

Guide To Our Most Common Protocols

CPT Code: 92273

Performing these quick assessments will help you understand retinal function. Although these suggested tests alone may be insufficient to support disease detection, combining with other assessments, including other ERG tests, will give you the data you need to make more informed patient care decisions.

Protocol Number	Protocol Name	Type of Stimulation	Measurement Time Per Eye	Cellular Layers of Retina Assessed
#1	DR Assessment*	White light flicker	45–90 seconds	Cone bipolar cells
#2	PhNR 3.4 Hz Long / Short Td	Red flash on blue background	60 sec / 30 sec	Cones, cone bipolar cells, ganglion cells
#3	Flicker: 16 Td-s or Flicker: 32 Td-s for patients with cataract	White light flicker	15 seconds	Cone bipolar cells

*Test protocol must be done on both eyes of a non-dilated patient. If not possible, use test protocol #3.

Disease/Defect	Symptoms May Include, But Are Not Limited To	#1	#2	#3	Sample ICD-10 Codes
Diabetic Retinopathy ¹⁻³	Blurred or distorted vision, fluctuating vision, color vision impairment, floaters or “spots” in vision, a shadow across the field of vision	✔			E08.311 - E08.359 (DM due to underlying condition with DR) E10.311 - E10.359 (Type 1 DM with DR) E11.311 - E11.359 (Type 2 DM with DR)
Glaucomatous Optic Atrophy ^{4,5}	Blurred vision, blind spots, tunnel vision in advanced disease		✔		H47.231 - H47.239 (glaucomatous optic atrophy)
Optic Neuropathy ^{6,7}	Reduced visual acuity, impaired color vision, diminished contrast sensitivity, visual field loss		✔		H46.2 (nutritional optic neuropathy) H46.3 (toxic optic neuropathy) H47.011 - H47.019 (ischemic optic neuropathy) H47.091 - H47.099 (other disorders of optic nerve) H47.13 (disorder of papilledema) H47.391 - H47.399 (other disorders of the optic disc) H47.9 (unspecified disorder of visual pathway)
RNFL Bundle Defect*			✔		H35.89 (other specified retinal disorders)
Optic Neuritis ^{6,8}	Vision loss occurring over days, orbital pain especially with eye movement, loss of vision, reduced perception of light intensity		✔		H46.8 - H46.9 (optic neuritis)
AMD ^{9,10}	Loss of central vision (varying degrees), scotomas, straight lines appear wavy, difficulty seeing in dim light, seeing spots			✔	H35.31 - H35.32 (nonexudative and exudative age-related macular degeneration)
Nystagmus ¹¹⁻¹³	Reduced or limited vision and depth perception; Oscillopsia (if acquired)			✔	H55.00 - H55.09 (nystagmus)
Retinal Detachment ¹⁴⁻¹⁶	Blurred vision, sudden appearance of floaters, gradually reduced peripheral vision, curtain over the vision, flashes of light			✔	E08.352 - E08.354 (DM due to underlying condition with proliferative DR with traction retinal detachment) E09.352 - E08.354 (drug or chem induced DM with proliferative DR with traction retinal detachment) E10.352 - E10.354 (Type 1 DM with proliferative DR with traction retinal detachment) E11.352 - E11.354 (Type 2 DM with proliferative DR with traction retinal detachment) E13.352 - E13.354 (other specified DM with proliferative DR with traction retinal detachment) H33.0 - H33.8 (retinal detachments and breaks) H35.71 - H35.73 (unspecified separation of retinal layers) H44.2C1 - H44.2C9 (degenerative myopic with retinal detachment)
Retinal Vein Occlusion ¹⁷⁻²¹	Blurred vision, painless partial or complete loss of vision (may seem slight, but worsens over time), dark spots in vision			✔	H34.811 - H34.819 (central retinal vein occlusion) H34.831 - H34.839 (tributary branch retinal vein occlusion) H34.9 (unspecified retinal vascular occlusion)
Hypertensive Retinopathy**	Reduced vision, bursting of a blood vessel, double vision accompanied by a headache, visual field defects			✔	H35.031 - H35.039 (hypertensive retinopathy)

* There is no direct reference data correlating RNFL defect and ganglion cell function response. However, changes in structural findings may warrant further investigation into ganglion cell function to make more informed clinical decisions.

** There is no direct reference data correlating hypertensive retinopathy and ganglion cell function response. However, changes in structural findings may warrant further investigation into ganglion cell function to make more informed clinical decisions.

References for Common Protocols

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Electroretinograms (ERGs) 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 ERGs 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.

The CPT and ICD-10 codes are provided for reference purposes only. This is not an exhaustive list of all possible codes, and in no way is this a guarantee of reimbursement. Reimbursements are specific to provider and geographic location. Physicians should consult their reimbursement professionals for guidance of their practice.