

VEP & ERG Testing in Clinical Practice

ERG Case Review: Glaucoma Suspect and Traumatic Brain Injury

Case ID: 3GSTBI

Patient Work-Up	
Gender	Female
Age	81
Ethnicity	White
Complaints/Symptoms	History of car accident (7 months)
Personal History	Glaucoma
IOP (mmHg) OD	17
IOP (mmHg) OS	18
Pachimetry (μm) OD	600
Pachimetry (μm) OS	601
Refraction OD	+3.50 -1.00 x 105
Refraction OS	+1.75 -1.25 x 95
VCVA OD	20/20
VCVA OS	20/20
Preliminary Diagnosis	Glaucoma Suspect vs. Traumatic Brain Injury (TBI)

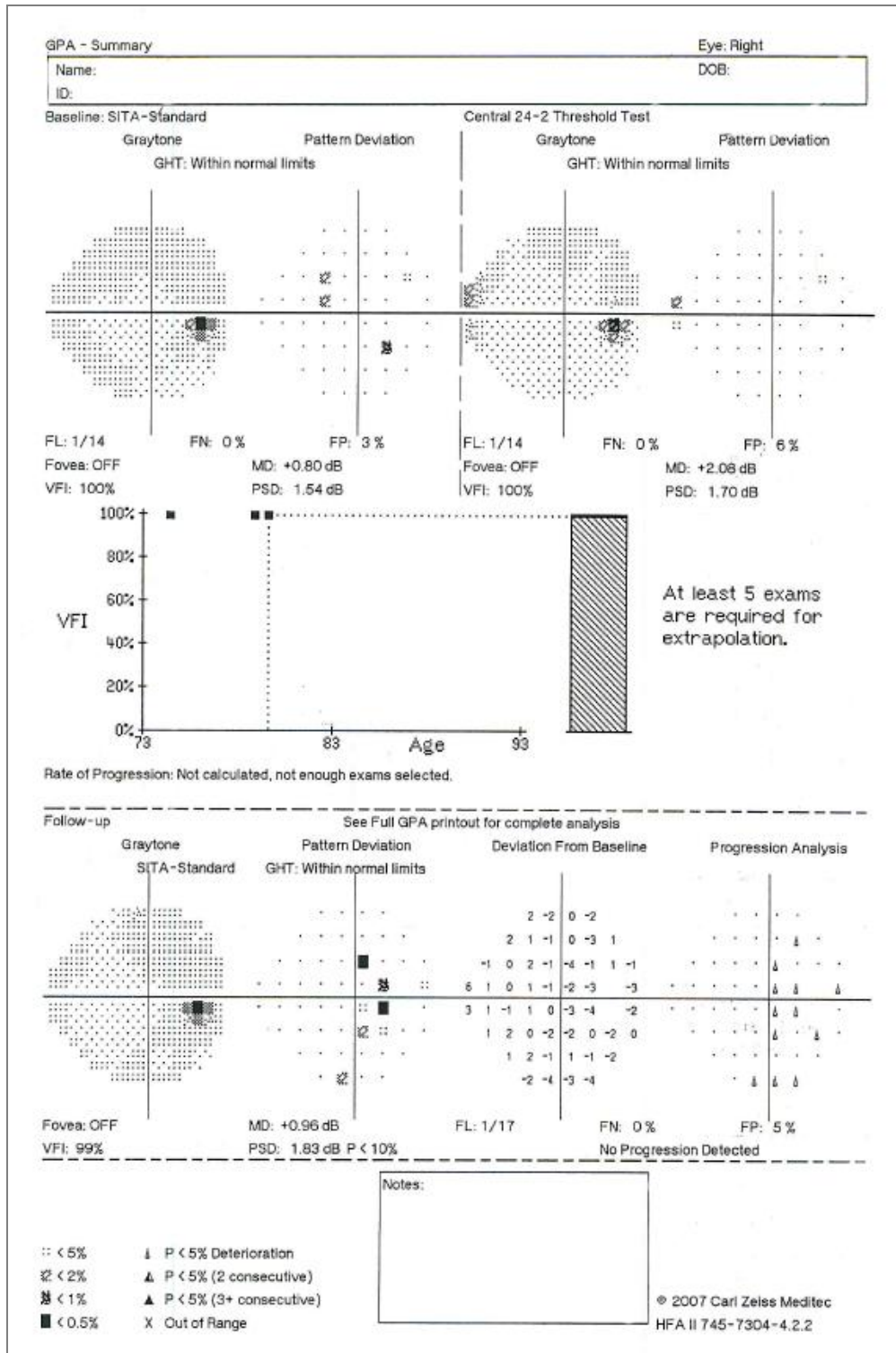
Tests Performed

- **OCT:** shows RNFL within normal limits OU.
- **Visual Field:** shows a mild and dispersed decrease of the retinal sensitivity without specific neurologic pattern. There is no evidence of VF defect progression.
- **ERG Concentric Stimulus Field Protocol:** shows acceptable ranges of magnitude.
- **VEP:** shows abnormal both in high and low contrast OU.

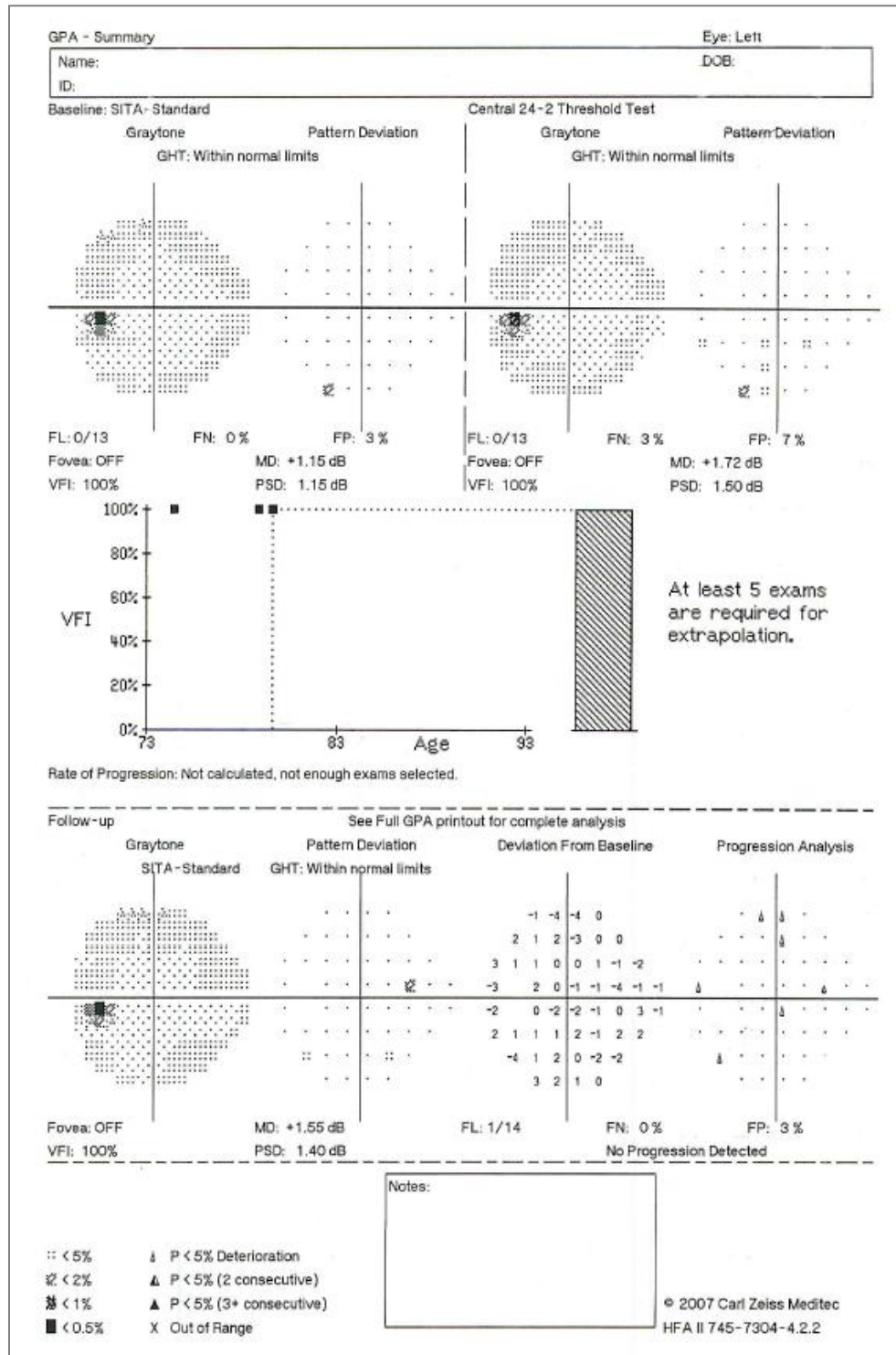
Conclusion

Normal OCT and ERG values and bilateral abnormal VEP indicate a post geniculate affection of the visual pathway. This supports the diagnosis of TBI. The clinician chose to refer the patient to a neurologist. VEP/ERG tests may be repeated annually for possible progression analysis.

Visual Field - OD



Visual Field - OS



OCT - OD

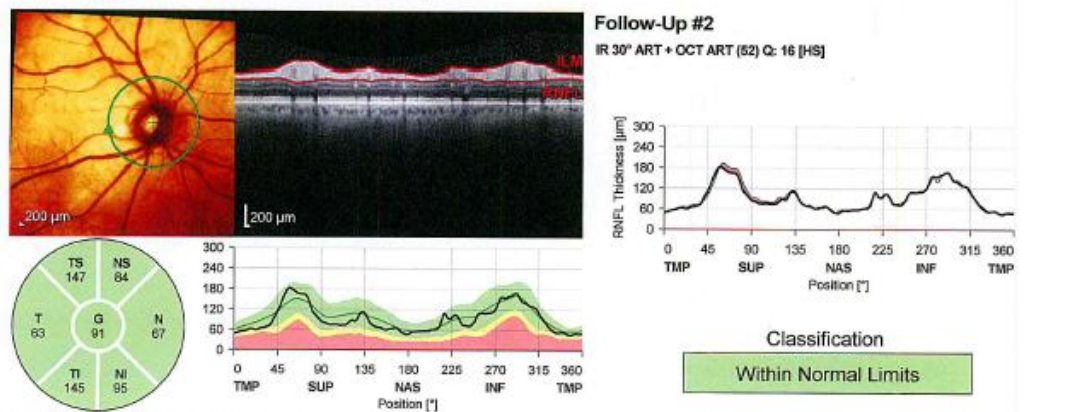
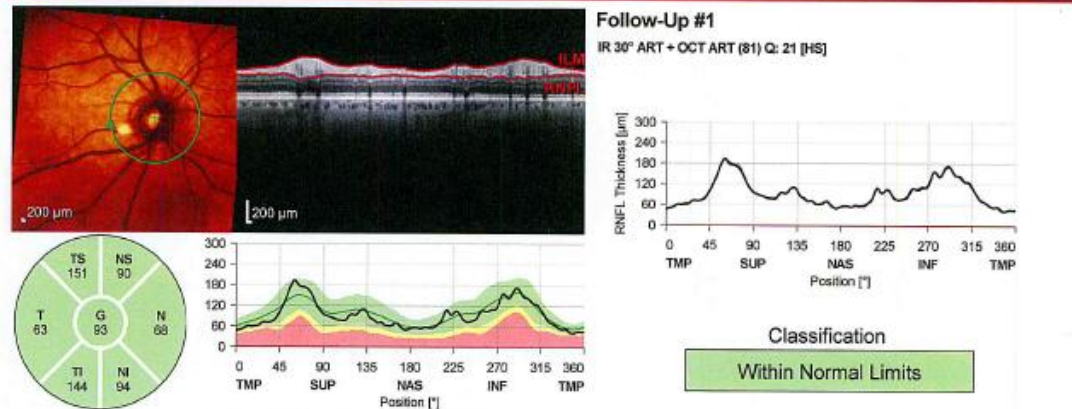
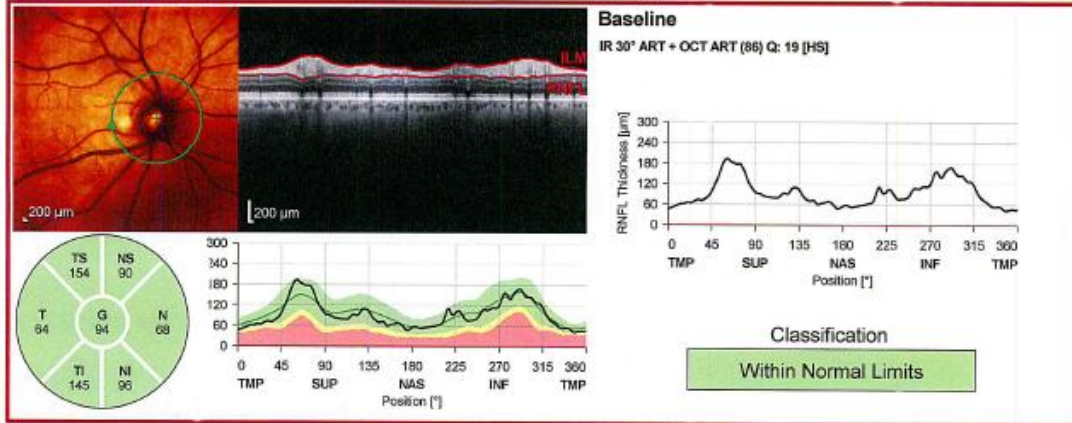
RNFL Change Report with FTM, All Follow-Ups SPECTRALIS® Tracking Laser Tomography

**HEIDELBERG
ENGINEERING**

Patient:
Patient ID:
Diagnosis:

DOB:
Comment:

Sex: **OD**



Warning: Classification results valid for Caucasian eyes only.

Notes:

Date: _____ Signature: _____

OCT - OS

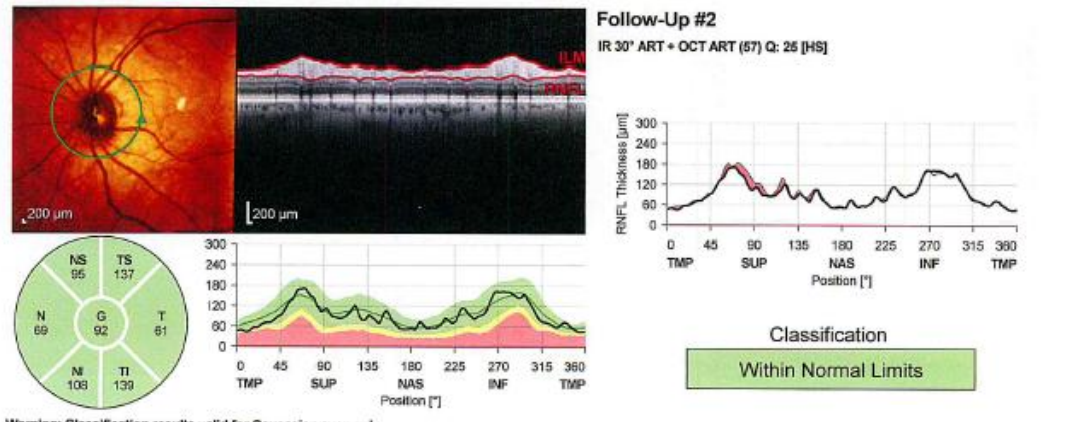
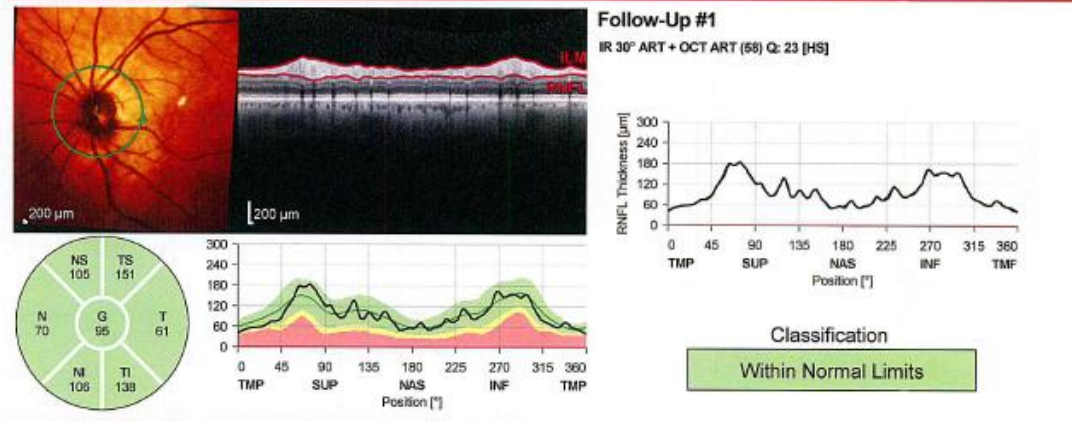
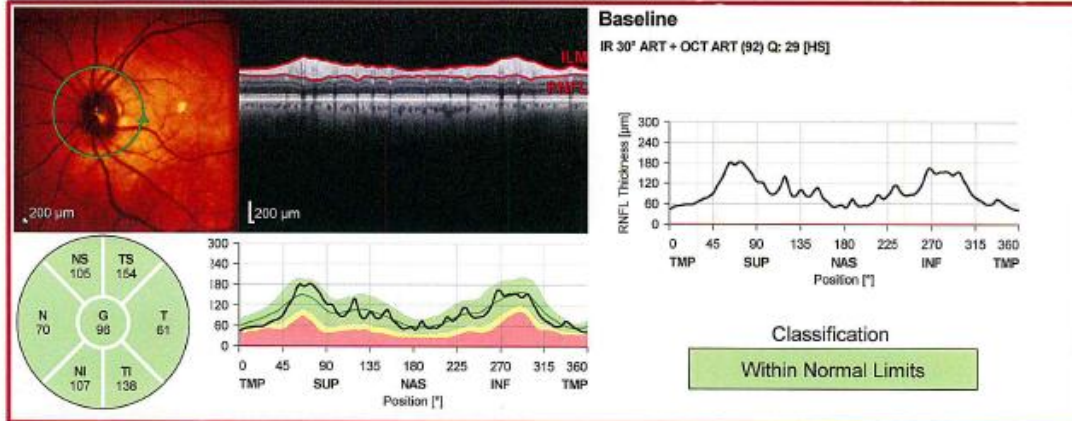
RNFL Change Report with FTM, All Follow-Ups SPECTRALIS® Tracking Laser Tomography

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ENGINEERING**

Patient:
Patient ID:
Diagnosis:

DOB:
Comment:

Sex: **OS**



Warning: Classification results valid for Caucasian eyes only.

Notes:

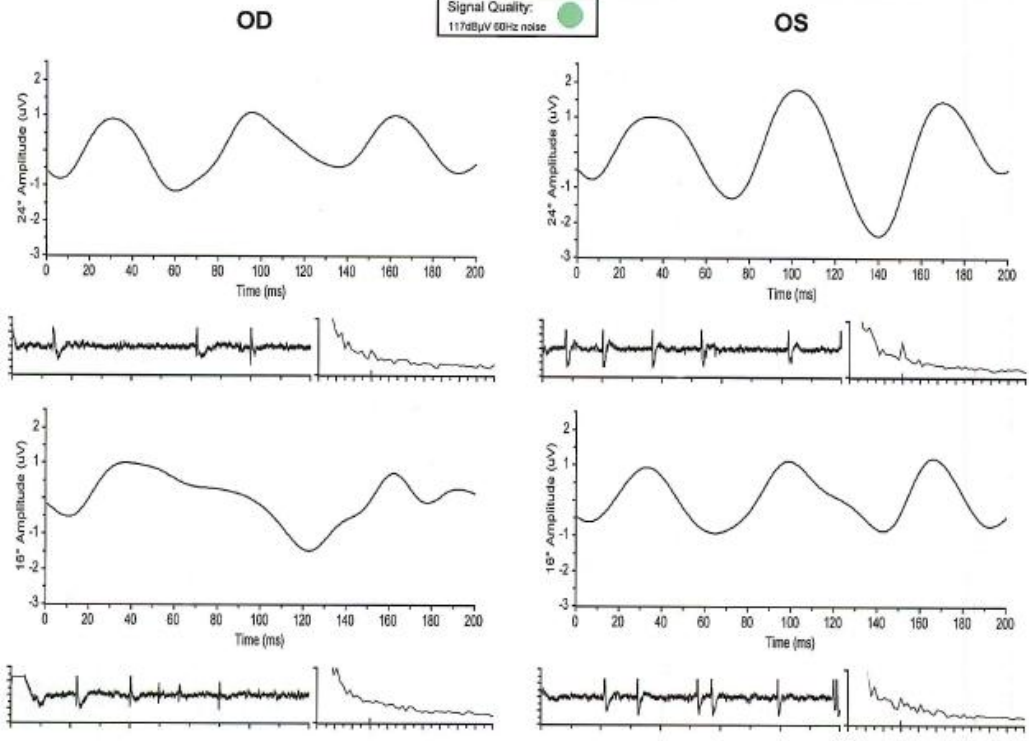
Date: _____ Signature: _____

ERG - Concentric Stimulus Field

DIOPSYS[®] NOVA-ERG OFFICE BASED PATTERN ELECTRORETINOGRAPHY TESTING

First Name: _____ DOB: _____
 Last Name: _____ Age: _____
 Gender: _____
 Exam Date: _____ OD: _____ BCVA: _____
 Exam Time: _____ OS: _____ BCVA: _____

Signal Quality: ●
117dB μ V 60Hz noise



Parameter	OD	OD	OS	OS
Magnitude (uV)	1.34	1.20	1.89	1.49
MagnitudeD	1.04	0.36	1.71	1.05
SNR @ 15Hz	8.3	< 1	12.1	3.0
Artifacts	1	2	1	1

Operator: _____

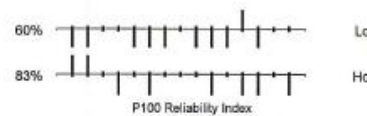
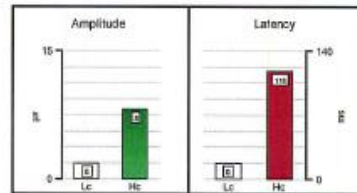
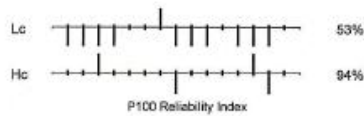
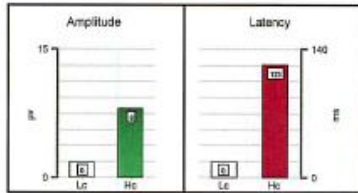
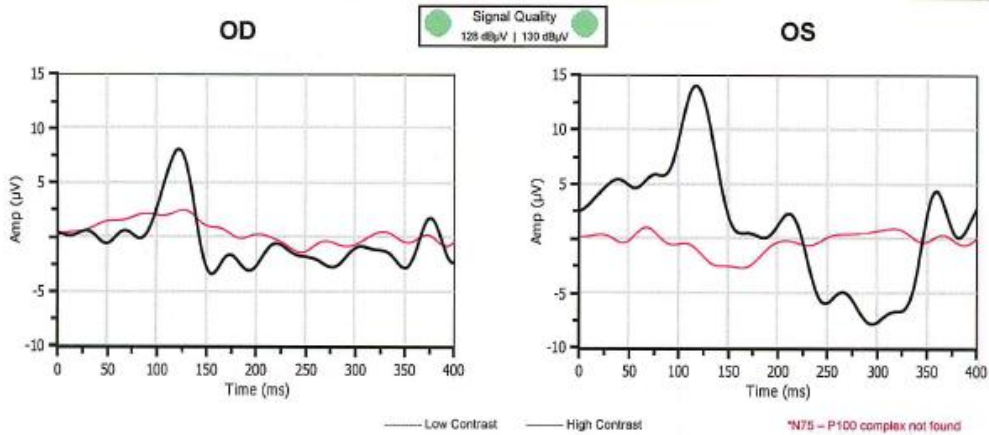
Comments: - Grating Size: 64
 Signature: _____

Diagnosis is doctor's responsibility. pERG recorded using skin electrodes.
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VEP - LX

DIOPSYS® NOVA-LX OFFICE BASED NEURO OPTIC VISION ASSESSMENT

First Name: _____ DOB: _____
 Last Name: _____ Age: _____
 Gender: _____
 Exam Date: _____ OD: _____ VA: _____
 Exam Time: _____ OS: _____ VA: _____



Parameters	OD	OS	Difference	Remarks
Amplitude Low Contrast µV	*	*	--	* P100 not identified
Amplitude High Contrast µV	8.1	8.2	0.1	
Latency Low Contrast ms	*	*	--	* P100 not identified
Latency High Contrast ms	123.0	118.2	4.9	Both Delayed

* - P100 not identified, abnormal VEP response

Operator: _____

Comments:

Signature: