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A response to a letter to the editor regarding manuscript “Atropine vs Patching for Treatment of Moderate Amblyopia: Follow-up at 15 Years of Age of a Randomized Clinical Trial”

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Dr. Lempert raises several issues, which we believe are mistaken or do not affect the interpretation of our results. As described,¹ only subjects at sites with >5 enrolled children were eligible for long-term follow-up for logistical reasons, which reduced the proportion of the original cohort that was enrolled in the follow-up study. The 15-year examination was completed by 152 of 188 eligible participants (80.9%). We compared subjects who participated in follow-up with those who did not and noted in the manuscript that those who participated had slightly better visual acuity (VA) at two years than those who did not (20/25 versus 20/32), which could have resulted in a slight overestimate of visual acuity at age 15 years. In addition, 147 participants in Table 1 noted by Dr. Lempert were only those who completed the visit at 15 years of age and had VA tested with the E-ETDRS.² Five participants had VA tested with a method other than E-ETDRS and were not included in the primary results.

Dr. Lempert also appears to have misread Table 1; 46.9% of fellow eyes had 20/20 or better at baseline (rather than 9.5% he cited, which was the proportion who had 20/16 or better). Nevertheless, we would expect some improvement in the measured VA of the fellow eye over more than 10 years of follow-up due to maturation.

We believe that the mean interocular acuity differences (IOD) of 2.1 logMAR lines at 15 years of age and 2.0 logMAR lines at 10 years of age using E-ETDRS testing were greater than the mean IOD of 1.6 logMAR lines at the 2-year exam using the HOTV protocol due to the different methods for testing. In our report at 10 years of age that directly compared the 2 VA testing methods, we found that measured IOD was smaller with HOTV than with E-ETDRS.³

Regarding Dr. Lempert's question regarding the implications of including subjects with fellow eye visual acuity better than 20/20, we did not exclude such children because they are within the spectrum of moderate amblyopia. Their exclusion would have reduced the

generalizability of our results and we see no reason why their inclusion would “skew the results.”

We chose to include only children with amblyopic-eye visual acuity 20/40 to 20/100 in this trial,⁴ because when we designed the study, we were uncertain if atropine would be effective with visual acuity less than 20/100.⁵ (Subsequently atropine has been found to be effective for many cases of severe amblyopia.⁶) We agree that interpretation of the results should always be viewed in light of eligibility criteria, and we have carefully included that information in each report.

Our primary message was that there was little loss of VA improvement after treatment was completed. Our long term follow-up data provide evidence that part-time patching and atropine drops are effective and long lasting treatments for many children, 3 to <7 years of age, who have anisometropic, strabismic or combined amblyopia.

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