

## Clinical Applications of Extended Color Vision Testing

A finding of abnormal color vision is not specific and can occur in a wide variety of ocular and neurological conditions. Numerous retinal, neurodegenerative, inflammatory, vascular, neurotoxic and metabolic diseases can alter the transmission of chromatic information and result in a disturbance of color perception.

Extended color vision testing is performed to assess the integrity of, and to diagnose disease of, the retina, the optic nerve and visual pathways. As with all diagnostic tests, extended color vision testing may be considered reasonable and medically necessary based upon abnormal patient symptoms and/or clinical signs of illness or injury.

The following list is intended as a guide to those conditions where extended color vision testing may be reasonable and medically necessary.

1. Identification and/or follow-up for **visual disturbances**
  - amblyopia
  - subjective visual disturbances
  - binocular vision disorders
  - color vision deficiencies
  - night blindness
  - visual field defects
  - visual field defects of unknown etiology
  - visual field defects not explained by lesions seen on CT or MRI
  - visual field defects which occur in the absence of structural lesions, acquired metabolic disease or infectious disease
2. Identification and/or follow-up for **retinal disorders**
  - diabetic retinopathy
  - hypertensive retinopathy
  - macular degeneration
  - vascular occlusions
3. Identification and/or follow-up for cataract
  - cortical age-related cataract
  - anterior subcapsular polar age-related cataract
4. Identification and follow-up for ischemic disturbance
  - ischemic optic neuropathy

5. Identification and/or follow-up for disorders of the optic nerve and visual pathways
  - papilledema
  - primary optic atrophy
  - glaucomatous optic atrophy
  - partial optic atrophy
  - optic disc drusen
  - optic neuritis
  - papillitis
  - diabetes-induced neuropathy
  - inflammatory neuropathy
6. Diagnosis and treatment for ocular injury
  - intracranial injury
  - injury to optic nerve and visual pathways
7. Diagnosis and treatment for neoplasm compressing the optic nerve
  - optic nerve glioma
  - meningioma
  - craniopharyngioma
  - pituitary tumor
  - giant aneurysm
9. Identification and follow-up for multiple sclerosis
  - to evaluate for signs of subclinical visual pathway involvement
  - to evaluate for signs of an acute demyelination event
10. Factors influencing health status
  - encounter for observation for other suspected diseases and conditions ruled out
  - long-term (current) use of hormonal contraceptives
  - long-term (current) use of oral hypoglycemic drugs
  - long-term (current) use of opiate analgesic
  - other long-term (current) drug therapy (e.g., plaquenil or other high-risk medication)<sup>1</sup>

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<sup>1</sup> Fraunfelder FT, Fraunfelder FW, Chambers WA. Clinical Ocular Toxicology E-Book: Drug-Induced Ocular Side Effects. Elsevier Health Sciences; 2008 Jun 12.

## ICD-10 Codes

### Cataract

- H25.011 – H26.129; H26.20 – H26.499

### Diabetes mellitus

- Z79.84

### Diabetes mellitus with retinopathy

- E08.311 – E13.37X9

### Glaucoma suspect

- H40.001 – H40.053

### Glaucoma

- H40.061 – H40.89

### Macular degeneration

- H35.30 – H35.383

### Optic nerve disorders

- H46.01 – H47.393

### Retinal occlusions and vasculopathies

- H34.01 – H35.23

### Visual pathway disorders

- H47.41 – H47.646

### Visual Disturbances

- H53.011 – H53.8

### Factors influencing health status

- Z03.89, Z09, Z79.3, Z79.891, Z79.899

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