

Funduscopy Examination

The optic disc, macula, retina, vessels, and the choroid should be examined, preferably using an indirect ophthalmoscope and condensing lens after adequate pupillary dilation is achieved. It may be impossible to examine the peripheral retina of the awake young child. Examination of the peripheral retina with an eyelid speculum and scleral depression may require swaddling, sedation, or general anesthesia.

CRITERIA FOR DIAGNOSIS

A diagnosis of amblyopia requires detection of a VA deficit (see Table 1) and identification of the likely cause. Amblyopia in the absence of strabismus, unequal refractive error, media opacity, or structural abnormality is rare.¹⁵² A careful search for an alternative diagnosis with associated visual loss should be carried out if an obvious cause is not present.

TABLE 1 DIAGNOSTIC CRITERIA FOR AMBLYOPIA

Assessment	Finding
Unilateral Amblyopia	
Response to monocular occlusion	Asymmetric objection
Fixation preference	Failure to initiate or maintain fixation, or strong preference for one eye
Preferential looking	Interocular difference of two or more octaves*
BCVA	Interocular difference of two or more lines, with the better eye within the normal range [†]
Bilateral Amblyopia	
	Age 3 to <4 years: VA worse than 20/50 in both eyes ^{153, 154}
	Age 4 to <5 years: VA worse than 20/40 in both eyes
BCVA in each eye [†]	Age ≥5: VA worse than 20/30 in both eyes

Note: A unilateral or bilateral amblyogenic factor needs to be present, along with the corresponding VA deficit.

BCVA = best-corrected visual acuity; VA = visual acuity.

*A 2-octave difference is a 4-card difference in the full set of Teller Acuity Cards.

[†]In cases of bilateral amblyopia, the visual acuity may not be symmetrical

MANAGEMENT

Prevention

Vision screening is important to identify significant refractive error or strabismus that predisposes to amblyopia.^{78, 155, 156} The earlier these are detected and treated, the greater the likelihood of preventing and/or successfully treating amblyopia.¹⁵⁷ (See Table 3 in the Pediatric Eye Evaluations PPP for guidelines on refractive correction in infants and young children.¹⁰⁸) When amblyopia is present, the potential for successful treatment is greatest in young children, although improvement in VA can reasonably be expected in older children and teenagers.¹⁵⁸⁻¹⁶⁰ A study of treatment of moderate strabismic and/or anisometropic amblyopia demonstrated that the VA of the amblyopic eye improved to 20/30 or better 6 months after initiating treatment in approximately three-quarters of children under 7 years of age.²³

Children with risk factors for amblyopia should have at least one comprehensive ophthalmic examination, generally when the risk factor is identified. Amblyopia risk factors include uveitis; ptosis; gestational age of less than 30 weeks; a birth weight less than 1500 grams; delayed visual or neurologic maturation of unclear etiology;¹⁰⁸ cerebral palsy; syndromes with ocular involvement, such as Down syndrome; and a family history of amblyopia, strabismus, childhood cataract, or childhood glaucoma.