

ASSESSMENT OF POOR VISION IN CHILDREN

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1. This basic question needs to be addressed commonly. There should not be any conclusion made in haste. As the child may be sleepy or inattentive at the outset.
2. Keen observation of the child's response to Examiner's face or a cartoon or some coloured noiseless toy is made. A relatively quiet room with subdued room light is preferred. Child may smile or just fixate. Observe the type of fixation: steady or unsteady.
3. Silent toys are moved to attract child's attention and make observation as above. Sound toys may be used to wake him up or hold attention intermittently.
4. Preference of fixation by either eye equally: alternately or cross fixation implies equal vision in the two eyes. This is easy in the presence of manifest squint. If not it can be induced by interposing a 10pd base down (B.D). prism.
5. Blinking response to lights switched on and suppression of an after nystagmus after rotating the child held in your arms indicates ability to hold fixation.
6. A very useful test is to observe the resentment to closure of one eye. If present it indicates poor vision in the other eye.
7. Visual acuity may be quantitatively assessed, although not essential. If available age appropriate tests should be used Teller Acuity is based on the behavioral pattern of the child to prefer a resolvable pattern rather than a blank in the two alternative forced choice challenge. Over 18 months his attention may be more varied and Teller not proper. Cardiff acuity cards are based on the vanishing opto type principle, i.e. they are visible at a particular distance or nearer. They are useful upto 3 years. Older children may co-operate for picture opto types, like Allen cards, Lea symbols or Wright picture cards. Still older children may be assessed with Illiterate E or Landolt C or a Sjogren hand test for direction identification. Still later letter-identification test like Snellen or ETDRS can be done.
8. In case the visual acuity is subnormal on above tests, pin hole is used. If vision improves through pin hole. It implies a refractive error. In higher refractive errors in addition to pin hole a correcting lens may be required for full improvement.
9. If the vision does not improve despite full correction of glasses it may be due to amblyopia, provided no other organic cause responsible for poor vision is seen. Unilateral or unequal uncorrected refractive errors causes anisometropic amblyopia. While bilateral uncorrected refractive error causes Ametropic amblyopia.
10. Other causes of poor vision should be looked for before diagnosing Amblyopia. It may be media opacities, retinal diseases or optic nerve anomalies or neuropathy.
11. Role of VER and ERG is useful in confirming cause of poor vision. A subnormal VER or extinguished response or a prolonged latency is associated with optic nerve anomalies or neuropathy.

12. Special Notes: A. Presence of nystagmus indicates poor vision. If nystagmus increases on covering one eye it has latent component also. For such cases Binocular vision is much better than uniocular vision. For uniocular vision the other eye should be covered with a +4,+6 D lens and not an opaque occluder. In case of a null positin, vision should be assessed in that position also, in addition to primary position.
- B. Amblyopia: is unilateral or bilateral diminution of vision for which no organic cause can be detected on physical examination (no media opacity, no retinal or optic nerve disease) (or the diminution of vision persists despite removal of that cause or despite use of corrective glasses. And which is corrected fully if treated in time. Usually a two line difference in vision is taken for diagnosis, but for recovery it has to be equal and also free alternation in each eye.

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