



Q: Child with amblyopia. You are shown his glasses with high myopic correction before one eye and plano in the other. Discuss the different causes of amblyopia and the various treatments?

- Amblyopia has three main causes:
 - Ocular misalignment
 - Features: Grating acuity less diminished than Snellan acuity. Neutral density filter effect. Crowding.
 - Uncorrected refractive error
 - Features: Isometric caused by +4-5 D hyperopia and -10D myopia. Anisometric can be caused by: +1-2D hyperopia, +1-2D astigmatic if at 90 or 180, +1D if oblique astigmatism, and 3D for myopia.
 - Sensory deprivation
- Most common form of reduced vision in childhood. 2-4% prevalence in NA
- Diagnosis: Made when reduced VA that can not be explained on the basis of physical abnormalities. Don't forget about crowding phenomenon. RAPD is rare but possible with dense amblyopia. You should rule out other causes of amblyopia.
- Treatment has three main principles:
 1. Eliminate possible obstacle to vision. Ie cataract
 2. Correct refractive error
 3. Force use of poorer eye.
- Principles of patching are FTO vs. PTO. Careful follow up for iatrogenic amblyopia. 1 week for every year of life.

- Compliance issues: Arm splints (infants), tincture of benzoin. Creating goals, authoritative words.
- End point is no improvement over period of 3-6 months. You MUST RECHECK REFRACTION BEFORE YOU CONCLUDE THAT TX FAILED. (Many a good resident have failed because they failed to mention this)
- Recurrence: 50% will have recurrence. Can be reversed with reinstition of patching.
- Penalization is other option.
- Atropine treatment of the sound eye with distance correction may encourage use of the amblyopic eye for near tasks; alternatively, the sound eye may be corrected for near fixation and the amblyopic eye for distance [31]. Best results are obtained in high hyperopes who have acuity better than 20/50 (6/15) in the amblyopic eye.
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STYLES OF OCCLUSION TREATMENT OF AMBLYOPIA		
Style	Advantages	Disadvantages
Full-time occlusion	More rapid amblyopia reversal (unproved) Better acuity results (unproved)	Risk of iatrogenic amblyopia Risk of development of strabismus More cosmetic deformity Poorly tolerated during school hours
Part-time (5 hour/day) occlusion	Iatrogenic amblyopia rarely occurs Strabismus rarely decompensates Less cosmetic deformity Can occlude outside of school hours	Slower amblyopia reversal (?) Worse acuity results (unproved)