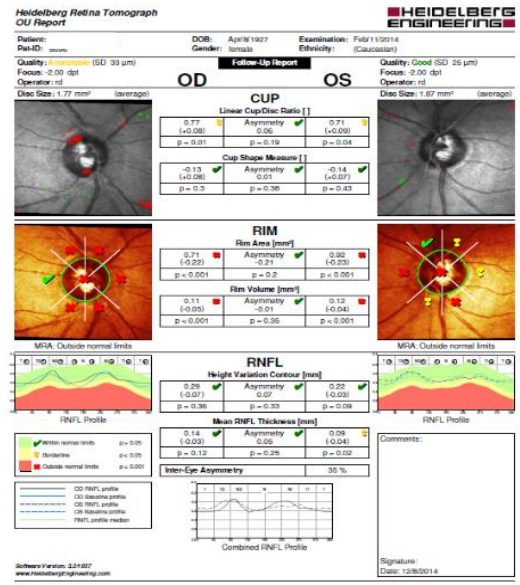
Patient Work-Up	
Gender	Female
Age	87
Ethnicity	White
Complaints/Symptoms	Follow up exam due to high IOP
Family History	Mother & Grandmother glaucoma
Med History	Alphagan P BID OU, Generic-Cosopt BID OU, Travatan Z QHS OU
IOP (mmHg) OD	18 (Post SLT in 2002–11)
IOP (mmHg) OS	17 (Post SLT in 2002–12)
BCVA OD	20/40
BCVA OS	20/50
Preliminary Diagnosis	Established Glaucoma



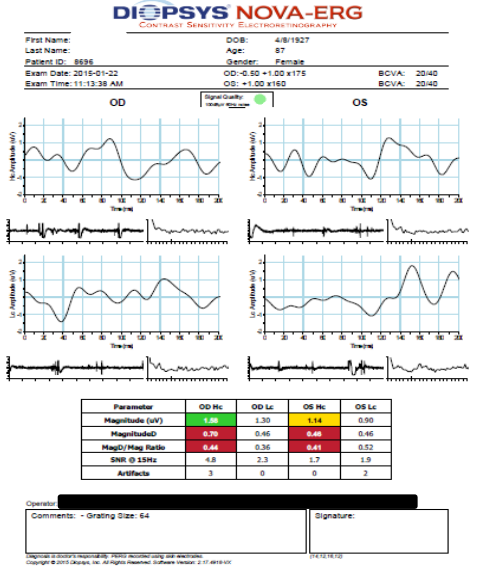


*supper field  
dmg 04*

Outside normal limits OD and Borderline OS



Shows optic nerve damage OU with cup borderline OU, Rim area outside normal limits and RNFL within normal limits



MagD/Mag Ratio are outside normal limits in both eyes. This indicates dysfunction.

Patient's IOPs are elevated at 18 OD and 17 OS despite multiple meds. VF and HRT show damage as well. On PERG, the red codes are consistent with dysfunction. All these tests are suggestive of the fact that the patient needs further intervention.