



A Guide To Our Most Common Protocols

3 Most Common Protocols on the RETeval[®] Device

Protocol Number	Protocol Name	Type of Stimulation	Measurement Time Per Eye	Cellular Layers of Retina Assessed
#1	ISCEV Photopic flash/flicker Td	White light flash & flicker	30 seconds	Cones and cone bipolar cells
#2	Flicker: 16 Td-s or Flicker: 32 Td-s for patients with cataract	White light flicker	15 seconds	Cone bipolar cells
#3	PhNR 3.4 Hz Long / Short Td	Red flash on blue background	60 sec / 30 sec	Cones, cone bipolar cells, ganglion cells

Disease	Protocol			Symptoms
	#1	#2	#3	
Optic neuritis, atrophy ¹⁻⁹ including glaucomatous optic atrophy			✓	Blurred vision, blind spots
Diabetic Retinopathy ¹⁰⁻¹⁵		✓		Blurred vision, dark spots, color vision impairment
Night vision problems Rod-Cone dystrophies RP ^{8, 16-18} , LCA ¹⁹ , CSNB ^{8, 20-21} , Usher ²² , Vitamin A deficiency ²³	✓	✓	✓	Poor night vision first, inheritable, progressive loss of peripheral vision
Day vision problems Cone-Rod dystrophies ²⁴⁻²⁵ Achromatopsia ²⁶ , Stargardt ^{8, 27-28}	✓	✓	✓	Early loss of color vision and visual acuity, photophobia
Nystagmus ²⁹⁻³⁰		✓		Reduced or limited vision and depth perception
Retinal vein occlusion CRVO ³¹⁻³⁶ , BRVO ³⁷⁻³⁸		✓		Vision loss or blurry vision in part or all of one eye, floaters
Anti-VEGF injections ³²⁻³⁶ Timing, Monitoring, Toxicity	✓	✓	✓	Treatment in vascular eye disorders, repeated intravitreal injections, potential toxicity
Acute zonal occult outer retinopathy (AZOOR) ^{8, 39}	✓		✓	Sudden decreased vision in zones of peripheral retina, initially in one eye
Retinal detachment Retinal trauma ⁴⁰	✓	✓	✓	Floaters, flashes of light, "a curtain" over part of the visual field, emergency
Autoimmune retinopathy (AIR) ^{8, 41-42}	✓	✓	✓	Vision loss, scotomas, visual field deficits, antiretinal autoantibodies present
Cancer associated retinopathy (CAR) ⁴³⁻⁴⁵	✓	✓	✓	Rapid, progressive central vision loss, flashing lights, color vision impairment and photosensitivity
Retinal complications of drug toxicity ⁴⁶⁻⁵⁰	✓	✓	✓	Blurry vision, increased light sensitivity, loss of visual acuity and color vision, symptoms depend upon the type of drug
Chorioretinopathy ⁵¹		✓		Blurred or distorted vision, acute reduced visual acuity, mostly males, stress-related
Nonorganic visual loss (NOVL) ⁵²	✓	✓	✓	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 and are an aid in the diagnosis of diseases of the retina and the optic nerve. Patients with various inherited and acquired retinal disorders, such as those in the table, can have abnormal ERG's which are highlighted in red by the RETeval device. However, an abnormal ERG result is not necessarily indicative of disease: About 1 in 20 visually normal subjects will produce an abnormal ERG result. Larger-than-normal amplitudes and faster-than-normal times, although outside of the normal range are usually not indicative of disease.