



AB012. The effects of monocular deprivation do not accumulate across days in adults with normal vision

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Background: We investigate whether changes in visual plasticity induced by monocular deprivation can be maintained across multiple days. It has been known that monocular deprivation strengthens the deprived eye in adults with normal vision for a short period of time (30–60 minutes). This has been shown through a variety of visual tasks such as binocular combination and rivalry.

Methods: Ten subjects were recruited and patched for five consecutive days for two hours. We used a binocular phase combination task to measure the subjects' sensory eye balances. We initially measured their baseline of sensory eye balance, patched their dominant eye, and then conducted post-patching measurements at 0, 3, 6, 12, 24 and 48 minutes after patching.

Results: We performed a 2-way ANOVA (Before *vs.* after patching \times Day); we found that although the effect of monocular deprivation on the deprived eye was significant, $F(1,9) = 17.32$, $P=0.002$, the effect of Day was not.

Conclusions: Hence we found no accumulation of the patching effect across five days in healthy adults. This suggests that the degree of remnant neural plasticity in adult primary visual cortex may be too limited to be exploited therapeutically.

Keywords: Monocular deprivation; neural plasticity; binocular vision

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