

Citalopram treatment compared to 0.03, -0.03 and -0.03 LogMAR respectively for placebo treatment. No systematic effects of Citalopram were found for stereopsis, VEPs, ERGs or mood.  
**Conclusions:** It is feasible to combine a short course of Citalopram with occlusion therapy in adults with amblyopia, however study recruitment can be challenging. The effect of Citalopram treatment on amblyopic eye VA did not differ significantly from placebo, however three patients showed VA improvements of over 0.1 LogMAR when treated with Citalopram with one patient improving by 0.4 LogMAR. Longer treatment durations may result in VA improvements in a larger number of patients.

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**Presentation Time:** 1:30 PM–3:15 PM

**Improved Compliance with a Novel EFG Therapy for the Treatment of Amblyopia**

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**Purpose:** To evaluate compliance of a novel technique for amblyopia treatment (the Eyetronix Flicker Glasses, EFG) in a group of children, most of whom had previously and unsuccessfully been treated with patching. Patching is an effective therapy for amblyopia when patients are compliant. However, compliance, particularly in older children, is very difficult primarily due to the decreased vision during the therapy and cosmetic and comfort issues.

**Methods:** 20 subjects aged 6-17 years with anisometropic amblyopia were recruited in 3 sites. Inclusion criteria was a 0.2 LogMAR difference in BCVA between eyes and anisometropia with spherical difference of 1.00D or cylindrical difference of 1.50D or greater. The EFG device has liquid crystal lenses with electronic shutters controlled by a microchip that allows for alternating rate of occlusion. Subjects wore the EFG over their glasses for 1 hour each day while engaged in a variety of near tasks. Follow-up visits occurred at 1, 3, 6, and 9 weeks after dispensing, with an exit visit at 12 weeks. Subjects kept a log of wear time, and phone calls were made weekly to evaluate self-reported compliance by the child and parent.

**Results:** All subjects were compliant with the usage of the EFG glasses and the follow up visits. Children and parents reported a high level of enthusiasm with the EFG daily use, and many asked to wear them longer. Several subjects who went to sleep-away summer camp mentioned that they had to keep their bunkmates from using the EFG's, who often thought they were "really cool", "Google Glasses", and fun to wear. None of the subjects reported discomfort or inability to perform near activities while wearing the EFG's, and there were no adverse effects reported. Visual outcome measures are reported in a related abstract.

**Conclusions:** Compliance is a major factor in the failure of amblyopia treatment and decreases with age. An ATS/PEDIG study(1) concluded that "For patients 13 to 17 years, ... appears to be of little benefit if amblyopia was previously treated with patching." A recent study (MOTUS)(2) using monitored patching methods concluded "compliance with patching treatment averages less than 50% ...". The excellent compliance here with the EFG therapy gives hope this novel technique of amblyopia treatment may significantly

improve our overall ability to treat this very prevalent and significant disorder in children.

**Commercial Relationships:** Bruce D. Moore, EyeTronix (F); Fuensanta A. Vera-Diaz, EyeTronix (F); Gayathri Srinivasan, EyeTronix (F); Catherine Johnson, EyeTronix (F); Eric Hussey, EyeTronix (F); David Spivey, EyeTronix (F); Paulette Tattersall, EyeTronix (F); William Gleason, EyeTronix (F)

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**Further Improvement in visual acuity with contacts lenses in previously treated anisometropic amblyopia**

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**Purpose:** Generally, amblyopia treatment is considered complete when visual acuity (VA) has stabilized at its maximal level. Anisometropic amblyopes corrected with spectacles continue to be exposed to aniseikonia related magnification differences that could disrupt fusion and prevent further visual improvement. Contact lenses do not induce these magnification differences. The purpose of this study was to examine VAs of the amblyopic eye. Patients were children who were previously maximally treated for anisometropic amblyopia with spectacles and occlusion therapy, and were later fit with contact lenses.

**Methods:** A retrospective chart review in our pediatric practice was undertaken. Our computer system was directed to find patients with anisometropia ( $\geq 1.00D$ ) and amblyopia. Patients with strabismus, or poor compliance with spectacle wear or high astigmatism  $\geq 2.00D$  were excluded. Twenty-one patients who were maximally treated with spectacles and occlusion therapy were identified. These patients had later chosen to wear contact lenses (age range 8-15 at contact lens fitting). The best Snellen VA before contact lenses but after maximal treatment for amblyopia was recorded. The best Snellen VA during the period of contact lens wear (at least one year) was recorded.

**Results:** Snellen acuities were converted to LogMAR decimal equivalents for analysis. The mean maximum VA prior to contact lens wear was  $0.130 \pm 0.125$ . The mean maximum VA with contact lens wear was  $0.073 \pm 0.101$ . All subjects demonstrated better acuity with contact lens wear. A paired t-test showed that the difference in these means was statistically significant ( $p < 0.001$ ). A sub-analysis was performed on subjects with acuities of 0.10 or worse prior to contact lens wear. In this group of 10 subjects, the mean maximum VA prior to contact lens wear was  $0.219 \pm 0.130$ . The mean maximum VA with contact lens wear was  $0.126 \pm 0.127$ . A paired t-test showed that the difference in these means was statistically significant ( $p < 0.001$ ).

**Conclusions:** The mean VA was better with contact lens wear than prior to contact lens wear in anisometropic amblyopes. This improvement occurred after VA had plateaued with traditional amblyopia occlusion therapy and spectacle wear. These results may suggest that contact lens wear can bring about improvements in VA following maximal therapy, perhaps by eliminating aniseikonic magnification differences between the two eyes.

**Commercial Relationships:** Jennifer S. Fogt, None

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**Visual Outcomes in Pediatric Open Globe Trauma with Early Amblyopia Therapy**

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