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LKC TECHNOLOGIES

RET*eval*® Retinal Health Assessment

Tests	Type of stimulation	Cellular layers of retina assessed
#1	Photopic single flash	Cones and cone bipolar cells
#2	30 Hz flicker	Cone bipolar cells
#3	Photopic negative response	Cones, cone bipolar cells, ganglion cells

Protocol time	5 minutes
Referral criteria	Abnormal results indicated by red highlight

Disease	Tests			Outcome of disease
	#1	#2	#3	
Glaucoma [1-4]			✓	Slow vision loss
Optic neuritis, atrophy [5-7]			✓	Blurred vision, blind spots
Diabetic Retinopathy [8-12]		✓		Blurred vision, dark spots, color vision impairment
Night vision problems Rod-Cone dystrophies RP [13-15], LCA [16], CSNB [17-18], Usher [19], Vitamin A deficiency [20]	✓	✓	✓	Poor night vision first, inheritable, progressive loss of peripheral vision
Day vision problems Cone-Rod dystrophies [21-22] Achromatopsia [23], Stargardt [24-25]	✓	✓	✓	Early loss of color vision and visual acuity, photophobia
Nystagmus [26-27]		✓		Reduced or limited vision and depth perception
Retinal vein occlusion CRVO [28-32], BRVO [33-34]		✓		Vision loss or blurry vision in part or all of one eye, floaters
Acute zonal occult outer retinopathy (AZOOR) [35]	✓		✓	Sudden decreased vision in zones of peripheral retina, initially in one eye
Retinal detachment Retinal trauma [36]	✓	✓	✓	Floaters, flashes of light, “a curtain” over part of the visual field, emergency
Autoimmune retinopathy (AIR) [37-38]	✓	✓	✓	Vision loss, scotomas, visual field deficits, antiretinal autoantibodies present
Cancer associated retinopathy (CAR) [39-41]	✓	✓	✓	Rapid, progressive central vision loss, flashing lights, color vision impairment and photosensitivity
Retinal complications of drug toxicity [42-46]	✓	✓	✓	Blurry vision, increased light sensitivity, loss of visual acuity and color vision, symptoms depend upon the type of drug
Chorioretinopathy [47-48]		✓		Blurred or distorted vision, acute reduced visual acuity, mostly males, stress-related
Nonorganic visual loss (NOVL) [49]	✓	✓	✓	Visual acuity better than subjectively alleged, confirmed functional integrity

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Electroretinograms (ERG's) assess the function of various cells within the retina. Abnormal cellular functional results can indicate the presence of various inherited and acquired retinal disorders as indicated in the table. ERG's are an aid in the diagnosis of diseases of the retina and the optic nerve. Test results outside of the normal range indicate suggests that a disorder may be present but the results, in and of themselves, are not definitively diagnostic of the actual presence of a particular disease. Results outside of the normative range are highlighted in red on the **RET***eval* device screen and on the PDF report produced by the device. These patients, together with the ERG results, should be referred to an ophthalmologist for definitive diagnosis and treatment if necessary.