

### **Compliance with Amblyz™ Liquid Crystal Glasses Versus Traditional Adhesive Patches**

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**Purpose:** Amblyopia treatment with adhesive occlusion patches is frequently inhibited by poor compliance and complaints. Amblyz™ liquid crystal glasses utilize an intermittent occlusion technique (at 30-second opaque/transparent intervals) and avoid adhesives, potentially improving compliance. Despite the easier administration of Amblyz glasses, they require double the amount of wearing time compared to patching which may undercut compliance. This study compares compliance with Amblyz™ glasses versus patching.

**Methods:** Children (N=28, age=5.3±1.4YR, 3- to 8-year-old) with previously untreated, moderate, unilateral amblyopia (visual acuity of 20/40 to 20/100 in the amblyopic eye) were enrolled. All subjects wore optimal refractive correction (if needed) for at least 12 weeks and their amblyopia was associated with strabismus, anisometropia, or both. Subjects were randomized into one of two treatment groups: a 4-hour Amblyz™ Glasses Group, or a 2-hour Patching Control Group. After 12 weeks, compliance was reported with a calendar log and an Amblyopia Treatment Index (ATI) questionnaire characterizing the experience. Weekly compliance was calculated using the total weekly-treated minutes divided by the total weeklyprescribed minutes.

**Results:** At the conclusion of the first 12 week-treatment interval, compliance averaged 85% in the Patching Group and 79% in the Amblyz™ Group (P=0.23, no statistical difference). Weekly compliance varied among individuals. No adverse effects were reported. Similar to the Patching Group, children in the Amblyz™ Group struggled with some outdoor activities, but reported no issues with indoor activities. In the Amblyz™ Group, some parents reported that their child had trouble seeing outside at night secondary to the tint inherent to the liquid crystal lenses; also, some parents complained that the glasses were easily subject to damage by their child. The ATI questionnaire demonstrated a high level of enthusiasm from parents and children with the Amblyz™ glasses, commonly remarking that they were easier to wear and generated fewer complaints. Visual outcome measures are reported in a related abstract.

**Conclusions:** Compliance with Amblyz™ glasses is similar to patching, even when wearing time was doubled in this trial. This device promotes a relatively comfortable experience for the child and is a promising alternative to the traditional patching amblyopia treatment.

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